

SWANA RECYCLING TECHNICAL ASSISTANCE

FINAL REPORT

**LOWER SAUCON TOWNSHIP
NORTHAMPTON COUNTY, PENNSYLVANIA
LEAF WASTE MANAGEMENT ALTERNATIVES**



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HARRISBURG, PENNSYLVANIA

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LOWER SAUCON TOWNSHIP
EXECUTIVE SUMMARY
LEAF WASTE MANAGEMENT ALTERNATIVES

This Report summarizes a study conducted by Gannett Fleming, Inc. (GF) for Lower Saucon Township (Township), Northampton County, Pennsylvania. GF evaluated the Township's existing leaf waste management program and provided guidance and recommendations related to the feasibility of implementing a residential leaf waste management program that complies with the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101). GF provided the following assistance to the Township:

- Reviewed current waste management and leaf waste management practices;
- Assisted with the Act 101 compliance guidance and clarifications;
- Evaluated leaf waste management alternatives;
- Developed recommendations and findings as incorporated into this Report.

Based on GF's evaluation some key conclusions pertaining to the Township's leaf waste management program include:

- Leaf waste, as defined by Act 101, includes leaves, garden residues, shrubbery and tree trimmings, and similar material, but does not include grass clippings.
- The unique Township distribution of both rural and dense housing is a factor that must be considered as it can influence economic feasibility, labor requirements, and even drive the type of service and equipment (e.g. vacuum trucks) that may be practical within different areas of the Township.
- No leaf waste management program will satisfy every resident; consequently a favorable leaf waste program will be a program that strikes a balance between a variety of collection and processing methods at a fair cost.
- If the Township does not achieve regulatory compliance the Township risks forfeiting \$20,000 in Act 101 Section 904 Performance Grants annually and will not be eligible for future Act 101, Section 902 Recycling Grants for recycling equipment and containers. Recycling Grants are an important funding source that help to streamline programs and ultimately can minimize the costs paid by residents for waste and recycling services.

GF recommends the following leaf waste management program structure:

- The Township should strive to **meet and maintain the Act 101 and PADEP leaf waste collection and disposal requirements** by providing a combination of curbside collection services for leaf wastes and drop-off services.
- Generally, GF recommends the Township **re-think its role in waste management**, and emphasize an integrated approach where waste management is not viewed as a service entirely conducted by private sector haulers.

- Form a **Waste Management Committee** and meet quarterly to address leaf waste and other waste management issues.
- **Update Township relevant ordinances** as proposed in detail in Section 6.1.4 to meet regulatory compliance and to improve accountability by haulers and residents.
- **Investigate a single-hauler waste management contract more closely to determine if a single-hauler waste collection contract can offer a comprehensive waste management solution, while lowering residential costs.**
- **Implement a BALANCED Organics Program Including the following:**
 - Curbside collections for leaves and also for trimmings, small diameter brush, garden residues in spring.
 - Drop-off site(s) – Continue existing joint Compost Center.
 - Drop-off outlets be expanded to include local farms that complete a simple application contained in the Permit-By-Rule Yard Waste Guidelines available on the PADEP website (www.depweb.state.pa.us).
 - Encourage backyard composting.
 - Through operation efficiency and by structuring a fair level of service, keep costs affordable for residents.
 - Accountable and comprehensive services should be provided for municipal waste and recycling in conjunction with organics, so that waste management solutions are comprehensive in nature.
 - Ongoing education.

LOWER SAUCON TOWNSHIP
FINAL REPORT
LEAF WASTE MANAGEMENT ALTERNATIVES

1.0 INTRODUCTION

This Report summarizes a study conducted by Gannett Fleming, Inc. (GF) for Lower Saucon Township (Township), Northampton County, Pennsylvania. This evaluation was completed for the Township as part of the Recycling Technical Assistance Program sponsored by the Pennsylvania Department of Environmental Protection (PADEP), the Pennsylvania Association of Township Supervisors (PSATs), and the Solid Waste Association of North America (SWANA). GF evaluated the Township’s existing leaf waste management program and provided guidance and recommendations related to the implanting a leaf waste management program that complies with the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988 (Act 101). GF provided the following assistance to the Township:

- Reviewed current waste management activities including current leaf waste collection services provided in the Township.
- Completed this project Report to summarize and document findings and recommendations.

