



MANITOBA HEAVY CONSTRUCTION ASSOCIATION
Unit #3-1680 Ellice Avenue, Winnipeg, Manitoba, R3H 0Z2

March 4, 2021

The Hon. Sarah Guillemard,
Minister of Conservation and Climate
450 Broadway Avenue
Winnipeg, Manitoba, R3C 0V8

Re: Waste Management and Recycling Review

Dear Minister Guillemard,

The MHCA was pleased to see your announced provincial review of waste management and recycling – *attached*.

We respectfully submit that the review offers opportunity for consideration of an area of public policy which has generally been undervalued: the management and recycling of construction and demolition waste materials.

There is significant potential for, and therefore value in, broad recycling and reuse of construction and demolition waste materials in Manitoba. Such an initiative would contribute to environmental stewardship; support sustainable management of finite natural resources; reduce GHG emissions; and help mitigate growing costs of construction materials. In addition, it would open new avenues of both research and innovation in engineering and for value-added material processing and production.

Context

The recycling and reprocessing of construction and demolition waste materials is rapidly developing as an area of global public policy, as national and sub-national governments work to divert waste from landfills, reduce greenhouse gas emissions and therefore their carbon footprints. For example, in the Manitoba context, Colleen Sklar, Executive Director of the Winnipeg Metropolitan Region is leading a review of waste mitigation and reduction strategies for the capital region.

The construction/demolition sector is one of the largest resource consumers and waste producers in society, using up to 40% of the total raw materials extracted globally and generating about 35% of the world's waste¹.

In response to various pressures, including finite or – in some jurisdictions – scarce natural resources, and the need to reduce the carbon footprint, sustainable waste-management strategies have become a priority:

- The EU in 2008 set a target for average 70% recycling rate by 2020²
 - Belgium, Switzerland and Austria reached the 70% target in 2013
 - Some EU jurisdictions had a 90% average recycling rate in 2010; The Netherlands reached 97% recycled rate in 2018
- In the United States, in 2018, almost 456 million tons of construction and demolition waste was recycled, the bulk of which was concrete (334 million)³
- Japan passed its Construction Waste Act (2000), mandating recycling of concrete and wood. More than 93% of regulated construction waste (98% asphalt concrete) is recycled.⁴

¹Deloitte (2017) Study on Resource Efficient Use of Mixed Wastes, Improving management of construction and demolition waste – Final Report. Prepared for the European Commission, DG ENV.

²https://link.springer.com/chapter/10.1007/978-3-319-66981-6_24, Designing Sustainable Technologies, Products and Policies, (pp. 211-221)

³https://www.epa.gov/sites/production/files/2021-01/documents/2018_ff_fact_sheet_dec_2020_fnl_508.pdf U.S. Environmental Protection Agency, Office of Land and Emergency Management, December 2020

⁴<https://www.env.go.jp/en/recycle/smcs/attach/hcswm.pdf> Ministry of the Environment Minister's Secretariat, Waste Management and Recycling Department, 2014

Discussion

The recycling rate of C&D waste in Canada is just 16%⁵. However, some jurisdictions have moved to adopt policies and practices for reclaiming and reusing construction and demolition waste.

Edmonton, for example, has reused crushed concrete since 1978, having developed an aggressive policy for recycling waste construction materials. The city actively encourages households to bring concrete removed during construction or renovations to its civic construction-materials recycling plant. In the past three years, Edmonton has produced a total of 642,753 tonnes of recycled aggregate, used mainly for all the road base construction on city projects.

In Manitoba, recycling of construction materials is minimal and largely the result of industry initiative in business development and environmental stewardship. For example, the use of recycled concrete aggregate on public works projects – primarily within the City of Winnipeg – was introduced in the late 1990s by the heavy construction industry which saw value in re-processing and repurposing the base and sub-base materials (aggregates) torn up in street rehab and reconstruction projects. Similarly, the recycling of asphalt, including asphalt shingles, has been industry led.

