



**Nestor Resources, Inc.**

Nestor Resources, Inc.  
208 Kozy Corner Road  
Valencia, PA 16059

Phone: 724-898-3489

Fax: 724-898-3592

E-mail: [info@nestorresources.com](mailto:info@nestorresources.com)

Internet: [www.nestorresources.com](http://www.nestorresources.com)

Recycling Technical Assistance  
Projects # 453 & 458  
City of Hermitage, Mercer County

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**Feasibility of a fully  
automated collection  
system with PAYT  
components**

July 15, 2009



**Nestor Resources, Inc.**

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## Introduction

The Recycling Technical Assistance Program is sponsored in partnership by the Pennsylvania Department of Environmental Protection (DEP) through the Solid Waste Association of North America (SWANA), the Pennsylvania State Association of Township Supervisors (PSATS) and the Department of Community and Economic Development (DCED) Governor's Center for Local Government Services. Qualifying municipalities wishing to enhance their recycling, composting and waste reduction programs are provided with professional support to assist them achieve their goals and objectives.

The City of Hermitage requested technical assistance to improve the overall effectiveness of their next residential collection contract and to determine if collection could be accomplished with a fully automated system. The City also had interest in the feasibility of incorporating Pay As You Throw (PAYT) options for bagged waste, bulk items and white goods. Lastly, The City desired to attain compliance with Act 101 and Act 140 requirements for recycling and yard waste collection.

As the consultant selected to manage the project, Nestor Resources, Inc. is pleased to submit to the City our findings and recommendations. This report includes background data, resources and references, as well as explanations and justifications for the consultant's suggestions.

## Background

As the City of Hermitage was nearing the end of its existing residential collection contract for waste and recyclables, it was audited by the Pennsylvania Department of Environmental Protection for compliance with the Municipal Waste Planning, Recycling, and Waste Reduction Act of 1988, Act 101. The Act has specific requirements for municipalities in the Commonwealth with populations of 10,000 or more and also those with populations of 5,000 or more with a population density of greater than 300 people per square mile. These municipalities must implement mandatory residential curbside collection programs for recyclables and leaf waste and ensure that commercial, institutional, and government establishments also manage recyclables and leaf waste accordingly. Additionally, mandated communities are subject to the provisions of Act 140, which specifies conditions for receiving and utilizing Section 904 Performance Grant funds.

The audit revealed that the City had failed to meet its obligations to provide an adequate leaf waste collection program in accordance with Act 101. Leaf waste, as defined by the Act, includes leaves, garden residues, shrubbery, tree trimmings and similar materials. These materials must be collected once per month according

to the Act. However, the PADEP allows for a semi-annual collection supplemented by an approved drop-off collection or alternative method. Shortcomings of the City's program which were identified during the audit included lack of services for twigs, brush and other garden residues and insufficient collection frequencies.

Although the City made improvements to its curbside recycling program prior to requesting bids for the last collection contract, it still had interest in enhancements that could be made to increase material recovery and in turn funds received from Act 101, Section 904 Performance Grants.

### **Project Scope of Work**

**Task #1:** Nestor Resources, Inc. reviewed the City's current collection contract, annual reports, performance grant applications and ordinances relevant to solid waste management and recycling.

**Task #2:** Nestor Resources, Inc.. prepared an outline that highlights how the current contract, ordinances and practices impact the collection costs and recovery of recyclable materials. In addition, the consultant will comment on any noted Act 101 and Act 140 compliance issues in the City's program.

**Task #3:** Nestor Resources Inc. provided to City officials a manual that demonstrates alternative scenarios for a variety of PAYT rate structures. Nestor Resources presented and explained those PAYT options in the manual that are most feasible for implementation in the City and how they might be phased into the future collection contract. Officials were invited to observe an automated collection system in operation. The consultant coordinated a meeting between the City and other municipal officials that have implemented similar programs.

**Task #4:** Nestor Resources, Inc. conducted a series of workshops with City managers and elected officials. The workshops served to assist the City in determining the components that most favor the desired results for compliance, enhanced material recovery, consumer convenience and cost effective service. The consultant supported the staff in revisions to the City's contract.

**Task #5:** Nestor Resources, Inc. met with prospective bidders to outline the components of the program, the expectations of the City, and the regulatory requirements that serve as the basis for the specifications. The consultant was responsible for all communications with the service providers during the bidding process. The consultant addressed questions and drafted necessary addendums.

**Task #6:** Nestor Resources provided to City officials an evaluation of the bid results and make recommendations regarding award of the contract.

**Task #7:** Nestor Resources, Inc. prepared and submitted to the Pennsylvania Department of Environmental Protection (PADEP) for review and comment, a draft project report, which summarizes the consultant's findings and

recommendations. Based on the PADEP's input, the consultant revised and finalized the report. Both the City and the Department will be provided with the report in electronic format. In addition, a hard copy of the document was provided to the City.