2.0 STUDY BACKGROUND

Lower Saucon Township is located in the Southern portion of Northampton County. The Township is home to roughly 9,884 residents (2000 US Census Bureau) and encompasses 24.2 square miles. The Township has 3,915 residential units (2000 US Census Bureau). The Township is “mandated” by Act 101 to provide curbside recycling services, including the curbside collection of leaf waste. Leaf waste, as defined by Act 101, includes leaves, garden residues, shrubbery and tree trimmings, and similar material, but does not include grass clippings. Currently, Township residents privately subscribe for waste collection and recycling collection services with one of ten local haulers that operate within the Township.

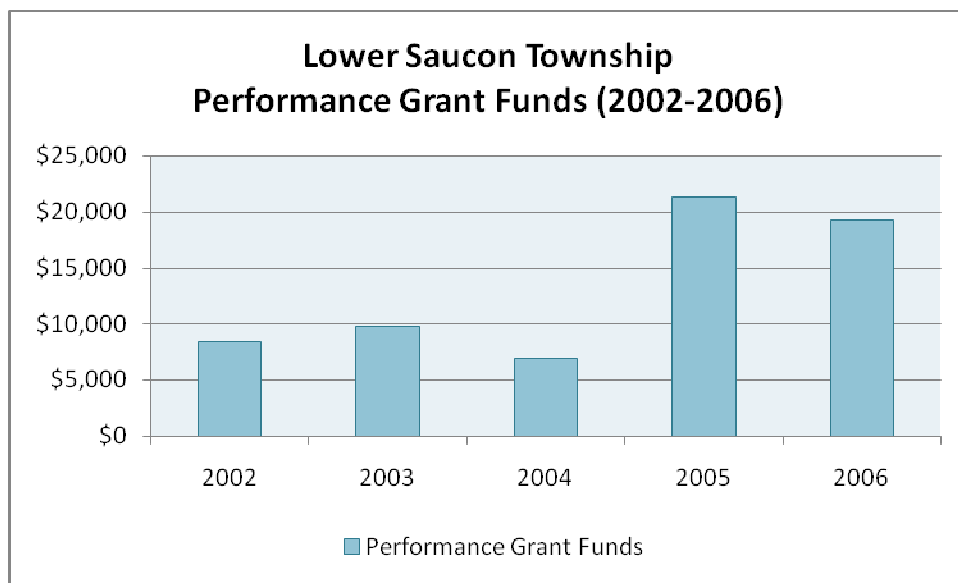
The Township is requesting assistance from Gannett Fleming (GF) to determine the feasibility of establishing an improved leaf waste management system. As part of this analysis, GF evaluated several alternatives for leaf and yard waste collection that meet PADEP policy. Implementing and enforcing leaf waste services that comply with PADEP policies has proven difficult in a system where curbside leaf collection services vary depending on which hauler is providing the service or if separate collection for leaf waste is offered.

PADEP strongly encourages mandated recycling communities including Lower Saucon Township to implement an enforceable waste and recyclables collection system. Without confirmation to PADEP that the Township has implemented an Act 101 and Act 140-compliant leaf waste management system, the Township will not be eligible for Recycling Grants that can be used to offset eligible costs of the recycling program. On July 26, 2007 PADEP’s Bureau of Waste Management issued a letter noting concerns regarding the Township’s compliance with

Act 140 and Recycling Performance Grant eligibility. PADEP’s letter indicated that the Township’s leaf waste collection program does not fully comply with Act 101 and indicated that year 2006 Performance Grant funds should be allocated toward achieving compliance.

2.1 Performance Grants Allocated

Recycling Grants help to stabilize costs for leaf waste management programs for both the Township and residents as well as contributing to ongoing and beneficial waste management programs offered to residents. The following 2002 through 2006 Recycling Performance Grant awards graph shows that nearly \$20,000 is provided annually to the Township based on reported eligible residential and commercial sector recycling tonnages.



