



WR 2

Construction, Industrial, and Municipal Waste

DEMOLITION WASTE • Photo by anonymous

WR 2.1 Construction and Demolition Waste

ACTION: Reduce construction and demolition waste through targeted re-use initiatives.

Where we are today

Construction and demolition (C&D) waste makes up an enormous proportion of the U.S. waste stream—548 million tons were generated in 2015 (the most recent year of data), over twice the weight of municipal solid waste.⁴⁴ The vast majority (90%) of that waste is generated during the demolition process. Deconstruction is an alternative to demolition that entails the systematic dismantling of structures—usually in reverse order from which they were built—to maximize the reuse and recyclability of materials. Deconstruction significantly reduces waste generation, reduces the environmental impacts of demolition, and reduces demand for virgin materials when items are recycled or reused. As of 2019, at least 13 states had adopted waste bans that address

materials associated with C&D waste and several cities and counties had passed ordinances that specifically regulate the deconstruction process or its outcomes. C&D waste is not tracked by either City, and so the full scope of waste and emissions from this sector is unknown.

The amount of potential material that could be recovered through deconstruction tends to be quite high, with up to 25% of materials being available for reuse, another 70% available for recycling, and only 5-15% needing to be disposed.⁴⁵ Deconstruction can be practiced along a spectrum from “soft stripping,” going after the easiest-to-capture materials for reuse and recycling, to full deconstruction, which entails piece-

by-piece dismantling of a structure. Among the more readily recovered materials are cabinetry, appliances, and architectural salvage, whereas lumber and flooring are among the harder to recover materials.⁴⁶ The Portland/South Portland area has a number of waste processors that are already sorting C&D waste for recycling and re-use, including wood waste, metal, asphalt shingles, and masonry and concrete debris. However, costs and lack of regulation keep many construction projects from taking advantage of these services. Other waste materials such as clean and demolition drywall are not getting processed, even though there are potential ready markets for clean gypsum material nearby.

The action we will take

Portland and South Portland will work to reduce construction and demolition waste generated in the cities through public-private partnerships at the local and state-levels. The combination of local policies, campaigns, and training with state-level initiatives will drive demand for a more robust regional market for C&D waste and material reuse. Actions the Cities will take include:

- Conduct baseline assessment to drive C&D waste policy development.** The Cities will assess baseline practices for managing C&D waste; establish goals and interim targets for C&D waste minimization and reuse; and conduct an inventory of existing regional markets and facilities for material reuse and recycling. In conducting the assessment and developing a subsequent policy, Portland and South Portland will work with the construction sector in both Cities to discuss policy objectives, identify current market-based or logistical constraints to deconstruction and material reuse, and identify resources and incentives that would encourage new waste management practices to support the policy's effectiveness.

- Advocate for state-level initiatives.** The Cities will work with state-level partners and representatives from the building sector, the waste handling sector, and the environmental sector to develop statutes or rules that require building deconstruction or reuse. Portland and South Portland will also advocate for the State to assess opportunities for the expansion of reuse and recycling facilities, as the majority of materials currently directed to C&D recycling facilities in Maine continue on to a landfill.⁴⁷

BE 2.1 Summary - Construction and Demolition Waste

PRIMARY COMPONENTS

- Advocate for state policy and expansion of reuse/recycling facilities.
- Draft report assessing baseline practices and goals for waste reduction and reuse.
- Engage the construction sector on development of C&D waste ordinances, and on training and education for contractors.
- Adopt C&D waste ordinance.

How this strategy advances a future that is...

Equitable

Regenerative

Resilient



- (a) Draws down carbon
- (c) Supports a circular economy

KEY MILESTONES

- Adopt C&D waste reduction targets and ordinance by 2035

CITY STEWARD

- P:** Sustainability Office & Public Works
- SP:** Sustainability Office & Public Works

FINANCING MECHANISMS

User fees, general funds (for enforcement and contractor training), state funding (for statewide program investment, facilities)

• **Support the further development of the reuse**

marketplace. Building deconstruction is most feasible when there is a robust market or “ecosystem” for material reuse and recycling, including suppliers (e.g., deconstruction contractors), sellers (e.g., reuse warehouses), and buyers (e.g., contractors, homeowners, artists). Fostering this marketplace will involve identifying and revising regulatory barriers that may restrict material reuse or recycling, as well as expanding material processing capabilities in the region for products such as gypsum. The Cities will also consider supporting markets for remanufactured materials produced locally by setting priorities in municipal purchasing (see action WR 2.4).

Our next steps

- Draft a report assessing baseline practices for C&D waste management; goals for waste reduction and reuse; and the marketplace and facilities to support material reuse and recycling to inform C&D waste ordinances.
- Engage the construction sector on steps needed to successfully implement C&D waste ordinances, and on providing continuous training and education for contractors.
- Advocate for the State to address regional needs for reuse and recycling facilities in conjunction with stronger policies for the management of C&D waste to maximize diversion from landfills.
- Introduce and adopt C&D waste ordinances in both cities.