2018 EXCELLENCE AWARD ENTRY

Special Waste Management
County of Wellington

Mobile Household Hazardous Waste Depot

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Population: 96,515
Households: 33,320
Capital and Annual Operating Cost: $16,388 (2016) and $92,136 (2017)
Cost per Household: $0.49 + $2.77 = $3.26
Executive Summary

The Mobile HHW Depot is a simple, flexible, and cost-effective alternative to providing HHW event days and eliminates the need for multiple permanent depots. It provides the flexibility of hosting an event day with the year-round access of operating a permanent HHW depot. With a capital investment of $16,388, the County is able to provide much greater access for our residents to properly dispose of their HHW materials.

In July 2016, the County launched our Mobile Household Hazardous Waste (HHW) Depot to expand our level of service and convenience to our residents. Comparing the results of the HHW Programme before (2015) and after (2017) the implementation of the Mobile Depot shows a significant improvement in the level of HHW drop-off service and use by our residents.

<table>
<thead>
<tr>
<th>Metric</th>
<th>Increase</th>
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</thead>
<tbody>
<tr>
<td>Total KG Collected</td>
<td>14.7%</td>
</tr>
<tr>
<td>Number of Customers</td>
<td>21.8%</td>
</tr>
<tr>
<td>Number of Operational Days</td>
<td>16.0%</td>
</tr>
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</table>
Design and Planning of Collection Facility or Programme

What considerations were included in the planning process?

The County of Wellington Solid Waste Services Division (SWS) is responsible for all residential solid waste and recycling services in the County. We operate one active landfill site to serve our residents for now and in the future. To meet our goals of providing excellent customer service and reducing our impact on the environment, SWS offers many diversion programmes, including HHW collection.

Prior to 2016, HHW materials were collected through three systems:

- seven event days per year (one per member municipality), which accepted all HHW materials and were offered from May to October
- household battery collection tubes at our 14 library branches, available year-round
- five permanent depots, operate year-round, but accept a limited list of materials (oil, oil filters, antifreeze, aerosol cans, propane tanks, car batteries, and household batteries)

While the permanent select waste depots and battery collection tubes were being well-used, residents were not satisfied with only one event day in their municipality each year for all of the other HHW materials. They could drive to any of the other six locations where the HHW Event Day was being held, however, this could represent up to a two-and-a-half hour round-trip depending on the location of the event with respect to the resident’s home. SWS staff and County councillors regularly received requests for additional event days or permanent full-service depots. Many of our neighbouring municipalities had year-round service, why couldn’t we?

SWS staff assessed a number of different options to meet residents’ requests for more access and our own goals of excellent customer service and environmental responsibility. We could:

- Increase the number of event days offered each year
  - How many is enough?
  - Winter posed operational challenges
- Expand the materials accepted at the select waste permanent depots
  - Not enough space to expand the list of materials accepted
  - One of our waste facilities didn’t have an HHW depot
- Offer a mobile hazardous waste system
  - Large area to cover (2,600 km²)
  - What type of vehicle would be suitable?

How did you decide on the system or programme design?

SWS staff researched the various options. Doubling the number of event days still only provided two days per year in each municipality, and they are very costly to operate. There is not sufficient space at our waste facilities to expand the permanent depots to accept the additional materials, particularly paint, and only five of our six waste facilities have a depot. A “toxic taxi” where we would drive to each person’s home to collect would be very costly to operate given our large area to cover (2,600 km²) and over 33,000 households to service.
Then we visited the Mobile HHW Depot operated by our neighbours at the Township of Southgate (the only mobile depot we are aware of). The Mobile Depot was chosen as the preferred service delivery option. It offered:

- The ability to provide year-round HHW collection service.
- The ability to accept all HHW materials.
- The ability to move the depot to virtually any location within the County.
- An estimated $8,000 in cost savings compared to operating event days.

What factors did you consider to be most important?
The most important considerations for us was to increase the convenience and service level to all of our residents at a year-round service while minimizing the impact to the budget. In Ontario, as take-back-to-retail options were being eliminated, we felt additional pressure to provide our residents with better access to year-round service. Even with waste-screening at our sites, we regularly found paint and fluorescent tubes placed with other divertable materials or in our garbage bins. We needed a solution to provide our residents with a convenient, cost-effective year-round service to properly dispose of all of their HHW materials.