3.0 PENNSYLVANIA ACT 101 LEAF WASTE REQUIREMENTS

Act 101, Section 1501(c)(1)(ii) and (iii), require residents in mandated municipalities like Lower Saucon Township to separate leaf waste from other municipal waste generated at residential, commercial, municipal and institutional establishments. Commercial establishments must segregate leaf waste for collection or drop-off at a composting location. A supplemental drop-off location for leaf wastes can minimize, but not eliminate, the required number of residential curbside collections for leaf waste.

The following guidance information was prepared by PADEP in May, 2007 to help Act 101 mandated municipalities like Lower Saucon Township to understand and meet leaf waste requirements. The Township is required by law to implement a leaf waste management program consistent with the regulatory requirements. “Leaf waste” is defined in the Act as “Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass

clippings.” Source-separated leaf waste, as with other recyclable material, is required to be collected at least once per month as set forth in Act 101 Section 1501(c)(2) and (3) and processed at PADEP-approved composting facilities.

Municipalities that are mandated to comply with Act 101, which have programs that collect leaves only in the fall, are not in compliance with the Act. In order for municipalities that are mandated to comply with Act 101 to have a leaf waste collection program that meets the minimum requirements, the program must, at a minimum:

1. Require by ordinance that leaf waste consisting of leaves, garden residues, shrubbery and tree trimmings, and other similar material are targeted for collection from residences and commercial, municipal and institutional establishments; and
2. Establish a scheduled day, at least once per month, when leaf waste is collected from residences; or
3. Establish a scheduled day, not less than twice per year and preferably in the spring and fall, when leaf waste is collected from residences, and facilitate a drop-off location or other collection alternative approved by PADEP that allows residents in the municipality to deposit leaf waste for the purposes of composting or mulching at least once per month. The leaf waste drop-off location may be located in a neighboring municipality or at a private sector establishment, provided that an agreement is in place to utilize that location and the municipality keeps residents and commercial, municipal and institutional establishments informed of the option at least once every six months.
4. Ensure that commercial, institutional and municipal establishments generating leaf waste have collection service.
5. Municipalities are encouraged to manage source separated Christmas trees as leaf waste for processing at PADEP-approved composting facilities.

It is noted that Act 101 also requires municipalities to provide recycling education once every six months, which should include information about leaf waste recycling.

3.1 Open Burning Requirements and Information

Open burning is connected to leaf waste management because leaves and brush are often burned as a method of disposal. Leaf wastes can be recycled into compost, and therefore, leaf waste is included under Act 101 as one of the designated materials that must be segregated for the purpose of recycling. In line with Act 101, PADEP requires a municipal ordinance that prohibits the burning of Act 101 recyclables and other recyclable materials designated by the municipality for recycling. It is the position of PADEP that open burning of recyclable materials directly conflicts with Act 101 and PADEP policies regarding the proper management of recyclables in mandated recycling communities.

The Township prohibits burning in areas zoned residential via ordinance #2002-11 as follows “...prohibits the burning and/or open burning of domestic refuse” and “any burning activity that

shall cause excessive odor and/or smoke to travel across property boundaries which would be determined a nuisance to any ordinary individual". Based on Gannett Fleming's understanding of PADEP's burning ordinance policies, it is recommended the Township update the burning ordinance to include language specifically prohibiting the burning of Act 101 designated recyclables and other materials designated for recovery by the Township's recycling program.

Because the Township is required to prohibit open burning of leaf waste, residents do not have burning as a legal "disposal" option. Consequently, it is important for the Township to provide a convenient and balanced program for leaf waste management that offers a combination of curbside and drop-off leaf waste management options for Township residents.

3.1.1 Open Burning Harms

Nearly every form of combustion contributes to atmospheric pollution, including ozone depletion, depending on what materials are burned. Burning organic material, including yard wastes that could be composted or processed into valuable material, is a poor alternative. Because of these factors and associated requirements, open burning is prohibited in Lower Saucon Township. The contained burning of firewood in fireplaces and wood stoves is permitted under State law. However, open burning that occurs outside in pits, piles or in "burn barrels" at ground level has greater negative impacts to residents, because it is a more direct nuisance and because smoke inhalation at higher concentrations from nearby burning has greater health risks (e.g. respiratory problems and eye irritation; particularly in children and adults with allergies).



4.0 EXISTING WASTE MANAGEMENT AND RECYCLABLES SYSTEM

The following sections briefly describe the existing waste management system.