## Summary of Recommendations

Nestor Resources, Inc. provided the City of Hermitage with commentary on specific areas of the existing contract that affect service and price. Additionally, the consultant conducted a series of presentations and work sessions for City staff and elected officials to explore the multitude of components that could be incorporated into a residential collection contract. The following list highlights some of the items targeted for improvement in the existing contract; suggested corrective actions; and ultimately recommendations to revamp its collection system with new technology

- The City's current ordinance refers to a "buy-recycled" policy. No evidence of such a document could be provided during the review. The City should consider developing an "environmentally preferential procurement policy" should be considered as part of a "greening initiative" for the City
- The Fire Prevention Code should more clearly define that recyclables materials, including leaf waste cannot be burned.
- The definitions section of the Solid Waste Ordinance should be revised to eliminate words that never appear in the document.
- Recyclable items defined in the ordinance should correspond with the conditions of the City's waste/recycling collection contract.
- Solid Waste and Recycling rules and regulations should reflect any and all changes made to the current Solid Waste Ordinance.
- The Solid Waste Ordinance contains language that is more applicable to a host county or host municipality. The City should eliminate references to landfill constraints and other similar issues.
- The City may want to have owners of multi-family dwellings adequately provide for waste and recycling by instituting a minimum amount of container capacity per number of units in a multi-family dwelling.
- The City should include in its Solid Waste Ordinance the requirements of businesses and transporters to report to the municipality. Although licensing is no longer allowable, the laws do allow for registration of haulers to facilitate the reporting requirements. It can also include a requirement for haulers to offer recycling to all of their commercial accounts. Lastly it can

require businesses and multi family dwellings to provide service agreements each as proof that they have waste and recycling services.

- ❑ This existing Solid Waste Ordinance indicates that the City may contract for drop-off recycling rather than curbside collection services. Mandated municipalities are not provided with the opportunity to opt out of the curbside requirements. This section is not compliant with Act 101.
- ❑ Having only an annual leaf collection does not comply with Act 101 and Act 140. Many communities include contract specifications for collection and composting of source separated leaf waste or yard waste, which includes grass clippings. Since Hermitage may be considering a PAYT rate structure, alternative outlets for leaf or yard waste can become an important component of the program. Evaluating the community's needs and frequency for curbside service will be vital in development of a new contract.
- ❑ "Pay by the bag" programs make economic sense when waste disposal is the prime consideration. However, whenever additional services must also be provided other factors should be considered to determine if this is the best rate structure for the City. Of primary concern is ensuring that all residents pay a fair and equitable cost for services required. Therefore a base fee is recommended for the next collection contract
- ❑ Comments are offered throughout the document to enhance the current contract, lower costs, increase recycling and compliance. However, it is recommended that greater services and competitive costs could be achieved with the implementation of a fully automated variable rate collection system for waste, recyclables and yard trimmings. Specifications for such service have been provided to the City.

## **Review and Comments on Ordinances and Existing Contract**

Nestor Resources, Inc. reviewed the City's current municipal solid waste collection contract and ordinance, as well as the amendment to the fire prevention code. The purpose of the review was to determine what, if any, requirements or conditions have potential to contribute to excess costs or poor service. Provisions of Act 101 and Act 140 that require mandated municipalities to provide services that may or may not be currently included in the contract or specified in the ordinance have also been identified. Special attention was given to those items identified as non-compliant in a letter sent to the City on July 30, 2007, from John Lundsted, Compliance Assistance Coordinator, Division of Waste Minimization and Planning, Pennsylvania Department of Environmental Protection.

Following is an outline of our findings arranged by categories in the bid specifications. It is important to note that the City should confer with legal counsel

before implementing any of the suggested contractual changes or ordinance revisions presented in this report.

### **Fire Prevention Code Amendment**

The ordinance clearly specifies materials that cannot be burned. These include “tires, garbage, leaves and other materials, which cause offensive smoke . . . .” This could imply that source separated recyclables are allowable for burning, and thus is not compliant with Act 101. Additionally, the code should be expanded to include “leaf waste” as “leaves” only represent a portion of that material by definition.

### **Current Waste Reduction and Recycling Ordinance**

#### **Section 3, Item 8**

- This essentially implies that the City has a “buy- recycled” policy. Is there any formal document or set of guidelines for this purpose? If one does not exist, developing an “environmentally preferential procurement policy” should be considered as part of a “greening initiative” for the City. Nestor Resources, Inc. has designed similar policies and can share ideas to assist the City in development of a local policy.

#### **Definitions**

- The ordinance has not been revised since 1990. Therefore, the Department is still referred to as the Department of Environmental Resources (DER) rather than its current name Department of Environmental Protection (DEP). The City will want to make that change when it updates the ordinance.
- The ordinance references the Mercer County Solid Waste Authority, which no longer exists. The City will want to make that change when it updates the ordinance.
- The ordinance references the Solid Waste Management Act (Act 97), and the Municipal Waste Planning, Recycling and Waste Reduction Act (Act 101). A definition is provided for Act 97, but not Act 101.
- Specific recyclable materials are not defined in the ordinance. It could be helpful to describe things like “corrugated cardboard”, “newsprint,” “plastics, “etc.
- No definition is included for “composting”, “composting facility”, “landfill,” designated facility,” and similar terms used elsewhere in the document. The City should consider making these terms more clear when it updates the ordinance.



