



Waste Assessment Report

City of Canandaigua, Operations

October 2019



The Scope

What is Impact Earth

Impact Earth® is a behavioral change company (B-Corp status pending) within the waste management industry. As Rochester's only zero waste consultancy, Impact Earth® develops, implements, and distributes zero waste & sustainability programs, services, and products that represent its mission and values around landfill diversion, resource recovery, and building sustainable communities.

The Scope

The City of Canandaigua (“City”) has engaged Impact Earth in assessing the waste production and disposal at its facilities. On August 28th, 29th and September 18th, 2019, Cassidy Putney from Impact Earth visited the City’s facilities. The purpose of this assessment and report is to identify best practices that already exist within the City and to outline opportunities for improvement and progress towards landfill diversion.

The Team



Cassidy Putney
Co-Founder
Dir. of Sustainability



Jamie Eggleston
Business
Development

Overview

Methodology

During the assessment, Impact Earth put together a Waste Assessment Team (“Team”) consisting of 1-2 Impact Earth staff members and engagement of municipal stakeholders or interested parties. This Team scheduled a time with each municipal building to come during 3 week time period to conduct the assessment. At each building, the Team worked with facilities and building staff to ensure the success of the assessment. The buildings were assessed on a “single random day” and all metrics were recorded as such. The Team worked together to collect waste metrics, take photos of garbage bags, and record contamination rates in each waste stream. With the presence of stakeholders, the Team collected feedback from the assessment.

Additionally, the Team worked with municipal leaders to collect pertinent financial data and other metrics to get the whole picture of current waste practices and disposal. Once all the data was collected from all the buildings, Impact Earth analyzed the data and photos and prepared a Zero Waste Program for the City of Canandaigua. The results of the analysis can also be used to inform any further goals, recommendations, and implementation of a zero waste program.

This waste assessment is crucial to accessing and understanding baseline information when beginning a zero waste program. Additionally, future tracking of metrics throughout a zero waste program is a great way to ensure success of a program and identify opportunities for improvement and sustainability.

Scenario

The City has 7 buildings within their purview that we assessed during this process. These facilities include: City Hall, Department of Public Works, Police Station, Fire Station 1&2, Water Treatment Plant, and the Waste Water Treatment Plant. Each facility has their own variety of collection points, and dumpsters on site.

Impact Earth’s best estimation is that approximately 60% of all waste produced in these facilities comes from products that are brought in from the employees that work in each building.

Overview

Notes

The City provides its own waste hauling services. This includes landfill and recycling hauling services.

On average, the City spends \$450,000 per year on waste hauling. This does not include employee benefits or capital expenses. It does, however, include tipping fees, wages, and fuel costs for maintaining the hauling services.

In the 7 buildings, there are 101 employees.

City Hall: 15

DPW: 33

Police Department: 26

Fire Houses: 15 between both stations

Water Treatment Plant: 6

Waste Water Treatment Plant: 6

All wastes collected at City facilities are transported and disposed of at the Ontario County Landfill located in Stanley, NY. This facility is managed by Casella.

Existing Goals

Within City facilities, the following goals have already been established:

The City has recycling bins in every office and in every building to encourage waste reduction.

Overview

Other Communities

Impact Earth has assessed 20 different institutions over the last few years in NYS. While most of these assessments are for school communities, such as public school districts, it is important to provide context on the status of local waste diversion activities.

Impact Earth's assessments of school districts in Ontario and Monroe Counties, show that on average, school districts are diverting 21% of their wastes from the landfill (before they implement a zero waste program). Nationally, it is estimated that school districts are diverting even less than our local schools.

The EPA estimates that in 2018, the recycling and recovery rate (including composting) for all entities, residents, municipalities, and commercial operations across the United States was 34%, which is a slight increase from their previous study in 2014 (33%). This slight change in diversion rate illustrates the stagnation of waste diversion activities across the USA.