Describe the facility design.
As noted above, we found only one example of a Mobile HHW Depot. It was designed and operated by a neighbouring municipality, Southgate Township. We were fortunate to be able to use their design and learn from their experience operating their depot, which they moved between two locations.

The Mobile Depot is a fully customized roll-off bin. The Depot is based on a standard 55 cubic yard bin. Its dimensions are 22 feet long, 8 feet wide, and 8 feet 5 inches tall (101”). It features:

- A permanent roof.
- Natural lighting in the roof, which are made of plexi-glass cut-outs.
- Pull-plates at each end of the bin.
- Explosion proof design.
- Two sealed extra-large lockable doors, each are 7 feet by 5 feet (84” x 60”).
- There are shuttered louvered vents on both ends of the bin.
- There are removable ramps in front of each door that can be moved by one person (the steel ones in this photo were replaced with aluminum ones).
- It is painted orange to tie into the Orange Drop programme operated by Stewardship Ontario, and really stands out compared to the other bins on the sites.
Inside the Depot:

- Inside the bin, it has a grated, spill proof floor made of galvanized steel. Each “plank” is 10 inches wide and is set 2 inches above the bin floor.
- The bin itself can hold 18-20 45 gallon drums comfortably during the operation of the depot. At a maximum, it will hold 25 drums single stacked.
- There are shelves along one wall to hold boxes of fluorescent tubes and other supplies.
- At one end of the bin, there are two lockers (46” x 33” x 23”) located on either side of the roll-off doghouse. These are installed a few feet up off the floor so there is space to store boxed items below.
- There are three shelves above the doghouse for manuals, binders, etc.
- There is an 18” x 18” fold down desk above the doghouse, set 42” from the floor.
- There is a bar where we hang our drum labels for easy access, and to keep them neat and tidy.
- We take advantage of the fact that the walls are metal and we use magnets to post signs, labels, inventory sheets, sample lists, etc. and so they can easily be changed around depending on what materials come in, or if we update the sheets we can easily replace them.
Receiving area:
- Is located outside of the bin and is made up of a folding table and blue boxes on a spill containment tarp, and a spill containment box.
- All customers’ materials are placed in the receiving/staging area. Materials are then sorted and hand placed into the appropriate lab pack inside the depot by trained County staff.

Operating hours:
The Mobile HHW Depot is open three days per week, 8:00 am – 4:00 pm. These hours are consistent with five of our six waste facilities. The sixth waste facility is open five days per week, but for consistency for our residents and our staff, the Mobile HHW Depot is only open three of those five days.

Describe the programme’s role in local community’s integrated solid waste management effort.
The County of Wellington is responsible for all solid waste services for residents in the County. This includes curbside collection of waste and recyclables, diverting many materials through our waste facilities, and encouraging reuse through our Reuse Centres and Reuse Website. In addition, the County is responsible for the safe management of one active landfill site and the on-going monitoring and security of 16 closed landfill sites.

It is very important to the County to provide our residents with a convenient programme to manage their household hazardous waste materials. Capturing HHW allows us to ensure as many materials are recycled as possible, and the balance is disposed of in an environmentally responsible way.

Capturing HHW reduces the negative environmental impacts of our one active landfill, and protects the surrounding groundwater. It also reduces the risk of residents disposing of their HHW materials in other ways, such as pouring down the sink, which can impact water treatment plants and septic systems.
Discuss the overall merits and impact of the special waste collection programme.
The Mobile Depot system allows the County to bring our HHW programme into each municipality and operate it for approximately 12 days each month, rather than a single day a year in each municipality, as we did with our Event Day programme. This service accepts all HHW materials, the same list as accepted at our event days only. This expanded our service opportunities to our residents by over 2000% compared to operating the event days programme.