4.1 Residential Curbside Waste Collection and Recycling

Residential municipal waste is collected in the Township by one of 10 private haulers that operate within the Township:

- Allied Waste
- Denny's Hauling
- Deloza Sanitation
- Reiss Brothers
- Peterson's Sanitation
- Raritan Valley Disposal
- Smale Sanitation Service
- Swint's Hauling
- Symons Sanitation
- Waste Management

Residents are required to recycle the following materials in accordance with Township ordinance # 91-3:

- Clear and colored glass (lids must be removed)
- Aluminum cans (crushed)
- Steel and bimetallic cans
- Plastics

4.2 Residential Recyclables Drop-off

A recyclables drop-off center is also available to residents. Recyclables are accepted Monday through Friday 7:00 a.m. - 4:00 p.m. and Saturday 7:00 a.m. to 12:00 p.m. at the Recyclable Drop-Off Center located at the IESI PA Bethlehem Landfill Corporation at 2355 Applebutter Road, Bethlehem, PA. Accepted recyclables include:

- Newspapers
- Glass (lids must be removed)
- Aluminum cans (crushed)
- Scrap metal
- White goods (refrigerators, washing machines, dryers)

5.0 EXISTING LEAF AND YARD WASTE MANAGEMENT

5.1 Residential Curbside Leaf Waste Collection

The Township does not operate a formalized residential leaf waste collection program. Most leaf and yard waste is either not collected or collected mixed in with residential trash and disposed by private haulers. Some leaf waste may be collected separately by waste haulers for recycling, but it depends on what hauler is selected by the homeowner and what types of services are selected.

5.2 Saucon Valley Compost Center

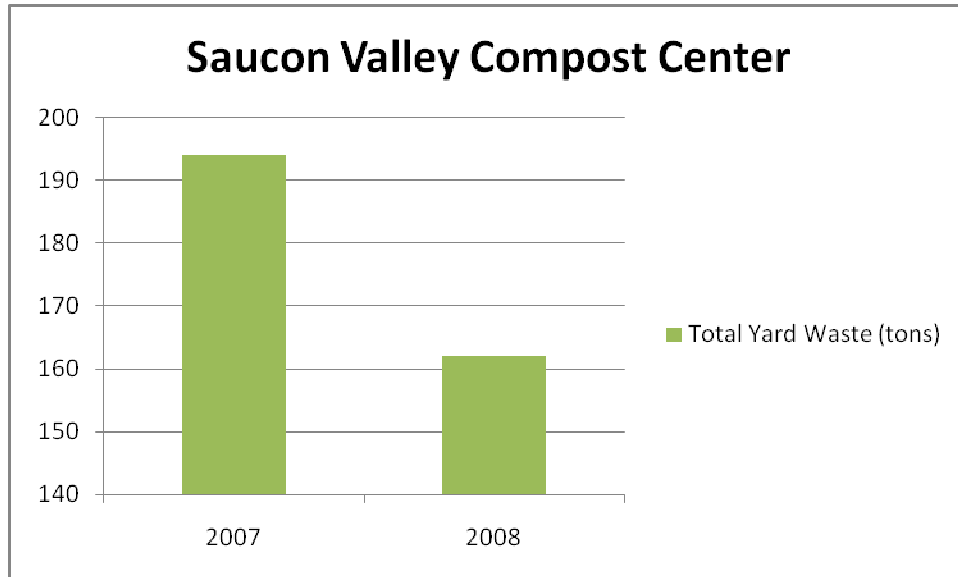
The Saucon Valley Compost Center is located at 2011 Springtown Hill Road and is open seasonally and operated on Fridays and Saturdays from 9 a.m. to 1 p.m. from April through the end of November. Accepted materials include:

- Leaves - loose and in bags (brown paper only)
- Small brush - up to 4" in diameter (no longer than 6 ft.)
- Hedge trimmings, garden plant residue
- Christmas trees (without tinsel)

Items NOT Accepted:

- Grass
- Sod
- Tree Stumps
- Commercial business materials

As seen in the Chart below, the Center processed 194 tons of yard waste in 2007 and 162 tons in 2008. As estimated by the Township, during 2008, approximately 77 percent of the yard waste deliveries were from Hellertown residents and approximately 23 percent were from Lower Saucon residents. Using this distribution of participation applied to tons, 41 tons of yard waste was delivered to the Compost Center by Lower Saucon Township.



