

Yard Waste Facility Evaluation

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ACKNOWLEDGEMENTS

This study and report was completed under the Pennsylvania Department of Environmental Protection's (DEP) Recycling Technical Assistance Program. SCS Engineers acknowledges the support of DEP to complete this study.

1 PROJECT DESCRIPTION

The Town of Bloomsburg (Town) and Township of Scott (Township) are Pennsylvania Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101) mandated recycling communities. The Town and Township have executed a Compost Site Agreement (Agreement) in which the Town owns and operates an organics collection and processing facility that both municipalities use.

Recycling technical assistance, including guidance and recommendations, was requested to help achieve two primary objectives: 1) improve facility operations, and 2) develop a more sustainable cost sharing plan for the facility.

2 SUMMARY OF WORK

The following tasks were completed as part of this recycling technical assistance project.

Task 1 – Data Collection and Site Visit

SCS requested information on the Town and Township’s yard waste management program, including technical, operational, and financial documentation. This information was received and reviewed prior to conducting a site investigation. The site investigation and field observations occurred over a one-day period and included meeting with Town and Township staff and touring the yard waste management site. Throughout the site visit, SCS asked questions to clarify operational practices and administrative conditions in order to better understand the existing yard waste management program.

Task 2 – Operational Recommendations

SCS reviewed two components of the Town’s Composting Site and provided recommendations to improve operations and efficiency. These two components include:

- **Subtask 2a: Access Control** – SCS reviewed the Town and Township’s current plan to secure the Site from unauthorized use. This included a review of the current protocol that allows non-residents to purchase vouchers to use the Site.
- **Subtask 2b: Final Compost Production** – SCS reviewed composting production practices to identify methods and solutions to improve the quality of the compost and facilitate its marketability in the community.

Task 3 – Sustainable Cost Sharing Plan

SCS reviewed financial records pertaining to the Site. This report includes recommendations for implementing a fair and sustainable cost sharing arrangement that better represents the collaborative partnership between the Town and Township to remain in compliance with Act 101 and provide yard waste management services to residents.

Task 4 – Final Report

This report includes findings and observations recorded during the Task 1 background information review and site investigation. It also includes conclusions and recommendations for better access control, enhanced user screening, and more equitable cost sharing as identified as part of Tasks 2 and 3.

3 CURRENT PROGRAM

Site Overview

The shared yard waste collection and processing facility (Compost Site) is located near the Town wastewater treatment plant and the intersection of Sands Street and 11th Street. Yard waste is collected curbside by Town and Township collection staff and transported to the Site. Additionally, residents may directly drop-off materials during established operating hours.

As shown in **Figure 1**, the current shared Compost Site is located to the south and slightly west of the Town’s main business district. This location has been operational since 2015, when the Town relocated the facility from its prior location near the eastern end of the Bloomsburg Municipal Airport. Also shown in **Figure 1** is the location of a Scott Township-owned property that was previously used for temporary storage and transfer of its municipally collected yard waste material. As of 2020, this location is no longer used for temporary organics storage, and instead the Township direct-hauls all material to the Compost Site in Bloomsburg. Residents of both municipalities may drop off material directly at the Compost Site, as can residents of areas outside the municipalities (for a user fee via a voucher purchasing system). **Figure 2** is a detailed Compost Site map that identifies the location of equipment and operational areas.