What is unique about this facility or programme that takes it to the “excellence” level?
The fact that this HHW Depot is self-contained and can be moved to virtually any location (note, our Environmental Compliance Approval currently lists 19 locations that are approved to host the mobile depot) using a standard roll-off lugger makes it unique. Moving the bin can be done by in-house staff and equipment or by a contractor. Having full HHW service available to County residents for approximately 150 days a year compared to the previous seven days a year provides an elevated level of customer service and convenience, and provides many more opportunities to capture more HHW materials through the improved accessibility of the service. Giving our residents the ability to drop off HHW materials on different days of the week instead of just Saturday also increases the likelihood they will be able to use the service.

The Mobile HHW Depot system could be easily replicated by any municipality, which in our opinion takes it to the excellence level. It is a low-cost option compared to establishing a permanent HHW depot and represents a cost savings versus the previously utilized service option of holding event days. It has the ability to provide the service in a community rather than having a single permanent location where residents may have long drives to access it. All of these features make it an attractive and viable option for smaller, rural, or northern communities.

Staff have made two presentations at two separate workshops on our Mobile HHW Depot. The Municipal Waste Association spring workshop in May 2017, and the Ontario First Nations Technical Services Corporation waste diversion workshop in January 2018. These presentations have resulted in inquiries and site visits from other municipalities and consultants on our Mobile Depot service.

Use of Equipment/Systems and Technologies
Describe equipment used at the facility or collection event, including its efficiency and effectiveness.
The main equipment is the bin itself. Beyond that, there is very limited equipment required. A table, tarps, spill containment, and drums allow a single staff person to operate the depot effectively. The bin has two doors for easy access, with ramps to easily roll drums in and out as needed using a dolly cart.

We use our own standard roll-off lugger to move the bin from location to location, though it could easily be moved by a contractor as well.
Demonstrate how the equipment is “state of the art” and how it contributes to minimizing impact on human health, resource conservation and the environment.

We pride ourselves on the fact that there isn't any “state of the art” equipment required. The depot is a standard covered roll-off bin and is moved by a standard roll-off lugger. All of the other required equipment is easily acquired through standard industry suppliers. The HHW Technician uses a laptop to track customer information, inventory, removals, etc., which can all be achieved using a simple spreadsheet software such as Microsoft Excel.

The depot also has features to protect the environment, such as spill containment systems, an explosion-proof design, and the bin itself is made of metal so is inherently fire resistant. Collection of HHW materials keeps hazardous materials out of our landfill and out of public and private water systems, protecting groundwater and well-water systems.
Explain the facility’s waste screening procedure based on materials collected.

When the Mobile Depot is located at one of our six waste facilities, the customer will stop at the scalehouse for assessment. Attendants ask questions and do a visual inspection of the load to determine:

- If the waste was generated from within the County of Wellington.
- Whether the customer has any HHW materials with them.

If the incoming load includes HHW materials, customers are directed to the Mobile HHW Depot for further assistance as follows:

- With help from the HHW Technician, residents remove the material from their vehicle and place on the receiving table or on the spill containment box if the container is leaking.
- Materials are then sorted by their chemical properties by trained County staff.
- Materials are hand-placed into the appropriate lab pack or box located inside the depot by trained County staff, or bulked with like materials in the permanent depot if the Mobile HHW Depot is located at a County waste facility that has one.

The Mobile HHW Depot accepts the following waste classes:

- Aerosols
- Antifreeze
- Batteries (automotive and household)
- Corrosives
- Fertilizers
- Fire extinguishers
- Flammables
- Fluorescent tubes and lamps
- Mercury devices
- Oil containers
Oil filters
- Paints and coatings
- Pesticides, fungicides, and herbicides
- Pharmaceuticals
- Pressurized containers
- Reactives
- Sharps
- Toxics

County staff track all incoming HHW material and ensure it is removed by a licenced contractor for proper end-of-life management, including recycling.