6.0 LEAF & YARD WASTE MANAGEMENT ALTERNATIVES

Under the current waste management system, decisions regarding leaf waste management are largely left to the private waste hauling companies and to the residents. This structure poses a problem because there is limited accountability and assurance that haulers and residents will participate in a manner that complies with Act 101 and with PADEP policies. Realistically, no leaf waste management program will effectively “force” all residents to participate, but there are leaf waste management strategies that result in improved participation from both the haulers and residents. In this evaluation of leaf waste management alternatives, Gannett Fleming has considered that the collector (private haulers), residents, and Township each play a role in implementing a successful leaf waste management program. Some important considerations include:

- Disposal of leaf waste and yard wastes at the curbside along with regular trash is convenient and is permitted at this time. This discourages, or will discourage participation in a future program that requires separate curbside collections for leaf waste for the purpose of recycling.
- It should not be the goal to simply “meet the Act 101 or PADEP requirements”, but rather, consider the long term benefits of providing a cost-effective and comprehensive leaf waste management program that diverts organics from disposal and offers compost end products back to the community.

- The existing Saucon Valley Compost Center is a valuable outlet for yard wastes; this Center already supplements curbside collections that are required by Act 101 and PADEP.
- Convenience and cost are important to residents. If leaf waste alternatives are implemented that are inconvenient and expensive, it will discourage participation.
- Effective ordinances that require collectors to meet minimum requirements are particularly important for municipalities with multi-hauler, private subscription waste collection service. Notably, the Township’s existing ordinances do not include provisions that result in assuring waste/recyclables collectors manage leaf waste in accordance with PADEP policies.
- An unknown portion of residents do not contract with a waste hauler, which decreases residential participation, increases lack of accountability, and contributes to illegal or improper disposal of leaf waste and other materials.

Improving the current leaf waste management system will require striking a balance between curbside and drop-off recycling options for leaves and other specified yard wastes as supported through education first, and enforcement as needed. A successful Township leaf and yard waste management program will include a program that is convenient for residents to participate in and returns a portion of processed organic material back to the community.

6.1 Curbside Leaf Waste Collection Alternatives

GF has identified a number of leaf waste management alternatives in the following sections. It will be up to the Township to consider these alternatives carefully and take action on implementation. A combination of one or more of these alternatives and/or specific program variations can improve the performance of the selected leaf waste management system.

6.1.1 Municipal-wide Bid For Waste, Recycling and Leaf Waste Collection

Competitively bidding for Township-wide waste curbside municipal waste collection services is arguably the most cost-effective and comprehensive leaf waste management strategy. Under this alternative, the Township would release a competitive bid to secure curbside residential waste, recycling and curbside leaf waste collection services for the entire Township. By competitively bidding waste, recycling and leaf waste together (“bundled”), the Township will lower the total cost per household for waste management, including a competitive price for curbside leaf waste services.

Bidding leaf waste service as a stand-alone service typically does not yield competitive pricing, and in a private subscription service, will become an added cost for residents. Competition by several haulers for a financially attractive municipal waste service contract, combined with improved collection system efficiencies resulting from planned hauling routes and equipment and labor optimization, will be the primary drivers in cost reductions. The bid specifications will define how many curbside collections are provided for leaf waste and other materials. The level

of curbside collections should be finalized by the Township, but at least one spring collection of leaf waste (as defined by Act 101) and 4-6 fall collections for leaves are recommended.

The method of curbside collection for leaves can include:

- Vacuum truck for leaves raked to curbside
- Waste packer truck collecting hard containers or Kraft biodegradable paper bags

The contract could require the hauler to direct leaf and yard wastes to the Township's compost facility or another PADEP-approved compost facility. Notably, this favorable alternative is challenging because it is a significant change. It requires ongoing support from Township elected official who will need to have public meetings and ultimately vote to move the bid process forward.