- Several terms are defined that are never used in the ordinance. These include items such as “abatement, “degradable plastic beverage container,” “average daily volume,” etc. It appears that the definitions could have been drawn from Act 101, but serve no purpose in the ordinance. The City will want to exclude such items when it updates the ordinance.

### **Section 5, Item 1**

- This section references Act 101, Section 1111 that sets forth procedures for host counties and host municipalities. The City does not have a landfill or other disposal facility located within its boundaries and thus does not qualify as a host municipality.

### **Section 5, Item 2**

- The ordinance indicates that the Commissioners may adopt regulations and procedures for management of solid waste and recyclables. Do any formal regulations exist? When revising the next ordinance, the City may want to consider making the ordinance more general and instituting regulations that can be changed without a future legal process to further amend the ordinance.

### **Section 6, Designated Sites**

- The ordinance was obviously written during the period when the Mercer County Solid Waste Plan was being contested. Since that time, the Plan and its updates have been approved and do include designated landfills with a waste flow provision. This section should be revised to reflect those conditions.

### **Section 7, Item 1**

- Nine materials are designated for source separation by residents for recycling. These include clear glass, colored glass, aluminum, steel and bi-metallic cans, high-grade office paper, newsprint, corrugated paper and plastics. These items should be more clearly defined. For example, residents really should be recycling glass bottles and jars, not all glass. Additionally, corrugated paper and plastics have various grades, which may or may not be included in the City’s curbside program. Also, many other grades of paper, including junk mail and magazines, are now accepted in current recycling programs. The City will want to ensure that these items correspond with the conditions of any waste/recycling collection contract it will enter into with a service provider.

**Section 7, Item 2**

- This section seems to include two separate requirements. One is for the separation of leaf waste. The second is for recycling in multi-family dwellings. It would be better to make each of these a different item in the ordinance.
- The City may want to have owners of multi-family dwellings provide proof that they have adequately provided for waste and recycling by instituting a minimum amount of container capacity per number of units in a multi-family dwelling. Typically, property managers tend to put one token recycling container in a complex, which is a disincentive to residents to participate in recycling. This could be accomplished in a zoning ordinance, if not here. Documentation could require that owners submit a copy of their current service agreement along with their annual report each year.

**Section 7, Item 3**

- Similar to comments made regarding multi-family dwellings, the City should ask for documentation that commercial and institutional establishments have adequate collection service.

**Section 7, Item 4**

- This section requires that residents place leaf waste at the curb once per month for collection. It is unclear if the current collection contract actually provides for a separate leaf waste collection once each month, in which this material is taken to a permitted composting and processing facility. This is the requirement of both Act 101 and Act 140, which was noted in the letter sent by Mr. Lundsted, DEP, in July 2007. Alternatively, curbside collections can be conducted semi-annually if the municipality provides a drop-off site for leaf waste in between these collections. Leaf waste may not be collected as municipal waste in periods between curbside collections. The City will want to update this section to correspond with the conditions of its waste/recycling collection contract.
- The ordinance still refers to the old practice of placing recyclables in plastic bags, which is contrary to what the current contract specifies. This section should be updated.

**Section 8, Recycling by Operator**

- This section indicates that the City may contract for drop-off recycling rather than curbside collection services. Mandated municipalities are not provided with the opportunity to opt out of the curbside requirements. This section is not compliant with Act 101.

**Section 9, Drop-off Centers**

- The ordinance requires the curbside collection contractor to provide a drop-off site in the City for the collection of three recyclable materials. This seems to be a disincentive to curbside collection. It also creates an opportunity for commercial entities, and people outside of the City's borders, to abuse the program. It is unclear if this requirement is instituted in the current collection contract. It is also unclear if this service is "at no additional charge" or if it is a specific line item in the contract.

**Section 10, Annual Reports**

- This section spells out responsibilities of the City to report to Mercer County. This is a perfect location to include the requirements of businesses and transporters to report to the municipality. It could be where the requirement for documentation of service is added. The City should consider expanding this section for that purpose.
- Although licensing is no longer allowable, the laws do allow for registration of haulers to facilitate the reporting requirements. It can also include a requirement for haulers to offer recycling to all of their accounts. Nestor Resources, Inc. can provide sample language for these suggestions.

**Existing Specifications for Residential Refuse/Recycling Collection & Disposal**

- In general, the current collection specifications/contract are acceptable and not abnormally restrictive or lax. It should be noted however, that the municipality is postured to improve its customer service and environmental stewardship. By entertaining new methods of collection and expanding programs for recycling and yard waste collection, the City could increase its performance in those areas and the resulting grant monies awarded for that purpose.
- The consultant has provided comments to enhance the contract, lower costs, increase recycling and compliance. More improvements could be achieved with a different collection system.