**What do you do with the special waste collected?**

All of the HHW is removed by a licenced contractor for proper end-of-life management including recycling, fuel-blending, chemical treatment, or incineration. The following materials collected at the Mobile HHW Depot are 100% recycled:

- Aerosols
- Batteries (automotive and household)
- Fire extinguishers
- Fluorescent tubes and lamps
- Mercury devices
- Oil containers
- Oil filters
- Paints and coatings
- Pressurized containers

**How have you incorporated source reduction, reuse and/or recycling in your disposal of wastes collected?**

We promote the “**BUD**” rule to our residents – “**B**uy only what you need, **U**se it up, **D**ispose of the remains responsibly”. We recycle as much of the HHW material we receive in our programme as possible. The overall recycling rate (by weight) for all HHW materials managed across our HHW programme was 84% in 2017. Our contractor, Photech, is also a paint recycler and creates a recycled paint product which is for sale in the retail market.

**Environmental Benefits & Regulatory Compliance**

Explain how the site or collection programme complies with environmental laws and regulations, particularly those that are unique to your state or community.

The Mobile HHW Depot operates under an Environmental Compliance Approval (ECA) issued by the Ontario Ministry of Environment and Climate Change (MOECC). This ECA provides the County with the authorization to operate the Mobile Depot and includes specific operational requirements. A copy of the ECA is kept in the Depot for reference along with the Health and Safety Plans and operating procedures.

The HHW Technician tracks the customers’ names, addresses, and any material(s) brought to the Mobile Depot. Under our ECA, we are required to notify the MOECC and local fire departments of the schedule for the Mobile Depot each year and provide them with pertinent information regarding the operation of the Mobile Depot. An annual report is submitted to the MOECC advising of materials and quantities managed.

All of the materials received from the public are packed into lined labpack UN-approved drums following Ministry and Transportation of Dangerous Goods (TDG) regulations by trained County staff. When the Depot is full, the supervisor arranges for a pickup with an approved carrier under contract.
All of the HHW material moved is tracked by either a manifest under the Hazardous Waste Integration Network (HWIN) or by a Bill of Lading, depending on the legislative requirements for that material. All of the material is weighed at our contractor’s processing facility and these weights are reported back to us through the HWIN manifest system. Completed manifests are reviewed and sent to the MOECC. We track all weights and quantities by material on our internal system to verify the types and amounts of materials diverted and submitted to the Resource Productivity & Recovery Authority (RPRA) through their annual datacall.

Some materials are eligible for funding under provincial programmes, and reports are submitted to these funding organizations for their review and appropriate payments (Stewardship Ontario, Product Care Association, and Automotive Materials Stewardship). The County follows all of the compliance requirements established under these various funding agreements.

Describe and include in supporting documentation any awards, letters of support or facility inspection data that provide third-party verification of your facility’s or programme’s regulatory record.

The MOECC conducted a routine site inspection of the Mobile HHW Depot in February 2017. The Depot received a full pass with no infractions, and no required actions as a result of the inspection.

SWS staff have been working with the County’s Source Water Protection group to promote the Mobile HHW Depot service. They expressed their appreciation for providing this enhanced level of service to encourage people to dispose of their HHW materials properly to protect local water resources.

We held a grand opening and ribbon cutting ceremony for the Mobile HHW Depot at our Aberfoyle Waste Facility in July 2016, supported by many County Staff as well as County Councillors, including the Warden and Solid Waste Services Committee Chair, who both spoke at the event.
Describe any regulatory citations received and how problems were corrected.
There have been no regulatory citations received.

Worker Health & Safety
Describe employee training frequency and topics. What safety procedures do you use and how do you enforce them?

Employee training is provided using both in-house expertise and outside service providers. Training occurs at the beginning of employment and/or the launch of a new programme or programme change, then as required. Listed below are our training requirements:

Staff Training List:

- Operations Superintendent and HHW Technician completed and certified in SWANA NAHHW HHW training
- All Site Staff – HHW basic overview provided by Supervisor (initial)
- All Site Staff – WHMIS GHS training (initial)
- All Site Staff – WHMIS GHS refresher (annual)
- All Site Staff – Certified First Aid (every three years)
- All Site Staff – First Aid and AED refresher (annual)
- All Site Staff who handle HHW – Transportation of Dangerous Goods (TDG) Certification (every three years)
- All Site Staff who handle HHW – Ontario Reg. 347/558 Training
- All Site Staff who handle HHW – Contractor (Clean Harbors) overview June 8th of 2016 (initial)
- All Site Staff who handle HHW – Clean Harbors on site training – Saturday July 2nd of 2016 (initial)
- All Site Staff - training in HHW Mobile Depot fall of 2016 (initial)