Figure 1. Area Map

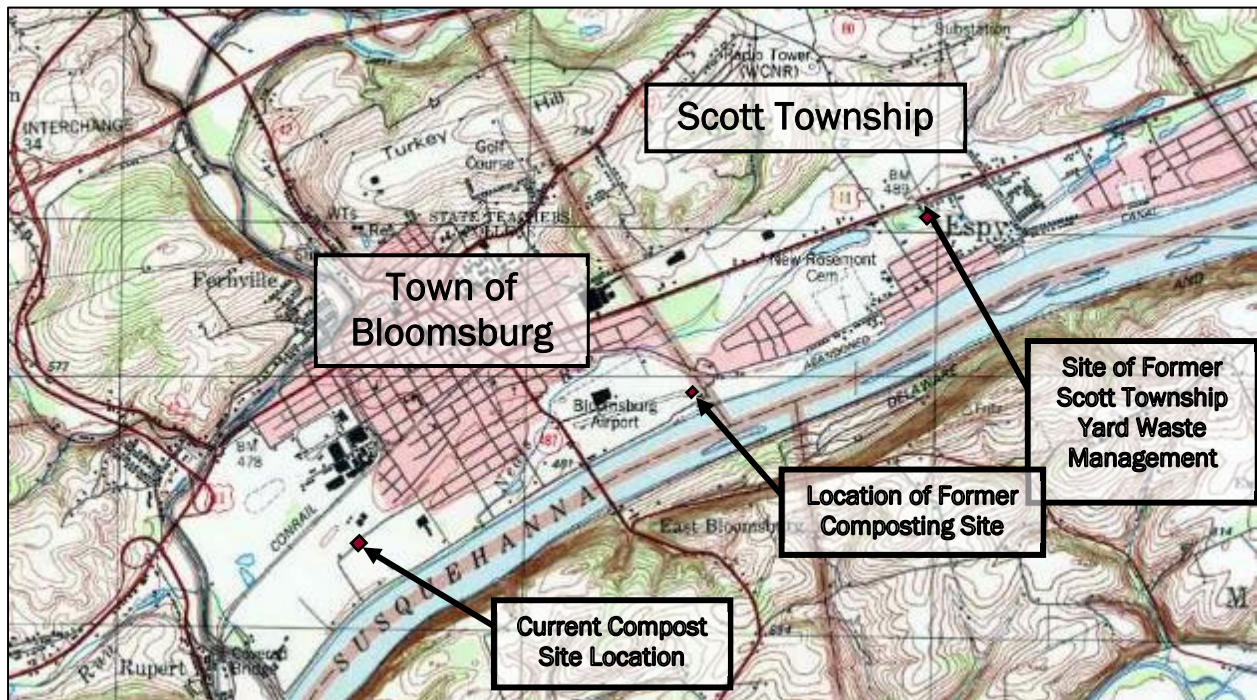
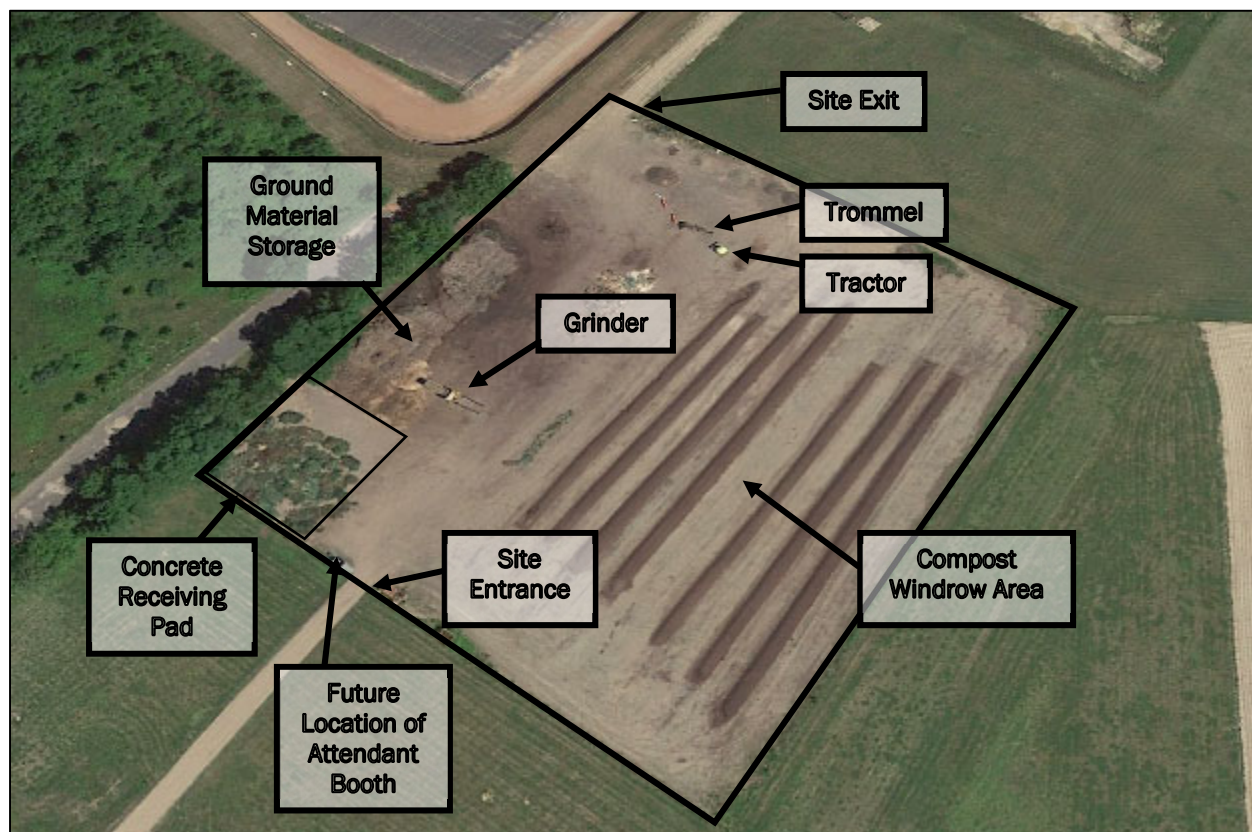


Figure 2. Site Map



Materials Managed

Yard waste material collected and processed at the Compost Site includes the following general subcategories of material:

- **Source separated leaves** generally from Town leaf vacuum vehicle collections conducted in the fall of each year.
- **Woody debris** such as tree cuttings direct hauled to the site by residents. Stumps were also observed to be stored at the facility during the site visit.
- **Brush** that includes miscellaneous organic material from residents' yards and garden trimmings.

The facility does not accept grass trimmings, which were previously accepted, but discontinued in 2017 due to the recurring outbreak of fires originating in the compost piles. Grass clippings are relatively high in nitrogen and moisture and it is believed these characteristics contributed to conditions that led to the spontaneous ignition of material within the piles.

Facility Operations

The nearly five acre facility is shaped like a square with distinct composting and mulching/grinding areas. It is permitted as a Yard Waste Composting Facility under 25 Pa. Code Section 271.103(h) Permit-By-Rule (PBR) and referred to as the Compost Site although the majority of material accepted is processed via mulching/grinding rather than composting. Mulching operations and product storage occupies the western half of the Site and compost windrow operations is located on the eastern side. The Site also serves as a storage yard for various public works materials and as a location to store snow and storm debris after extreme weather events.