**Article XVI Deviations**

- Alternative bids are often deceiving and serve the contractor's purpose rather than the best interests of the municipality. While these alternatives may offer a lower cost, they often fail to achieve other service objectives or goals required by law. Nestor Resources, Inc. does not recommend alternatives to be accepted in most request for bids

### **Section 3.01 A Purchased Bag Refuse Service**

- A “pay by the bag” program theoretically provides the greatest incentive for citizens to recycle because the waste generator sees the direct relationship between the amount he/she discards and the cost of disposal. For that reason, these types of programs are highly recommended. “Pay by the bag” programs make economic sense when only waste disposal is a consideration. However, whenever other services must also be provided other factors should be considered to determine if this is the best program for the City. Of primary concern is ensuring that all residents pay a fair and equitable cost for services required.
- Nestor Resources, Inc. has provided a copy of its *Pay as You Throw Primer for Pennsylvania Communities*, along with this report. It contains numerous scenarios to implement a variety of pay as you throw options including: volume, unit and/or variable rate based collection programs. The consultant will meet with City officials to provide more details on these options and to address questions and comments.

### **Section 3.01 B Optional Refuse Toters**

- The language references “Rubbermaid” wheeled containers as the required manufacturing brand. “Rubbermaid” typically does not make a wheeled container utilized by commercial waste collectors. It is recommended that more standard industry specifications for resin content, capacity, ability to endure mechanical lifting, etc should be included in this part of the bid. “Toters” are a brand name of wheeled container. To avoid confusion and/or legal arguments, the consultant suggests using a more generic term such as cart or wheeled container for this purpose.
- It seems a conflict that “unlimited” collection for the refuse toter is included in the same option as “by the bag” service. It would seem more reasonable to include a limited volume option here with only waste that fits in the cart.
- By allowing unlimited collection with a cart, this opens the door for those neglecting to buy official bags to abuse the system. It also allows for theft of service. Although the contract prohibits sharing of service, there is nothing in an ordinance or any other enforceable mechanism to prevent it. Individuals can easily place garbage in and around their neighbor’s toters and avoid paying for service.

### **Section 3.03 Bulk Item Collection**

- Including mass collections or clean-up days tends to add to the cost of normal curbside service. The cost for collecting these items can be handled

individually by residents through the sale of tags. This places the cost directly on the user and lowers the monthly cost of collection.

### **Section 3.03B Annual Leaf Collection**

- As discussed in the review of the ordinance, having only an annual leaf collection does not comply with Act 101 and Act 140. Leaf waste is defined in Act 101 and its regulations as “Leaves, garden residues, shrubbery and tree trimmings, and similar material, but not including grass clippings.” The Act mandates the City to require leaf waste to be separated from municipal waste and to collect it at the curb at least once per month, unless alternative collection methods, approved by the Department, are utilized. It should be noted that leaf waste may not be disposed with municipal waste during non-collection weeks. DEP’s official guidance document “Pennsylvania’s Act 101 Leaf Waste Collection Requirements” is attached.
- There is no provision in the contract for the collection of “leaf waste”. Act 101 and Act 140 also require managing this material at the same frequency as leaves. It is unclear in the contract if the contractor is to collect leaf waste.
- The wording of this section requires the contractor to collect leaves in waterproof plastic bags. Kraft paper bags or, if accepted by the facility, compostable plastic bags are recommended. Alternatively, many communities are switching to wheeled carts to contain the material.
- Many communities include contract specifications for collection and composting of source separated leaf waste or yard waste, which includes grass clippings. Since Hermitage may be considering a PAYT rate structure, alternative outlets for leaf or yard waste can become an important component of the program. Evaluating the community’s needs and frequency for curbside service will be vital in development of a new contract.

### **Section 3.04 Apartment Buildings, Institutional and Municipal Establishments**

- This wording infers that the Contractor has an exclusive franchise for the buildings with more than four units under the contract. Is that true? It seems that the intent is to say that these 5+ units should contract individually with a hauler of their choice. The ordinance is likewise confusing in some respects.
- This section mentions the Contractor providing services to commercial establishments. Although it clearly states that the price is negotiated between the two, it seems to offer some right to the Contractor to provide

those services. The consultant recommends changing this section to avoid conflict. It would be better to specify in the contract those contracted services, which are included period and leave out what is not. This seems to belong more in an ordinance than the contract specs.

- The wording here almost suggests that commercial entities can opt whether or not to have recycling collection. There is no option in a mandated community.

#### **Section 4.01 B Recycling Bins/Containers**

- 10-gallon bins are much too small for today's recycling opportunities. This is particularly true with bi-weekly collection. Residents tend to dispose of recyclables once the bin is full. This costs the City by reducing the tonnage eligible for Act 101, Section 904, Performance Grants.
- The City should consider moving to a minimum of a 32-gallon bin or to automated collection carts of up to 98 gallons. Likewise, although weekly collection increases participation, a larger container could justify the savings realized thru bi-weekly collection.

