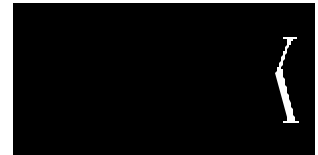


April 8, 2002



Ms. Sally Gauker  
Recycling Coordinator  
Armstrong County  
402 Market Street  
Kittanning, PA 16201

Subject:       **Recommendations for Revised Layout of Recycling Operations at County Recycling Facility**

Dear Sally:

R. W. Beck is pleased to provide Armstrong County with recommendations for the overall layout of recycling operations at the County's recycling facility operated by Progressive Workshop of Armstrong Co., Inc. Progress Workshop currently provides drop-off collection of source separated recyclable materials to selected municipalities throughout the County on a monthly basis. Progressive Workshop clients sort and process collected materials at a recycling center located on County property. At the Center, collected materials are processed and marketed along with items dropped off by residents or commercial haulers.

The current facility consists of two detached buildings with a combined processing and storage area of over 9,000 square feet counting both floors of a converted dairy barn where all processing and off loading of processed material is handled. The second building, representing approximately 3,400 square feet of the total 9,000, is a pole barn used to store materials after they are processed. The two buildings are approximately 60 feet apart and the distance includes a pitch in the driveway going up hill from the processing operation to the storage operation. Materials processed in the barn are transported by forklift truck or small loader to the storage facility until a sufficient quantity is available to ship a load to market. Baled material is then moved back from the storage building to the processing building (barn) for loading into tractor- trailers for shipment.

The absence of a loading dock at the storage facility has created a situation where material is double handled between the two buildings. Due to the pitch in the driveway between the two buildings, there is a safety issue particularly in icy weather conditions.

The County asked R. W. Beck to evaluate options to improve processing operations, receiving material at the processing building for residential drop-off and commercial haulers delivering loads of recycled materials and reduce handling of baled materials for storage and loading.

## Overview of Current Operation

The Armstrong County Recycling Center is open Tuesday through Saturday, eight hours per day. Currently, the recycling facility processes an average of approximately 900 tons of recyclable materials annually. Materials accepted at the facility include: newspaper, cardboard, aluminum and steel cans, PET and HDPE plastic bottles, office paper, used motor oil, magazines and glass. A summary of each material tonnage for the past three years is shown in Table 2.

Materials processed at the facility are either dropped off directly at the facility by residents on Saturdays, collected through a circuit rider drop-off collection program from 15 different sites located throughout the County and operated by the Workshop, or delivered by haulers collecting materials at the curbside from County residents and businesses. Two communities, Kittanning and Leechburg Boroughs, have municipal curbside collection programs.

**Table 2**  
**Material Quantities Received Over the Past Three Years**  
**(Pounds per Year)**

Material	1998-1999	1999-2000	2000-2001
News/Magazines	915,487	856,498	1,052,476
Clear Glass	126,209	123,719	98,272
Brown Glass	38,596	52,539	45,856
Green Glass	30,089	25,520	23,979
Bi-Metal Cans	67,194	66,725	66,545
Aluminum	9,746	9,600	8,788
Cardboard	319,808	380,363	384,267
Office Paper	165,614	230,391	59,097
Plastic Bottles	51,868	57,816	55,765
Used Motor Oil	2,086	270	0
Other	7,339	4,905	6,041
<b>Total (Pounds)</b>	<b>1,734,034</b>	<b>1,808,346</b>	<b>1,801,086</b>
<b>Total (Tons)</b>	<b>867</b>	<b>904</b>	<b>900</b>

As Table 1 illustrates, diversion rates for most materials fluctuated slightly either up or down over the three year period with the exception of office paper, which significantly declined from 1990-2000 to 2000-2001 time periods. The County plans to remedy this by setting up a collection system for office paper at all County related facilities. It is the County's goal to continue to increase the diversion of

**Ms. Sally Gauger**

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recyclable materials by supporting and expanding collection systems and through educational programs. With the desire to increase tons collected, the County wants to ensure that the Recycling Center has the ability to handle additional tonnage.