Facility Access

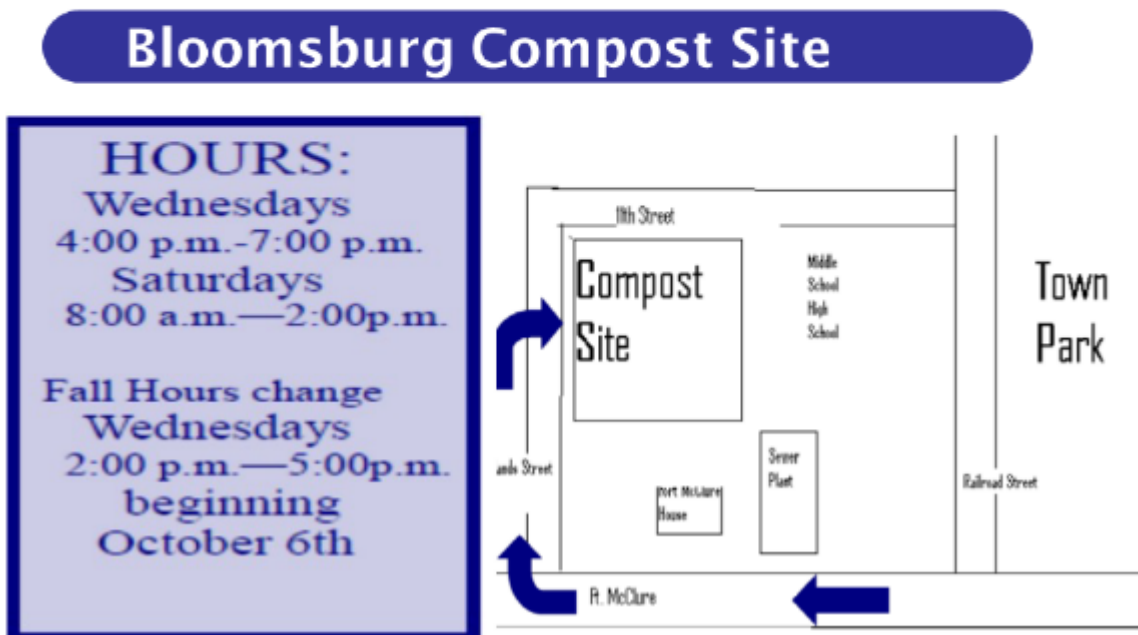
Figure 3 summarizes recent changes instituted to facilitate efficient traffic flow at the facility, including hours of operations. Users access the site via a one-way entrance road located off Sands Street, near its former intersection with W. 11th Street. Since most users approach the Site from the east near Bloomsburg Middle and High Schools, the facility's traffic plan directs site users to travel a clockwise loop west on Ft. McClure Blvd and north on Sands Street to enter the site on its southwest side. The one-way Compost Site through-road cuts across the site between compost and grinding areas towards its one-way exit at its northernmost corner. The road then continues up and over the floodwall directly north of the Bloomsburg Wastewater Treatment Plant, where it joins W. 11th Street.

Swing gates at the site's entrance and exit deter unauthorized entry.

Figure 3. Site Access and Hours Flyer

NEW IN 2021 All brush and yard waste must be taken directly to the Bloomsburg Compost site. Dropoff at the Township building has been eliminated. See below for the details on the Bloomsburg-Site drop off times. Township residents may pick up mulch or compost (while available) Loading is the responsibility of the resident.

ID REQUIRED



Composting

Composting occurs using source-separated leaf material only. Leaf material is received and temporarily stored until it is distributed into windrows for composting. Presently, no additional feedstock materials are used for composting.

Windrows are turned using a McCormick MC105 tractor (Figure 4) with a tow-behind windrow turner and watering system approximately four times after they are constructed each fall. The windrows remain largely dormant each winter due to snow accumulation. Generally, additional three turning cycles are completed on windrows the following spring. The Town further processes finished compost material with a Trom 406 model trommel (Figure 5) with approximately 5/8" screen. SCS was unable to observe the tow behind windrow turner and watering system, as it was covered in snow during the site visit, though the system is demonstrated in a photo provided by the Town in Figure 6.

Finished compost is given away at no cost to residents and usually generates a lot of interest.

Figure 4. McCormick MC105 Tractor Used for Leaf Composting Operations



Figure 5. Trom 406 Trommel Used for Leaf Composting Operations



Figure 6. Windrow Turning



Mulching and Grinding

Mulching and grinding of all collected organic material, other than source separated leaves, occurs on the concrete pad area where materials are received. A Model No. #680 “Beast” grinder (Figure 7) is used to mulch material.

Figure 7. #680 "Beast" Grinder Used for Mulching and Grinding Operations



Signage at the Site indicating acceptable materials for mulching and grinding includes shrubbery, clippings, and branches up to six feet in length and four inches in diameter. Dumping of garbage, leaves, rocks, limbs over four inches in diameter, lumber, or building products is expressly prohibited.

As with the compost operation, no grass clippings are allowed as feedstock to the mulching operations due to the potential for spontaneous ignition as discussed earlier. Fires have been observed after grass clippings were mixed with ground woody waste material and subsequently stored in the large piles typically needed to operate the facility effectively.

4 FINDINGS

IMPORTANCE OF PARTNERSHIP

After visiting the Compost Site and talking with staff from both the Town of Bloomsburg and Scott Township it is clear the site plays a central role in providing a needed service to residents and compliance with Act 101 recycling requirements. Additionally, establishing and operating one composting site for both communities achieves economies of scale and reduces costs for both communities that would not be possible if each community were to establish their own facility or be required to transport materials to more distant composting sites. For these reasons, SCS recommends that both communities view their collaboration at the Compost Site as a partnership with equal investment and support from each community to continue to operate the site efficiently and sustainably. For the partnership to serve each community, it will be necessary to establish a mission statement, agreement, and governing board or oversight committee comprised of members of each community that will make decisions and provide guidance that are in the best interest of the Compost Site and its mission. For this program to be successful and continue to provide for each community's needs and regulatory compliance it is important for each community to engage each other as a partner.

OPERATIONS

SCS reviewed two components of the Town's Compost Site to provide recommendations to improve operations and efficiency. These two components include:

- **Access Control:** Review of current plans/protocols in regards to securing the Site from unauthorized use.
- **Final Products:** Review compost and mulch production practices to identify methods and solutions to improve quality and facilitate finished product marketability in the community.

Access Control

SCS recommends the following access control measures be considered to improve site management. Note that the following measures assume available cost-effective connections to the nearby electrical utility.