#### **Section 4.01 F Compensation for Services**

- The City might want to consider billing residents directly for services provided under the contract. This lowers the rate offered by the hauler. It also gives the City more control of the service provider by ultimately controlling the revenue.

#### **Section 5.04 Point of Collection**

- Are there true alley pick-ups required? How does this differ from rear yard pick-up?

#### **Section 5.05 Collection Schedules**

- Fourteen days after the award of the contract seems like a stringent time frame in which to produce well thought out routes. This could preclude a new contractor from wanting to bid. It also could prevent any contractor from coming up with cost saving efficiencies. This is not unrealistic provided the upfront period in which to develop bid proposals was sufficient.

#### **Section 5.06 Hours of Operation**

- Holiday collection schedules generate more customer service calls than any other common complaint. The wording here could be more clear. It could read better if it said that when the regularly scheduled day of collection falls

on or after the holiday, it would be collected one day later that week. Friday pick-ups shall be made on Saturdays only during the holiday week.

### **Section 5.07 Municipal Buildings and Properties**

- Service requirements to the facilities owned by municipalities are often included in residential contracts. Typically, it is a way to keep the true costs of these services from showing as a line item in the General Fund Budget. It should be noted however, that inclusion of these services does add to the cost per home for residential service. Additionally, because the actual cost is not shown, municipalities often pay a premium for these services. Many municipalities have opted to bid these services separately or at a minimum to have the cost defined as line items in the residential contract.
- The collection frequency and the required cubic yard capacity of each container at many City facilities are unspecified. Only the current contractor knows the true service requirements. This can provide an unfair bidding advantage. When service requirements are vague, most bidders will err on the side of caution with a higher cost.

### **Section 5.09 Dead Animals**

- This on-call service would seem to add to the cost if the City really requires this.

### **Section 5.10 Curb Set-Out System**

- This should be defined. It isn't explained anywhere

### **Section 5.11 Communications**

- With improved technology, the City could consider a change in these requirements. They could be improved to increase faster turn around of customer complaints, and provide to the City more control of contractor obligations. Nestor Resources, Inc. could provide sample language in this regard.

### **Section 5.18 Performance Bond**

- Collecting on a performance bond is very difficult. Performance bonds only cover the added costs of service in the interim period between breach of contract or contractor default and replacement with a new contractor. There is a new trend toward flat performance bonds or at least a reduction to 50% of the annual contract cost.
- If the City were to actually bill the residents and then pay the hauler for services performed, its risks are less than when the contractor bills residents

in advance and controls the revenue before delivering service. Therefore, requiring the bond to cover 100% of the contract would be unnecessary could reduce the cost of collection.

### **Section 5.19 Penalty**

- Because there are some vague and undefined portions of the specifications, a provision for penalties or liquidated damages would be easier to enforce if clearly defined. Many contracts identify the most common infractions, which result in poor customer service and complaints. Specific damages for each infraction or cumulative infractions are typically listed.
- Liquidated damages and/or penalties are easier to assess when the City controls the revenue. Additionally, it is easier to collect a penalty when the contractor is required to make an upfront deposit into an escrow account at the beginning of the contract. From this account, the City would be allowed to draw out penalties, provided sufficient justification and notification is given. At the end of the contract, the contractor would be refunded all remaining money with interest that accrued.

### **Section 5.28 Increase of Costs**

- New or revised Federal or State laws, ordinances or regulations that place a direct fee or tax per ton on municipal solid waste are typically passed down from the landfill to the transporter. Consequently, contractors need to pass these costs along to the generators of the waste: the residents. To avoid conflicts that can occur in these situations, it is better to proactively establish a formula in the contract that describes how the fee will be calculated per housing unit. New or revised Federal or State laws, ordinances or regulations that place a direct fee or tax per ton on municipal solid waste are typically passed down from the landfill to the transporter. Consequently, contractors need to pass these costs along to the generators of the waste: the residents. To avoid conflicts that can occur in these situations, it is better to proactively establish a formula in the contract that describes how the fee will be calculated per housing unit.
- When contract bid specifications do not provide for actual fuel cost adjustments, speculative bidders will project higher costs in multi year contracts. By providing a fuel cost adjustment formula that includes opportunities for both rate increases and decreases, municipalities avoid being overcharged. The formula should establish the criteria on which the adjustment will be calculated including items such as time frame, route miles, housing units, number of vehicles, and the specific fuel index and averages, such as the OPIS Index for the Pittsburgh market, or the Department of Energy Index, which will be used as a reference.



## **PAYT and Other Contract Components**

The development of new residential collection specifications was of prime importance to the City. A pending expiration date for the existing contract with no options for renewals presented a difficult timeframe in which to initiate significant changes.