Operating Procedures:

- After screening is conducted at the scalehouse to identify HHW materials, customers are directed to the Mobile HHW Depot.
- All customers place their HHW materials in the receiving/staging area. They are sorted and placed into the appropriate lab pack inside the depot by trained County staff. No customers go inside the bin itself.
- All HHW Materials are sorted and stored in the appropriate drum, container, or box.
- Each drum is lined and has the appropriate product label, inventory label and placard if necessary, with the product being identified on the lid as well. The drum is secured with a locking lid when being transported.
- Appropriate dangerous goods placards are affixed to the outside of the bin to ensure first responders are aware of the contents of the bin.
- The depot is secured nightly and kept within a secure County Facility.
Include injury rates and what methods have been used to reduce injuries.
There have been no injuries related to the operation of the Mobile HHW Depot. Appropriate personal protective equipment is used to prevent injuries from harmful chemicals. In case of emergency, the bin has an eye wash station, a pressurized rinse kit, fire extinguishers, first aid kits, and meets all Ontario Health and Safety Association requirements.

Prior to the bin being moved to a new location, all HHW materials are removed by a licenced contractor and all empty drums are secured to the walls using metal load bars and bungee cords. All other equipment is secured in locked cabinets and the placards are removed from the outside of the depot.

Performance, Economics and Cost Effectiveness
How do you measure success for the special waste collection facility or programme?
Our goal in establishing the Mobile HHW Depot was to improve access and convenience to HHW collection for our residents. Our metrics to measure whether or not we met this goal is an increase in number of operational days, increase in the number of customers, and increase in the amount of HHW materials collected. We compared the results of the HHW system in 2017 against our baseline year of 2015.

<table>
<thead>
<tr>
<th>Total KG collected</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select Depots</td>
<td>78,977.6</td>
<td>92,248.0</td>
<td>101,007.7</td>
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<tr>
<td>Event Days</td>
<td>84,157.0</td>
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<tr>
<td>Mobile Depot</td>
<td>n/a</td>
<td>63,822.0</td>
<td>86,033.0</td>
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<tr>
<td>Total KG</td>
<td>163,134.6</td>
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<td>187,040.7</td>
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<table>
<thead>
<tr>
<th># of Customers</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
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<tbody>
<tr>
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<td>3,134</td>
<td>3,374</td>
<td>3,314</td>
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<tr>
<td>Event Days</td>
<td>1,569</td>
<td>314</td>
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<tr>
<td>Mobile Depot</td>
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<td>1,943</td>
<td>2,416</td>
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<tr>
<td>Total Customers</td>
<td>4,703</td>
<td>5,631</td>
<td>5,730</td>
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<table>
<thead>
<tr>
<th># of Operational Days</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
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<tbody>
<tr>
<td>Select Depots</td>
<td>884</td>
<td>884</td>
<td>884</td>
</tr>
<tr>
<td>Event Days</td>
<td>7</td>
<td>2</td>
<td>n/a</td>
</tr>
<tr>
<td>Mobile Depot</td>
<td>n/a</td>
<td>75</td>
<td>150</td>
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<tr>
<td>Total # of Days</td>
<td>891</td>
<td>961</td>
<td>1,034</td>
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While the number of operational days the HHW system is available has increased 16%, the amount of days that residents are able to drop off any and all HHW materials has actually gone from 7 to 150 days.
Does your operational performance equal or exceed the goals and expectations you set? If not, what are your lessons learned, and what are you doing to improve?

We originally estimated the Depot would only require emptying on a monthly basis. We have far exceeded that level of service and average three removals per month. We also felt that customer visits and quantities of materials managed would level off over time but they have continued to increase. Due to the well utilized nature of the service, we require a second employee to staff the Depot at times.