User Access and Weighing System

Implementation of digital access systems or technologies, such as those marketed to open (unlock) and close site entrance gates via keycards or passcodes, could improve site operations through specialized user access control.

In lieu of expanding site operational hours, which can be costly, SCS recommends granting off-hours access to select users such as Town of Bloomsburg and Township of Scott municipal vehicles. This approach will enhance the overall collection system's flexibility and resiliency while reducing peak traffic loading at the site. These systems are used for facilities similar to the Compost Site throughout Pennsylvania. The following are possible technologies the Town may use to implement a controlled access system at the Compost Site.

Mettler Toledo

One access system used in a similar context to the Town's Compost Site is the Mettler Toledo Unattended Weighing Terminals (UWT). This system is used by Pennsylvania State University (University) to manage and control their yard waste management area. Haulers entering the University's yard waste management area weigh their loads using the UWT, which allows access to the facility after hours.

Although typically combined with POWERCELL ® truck scales used for inbound/outbound vehicle weighing, the UWT system may be used without scales for access. For this system to work, a terminal would be situated outside the entrance to the Compost Site. Each truck driver would be issued a unique identifier that would be required to access the site. The unique identifier could be either a keypad/keyboard code or badge (swipe card/RFID identification). User-specificity could be facilitated for municipal hauling vehicles and other special site users as needed.

The UWT system could be programmed for users to enter the estimated volume of their loads. For example, the operator of a standard dump truck containing yard waste or tree limbs could have the option of selecting an approximate percentage fullness (25, 50, 75, or 100 percent). Alternatively, a standard load size could be programmed by vehicle and the operator could simply select the load size (vehicle) used. In this way, the approximate material volume delivered by municipal hauler (Bloomsburg vs. Scott) could be tracked for annual calculation of each municipality's respective contribution towards coverage of facility costs. Additional information about the system offerings is included as **Appendix A**.

Other Weighing Systems

Other available remote access systems that could potentially be used to control gated access and/or track yard waste tonnages or volumes include the following:

- **Trash Tracker by WesLor Enterprises, Inc.:** Similar system to Mettler Toledo UWT; additional information about the system offerings is included as **Appendix B**.
- **Contelligent for Compactors:** Similar system to the Mettler Toledo UWT, this technology is typically used for individual compactor access.

These systems may be paired with the installation of a rolling gate to increase the effectiveness and efficiency of the system as described in the next section. If necessary, these systems may be installed in duplicate at different heights to allow for variance in the typical user vehicle's window height.

Rolling Gate

If an automated entry system is implemented, SCS encourages the Town to install rolling gates at the entrance and/or exit of the Compost Site to replace the current swing gates. A rolling gate may be set up to automatically open and close. The primary advantage of a rolling gate versus the site's current swing gate is the capability for the collection vehicle driver to remain inside their vehicle during entry. The Compost Site's flat terrain is a desirable quality for installation of a rolling gate and adjacent cantilevered support with lower and upper track infrastructure. Localized topographical elevations may require a limited amount of grading for installation of a rolling gate.

Additional Access Controls as Needed

As the facility is currently used by the Public Works Department to store equipment and supplies, the Town should consider implementing access management structures at key areas along the perimeter of the site to prevent unauthorized entry and illegal dumping. This may include installation of a perimeter fence or strategic placement of materials currently stored at the site to prevent entry. The Town should also consider installing a security camera system to monitor the site while closed and to supplement onsite attendant and other Town personnel's observations during operating hours.

Compost/Mulch Production

A key operational issue associated with the Compost Site is the generation of excess finished organic products, particularly mulch. Although the leaf compost product is generally given away to residents or used by the Town for landscaping purposes, significant quantities of mulch product cannot be given away. Mulch that cannot be given away must be hauled outside the Town for use at agricultural facilities as a soil amendment, which consumes significant Town resources. SCS recommends the following product production modifications in order to better manage this material.

- **Material Storage Changes:** Consider modification of the two-pile collection system. Currently, organics are collected by material type in two separate areas that include one pile for leaves and another pile for all other materials. SCS recommends keeping the two pile system but modify what materials are placed in each pile as follows:
 - 1) **Pile 1** - Small-diameter brush materials, including loose trimmings and leaves; and,
 - 2) **Pile 2** – Solid two-to-four-inch (or larger depending on grinder specifications) woody limbs.
- **Process Changes:** Modify system process as feasible according to the following general guidance:
 - 1) **Grind the Material in Pile 1 and Pile 2 Separately** - Keep the resulting ground material separated.
 - 2) **Use Grindings from Pile 1 for Composting Feedstock** - The modification of current feedstocks and pre-processing protocols may require further refinement of the windrow composting and curing activities that typically follow. Subsequent process changes may apply, including the following:
 - i. Frequency of windrow turning;
 - ii. Addition of water during turning; and,
 - iii. Duration of both composting and curing stages.

In general the recommended changes described herein should result in quicker process times and a reduced volume of material to ultimately manage via composting.

Note that small loose material such as source-separated grass clippings, while not currently accepted at the Compost Site, may possibly be accepted in the future under

this revised process procedure. This material may be added to the ground material from Pile 1 (no need to grind this material) to enhance the material mix and accelerate the speed of the windrow composting. This may increase the Town's diversion rate and enhance the quality of the compost product.

Feedstock preparation activities incorporating grass clippings and similar "green" material must be carefully considered. The Town must implement procedures to facilitate proper aeration, adequate moisture content, and reasonable pile size. This is important to prevent the recurrence of fires that ignited spontaneously within piles previously. In the future, the Town may collect grass clippings placed curbside by residents with a leaf vacuum vehicle and apply this material directly on top of existing windrows to minimize the chance of fire.