Currently, there is no detailed public data surrounding waste diversion activities for municipal facilities around the country. So while there is not an apples to apples comparison for the City of Canandaigua assessment, it's important to note the data that is available for communities locally and across the country.

The definition of "Zero Waste" truly depends on who you ask. However, at Impact Earth, we follow international best practices, where zero waste is considered for an institution/community when an 90% landfill diversion rate or higher is achieved and sustained. For more details on other communities pledging to go zero waste: <https://www.epa.gov/transforming-waste-tool/how-communities-have-defined-zero-waste>

Zero waste and other waste diversion programs are often implemented in phases with initial goals between 60-70% diversion and end goals over 80% diversion. In order for these programs to be extremely successful and sustainable, everything from infrastructure to education has to be addressed and considered.

Results Overview

In a single day the
City of Canandaigua facilities:

Produce 113.5 LBS Total Waste

Achieve a 36% Landfill Diversion Rate

Produce 1.1 LBS of Waste Per Person

Results

City Hall

Landfill Diversion Rate: 12%
Contamination Rate: 45%

Total Waste Produced: 17 lbs
Total Waste Diverted: 2 lbs

Observations:

All recycling was bagged inside the containers

Landfill bags had multiple landfill bags inside of them

One of the landfill bins had one bag inside, but was covered by vacuum remnants so we didn't weigh it to not incur more mess! Bag was ~8lbs and about 30% contamination

All wastes are generated in office spaces

Recycling is accumulated in each office, only bring it down once or twice a week. Photo of recycling is Rob Richardson's office bin

Photos



Contents:

Paper towels, k cups, cardboard, food scraps, plastic coffee cups, cans, food packaging, paper, pizza boxes, chip bags, plastic bottles, coffee grounds, styrofoam containers, styrofoam cups

Results

Police Department

Landfill Diversion Rate: 0%

Contamination Rate: 45%

Total Waste Produced: 10.5 lbs

Total Waste Diverted: 0 lbs

Observations:

Within the wastes assessed, there wasn't any recycling. Town officials noted that there are recycling containers throughout the department, but we did not see any recycling down where all the trash is disposed of.

Large bags had bags inside of them

Only 2 total bags produced in the whole day

Bottom left photo is of the other waste that had already been collected that week, but we did not assess it because it was outside of one day of collection

Photos



Contents:

Paper towels, cans, takeout containers, fast food packaging, plastic bottles, pizza boxes, plastic drink cups, straws, paper, bubble wrap, shipping packaging, coffee cups, plastic bags

Results

Fire Houses

Landfill Diversion Rate: 47%

Contamination Rate: 33%

Total Waste Produced: 34 lbs

Total Waste Diverted: 16 lbs

Observations:

DPW had picked up from one of the firehouses on the day we went so we came back for a second time to get more robust data

Most waste is food packaging, coffee cups, and some food

All bags had multiple bags inside of them

Had a decent amount of recycling at both facilities, mostly soda cans, cardboard and some printer paper

There was a decent amount of construction wastes but we did not include that data in our diversion rate calculation because it is not a day to day generated waste

Photos



Contents:

Cardboard, food scraps, banana peels, plastic bottles, soda cans, paper, coffee cups, styrofoam cups, plastic food packaging, plastic bags

Results

Water Treatment Facility

Landfill Diversion Rate: 62.5%

Contamination Rate: 8%

Total Waste Produced: 8 lbs

Total Waste Diverted: 5 lbs

Observations:

This facility is doing a great job when it comes to waste

There is composting on site in the back of the facility, and there is a compost/food waste collection container right in the kitchen area

They produce approximately 1 bag of landfill per week

There are small amounts of construction debris, hazardous waste, and metal scraps collected - but not considered in our data because it's not produced daily

All copper scraps are collected and recycled, approximately \$800 was made back on this recycling between 2017-2019

Photos



Contents:

