
MEMORANDUM

PWC-C 36-2020

Subject: Supplementary Information for Report PW 35-2020 – Reprioritization of Capital Project Funds for Recycling Centre Facility Improvements

Date: Tuesday, September 8, 2020

To: Public Works Committee

From: Jennifer Wilson, Supervisor, Collection and Diversion

This memorandum is to address the comments/questions from Councillor Insinna and Councillor Gale at the August 13, 2020 Regional Council meeting.

Single Sourcing Drum Feeder to Van Dyk (VDRS)

As stated in PW 35-2020, Procurement issued two separate Requests for Proposals (RFP) for the supply and installation of a drum feeder with ripper teeth for the fibre line (December 3, 2019 and March 9, 2020). Procurement in consultation with Waste Management Services staff, cancelled the first RFP, as all three submissions were non-compliant (VDRS was administratively non-compliant). The second RFP closed with no bid submissions.

Staff retained the services of a consultant to conduct a peer review of the specifications, prior to the issuance of the RFP. The consultant had advised manufacturers that Niagara Region would be issuing a procurement for this requirement and some indicated that they would not be interested. The consultant advised staff that there were five (5) companies that could potentially meet our required specifications and submit a bid.

After two (2) unsuccessful attempts to procure a drum feeder for the fibre line, through a competitive process, staff in consultation with Niagara Recycling, proceeded to negotiate with two (2) vendors that manufacture drum feeders with bag opening capabilities. Staff conducted reference checks on both vendors and based on those findings coupled with the ability for the vendors to meet the required specifications (which were the same as what has been included in the RFP), the drum feeder purchase was singled sourced to VDRS for the following reasons:

- A critical requirement of the RFP was that the unit needed to fit within an area and not reduce the tip floor space. The unit proposed by VDRS had significantly more cubic yard capacity than the other vendor within the required space. A larger unit from the vendor would have taken up more space on the tip floor and increased the cost. A reduction in tip floor space would reduce the holding capacity of the tip floor and limit the amount of space available to offload collection vehicles.
- The drum design for VDRS also enables further modifications to add longer teeth or more teeth whereas the drum design from the other vendor is fixed. This ability to modify the teeth allows for changing the aggressiveness of the bag opening capabilities.
- There was a requirement that the drum feeder was to open a minimum of 50% of bags that are larger than 45L in size. References for VDRS were positive with 50-80% of large bags being ripped/torn. Whereas a reference from the other vendor indicated close to 100% of bags were opened and liberated. Liberation was a concern for shredded office waste in the fibre stream as it would be difficult to remove loose shredded paper by hand, resulting in lost office waste revenue and a mess at the optical sorters due to all the fines.
- VDRS is a supplier of equipment to many Material Recycling Facilities (MRF's) across Canada and is familiar with all applicable Canadian rules and regulations such as ESA approvals. The other vendor did not have any drum feeders operating within Canada.

Waste Management Staff did consult with Procurement, and the single source was in accordance with Niagara Region's Procurement By-Law.

While the specifications for the drum feeder on the container line will be similar to the specifications of the fibre line, it will be one (1) foot narrower as the width of the conveyor on the container line is less than the fibre line. Given the unsuccessful outcomes of the two previously conducted RFPs coupled with the challenges presented herein which resulted in months of delay, staff recommended a single source to VDRS for the drum feeder on the container line.

Staff could proceed with a new RFP for the drum feeder on the container line and Procurement affirms that if deemed essential and urgent; procurement would allocate the resources needed to prioritize the finalization of the RFP. Staff anticipate that it would take a minimum eight (8) weeks to facilitate the RFP process and the supply and installation of the drum feeder for the container line by the successful Proponent would take a minimum of three (3) to four (4) months. The timing for the procurement process is predicated on finalizing the specifications, the open RFP period, receiving compliant

submissions, the evaluation of those submissions, which culminate in award to the highest scoring proponent and contract execution.

Delays in the installation of the drum feeder on the container line may affect the Region's ability to process all of the container line volumes (bagged and unbagged) currently being received which would result in Niagara Region needing to ship out additional loads of unprocessed materials to other MRFs in Ontario for processing. Additionally, Niagara Region would need to maintain space for collection vehicles to offload curbside collected material. Of note, bagged material contains voids, which take up more space on the tipping floor. In July and August, Niagara Region had to transport additional unprocessed material to another MRF in Ontario. Costs associated with transporting unprocessed material to a third party were identified in PW 35-2020.

In addition to the current challenges with bagged recyclables entering the facility, there is a potential that the total amount of curbside material collected would increase by 8% in October with the new service level changes. Staff project that this will amount to an additional 1041 tonnes of containers annually assuming 35% of the incoming volume is containers with an estimated cost for transporting and processing of approximately \$197,790. The revenue loss, as a result of, shipping unprocessed material is estimated to be approximately \$154,280 annually, based on current market pricing. This value can fluctuate based on total tonnage collected and changes to incoming material composition.