- 3) **Use Ground Pile 2 Material as Mulch Without Further Processing.** Using large woody materials will increase the quality of the mulch. This material may still be dyed to produce a colored specific product as desired.
- **Marketing Changes:** Processing materials as described above may allow the Town to market both material streams as high-quality, even saleable end products. Additionally, the enhanced compost and mulch products may be used internally by the Town or Township to provide a first-hand demonstration of the circularity of the municipal yard waste management operation.

If process changes are not implemented to increase the quality of the Compost Site's mulch product, the Town may consider increasing its outreach activities. Expanded outreach to identify more compost and mulch products users who would travel to the site for product pickup would help save transportation costs. This may be especially beneficial given current hauling costs and the potential for the Town's existing partner to require tip fee.

Possible users of compost products include landscape companies, landscape architects, other compost operations, nurseries, soil blending operations, and retail garden centers. In addition, other uses and users for compost products include universities, road projects, industrial facilities, residents, and others that provide landscaping services, stormwater management, or biofilters.

The Town may also consider pursuing the U.S. Composting Council Seal of Testing Assurance (USCCSTA) Program-certified compost (i.e., tested and known specification and quality) to increase the compost product's value and marketability. More information on the requirements for USCCSTA is available at www.compostingcouncil.org.

EQUITABLE COST SHARING

Sustainable Cost Sharing Plan

Cost sharing between the Town and Township for use of the Compost Site has amounted to a flat payment of \$25,000 from the Township to the Town each year since 2012. The Town seeks to implement a more fair and sustainable cost sharing arrangement that better represents the collaborative partnership between the two communities. This will allow both municipalities to remain in compliance with Act 101 and provide yard waste management services to the residents. To help accomplish this goal, SCS recommends the following.

- **Annualize Capital Costs:** Capital costs, such as those associated with Compost Site acquisition, site infrastructure, and equipment (including processing equipment such as the grinder, trommel, windrow turner, and tractor) should be fully accounted for in the sharing of costs by the two municipalities. SCS suggests a five to 10 year retroactive averaging period to quantify and share capital costs. SCS notes that historically much of the costs associated with equipment acquisition for the Site are subsidized, at least in part, by Pennsylvania Department of Environmental Protection (DEP) recycling grants. DEP recycling grants have provided significant funding for equipment in the past; however, this funding is often limited and is not guaranteed.

Currently, capital costs are estimated as part of an annual contracting process between the Town and Township. Compost Site cost estimations do not appear to tie legacy costs incurred during site development such as site property acquisition or original equipment procurement.

- **Annualize Operating Costs:** Operating costs associated with the Compost Site should be fully accounted for in the sharing of costs by the two municipalities. SCS suggests a three to five year (inflation adjusted) retroactive averaging period to assess annual operating costs. This average cost can be used for calculating each community's cost share. Example costs to be accounted for include: operations and maintenance (O&M) such as labor, fuel, parts, supplies, utilities, equipment/vehicle depreciation, etc.; general and administrative (G&A); and other costs for managing or operating the site. For example, obtaining grant funding for Compost Site equipment costs the Town in staff time and labor to prepare and submit grant applications and report on grant usage.
- **Allocate Costs by Municipality Based on Material Quantities:** Materials brought to the Compost Site for composting or mulching should be tracked with a reasonable degree of precision to fairly apportion costs associated with the Compost Site. Presently, the amount of yard and leaf waste delivered to the Site by each community is believed to be roughly between 600 and 800 tons apiece. The origin of material brought to the Compost Site should be recorded by the attendant on duty in collaboration with other methods of yard waste volume and mass tracking and estimation, if possible. Revenue from user fees paid by entities outside the partner municipalities may be deducted from the overall cost share agreed upon by the Town and Township. Three user categories should be established for the Compost Site including:
 - Town of Bloomsburg residents,
 - Township of Scott residents, and,
 - Other entities that include commercial haulers or landscapers.

At a minimum, commercial entities and other users should be charged a flat fee for materials dropped off at the Site, no matter how small of quantity is delivered. The current minimum fee proposed by the Town (\$10 per load) appears reasonable. Large residential loads such as those transported on trailers or fully loaded truck beds may be assessed a higher fee to reflect additional material quantities and usage of Compost Site resources.

- **Apply Inflation Factors to Cost Sharing Formula:** Once the Compost Site cost sharing amount is calculated for a particular year (as described above), the Town should consider applying an annual Consumer Price Index (CPI) adjustment factor from the U.S. Bureau of Labor Statistics (BLS). Ideally, the CPI applied is one specific to solid waste collections. According to the U.S. Consumer Price Index - Garbage and Trash Collection Series (CPI-GT), the inflation-adjusted

payment of \$25,000 in 2012 would be equivalent to about \$31,500 in 2021 dollars. The distinction of index used is important as the solid waste and recycling indices have outpaced the broader general indices. According to the general U.S. Consumer Price Index (CPI-U), the inflation-adjusted payment of \$25,000 in 2012 would be equivalent to about \$29,000 in 2021 dollars.

- **Allow Quarterly or Semi-Annual Cost Adjustments in Key Areas:** Cost sharing amounts agreed upon at the onset of an operational year may not reflect true costs experienced during the course of a year. Typical variable costs that may fluctuate from year-to-year include fuel, labor (from workman’s compensation or other claims or unexpected temporary labor procurement), equipment breakdowns, or incidental site repairs.

Table 1 summarizes the recommended formula for calculating each community’s annual cost share.