To expedite the decision making process, City staff were provided with a copy of the *Pay as You Throw Primer for Pennsylvania Communities* developed by Nestor Resources, Inc. Additionally, Nestor Resources provided staff with a menu of options for collection methods; PAYT components; rate structures; billing options; special services; franchise options and discounts. Table 1 shows the contract Nestor Resources Inc.'s contract specification menu. Items from each of the columns can be combined with items in other columns to create customized contract specifications that meet the local needs of any given community.

Using the chart as a guideline, the consultant and staff discussed the advantages and disadvantages of each item on the menu. Several combinations of service options and rate structures were considered. The overall impact of each option to the community, the service providers and City administration was of importance in the decision making process.

The consultant conducted an informational slide presentation to the Board of Commissioners that illustrated the advantages of a fully automated collection system; the cost savings realized by including a base fee; regulatory requirements and steps toward compliance; the principles of PAYT; billing and enforcement issues. Nestor Resources also made recommendations for design of the collection contract specifications and an implementation timeline. The slides from that presentation are provided in Appendix A.

**Table 1- Nestor Resources, Inc.’s Contract Specification Menu**

**MIX AND MATCH OPTIONS FROM EACH COLUMN TO DEVELOP A CUSTOMIZED TOTAL BID PACKAGE- OPTIONS IN EACH ROW ARE UNRELATED  
NESTOR RESOURCES WILL EXPLAIN OPTIONS THAT ARE MORE COMPATIBLE TO MIX THAN OTHERS AND HAVE IMPACT ON THE OVERALL PRICE**

<b>GARBAGE COLLECTION SCENARIOS</b>	<b>RECYCLING COLLECTION SCENARIOS</b>	<b>YARD (LEAF) WASTE COLLECTION SCENARIOS</b>	<b>BULK ITEMS</b>	<b>EXTRA BAGS/TAGS FOR LIMITED OPTIONS</b>	<b>OPTIONAL SERVICES</b>	<b>BILLING OPTIONS</b>	<b>DISCOUNTS</b>	<b>FRANCHISE FEE</b>
<p><b>MANUAL UNLIMITED Base Fee</b></p> <p>Weekly collection of unlimited bags, cans not to exceed 40 lbs. each</p>	<p><b>MANUAL DUAL STREAM WEEKLY</b></p> <p>Bin #1 Paper, Cardboard, etc</p> <p>Bin #2 Glass, Metal &amp; Plastic Bottles &amp; Cans</p>	<p><b>MANUAL LIMITED RESTRICTED SERVICE</b></p> <p>Twice per year at curb supplemented with permanent drop-off</p> <p>Must use paper bags, or leave unbagged in cans not to exceed 40 lbs. each. Brush must be bundled</p>	<p><b>WEEKLY COLLECTION</b></p> <p>No limit to number of items per home</p>	<p>Must purchase tags items exceeding the bag or can limits in the Base Fee</p> <p>Tags sold in sheets of 5</p>	<p>In some scenarios, residents may pay an extra fee , in addition to the base fee, for use of a wheeled cart</p>	<p>Hauler Bills</p>	<p>Senior Citizen Head of Household Discount – Age 65+ 15% discount</p>	<p>5-10%</p>
<p><b>MANUAL LIMITED VOLUME Base Fee</b></p> <p>Weekly collection limited to a specific number of 40 GALLON bags or cans not to exceed 40 lbs. each</p>	<p><b>MANUAL DUAL STREAM ALTERNATING WEEKLY</b></p> <p>Week 1 &amp; 3 Paper, Cardboard, etc</p> <p>Week 2 &amp; 4 Glass, Metal &amp; Plastic Bottles &amp; Cans</p>	<p><b>MANUAL UNLIMITED RESTRICTED SERVICE</b></p> <p>Once per month at curb during April-November</p> <p>Must supplement with drop-off</p> <p>Must use paper bags, or leave unbagged in cans not to exceed 40 lbs. each. Brush must be bundled</p>	<p><b>UNITED MONTHLY COLLECTION</b></p> <p>Any number of items per month on a scheduled week</p>	<p>Must purchase tags for Bulk Items and White Goods</p>	<p>Backyard Service and or private drive service may be offered to individuals for an extra fee</p>	<p>Town Bills through Sewer/Water</p>	<p>Backyard Service Discount for Documented Severe Disability</p>	<p>5-10%</p>
<p><b>MANUAL PAY AS YOU THROW Reduced Base Fee</b></p> <p>Weekly collection</p> <p>Every home pays a reduced base fee but must buy tags for each bag of waste</p>	<p><b>MANUAL DUAL STREAM ALTERNATING BI-WEEKLY</b></p> <p>Alternating bi-weekly pick-ups</p> <p>Every other pick-up Paper, Cardboard, etc</p> <p>Every other pick-up Glass, Metal &amp; Plastic Bottles &amp; Cans</p>	<p><b>MANUAL UNLIMITED SERVICE</b></p> <p>Once per week during April-November</p> <p>Must use paper bags, or leave unbagged in cans not to exceed 40 lbs. each. Brush must be bundled</p>	<p><b>UNLIMITED SEASONAL</b></p> <p>No limit of items collected once or twice per year at curb or drop-off</p>	<p>Must Purchase Tags for Volume Pick-ups</p>	<p>Small Businesses and/or Multi Family dwellings may be included in contract (can require dumpster fees in bid)</p>	<p>Hauler sells bags/tags</p>	<p>Snowbird Discounts for people that leave for extended periods during Winter months</p>	<p>5-10%</p>