Additional Staff

Staff are not recommending the hiring of additional staff to manually open bags of containers for the following reasons:

- The use of drum feeders have successfully increased throughput of material at MRFs by up to 20%. Higher throughput reduces overtime hours worked per year to process material, and improves the quality and volume of material being marketed. Staff projected that in 2020 Niagara Region will receive approximately 16,000 tonnes of containers; a 10% increase in throughput would be equal to approximately 1600 tonnes of additional capacity. These translate into annual savings related to the drum feeder, identified herein and referenced in PW 35-2020.
- The space available within the pre-sort room to add more staff to open bags is limited due to the degree of sorting already taking place in this area. There is only room to accommodate two (2) additional staff within this area due to constraints on the line and access to bunkers. Any new sorters would be required to fill up a bin

beside/behind them and walk approximately 30 feet to empty the bin into the film bunker (storage space prior to shipping) every 10-15 minutes.

- Opening bags manually does not free up staff in the pre-sort room to remove more loose film that is in the bags and other items such as HDPE bottles and mixed plastics. The drum feeder will open more than 50% of the bags prior to the pre-sort room.
- Currently, the flow of material onto the processing line varies. The drum feeder will improve the metering of material onto the processing line to allow for a more consistent flow and burden depth, which reduces operational downtime that is a direct result of material jamming due to fluctuations on the line. Between February and early June, the average downtime per day at the container line was approximately 32 minutes.

Summary of Cost Analysis

Below is a summary of the estimated costs for the procuring the drum feeder in comparison to the alternatives reviewed.

Scenario 1: Projected financial impacts of purchasing a drum feeder.

Financial Impacts	Estimated Costs/Savings
Estimated Cost of Drum Feeder (One-time Cost)	\$275,000 US excluding net HST
Annual Estimated Cost Avoidance (Overtime & Residue)	(\$45,000)
Annual Estimated Additional Revenue Generated (Marketed Materials & Tip Fees)	(\$134,500)
Annual Financial Impact	(\$179,500)

* Does not include cost avoidance of shipping unprocessed material under Scenario 2.

Scenario 2: Projected financial impacts of status quo.

Financial Impacts	Estimated Costs/Savings
Annual Estimated Costs of Shipping Unprocessed Material to Third Parties	\$197,790
Annual Estimated Revenue Loss	\$154,280
Annual Total Financial Impact	\$352,070

Scenario 3: Projected financial impacts of adding two additional sorters.

Financial Impacts	Estimated Costs/Savings
Annual Cost of Adding Two (2) Staff Members	\$80,000
Annual Estimated Cost Avoidance (Overtime & Residue)	(\$11,200)
Annual Estimated Additional Revenue Generated (Marketed Materials & Tip Fees)	(\$33,625)
Annual Estimated Costs of Shipping Unprocessed Material to Third Parties	\$170,240
Annual Estimated Revenue Loss	\$126,730
Annual Total Financial Impact	\$332,145

Alternatively, if there is a policy change to no longer permit the use of clear plastic bags for placement of material curbside by residents and businesses who utilize Niagara Region's recycling collection services, it is projected that the Recycling Centre will be able to process all incoming container volumes. This includes the anticipated volume increase in October due to the anticipation that the quantity of loose film within the container stream would be reduced. By eliminating bagged material, it would free up

approximately eight (8) staff to focus on removal of other recyclables and residue from the container stream on the line. In addition, by eliminating bags, it will also reduce the equipment downtime at the perforator and optical sorter. With the implementation of the policy, there is also potential to realize labour savings on the container line.

As previously stated in PW 35-2020, some residents prefer the use of clear plastic bags to contain material, in particular those in rural areas with longer driveways or in high wind areas. In addition, bags may be used by residents for health reasons or by those with physical limitations to carry material to the curb. It would take time to implement the policy change and therefore the benefits would not be immediately realized. It is anticipated that if this policy was implemented, we would not get full compliance from residents. In addition, this change would require the Region to go back to the new contractors and negotiate pricing as the policy change would be a change to the scope of work in the contract. There would also be additional costs associated with the development and distribution of promotional and educational material.

Another alternative option not previously considered in report PW 35-2020, is to not extend Niagara Region's third party contract with Haldimand County for processing and marketing of Haldimand's Blue Box material. The current contract extension is set to expire March 5, 2021. There is one extension year remaining. On average, the annual net revenue from the Haldimand contract is approximately \$160,000. It is projected that in 2020, the Region will process approximately 1,442 tonnes of containers and 1,830 tonnes of fibre. By electing to not approve the last extension period, if Haldimand requests the last year extension, this would allow for the Recycling Centre to handle the additional 8% container volumes (1041 tonnes) projected from the new collection contract. In doing so, this would eliminate the need to purchase a drum feeder for the container line. This option will not resolve the need to have staff to open incoming bagged materials. It should also be noted that by not electing to extend the contract, with Halimand, it may negatively impact the value of the MRF.

Use of Funds Outside Waste Management

Waste Management staff consulted with Finance staff to address Councillor Gale's question regarding the use of the requested reprioritized funds for other initiatives outside of Waste Management, the reprioritized Recycling Centre improvement funding was from an existing, approved 2020 capital project funded primarily by the Waste Management Capital Reserve. The Waste Management Capital Reserve is funded solely from contributions from the Waste Management operating budget and is a

segregated capital reserve from those funded via levy. The Waste Management Capital Reserve is solely for WM capital initiatives.

Respectfully submitted and signed by

Jennifer Wilson
Supervisor, Collection and Diversion