



Northeast Resource Recovery Association

"Partnering to make recycling strong through economic and environmentally sound solutions"

Construction and Demolition Diversion Solutions for Coös County, NH Stakeholder Engagement and Initial Findings Report

INTRODUCTION

In 2023, the Northeast Resource Recovery Association (NRRA) engaged local solid waste management stakeholders, including Transfer Station operators and town leaders, to better understand the construction and demolition debris (C&D) diversion and reuse landscape in Coös County, New Hampshire. With support from the US Environmental Protection Agency, NRRA connected with 21 unique towns, businesses, partnerships, and a solid waste district through a series of C&D roundtable summits, site visits, and the completion of a C&D diversion and reuse pilot program and audit.

There is a clear baseline of activity and growing interest in C&D diversion and reuse in Coös County, which will support positive economic and environmental outcomes as C&D diversion improves. NRRA has identified key areas of existing successes, challenges to overcome, and opportunities to increase C&D diversion and reuse in Coös County.

C&D DIVERSION IN COÖS COUNTY

Highlights of Existing Successes

- Towns value [densifying C&D material](#) to save container space and decrease the number of hauls to the landfill.
- Towns such as Colebrook, Carroll, Dalton, Jefferson, Stark, and Northumberland use their town backhoe or front-end loader to densify their C&D through crushing.
- The Coös County Transfer Station and the Town of Stratford hire local contractors for densification.
- The town of Lancaster uses a stationary pre-crusher for densification.
- Most facilities in Coös County charge a fee based on visual inspection for C&D, which can help the town recover some of the costs of tipping and transportation of C&D.
- The town of Lancaster separates wood pallets and gives them away to residents and businesses for free. If there are many pallets available, Lancaster has found that posting the availability on their local Facebook page is effective in notifying residents and businesses.
- Coös County excels at partnerships for municipal services including C&D management. To facilitate partnerships, the Town of Littleton modified their permit to encompass a wider service area.

Challenges

- There are no local C&D recycling facilities in the region; the closest C&D recycling facilities are in southern New Hampshire and western Vermont, which is prohibitively far from Coös County towns and solid waste facilities.
- Towns mix their C&D and bulky waste (such as furniture) together, which makes it nearly impossible to get a “true” tonnage of just C&D for most towns.
- Most facilities in Coös County do not have a truck scale. Fees are then based on a visual inspection, which can easily underestimate the actual tonnage of C&D being disposed of.
- 16 facilities represent 20 towns and 23 unincorporated places in Coös County. While many towns are included in a partnership for recycling, most towns handle C&D on their own.
- Many towns are small in population and have facilities on a small piece of land. This makes it difficult to expand or have areas such as a reuse shed.
- Some facilities [receive a large amount of C&D from contractors](#) who may or may not be local to the town or community.
- While Coös County has a low tipping fee, around \$69.44/ton, [compared to the rest of NH](#), and it is on par with the Northeastern United States region, it is still higher than the US average.
- Transportation fees vary widely depending in part on the hauler’s location, the transfer station’s location, and the landfill location.

Opportunities

- Proper densification saves money and is a key factor when managing C&D. Increasing access to stationary equipment, such as a pre-crusher, could allow towns in Coös County to better densify their C&D, which would have a positive [environmental](#) and economic impact through decreased landfill hauls.
- Facilities should look into getting a floor scale, which are relatively inexpensive, have a small footprint, and could help facilities better estimate and charge for C&D disposal. Floor scale purchase costs can be covered in part through local grants, such as the [New Hampshire the Beautiful Equipment Grant](#).
- Facilities should revisit their facility permit to better understand what – and from whom – they can receive material, especially as it relates to commercial contractors.
- For partnerships to exist, a facility permit may need to change. Facilities should look into Standard and Permit-by-Notification (PBN) requirements to see which would best serve their partnership needs. Because modifying an existing PBN is not an option, a simple new permit may be the best option.