As well, the aggregate production industry (pits and quarries) recovers and recycles water that is pumped out in the process of development. The water is used to clean aggregates and then again is recovered and recycled. Only 2% of the water is estimated to be lost during the process.

Public policies

The City of Winnipeg permits 15% of recycled asphalt product in pavement and 3% of “RAS” – the end product of re-processed asphalt shingles.

Since the late 1990s, recycled concrete aggregates have been used within City of Winnipeg street renewal program. However, as of 2020 the City of Winnipeg Public Works department has applied new road-building specifications (CW3110-21) with new requirements for road base and sub-base, significantly limiting the opportunity to use recycled aggregate materials. (The heavy construction, development and engineering sectors are discussing these challenges with the City, at present.)

MHCA regards the reuse of recycled concrete aggregates (RCA) as a pressing concern; hundreds of thousands of tonnes of recycled concrete aggregate are pulled up from public and private-sector infrastructure works in Winnipeg and the immediate capital region annually – their automatic diversion to landfills grossly conflicts with sustainable finite resource management.

A sub-industry has grown up around the production of RCA, drawing investment from within the industry and, thereby, jobs for Manitobans. Further, importantly, the recycling and reuse is an issue of environmental stewardship.

Reuse of RCAs:

- Avoids land impacts by reducing mining of virgin aggregates (ie. limestone) from pits & quarries, extending their useful life. Manitoba produces approx. 20 million tons of aggregates per year⁶; although survey is dated, the Capital Region has been forecasted to meet shortages by 2035 as aggregates reserves are depleted⁷
- Reduces energy consumption required to produce and transport virgin aggregates to construction sites, reducing carbon footprint and GHG emissions
- Reduces the tonnage of waste directed to landfill and the associated impacts and costs
- Allows salvaged metals to be recovered, sold and reused
- Reduces the overall carbon footprint of public and private infrastructure works
- The RCA production process is environmentally safe, as it uses no chemicals or toxic materials

⁵ https://www.ccme.ca/files/Resources/waste/wst_mgmt/CRD%20Guidance%20-%20secured.pdf, 2019, CCME Guide for identifying, evaluating and selecting policies for influencing construction, renovation and demolition waste management

⁶2019 <https://mmsd.nrcan-rncan.gc.ca/prod-prod/ann-ann-eng.aspx>

⁷<https://www.manitoba.ca/iem/info/libmin/OF77-4.pdf>, Aggregate Resources of the Winnipeg Region, UMA, 1976

Manitoba Infrastructure (MI) employs a different approach to “reuse” in that its highway projects use rubbilizers to break and compact the concrete road base, which is left in place and then resurfaced. From 2017-20, approximately 884,000 m² of rubblized concrete pavement was used.

MI permits the use of recycled asphalt pavement but not recycled asphalt shingles in road construction works.

Potential for Recycling of Construction and Demolition Materials

Recycling cement from demolished concrete construction materials – from both the horizontal and vertical sectors of the industry – for use in infrastructure projects is practiced in many countries, including with mandates embedded in legislation by national and sub-national governments (see above examples).

Dr. Asia Shvarzman, a University of Manitoba Adjunct Professor of Civil Engineering and lead professor of Engineering and lead of research and innovation at Antex Western/ACM Technologies, notes:

- Recycled glass is used in road-building projects in some provinces, including Ontario and Quebec; glass powder replaces 30-40% of cementitious materials in the production of concrete
- Recycled plastic is in development around the world as a road-building material, but still in early stages
- Old carpets are a potential road-building material, in use in the U.S., including in North Dakota.

The successful uptake of construction and demolition waste recycling has occurred in jurisdictions that have adopted a public policy framework that promotes sustainable practices through mandated recycling thresholds, construction specifications and incentives – ie. landfill tipping fees, tax credits – in an approach toward a “circular economy.”