GARBAGE COLLECTION SCENARIOS	RECYCLING COLLECTION SCENARIOS	YARD (LEAF) WASTE COLLECTION SCENARIOS	BULK ITEMS	EXTRA BAGS/TAGS FOR LIMITED OPTIONS	OPTIONAL SERVICES	BILLING OPTIONS	DISCOUNTS	FRANCHISE FEE
<p><b>AUTOMATED LIMITED VOLUME Base Fee</b></p> <p>Weekly collection limited to one wheeled cart (uniform size determined by municipality)</p>	<p><b>MANUAL SINGLE STREAM WEEKLY</b></p> <p>All Paper, Bottles &amp; Cans Mixed Together. Requires large recycling bin not to exceed 40 lbs when full</p>	<p><b>AUTOMATED UNLIMITED SERVICE WEEKLY</b></p> <p>Once per week during April-November</p> <p>Must use wheeled carts provided by hauler or municipality. May use compostable paper bags not to exceed 40 lbs. each</p>	<p><b>LIMITED MONTHLY</b></p> <p>1 item per month on a scheduled week</p>		<p>Municipal Facilities may be included in contract</p>	<p>Town controls inventory of bags/tags and pays hauler.</p>	<p>In Limited Collection Scenarios may offer vouchers for low income or very large families.</p>	<p>5-10%</p>
<p><b>AUTOMATED VARIABLE Reduced Base Fee</b></p> <p>Weekly collection</p> <p>Residents select and pay for one or more wheeled cart(s) of three sizes 32-64-96 gallons each.</p>	<p><b>MANUAL SINGLE STREAM BI-WEEKLY</b></p> <p>All Paper, Bottles &amp; Cans Mixed Together collected every other week.</p> <p>Requires extra large recycling bin not to exceed 40 lbs when full</p>	<p><b>AUTOMATED UNLIMITED SERVICE BI-WEEKLY</b></p> <p>Every other week collection during April-November May need to supplement with a drop-off upon demand of residents</p> <p>Must use wheeled carts provided by hauler or municipality. May use compostable paper bags not to exceed 40 lbs. each</p>	<p><b>PAY AS YOU THROW</b></p> <p>Purchase tags and have weekly collection</p>	<p>Must purchase tags from Borough. Tags sold in sheets of 5</p>				<p>5-10%</p>
<p><b>AUTOMATED PAY AS YOU THROW Reduced Base Fee</b></p> <p>Weekly collection</p> <p>Residents select and pay for one or more wheeled cart(s) of three sizes 32-64-96 gallons each. May also opt out of carts and purchase tags</p>	<p><b>MANUAL SINGLE STREAM MONTHLY</b></p> <p>Single Stream</p> <p>All Paper, Bottles &amp; Cans Mixed Together. This would likely require multiple bins</p>							

GARBAGE COLLECTION SCENARIOS	RECYCLING COLLECTION SCENARIOS	YARD (LEAF) WASTE COLLECTION SCENARIOS	BULK ITEMS	EXTRA BAGS/TAGS FOR LIMITED OPTIONS	OPTIONAL SERVICES	BILLING OPTIONS	DISCOUNTS	FRANCHISE FEE
	AUTOMATED UNIFORM SINGLE STREAM WEEKLY All Paper, Bottles & Cans Mixed Together in one wheeled cart (uniform size determined by municipality)							
	AUTOMATED VARIABLE SINGLE STREAM WEEKLY All Paper, Bottles & Cans Mixed Together in one wheeled cart of three sizes 32-64-96 gallons each.							

The Base Fee in Every Garbage Scenario is Mandatory and includes the collection of Garbage, Recycling and Yard Waste

## Summary

While not included in this written report, the Technical Assistance Project resulted in the development of a comprehensive set of bid and contract specifications. The City of Hermitage entered into a contract for a fully automated collection system for garbage, yard waste and recyclables. The cost of the vehicles and the carts for the full automation was borne by the service providers and ultimately included in the per unit base fee offered by prospective bidders. The bid process provided highly competitive rates for the level of service required.

Garbage yard waste and single stream recyclables will be collected weekly. Three carts are provided to each home. One cart for garbage, one cart for yard waste and one cart for recyclables will be made available for delivery to each home. Homeowners will select the size and number of carts during the contract transition period. Tags for additional waste, bulk items and white goods will also be sold on an as needed basis. The City will also sponsor a seasonal “forgiveness” week in which customers will be provided free collection of bulk items.