C&D TECHNICAL ASSISTANCE IN COÖS COUNTY

Northumberland, NH Transfer Station; Stratford, NH Transfer Station; and Coös County Transfer Station are three municipal transfer stations in Coös County. The first two transfer stations serve the communities of Northumberland (population 2,126) and Stratford (population 662). Coös County Transfer Station serves the New Hampshire towns of Columbia and Stewartstown and the Vermont town of Lemington (total population 1,572). These communities have limited options to recycle their

construction and demolition debris (C&D) and therefore largely landfill the material. In the spring and summer of 2023, NRRRA conducted site visits and provided technical assistance to each transfer station to evaluate their C&D management practices and provide recommendations to both increase C&D diversion and reduce related costs and greenhouse gas emissions.

Highlights of Existing Successes

Northumberland

- The Northumberland transfer station is next to the Highway Department, which allows for the town to easily and frequently crush the open top container of C&D to allow for more weight per container.
- Because the Northumberland hauler is local, the haul rate is lower based on mileage.
- Residents put material directly into the C&D open top container, saving labor costs.
- The Northumberland facility is compact allowing for optimal operator oversight.
- Since Northumberland is part of the Androscoggin Valley Regional Refuse Disposal District (AVRRDD), the town is using the wood grinding program through the district. The wood is transported via open top and is ground at the district's recycling center. The wood is used as alternative daily cover at the landfill. There are transportation costs, but no tipping fee with this option.

Stratford

- The Stratford transfer station currently hires a local vendor to compact their C&D open top container for \$50 per visit. The vendor's backhoe is stored at the facility, keeping the rate low. Compaction creates an average container tonnage of 5 to 8 tons.
- The C&D container is under a roof, which helps keep material dry and importantly, stops snow collection, which could add weight, freeze and make it harder to empty the container.
- Stratford facility operators separate as much metal as they can from the C&D container. They also separate non-ferrous metals, which have a higher value than light iron. The town currently has a good stockpile of aluminum (e.g. siding), stainless steel (e.g. sinks), wire (e.g. house wire and cords), and copper (e.g. plumbing and radiators).

Coös County Transfer Station

- The Coös County transfer station hires a local vendor to compact their C&D open top container. Compaction helps get more tonnage of C&D per container.
- Multiple towns partnering together to share resources, such as a transfer station, can help lower individual municipal costs.

Challenges

- All three facilities combine bulky waste, such as furniture, into the same open top container with their C&D. This makes it difficult to calculate the true tonnage of construction and demolition debris. Stratford also includes glass with their C&D and bulky waste.
- Stratford only has single phase power, making it difficult to purchase and run equipment.

- The Coös County Transfer Station is owned and operated by Coös County, but the buildings and equipment are owned by the individual towns. Each town has a role, which means making changes can be difficult, as multiple towns must give approval.
- Each facility is run by a very limited labor force.

Opportunities

- Advertise online reuse sites like Facebook Marketplace or Craigslist as an alternative for landfilling reusable items.
- Have multiple towns use a consolidation point for Asphalt, Brick, and Concrete to allow towns to divert, crush, and recycle material to lower transportation and tipping costs.
- Stratford could recycle their glass by purchasing a glass crusher or using a glass recycling consolidation point, such as Littleton, NH.
- Facilities could separate lighter material from the C&D containers (such as rugs, Styrofoam, household trash, etc.), and instead throw these materials in the municipal solid waste (MSW) compactor, which compacts items better, thus saving money and emissions.
- Stratford and Coös Country Transfer Station could investigate purchasing a backhoe to compact their materials as needed, rather than hiring out compaction to a local vendor.

LANCASTER C&D DIVERSION PILOT PROGRAM & AUDIT

Lancaster, NH conducted a pilot program to increase diversion of construction and demolition debris (C&D) from being landfilled through residential reuse of wood, doors, windows, and other reusable building items. The pilot program also allowed furniture and other bulky items to be diverted into the reuse pile, since Lancaster mixes these items with their C&D. The pilot program was conducted from May 30 to July 22, 2023, with technical assistance from NRRRA.