6.1.2 Intermunicipal Arrangements for Municipal Leaf Waste Collection

The Township may enter agreements with any willing municipality that has collection equipment and staff suited for collecting leaves and other specified yard wastes. Under this alternative, the Township can execute an intermunicipal agreement for curbside leaf waste collection services without being required to go through the municipal bidding process. Like any collector, the participating municipality may assess a fee based on the number of households serviced and/or volume of material collected. It is recommended the intermunicipal agreement be kept simple but clarify service procedures and terms. Likely, the service provided by a municipality will include leaf vacuum service. High-capacity leaf vacuum vehicles can efficiently collect leaves while meeting residential need for collection capacity; particularly for homes with larger lots and excess leaves that exceed the capacity of curbside containers or bags. Keep in mind that fulfilling the curbside leaf waste collection requirements will require at least one spring collection including trimmings, garden residues and small diameter brush. Brush is not suitable for collection using vacuum vehicles. Collecting small diameter brush and trimmings may still be provided by the municipality via intermunicipal agreement, but proper equipment and processing methods (grinding/composting) must be assured to remain in compliance with PADEP policies.

GF contacted surrounding municipalities to get an initial assessment as to the potential for an intermunicipal arrangement at some point in the future to implement a cooperative arrangement for curbside leaf waste collections. The Township already cooperates with the Borough of Hellertown through the Saucon Valley Compost operation. Unfortunately, the surrounding municipalities contacted are generally not sufficiently staffed to provide even a low number of curbside collections to the Township, particularly during peak leaf collection season beginning mid October. Our findings from contacting surrounding municipalities are summarized in the table below:

Municipal Leaf Waste Survey		Bethlehem Township	Hellertown Borough	Palmer Township
Estimated # of Households		7,500	2,500	7,000
Leaf Waste Collector	Municipality	x	x	x (leaves only)
	Private hauler			
	Contracted Waste hauler			x (twigs/trimmings)
Leaf Collection Vehicle Type(s)	Vacuum truck	Yes - tow along	Yes	4 large, 1 small
	Waste packer			Used by contractor for small brush
Leaf Collection Set-out	Hard Container			
	Biodegradable Bags	x	x (note: contamination from plastic bags problematic)	
	Loose			x (Leaf Vacuum)
Cost to homeowner		NA	No additional cost to resident; built into taxes	Twigs/trimmings billed as portion of waste contract. Leaf collection cost built into taxes.
Interested in working with Lower Saucon?		No; do not have staffing capacity	No; can't handle additional curbside service	No; can't handle addition service. Currently use staff from parks service during peak to fully operate.

It is noted the Township can participate in, and benefit from joint grant submittals with the participating municipality(ies). Leaf waste collection equipment is eligible under Act 101, Section 902 Recycling Grants and PADEP gives some priority for multi-municipal grant applications.

6.1.3 Bidding for Leaf and Yard Waste (only) Collection

The Township can issue a bid to secure leaf waste collection services only. This municipal bid package would not include curbside trash service or recyclables collection services. The bid specification for curbside collection should, at a minimum, include the materials listed under “leaf waste” as specified by Act 101 which include “garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings.” Grass should only be included in this bid and collected curbside if the designated end processors accept grass and have processing capacity. Because Township residents have access to the Lower Saucon Compost Center, the Township could specify a minimum of two curbside collections annually: one spring collection for leaf waste and one fall collection for leaves. Typically, several collections are provided in the fall to more fully address the disposal needs of residents for leaves. The

Township is required to inform residents about the leaf waste and yard waste program once every six months, however the bid could request the hauler to distribute the required educational materials.

Note: Bidding leaf waste collection by itself (i.e. without bundling with municipal waste) is not preferred because the cost secured from bidding leaf and yard waste collection services is typically high. The high cost occurs because traveling roadways to collect leaf and yard waste separately has inherent collection costs, and there is often a lack of competition among haulers for providing this service, which includes delivery to an acceptable compost facility that may or may not be in close proximity to the service area. Usually it is the resident who bears the cost burden when this alternative is implemented. When residents recycle leaf and yard wastes and reduce their tons disposed, it would seem fair that haulers would lower their trash fees. In most cases, private waste haulers will continue to charge residents the same rates for trash services, even when the hauler pays less for disposal. Consequently, the cost for the leaf waste collection service under this alternative adds to the residential trash bill.