Nestor Resources, Inc. is confident that, as a result of this Technical Assistance Project, the City of Hermitage will experience a higher level of customer service and satisfaction; increased material recovery for recycling and composting and compliance with Act 101 and Act 140.



**Nestor Resources, Inc.**

**Appendix A Presentation to Board of Commissioners**







**Nestor Resources, Inc.**



**City of Hermitage**  
**Residential Collection Contract**  
**Garbage, Yard Waste and Recyclables**

**Ensuring Compliance and**  
**Controlling Costs**

## WHY CHANGE NOW?

- The City of Hermitage has an obligation to comply with Federal, State and County requirements
- PADEP Interpretation and Enforcement

## Act 101

### Requirements for Municipalities

- Ordinances requiring recycling by residents, and businesses
- A curbside collection program for recyclable materials and yard waste  
(Leaves, garden residues, shrubbery, tree trimmings, & similar material)
- Provide the collection with municipal employees/equipment or enter into contracts,

**All municipal contracts for collection must be consistent with guidelines of the PADEP approved county plan**

### Other Influencing Factors

#### Pending Increases in Collection Rates

- **Skyrocketing Fuel Prices**
- **Increases in other petroleum-based products**
  - tires, lubricants, and hydraulic oil
- **Steel Prices**
- **Federal Emissions Standards**
- **Insurance-**
  - Worker's Compensation
  - Health Care
- **Labor Intensive**
  - High Turnover

### Value and Importance of Recycling

- Throwing away one aluminum can wastes as much energy as if that can were 1/2 full of gasoline.
- According to [The University of Tennessee](#) Recycling one ton of aluminum cans saves 37 barrels of oil.
- Americans receive almost 4 million tons of junk mail every year. Most of it winds up in landfills.
- Every ton of recycled paper saves approximately 4 barrels of oil, 4200-kilowatt hours of energy and enough energy to heat and air-condition the average North American home for at least 6 months.
- Americans throw away 2.5 million plastic bottles every hour.

### Emerging Trends



Full Automation





Single Stream Recycling



Multi Cart Programs





Co-Collection





Yard Carts

## Carts for Recycling

- Increased recycling container capacity
- More storage can reduce trips to the curb
- Greater variety of recyclables accepted
- No blowing litter from uncovered bins
- Allows more families to participate in recycling
- Convenient, uncomplicated



## Multi Purpose Yard Waste Carts



- Maneuverable on grass
- Reusable -No bags to buy, lift or break
- Clean, convenient and secure storage until weekly collection day
- Sturdy Plastic holds considerable weight
- Alleviates waste piles in neighborhood plans
- Convert waste into a marketable product at regional composting sites

## Yard Cart Features

- **Optional False bottom grate for drainage**
- **Lid constructed to prevent spillage at time of collection**
- **Air holes provide circulation to reduce odor**
- **Bottom plug for cleaning/drainage**



### Sample Local Pennsylvania Communities

Using automated cart collection  
for two or more materials

**Butler County**

- Cranberry Township
- Adams Township
- Mars

**Allegheny County**

- Pine Township
- Marshall Township


**Mercer County**

- Pilot Programs
  - Pine Township
  - Liberty


**Crawford County**

- Pilot Programs
  - West Mead Township
  - Vernon Township


### Implementation Components




Single stream recycling cart



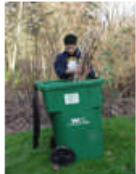
Rates vary with garbage cart size




Color coded carts




Bag tag



Yard waste carts






Expanded recycling menu



Curbside automation

### Why Use a Base Collection Fee?

Haulers have Fixed Collection Costs  
Number of Homes Reduces Cost Per Unit

## Suggested Approach

- Increase the container size for recyclables
- Expand the materials accepted for collection
- Explore weekly vs. bi-weekly collection options
- Provide virtually year round collection for yard debris
- Include options for bulk waste and white goods
- Define process for complaints/resolution
- Require automated collection to the extent feasible
- Establish up front controls on future rate increases
- Reward good customer service
- Build in options for future pilot projects and services

## Additional Expected Benefits

- Increased levels of service
- Control Overall Future Costs
- Eliminate Yard Waste Piles from Open Spaces
- Eliminate Blowing Litter on Collection Days
- Reduce waste, Recycle more
- Obtain grant funding through compliance to enhance programs
- Uniform Standards & Enforcement throughout City
- Public Health and Safety
- Storage Capacity of Carts Offers Greater Flexibility

## Proposed Time Line

### The Bid/Award Process

- November: Develop bidding package and identify service locations.
- December: Receive bids and make recommendation for Award

### Pre Implementation

- February thru July – Service Levels remain the same
- March-June- Establish new customer service levels, billing, and routing
- July: Revise applicable Ordinances
- April-June: Develop and initiate Public Education Program

### Implementation

- July: Deliver containers to residences
- August: Begin Township-wide automated residential collection



**Nestor Resources, Inc.**