If you have a facility, how much downtime does it have, how long is each instance on average and what measures have been taken to reduce downtime?

There is downtime related to the removal of the collected waste and moving the Depot to the next location. As the Depot only operates three days per week, we minimize the downtime by removing the materials and/or moving the bin on a non-operational day. Once the bin is placed and levelled, it takes less than an hour to set up to collect materials, so we can begin accepting HHW materials the same day the Depot is moved if it is moved on an operational day at the receiving facility.

Site staff are cross-trained to ensure the depot can remain open for operation in the case of any planned or unplanned absences of the HHW Technician.

How does your organization foster customer service? How do you determine whether you are doing a good job in responding to customer concerns?

The County of Wellington believes in the Fish! Philosophy as a model to improve customer service, workplace culture and to ultimately have fun at work. At the County, all new employees go through our New Hire Orientation. The Fish! Philosophy is reviewed and the video featuring the famous Fish market in Seattle is shown to our new team members.

The motto in SWS is “exceed expectations”. Our staff take pride in providing excellent customer service whether in person, on the phone, or by email. The development of the Mobile HHW Depot system was in response to customer concerns that the single event days were not sufficient. We have received a lot of very positive feedback from customers that they love the new service.

Explain whether the facility or programme operates within its budget and whether costs are appropriate. Describe how long it has taken, or will take, for the organization to recoup costs for the facility or programme. Explain how return on investment funds, if any, are applied to enhancing programmes, doing educational outreach, or being applied to other community endeavors.

Managing HHW materials is difficult to budget, as it is wholly dependent on volume and what types of materials the residents drop off. We expected an increase in the amount of materials to be managed with the added convenience of the Mobile Depot over the event days. The depot opened in July 2016, and we did go over budget that year. As our Treasurer said, “We are a victim of our success” and understood that it was actually a good thing as it meant more HHW materials were being captured.

To address the increase in materials, we increased our 2017 operating budget based on 2016 actuals. We issued a tender in the spring of 2017 and the prices came in considerably lower than with our previous contractor. As a result, by the end of the year we came in well under budget, 43.5% below budget. As a municipality, those savings go towards offsetting any exceedances elsewhere in the County budget or into reserves.
During the initial assessment of moving from an event day to Mobile Depot service, with two event days only, staff determined there would be $8,000 in annual net savings. Since then, a new contract was tendered and the last two event days were eliminated and replaced with the Mobile HHW Depot. These two additional changes have resulted in even greater savings.

Public Acceptance, Appearance and Aesthetics

Provide evidence that the facility or collection event location is a good neighbor in the community. Describe your public relations programme and the types of public education you do to help your community understand what your facility or programme does and its role in resource recovery and waste diversion. What community concerns were raised and how were they addressed?

Our waste facility staff work very diligently to keep all of our facilities neat, tidy, and attractive. We take pride in the appearance of our sites and often hear that our facilities don’t even look like waste facilities. Our public education consists of many types of media outreach such as site signage, newspaper ads, newsletters, an annual calendar, an annual report, and most importantly, our site staff and office clerks who answer questions in person and on the phone.

The schedule for the Mobile HHW Depot is continuously promoted through various outreach tools, including:

- Postcards distributed at all waste facilities, municipal offices, County libraries, Welcome Wagon, and the County’s Water Source Protection group
- The County website
- The local newspaper in the municipality where the depot is being moved to
- On the “County page” in the weekly County-wide newspaper a few times per year
- Emails to our e-news subscribers

Feedback on the first six months of operation was provided in the SWS Annual Report to our SWS Committee and County Council, and to our residents in our Spring 2017 newsletter published in June.

There were no concerns with the launch of the Mobile HHW Depot. All feedback was positive and people were very appreciative of the increased level of service and convenience.

How do you ensure that the facility or collection event and vehicles are clean and aesthetically pleasing?

As noted above, our waste facility staff work diligently to keep our sites clean and collect litter daily. Our staff conduct daily inspections of the host facility and the Mobile HHW Depot to check for litter, safety and spill equipment, security, structural integrity, and the condition of drums to ensure a safe, well-organized user experience and a professional appearance.