Table 1. Example Sustainable Cost Sharing Plan

Parameters	
Abbreviation	Description
ACC	Annualized Capital Cost
AOC	Annual Operating Cost
IF	CPI Inflation Factor (typically two-to-three percent per year)
R	Annual User Fees and Other Revenues
$Q_{\text{Bloom}} / Q_{\text{Scott}}$	Annual quantity of yard waste (tons, estimated cubic yards, or user counts) delivered to Compost Site by either Bloomsburg residents/Town staff, Q_{Bloom} , or Scott residents/Township staff, Q_{Scott}
$Q_{\text{MuniTotal}}$	Total annual quantity of yard waste (tons, estimated cubic yards, or user counts) delivered to Compost Site by both Town of Bloomsburg and Scott Township users $Q_{\text{Bloom}} + Q_{\text{Scott}} = Q_{\text{MuniTotal}}$
CO	Net Cost of Operations
$PC_{\text{Bloom}} / PC_{\text{Scott}}$	Percent contribution by Bloomsburg, PC_{Bloom} , or Scott, PC_{Scott}
$CS_{\text{Bloom}} / CS_{\text{Scott}}$	Net Cost share for Bloomsburg, CS_{Bloom} , or Scott, CS_{Scott}
Parameter Formulas	
Abbreviation	Formula
CO	$((ACC + AOC) \times (1+IF)) - R = CO$
PC	$(Q_{\text{Bloom}}/Q_{\text{MuniTotal}}) \times 100\% = PC_{\text{Bloom}} \mid (Q_{\text{Scott}}/Q_{\text{MuniTotal}}) \times 100\% = PC_{\text{Scott}}$
CS	$CO \times PC$ (for Bloomsburg and Scott) = CS

Note: Each municipality’s percent contribution (PC) can be back-calculated from the annual estimated Grand Total that must be reported to the State and which includes amounts contributed from outside the Town or Township. Since amounts contributed from outside the jurisdiction of the two communities can be tracked, the Town and Township could agree on a fair method to calculate PC/CS. Possible methods include assigning costs proportionally based on user data, volume estimation, load weights (if weighing system is employed or loads weights are estimated based on size and material), population, number of households (or a composite value taking into account residential parcels vs. non or single family vs. multifamily residences), total parcel area using GIS data, etc.

Key Cost Considerations

Key costs that need to be accounted for in the sustainable cost sharing plan between the Town of Bloomsburg and Scott Township for Compost Site operations include the following:

Capital Costs

The Town of Bloomsburg has historically incurred significant up-front and recurring capital costs in developing and maintaining the Compost Site. Examples include the following:

- **Facility/Program Planning:** Planning for the right facility and its programmatic/operational needs and accompanying layout may require specialized expertise or solicitation of public input.
- **Location Finding/Evaluation:** Siting and approving a compost site at an acceptable location with an adequate footprint for necessary operations can be a challenging and costly task.
- **Design/Permitting:** Local, state, and federal requirements may be required. A proper design for the programs desired will help determine the facility's efficiency and effectiveness.
- **Site Work:** Includes erosion and sediment control measures; Stormwater management features; grading; development of access roads; installation of security features such as mounted cameras, fencing, or berms; and other site/civil efforts.
- **Construction:** Notable construction measures for composting facilities may include receiving area construction, concrete/block bunker installation, pad preparation (possible import of process pad material), utilities construction and connections, and attendant booth construction.
- **Equipment/Parts Depreciation and Procurement:** This includes the expenses of original procurement and parts replacement for specialized machinery used solely at the Compost Site. Equipment such as windrow turners, grinders, and conveyors/trommels may cost hundreds of thousands of dollars. Additionally, state or other grant monies are not guaranteed, nor will they necessarily cover the full purchase price of new equipment.

Operating Costs

Operating costs specific to the composting and mulching programs including the following:

- **Labor:** Onsite attendant and Public Works Department/Recycling Center staff time during customer entry to facility, feedstock receipt, material processing, loading/unloading, transport/travel time, and maintenance activities.
- **Fuel:** Diesel and gas consumed by the Public Works Department/Recycling Center equipment and vehicles during mulching, grinding, windrow turning, loading, and other operations on-site; offloading and transport of mulch material to remote parts of Columbia County by dump trucks; and staff travel to and from the Site and support facilities.
- **Parts:** For equipment and vehicles, particularly the McCormick MC105 Tractor, Trom 406 Trommel, and #680 Beast Grinder, which are highly specialized pieces of equipment that

often require special ordering of parts.

- **Supplies:** Includes field and shop materials used for maintenance activities, safety/employee health supplies, compost testing items, building/office supplies and furnishings, etc.
- **Utilities:** Water added to the composting process, site electricity, and device data/telecommunication costs associated with staff duties.
- **General and Administrative (G&A):** Includes administrative, clerical, and general overhead costs from work and materials required to manage compost/mulch supply chains (feedstock customers, vendors, and downstream product recipients) and support activities; work and materials associated with maintaining regulatory compliance and insurance requirements; professional/consulting services such as engineering, legal, and environmental services costs; addressing citizen inquires; local/state reporting; planning activities; etc.

As outlined above, the costs associated with Compost Site operations are diverse; therefore, it may be beneficial to implement more formal cost tracking and allocation programs for future budgeting efforts, including implementation of an interdepartmental enterprise resource planning (ERP). The Town could perform a detailed cost allocation effort, which could be accomplished by SCS under a different scope of work. Detailed allocation of current and potential future costs, such as those listed above, will allow the Town to further refine the net annual cost of operating the Compost Site as well as the yearly cost share allocation.

Other Considerations

Compost Site User Identification

SCS understands that a booth attendant checks the identification of users to confirm their jurisdiction of residence. This identification facilitates the assessment of fees to users from outside the corporate limits of the Town of Bloomsburg and Township of Scott as well as quantifying the number of Bloomsburg and Scott residents using the Compost Site. This has placed an additional administrative burden on both field personnel and office staff, but the relative number of users in each of the three groups can now be ascertained and potentially used to apportion net operating costs.