6.1.4 Ordinance Revisions Targeted for Leaf Waste Management

Under this alternative, the Township would review and update existing solid waste and related ordinances to improve hauler and residential participation and accountability in the leaf waste collection and waste management programs. PADEP requires the Township to implement an ordinance to prohibit open burning of certain materials, including designated recyclables and leaf waste. At a minimum, the Township should make revisions to the existing burning ordinance language to comply with PADEP burning ordinance requirements (see Section 3.1).

Even if no other alternative is implemented, improving the Township's solid waste ordinances is a favorable baseline strategy. Under this alternative, GF recommends the following provisions be added or clarified within the Township's ordinances:

- Clarify curbside leaf waste collection requirements in a manner that satisfies Act 101 requirements with consideration that a fair level of curbside service should be offered to residents that may go beyond the one spring and two fall collections required.

Via ordinance, improve hauler and residential accountability and program enforceability by:

- Requiring all haulers that operate within the Township to provide curbside leaf waste collection services that comply with Act 101, including segregated collections for the purpose of recycling delivered to a PADEP-approved compost facility that may or may not be designated by the Township.
- Requiring haulers to provide customer lists (to be kept confidential) for the purpose of verifying residential establishments that may not subscribe for trash and recycling service.
- Requiring collectors to report recycling totals, including leaf waste quantities to the Township.

- Requiring waste haulers to provide information on waste management and recycling procedures twice per year to all customers and to give a single copy of the educational material to the Township at the same time it is distributed to customers.
- Add a provision to reduce the allowable number of collection days that the hauler is permitted to provide curbside collections within the Township, which could include the establishment of collection “zones”.
- Give the Township the authority to request ‘proof of hauler’ from all new and existing residential property owners.

Recycling is not free. When the Township places curbside leaf waste service requirements in the ordinance and enforces these requirements, there will be additional costs for the hauler to provide additional collections and deliver the materials to an approved processor. The additional cost will ultimately be passed down to the residents. The public may respond negatively to increased trash bills, and the haulers may blame the Township for the requirement and increased cost. After this type of ordinance is in place, the Township will be responsible to ensuring that all active haulers are meeting the leaf waste and yard waste requirements as specified in the updated ordinance and/or rules and regulations.

6.1.5 Municipal Leaf Waste Management

At this point, the Township does not desire, nor does it have staff available to get into the leaf waste collection business. However, GF reviewed municipally operated leaf waste system so the Township has an understanding of recommended equipment and the corresponding labor that may be required to service the 3,915 residential units in the Township.

State College Borough Leaf Waste Collection Program		
Year	Leaf Waste Labor Costs	Leaf Waste Tonnages
2005	\$67,000	2,890
2006	\$71,800	3,130
2007	\$46,400	2,878

*Maintenance/fuel usage variable and was not provided.

State College Borough conducts leaf waste collection services both in and outside the Borough that includes approximately 4,300 single family units and 2,700 multi-family units. In 2007, the Borough implemented the use of an ODB SCL800SM25 leaf waste vacuum truck. The truck is operated by a single person instead of the typical 3-man crews used for most leaf waste trucks. The Pennsylvania Department of General Services state contract cost for this vehicle is \$135,000 (www.odbc.com/PADGS.htm), which is about the same cost as a waste packer (sometimes used by municipalities for leaf waste collection). The vehicle has a 25-cubic-yard capacity and the particular truck options selected by State College Borough allow the ODB to dually operate as a brush chipper. Leaves collected average 500 lbs. per cubic yard. On average a nearly full truck will hold 8,000 lbs. of dry leaves and 12,000 lbs. of wet leaves.

Through use of the ODB SCL800SM25, the Borough realized a marked improvement in leaf waste collection efficiency and associated cost reductions. As reflected in the table above there was a 35 percent reduction in labor costs from 2006 to 2007, which is directly attributable to implementation of the one-man leaf truck. The Borough is purchasing another vehicle and hopes to complete all leaf waste routes using two vehicles, each having one operator. This is a dramatic reduction in labor and equipment for a program that at one time utilized 4-5 leaf waste collection vehicles. Estimating the number of households serviced prior to dumping the leaf truck is difficult because the number of households setting out material varies and the quantity of leaves varies per household. In the early fall and spring when leaf drop is minimal to moderate, the Borough completes service routes covering all 3,500 households in two days, which is 1,750 households covered in one day by the ODB SCL800SM25. The dumping point is a composting site located in the Borough.