Highlights of Existing Successes

- The Lancaster C&D reuse pilot project diverted 3,078 pounds of C&D and bulky waste from the landfill to be reused by residents, free of charge. This equated to a C&D open top container space savings of 15.4 percent.
- Through diversion and reuse, the town of Lancaster saved \$118.50 in tipping fees and \$44.48 in hauling costs, for a total savings of \$162.98 over the course of 53 days.
- 57.85 pounds of carbon dioxide emissions (CO²) were avoided over the course of the Lancaster pilot program. This calculation is based on the fuel savings by not hauling the weight of the diverted material, but does not include the greenhouse gas emissions avoided due to reuse versus using new materials or landfill gas emissions if the material had been landfilled.
- Lancaster residents are allowed to take items from the C&D reuse pile free of charge.
- The facility has different compaction options and are the only Coös County town with a pre-crusher to compact C&D. The pre-crusher averages over 10 tons per container. The Lancaster Highway Department is also asked to crush the C&D open top and the scrap metal containers with the town backhoe as needed.

- The Lancaster facility has an asphalt, brick, concrete (ABC) pile. The town and state have used crushed ABC material as a base in the past when repaving roads.

Challenges

- It was determined that the Lancaster facility needed a larger space with improved material coverage to set up an effective reuse program. Because of limited space and coverage, they were limited on the quantity and types of material that could be separated for reuse because of the limited space.
- During the pilot program, a large amount of C&D material was dropped off and then taken for reuse, but never recorded. It was determined this was because residents or contractors would drop the material by the C&D disposal area and not in the designated reuse area.
- Alternatively, facility attendants found unusable and broken material left at the reuse pile, which could not actually be reused and had to be thrown away.
- Contractors are allowed to dispose of mixed C&D, which contains metal, cardboard, and other material which could be separated and recycled or thrown in the MSW compactor.

Opportunities

- The Lancaster transfer station could set up a better location with more space and continue the C&D reuse program.
- The town of Lancaster could look into providing an enclosed area, such as a shipping container or pole barn, to provide better protection of reuse material from the elements. The storage area could be paid for in part [through local and state grants](#).
- The Lancaster facility could require contractors to separate material, like metal and cardboard, so that it can be recycled.
- Assuming the same results for this pilot program period were extended through an entire year, Lancaster could expect to divert 21,194 pounds of C&D, save \$1,112 in avoided transportation and tipping fees, and avoid 398 pounds of greenhouse gas emissions (based on decreased hauling weight alone).

RECOMMENDATIONS

Increase C&D Diversion in Coös County, NH

Near-term Actions

- Research asphalt, brick, and concrete programs and options available to facilities in Coös County. This could include discussion of consolidation or the option of hiring a single vendor to go from site to site for ABC crushing.
- Engage with C&D recycling facilities to see if they will consider backhauls when they bring material to the Northern NH landfills. [ReSource Waste Services](#), having two facilities in Southern NH, has already shown interest in this potential option.

- Research on wood chipping benefits and options should be collected, as no Coös County town chips wood on their own. This would include chipping for both C&D wood and brush, though each type must be stored separately before and after chipping, as end use of each has different regulations.

Medium-term Actions

- Increase the amount and type of educational materials available to facility operators with general reuse option resources, such as online markets, social media opportunities, and local vendors.
- Increase the amount of C&D specific educational materials available to facility operators such as ABC crushing and wood chipping.
- Towns should receive information and education about the concept of “deconstruction” as it relates to C&D management to help reduce waste and promote reuse.
- When possible, facilities should work together to consolidate C&D management, whether this is through partnerships for transportation, centralized C&D collection, and sharing of ideas and resources.

Long-term Actions

- Coös County facilities should continue to strive for increased C&D diversion and reuse to decrease the amount of C&D that ends up in NH landfills. Coös County residents have been disproportionately affected by environmental and public health burdens, such as air pollution, proximity to hazardous waste, and greater socioeconomic challenges compared to the rest of the state. By increasing the amount of C&D that is reused or recycled – and thus, not landfilled – some of these environmental, public health, and economic burdens will be addressed, such as a corresponding reduction in emissions related to both hauling and landfilling and a reduction in C&D management costs.

Share Success Stories

Near-, Medium-, and Long-term Actions

- Promotion of successful local examples and best practices from across Coös County would help educate current and future solid waste operators and decisionmakers and accelerate adoption of new practices or opportunities. For example, highlight the Lancaster C&D diversion and reuse program success starting with a pilot program and expanding into a standing program at the facility. This can be done online through the NRRRA website, on town social media pages, and through [NRRRA Member Operations & Marketing Meetings](#).

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