Recommendations

As part of policy framework considerations, the MHCA – aided by the research and expertise of Dr. Asia Shvarzman – suggests the following be considered as part of an overall public policy approach:

- Include recycling of construction and demolition waste materials as part of a sustainable resource management principle in procurement by government, Crown corporation, public bodies and agencies
 - Adopt rules requiring sorting, stockpiling and reuse of recycled waste materials; include accountability measures for project owners, material producers, builders, agencies, departments and facilities
- Amend the Planning Act to promote the inclusion of construction and demolition waste recycling thresholds in municipal planning bylaws and development agreements, and within regional development plans
- Align financial incentives: User fees and charges to encourage waste reduction and diversion, such as through differential tipping fees or virgin materials levies
- Limit materials disposed, through waste disposal bans or transportation restrictions
- Increase the resource efficiency of construction, renovation and demolition activities, such as through building certification and deconstruction standards

The MHCA and the heavy construction industry are willing partners in the careful, responsible stewardship of Manitoba’s natural resources. We would be pleased to meet with you to discuss the above in hopes of broadening the valuable discussion within your announced review of waste management and recycling programs.

Respectfully submitted,
Manitoba Heavy Construction Association



Nicole Chabot G.S.C.
MHCA Chair



Chris Lorenc, B.A., LL.B.,
MHCA President

cc. David McLaughlin, Deputy Minister
Colleen Sklar, Executive Director, Winnipeg Metropolitan Region (WMR)
Dr. Asia Shvarzman, Adjunct Professor Civil Engineering, University of Manitoba
MHCA Board of Directors

From: News Media Services <nmservices@leg.gov.mb.ca>

Sent: Thursday, January 21, 2021 3:24 PM

To: Chris Lorenc <clorenc@mhca.mb.ca>

Subject: Manitoba News Release: Province Announces Review of Recycling and Waste Management



NewsRelease

January 21, 2021

PROVINCE ANNOUNCES REVIEW OF RECYCLING AND WASTE MANAGEMENT

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Protecting the Environment Remains the Priority: Guillemard

The province has launched a comprehensive review of waste management and recycling in Manitoba, including a public survey that has been posted on EngageMB.ca, Conservation and Climate Minister Sarah Guillemard announced today.

“We are excited at the possibilities this review will explore as we continue to look for options to improve waste diversion and recycling in Manitoba,” said Guillemard. “The intent is to improve programming and reduce the amount of waste heading to landfills.”

The existing approach to recycling and waste diversion has been in place for over a decade. With recent innovations and advancements in technology, this is an opportune time to reflect on current practices and to explore opportunities for strengthening waste management systems in order to divert even more waste from landfills, the minister noted. The products entering the marketplace and the technologies available to manage current and emerging waste streams are constantly evolving, and Manitoba’s approach to recycling and waste diversion needs to keep pace with this change.

The review will support a mandate to modernize the regulatory and programming frameworks for waste diversion and recycling and to drive innovation with the private sector and municipalities in Manitoba.

The review will include:

- a policy landscape and best practice scan;
- a regulatory review of the Waste Reduction and Prevention Act;

- an evaluation of Manitoba stewardship programs and the waste reduction and recycling support levy; and
- a stakeholder and public engagement to inform recommendations.

Manitoba has 12 industry-funded stewardship programs that provide recycling and safe disposal options for everyday products such as paper and packaging, batteries, tires and electronic waste, among others, Guillemard noted. An important part of the review will be to engage with and learn from the public, industry, municipalities and other waste management stakeholders.

A public survey has been launched and stakeholder workshops will be held to collect feedback and gain insights on how to improve the regulatory and programming frameworks for waste diversion and recycling in Manitoba. By harnessing innovation and working together, Manitoba can become the cleanest and greenest province in Canada, the minister said.

The public survey is available at <https://engagemb.ca/> and will be open to public input until Feb. 10. A final report is expected to be delivered to the Manitoba government later this spring, the minister added.

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For more information:

- Public information, contact Manitoba Government Inquiry: 1-866-626-4862 or 204-945-3744.
- Media requests for general information, contact Communications Services Manitoba: 204-945-3765.
- Media requests for ministerial comment, contact Communications and Stakeholder Relations: 204-945-4916.

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