GF recommends Lower Saucon Township give serious consideration to procuring a one-man operated leaf waste collection vehicle, which will result in significant labor savings associated with leaf waste collection. Staff that may become available through this efficiency may be re-allocated to other responsibilities, including those that can enhance the municipal recycling programs.

7.0 CONCLUSIONS & RECOMMENDED STRATEGY

The Township is positioned to make a variety of adjustments to its waste management program in order to ensure regulatory compliance. To be clear, no leaf waste management program will satisfy every resident. Some residents will think any cost is too much, others will expect the Township to collect every leaf and branch year round. Consequently, it will be up to the Township to review its options and implement a balanced, yet economically feasible waste collection program. The unique Township distribution of both rural and dense housing is a factor that must be considered as it can influence economic feasibility, labor requirements, and even determine the type of service and equipment (e.g. vacuum trucks) that may be practical within different areas of the Township. The final program can include a combination of strategies or variations to the strategies presented in this Study.

Based on GF's review of Lower Saucon Township's existing waste management program, GF recommends the following baseline program structure and strategies for implementing a cost-effective and comprehensive leaf and yard waste management system. Maintaining, even exceeding, the minimum leaf waste service requirements (particularly for curbside collections) is strongly recommended so that residents have drop-off outlets supplemented by reasonable curbside services for organics. Additionally, without regulatory compliance the Township risks forfeiting \$20,000 in Act 101 Section 904 Performance Grants annually and may not be eligible for future Act 101, Section 902 Recycling Grants (recycling equipment and containers) and/or could face other PADEP penalties. Generally, GF recommends the Township re-think its role in waste management, and emphasize an integrated approach where waste management is not viewed as a service passed off to private sector haulers.

GF's baseline leaf waste management strategy is provided in the following bullets and can be used as a planning guideline for the Township as it investigates and makes decisions on their leaf waste and municipal waste programs:

- Form a **Waste Management Committee** and meet quarterly to address leaf waste and other waste management issues so that informed decisions can be made on an ongoing basis. At a minimum, the Committee should include a Recycling Coordinator and at least one elected official.
- **Update relevant Township ordinances** as proposed in detail in Section 6.1.4. GF recommends that the Township ordinances be revised to:
 - Meet Act 101 and PADEP regulatory requirements;
 - Establish and require a level/sufficient number of curbside collections for “leaf waste” segregated for recycling that strikes a balance between cost, seasonal variations and residential disposal needs; and
 - Increase participation and accountability by residents and haulers.
- **Investigate a single-hauler waste management contract more closely.** A single-hauler waste collection contract is a comprehensive waste management solution that will lower trash bills and effectively manage waste, recyclables and leaf waste. Consider developing and issuing a single-hauler waste management bid to obtain pricing, allowing council to make an informed decision based on actual costs and other benefits. If the Township elects to pay the disposal fees under a single-hauler contract, the Township's and resident's costs for waste management will be reduced according to the quantity of material to recycling, including leaf waste diverted for composting. Piggy-backing on a neighboring municipality's waste collection contract is another option, and may offer benefits and savings to both parties through economies of scale.
- **Implement a BALANCED Organics Program Including the following:**
 - Curbside collections for leaves and also for trimmings, small diameter brush, and garden residues in spring.
 - Drop-off site(s) – Continue existing joint Compost Center.
 - Drop-off outlets be expanded to include local farms that complete a simple application contained in the Permit-By-Rule Yard Waste Guidelines available on the PADEP website (www.depweb.state.pa.us).
 - Encourage backyard composting.
 - Through operation efficiency and by structuring a fair level of service, keep costs affordable for residents.
 - Accountable and comprehensive services should be provided for municipal waste and recycling in conjunction with organics, so that waste management solutions are comprehensive in nature.
- **Ongoing Education.** To ensure residents understand and transition through these changes, it is recommended the Township increase educational efforts via the Township website, newsletters and other notifications that clarify the need to meet regulatory requirements. The Township materials should portray the message that it desires to implement a balanced program with options.