Many municipal solid waste and recycling programs distribute annual passes to residents within their jurisdiction, including using vehicle tags, mirror hangers, decals, passes, sticker/coupon books, etc. Bloomsburg and Scott could provide such identifiers to their residents in order to streamline the booth attendant's duties. The attendant could provide operational assistance such as redirecting residents to unload in specified areas within the site, or provide other functions. Another strategy to reduce the tasks required of the current attendant's duties that will facilitate a more equitable and operationally effective program would be to invite Scott Township to provide their own attendant to staff the Compost Site at the same time as the current Town of Bloomsburg-provided attendant. The annual fully loaded costs of each attendant could be excluded from the annual Net Cost of Operations calculation.

Municipal Recycling Program Requirement

Like the Town of Bloomsburg, Scott Township is a mandated recycling community under Pennsylvania's Act 101 of 1988. Act 101 requires recycling of certain material types, including

leaf/yard waste, by municipalities (other than counties) with a population of over 5,000 residents. It is expected that both the Town of Bloomsburg and Scott Township will remain mandated recycling communities for the foreseeable future.

The cost to develop a yard waste processing and composting facility can be significant. Expenses include up-front costs, recurring capital costs such as equipment replacement and site improvement, and routine operations and maintenance. Without the current partnership, the Township of Scott would be required to site and develop its own compost facility at a cost that could approach hundreds of thousands of dollars. The alternative would be for Scott Township to seek another partner that would likely increase hauling costs for the Township. Based on our review of the current program, SCS recommends Scott Township continue to collaborate with the Town of Bloomsburg at the Compost Site.

Economies of Scale from Collaboration

The Compost Site provides a valuable and needed service to residents and benefits both communities from economies of scale achieved by managing yard waste generated in each community. The more material accepted and processed at a single facility (within permitted and operational capacities), the more fixed costs such as those from site development and equipment purchases are spread out, reducing the overall cost per ton of material. This enhances the overall efficiency and effectiveness of operations.

5 CONCLUSION

The Compost Site is an important resource to facilitate the composting and mulching of organic waste generated in the Town of Bloomsburg and Township of Scott. The Compost Site plays a pivotal role in helping each community comply with Act 101 recycling requirements for leaf waste and provides an important service to residents. A properly managed and operated compost site is key to ensuring the sustainability of both communities yard waste management programs. To help facilitate the viability of the Compost Site, SCS recommends the following:

- **Control Access** – The Town should continue with its plans to control access to the Site when it is not operational. Important measures to implement include installation of a user access and weighing system that tracks who is using the Site and how much material they are delivering. This is important for establishing a fair cost-sharing program for both the Town of Bloomsburg and Township of Scott. Additional access control measures to be considered include installation of rolling gates at both the entrance and exit points of the Site and a perimeter fence to completely close off the Site and prevent unauthorized access.
- **Modify Processing Procedures** – The Town should consider modifying the processing of materials accepted at the Site to produce higher value products that are desirable for use by residents and in community landscaping projects and parks. This includes establishing two streams of material that are processed separately:
 - **Pile 1** – Small diameter branches/woody material and all non-woody materials such as leaves and garden residues;
 - **Pile 2** – Larger woody materials two-to-four inches in diameter.

The processing of these two material streams separately will allow for the creation of two products that should be considered a higher quality than the compost products currently being produced.

The Compost Site is vital to each community's waste diversion program and compliance with Act 101. As a result, **it is important that each community view their collaboration as a partnership and share in the costs of the facility equitably.** A fair cost-sharing program strengthens the existing partnership, facilitates efficient operations, and enhances the viability of the program.

A fair cost sharing program is one that accounts for the capital costs of the Site, including land management, infrastructure, and equipment, and operational costs such as labor and supplies. Additionally, operational costs include administrative time and expenses to submit grant applications, prepare/maintain site permits, and complete regulatory reporting. Calculating each community's cost share should include an escalation factor tied to the Consumer Price Index to account for inflation. **Table 1** provides a fair and equitable cost share calculation that should be approved and implemented.



Appendix A
METTLER TOLEDO Unattended Weighing Terminal System Information

Unattended Weighing Terminals for inbound/outbound vehicle weighing



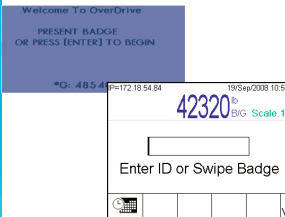
Integrated METTLER TOLEDO industrial terminals

combined with analog or POWERCELL®-based truck scales to provide industry-leading flexibility, accuracy and ease of use. Connect to a variety of serial, Ethernet or PLC devices.



Flexible configurations

to meet a variety of truck-weighing needs. Select the input and output peripherals that are just right for your application, including badge readers, intercoms, keyboards, loops, ticket printers and traffic light and gate control.



Intuitive interfaces

Whether used with METTLER TOLEDO OverDrive® or Udrive-780 Unattended software for stand-alone operation, the IND9U offers on-screen prompting and integrated traffic control features that simplify use, improve the quality of driver input, and assure consistency of routine operation.



Wireless options

Simplify installation and operations in your facility by using wireless Ethernet to connect your terminals to your communications infrastructure. Even intercom voice data can be sent wirelessly using available Voice Over IP (VOIP) technology.



IND9U Unattended Vehicle Terminal

The METTLER TOLEDO IND9U allows you to weigh vehicles and capture information, 24 hours a day, 7 days a week, without the need for a scale operator. The system is highly configurable, and can be ordered to meet virtually any application-specific requirement. Each version is available with a METTLER TOLEDO scale terminal, and a customizable array of input and output devices.