Cardboard, food scraps, paper towels, plastic bags, coffee cups, paper

Results

Waste Water Treatment

Landfill Diversion Rate: 0%

Contamination Rate: 20%

Total Waste Produced: 3 lbs

Total Waste Diverted: 0 lbs

Observations:

All wastes seemed to come from the office side of the facility

There was also a large dumpster on site with a lot of non-office wastes

The landfill bags had other bags inside of them

There was no recycling disposal containers on site

Photos



Contents:

Coffee cups, plastic cold cups, chip bags, food wrappers, banana peels, paper, plastic bags

Results

Department of Public Works

Landfill Diversion Rate: 56%
Contamination Rate: 48%

Total Waste Produced: 53 lbs
Total Waste Diverted: 30 lbs

Observations:

There were a lot of coffee cups, cold cups, and styrofoam cups in the bags

Most folks seem to buy lunch out and have the remaining containers in the trash

There were a few bulk drink containers (juice and tea)

There were a bunch of smaller bags inside the larger landfill bags in the container

Photos



Contents:

Coffee cups, plastic cold cups, chip bags, food wrappers, pizza boxes, paper towels, cardboard, styrofoam containers, plastic wrap, soda cans, paper, plastic salad containers, plastic utensils

Recommendations

Benefits of a Zero Waste Program

Overall waste reduction

Diversion of food waste and recyclables from the landfill

Decrease environmental impact of the City Facilities

Decrease greenhouse gas emissions related to waste disposal

Create a conscious culture at all City Facilities

Closer relationship with employees and potential employees that prioritize sustainable initiatives

Be the leader in the community to show residents that you prioritize sustainability in a natural-resource rich community

Support Canandaigua sustainability goals and natural resource protection

Fosters a sense of community - we are all in this together -
Green marketing campaign opportunities

Reduction in landfill waste pick up frequency

Reduction of quantity of garbage bags used and needed to purchase

Environmental cost savings of landfill diversion

Some Low Hanging Fruit

Implement food waste collection in each office's kitchenette

Encourage employees to bring lunches from home, use reusable mugs/glassware, and buy bulk drinks for office use

Ban the use of regular k cups, purchase reusable k cups for all offices that have a keurig machine and purchase bulk coffee

Sort wastes into the proper existing waste stream, ensure that all recycling bins have a clear bag/no bag so they don't get dumped in the wrong place

Encourage employees bring their own water bottles to the office

Recommendations

Goals

60% landfill diversion rate across all facilities by 2021

Educate all staff on current (and changing) recycling rules

Collect and compost all food scraps from offices

Action Items

Set realistic goals for waste reduction and diversion and assess progress once a year to identify successes and challenges - perform a full waste assessment every 5 years to inform longer term goals

Ensure that there is a recycling tote/disposal container at all City facilities

De-bag all recycling before putting it into recycling totes

Implement rule for all landfill & recycling bins to be unlined/dumped into a larger bag rather than using bags in all receptacles and then wasting the materials (also will save money on materials cost)

Put counter-top composting pails in each kitchenette and implement a daily dump into a aggregation collection container

Engage a compost hauler for a small program service
(Long term - compost on City property(ies))

Create and hang signage on all common area waste receptacles

Host a quarterly workshop with City staff to discuss low-waste lifestyles, steps to achieve a low-waste lifestyle, how that can translate to work-life and how living low-waste saves money personally as well.

Consider performing a City-wide residential waste assessment to gain resident engagement, using City facilities as a model, and set larger and longer term goals for the City as a whole

Thank you!

We want to thank the City of Canandaigua for engaging Impact Earth in our waste assessment service.

At Impact Earth, we have the capacity and expertise to assist the City in any and all of the proposed and recommended goals and action items. We would be happy to provide an outline of our services, and product alternatives and associated costs if interested in moving forward.

If you have any questions, comments, or concerns about this report, please reach out to Cassidy Putney, Director of Sustainability at Impact Earth.

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We thank you again for this opportunity and look forward to discussing this report and our recommendations further.

- Impact Earth Team



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