IND9U

Unattended Weighing Terminal

Meets Industry Needs

The IND9U Unattended Terminal can reduce the cost of vehicle weighing over a wide range of industry applications:

- Asphalt plants
- Aggregate quarries
- Landfills
- Recycling centers
- Wood pulp processing facilities
- Agriculture/feed mills
- Trucking terminals

Features and Benefits

- Improved data accuracy – retrieve preprogrammed vehicle data using RFID or magnetic strip card readers, and use weather-resistant keypads and keyboards for reliable data input by the driver
- Improved facility control and security – discrete I/O interface to control peripherals such as pavement loops, gates, traffic lights and photo-eyes
- Faster weighing throughput – integrated intercom and thermal printer options allow drivers to conduct the complete transaction in-cab
- 24 hour / 365 day durability – weather-resistant fiberglass or stainless enclosures with optional climate control
- Reduce construction and operating costs – optional wireless Ethernet eliminates the need for underground wiring or having a building near the scale
- Access to weighing data for operational analysis, billing and inventory control – the powerful combination of METTLER TOLEDO industrial scale terminals and vehicle weighing software provides instant access to critical business information

Technical Data

Model	IND9UO	IND9US
Application	Networked vehicle weighing using OverDrive® Unattended software	Standalone vehicle weighing using Udrive-780 software
Scale type	Analog or POWERCELL® MTX	
Display	240x128 transfective monochrome LCD	320x240 active TFT color LCD
Keypad	Stainless steel 30-key numeric or 65-key QWERTY, Stainless	
Printer	60mm or 80-112mm Direct Thermal	
Data reader	RFID, magnetic strip, barcode or SmartPass® AVI	
Intercom	2-way direct wire, VOIP, or Wireless	
Discrete I/O	Up to 8 in / 12 out	
Enclosure	Fiberglass or 304 Stainless, lockable	
Other options	Wireless Ethernet Pavement Loop Interface	



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Environment certificate ISO14001
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ServiceXXL

Tailored Services

Essential Services for Dependable Performance
METTLER TOLEDO is uniquely qualified to provide the installation, calibration and maintenance services essential to ensuring accuracy, optimizing uptime and prolonging equipment life. Our service representatives will be there at the right time, with the right parts, the right tools and the right skills to meet your needs.

www.mt.com

For more information



Appendix B
WesLor Trash Tracker System Information

Trash Tracker

- ❖ Efficiently track **any waste type / size**
- ❖ **Size/ design adaptable for any location/use**
 - ❖ Transfer stations, apartments / multiple dwellings, shopping centers, drop-off centers, or other custom solutions.
- ❖ **Optional dumpsters / bins** for recyclables collection, sorting, processing, tracking, etc.
- ❖ **Custom retrofits:** compactors, scales, ramps, conveyors, buildings, grading, etc.
- ❖ **Built to last.** Quality components. Durable powder coat finish.



Waste Handling Made Simple

- ❖ Modern, simple, user-friendly.
- ❖ Automated collection of trash disposal and recyclables recovery fees and data.
- ❖ Accurate data for accounting, hauling orders, and all required reporting and solid waste management planning.
- ❖ Punch cards or permits replaced by simple re-loadable account swipe card.



Excellence in Metal Processing



WesLor Enterprises, Inc.
924 Sohn Alloway Road
Lyons, NY 14489
315-871-4405

info@weslor.com
www.weslor.com

Trash Tracker

Automated
Trash & Recyclables
Management System



Presented By:

WesLor
ENTERPRISES INC.

EST. 1986

CUSTOM METAL FABRICATION

**SMART Trash & Recycling
Solutions**

How the *Trash Tracker* Works



Scan Reloadable Account Swipe Card

- ♻️ Efficient PAYT option
- ♻️ No monies/punch card mishandling losses
- ♻️ No unauthorized users: card unlocks receptacle



Select Waste Type on Interactive Console

- ♻️ Recyclables diversion assistance
- ♻️ Custom fee / waste type
- ♻️ Custom fee / unit or weight
- ♻️ Custom real time reports / billing
- ♻️ Custom, integratable data system
- ♻️ Fees, units of measure, waste types easily changed/ added by owner
- ♻️ Support services



Handle Waste

- ♻️ Waste weighed, counted, or dumped; fees, handling, based on custom system design.
- ♻️ **Trash:** Weigh in custom receptacle.
- ♻️ **Recyclables:** Count, weigh, or dump. Receptacle, flat scale, bins, etc.
- ♻️ Fees charged to account card.



Compacted Trash to Dumpsters/ Recyclables to Bins

- ♻️ Waste from *Trash Tracker* receptacle compacted and conveyed to dumpsters/bins.
- ♻️ Other wastes handled as system designed: bins, specified facility location, etc.



Key Advantages

- ♻️ **Any waste/ special wastes:** tires, electronics, furniture, appliances, etc.
- ♻️ **Accurate fees.** Simple owner change to waste types / fees as markets change.
- ♻️ **Accurate transaction accounting:** monies, tons/day, waste types, etc.
- ♻️ **Real-time** billing, accounting, reporting.
- ♻️ **Swiper card unlocks door. Transactions recorded and monitored.** Can't bypass system.
- ♻️ **Customer receipt** shows transaction details and remaining account balance.
- ♻️ Odor isolated.

Time & Money Savings

- ♻️ **Hauling efficiencies.** Compacted loads, more/ truck. Real-time data integratable hauling data assures full loads.
- ♻️ **Less diversion assistance needed.** Interactive console / recyclables guidance.
- ♻️ **Custom reports: no paperwork.** Fiscal/ SWM plans/ reporting. No manual municipal allotment tracking.
- ♻️ **Accurate accounting: efficient hauling / planning.** Monies, waste types/ quantities collected. Data integration.

More / Quality Recycling

- ♻️ **Fees for trash vs. recyclables:** free, credit, or less than trash, contaminated is trash.
- ♻️ **Diversion assistance.** Custom icons/ guidance for recyclables diverted, tracked or discarded (not required, not yet possible, 'no market' waiver, etc.)