Currently, the operation struggles with managing the delivery of materials particularly during the Saturday residential drop-off. Materials are delivered to the large front barn door that opens off the second level of the building. The area backs up very quickly when multiple vehicles are delivering materials at the same time.

In addition to the delivery issue, the facility also struggles with material handling given the configuration of the processing areas and the fact that the operation is on two different levels. Being an old dairy barn has limited the way materials can be handled throughout the facility.

### **Modifications to Receiving and Processing Operations**

To evaluate options to improve receiving, processing, storage and handling of materials at the facility, an R. W. Beck representative made two trips to Armstrong County. A second trip was required to reevaluate a configuration for modifying the storage building.

Because the Recycling Center is sited in a barn that has historic value, County officials are reluctant to modify the outside of the building in any manner that would impact the original appearance to the barn. Any modifications to the facility to improve material acceptance, flow and handling would require adding on to the barn structure. Therefore, the operation is limited to managing under the existing conditions.

From a processing perspective, this is not as much an issue as the receiving of incoming materials, because the operation uses the existing space as effectively as could be expected. The area where an improvement could significantly reduce material handling costs, would involve installing a loading dock at the storage building. A primary factor effecting this modification is the limitations the County has on how to install a loading dock given the topography of the area surrounding the storage building.

Expansion of the building to accommodate a loading dock is restricted on two sides by a hill that would have to be excavated to develop an area on grade with the building. This would add a significant cost factor to the building expansion. On a third side, the barn and drive area restricts the building expansion in that direction. Finally, on the fourth side, the land drops off in a steep slope approximately 20 feet from the building and would require a significant amount of fill to bring this area to grade with the storage building. Given, these physical limiting factors, the best approach was arrived at that works around the topographic factors.

A local engineering firm was secured to draft a conceptual plan for the proposed expansion configuration and the costs associated with the modification. Attachment 1 includes the materials presented by the local engineering firm, Senate Engineering Company that accommodated the configuration recommended by R. W. Beck to incorporate additional storage and installation of a loading dock in the storage building. The Attachment also includes a drawing illustrating the proposed building modifications.

## Capital Costs

The costs associated with installing additional storage area and a loading dock include, project development, site development, building costs and reinforcement and roadway development for the loading dock. A break down of these costs can be found in Attachment 1.

## Summary

Total project costs are projected to be approximately \$128,000 and are summarized below in Table 2. The actual cost to the Authority is estimated to be \$12,800, or ten percent of the total project cost provided the project is awarded grant funding. The additional space the new addition offers the operation is sufficient to enable the County to store additional baled materials and off load baled materials into trailers from the storage operation.

## Recommendations

Given the findings of this analysis, the County should expand the facility to accommodate off loading materials directly from the storage building and eliminate the need to haul materials back to the processing building for off loading. The expansion should reduce operating costs for Progressive Workshop since a return trip of baled materials to the processing building for shipping will no longer be required.

**Table 2**  
**Summary of Project Total Development Costs**

BUDGET ITEM	BUDGET ITEM COST	DEP SHARE	APPLICANT MATCH (Budget item cost less DEP share)
A. Project Development	\$14,023	\$12,621	\$1,402
B. Public Education			
C. Collection Equipment			
D. Processing Equipment			
E. Construction, Acquisition and Modifications of Buildings	\$114,000	\$102,600	\$11,400
F. Land Associated Costs			
G. Others			
<b>TOTAL COSTS</b>	<b>\$128,023</b>	<b>\$115,221</b>	<b>\$12,802</b>

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Please feel free to call me at (717) 730-0404 if you have any questions on the recommendations provided in this letter report.

Sincerely,

R. W. BECK, INC.

Richard M. Schlauder

Director, Environmental Services Pennsylvania Office

cc: Kathleen Kilbane, SWANA  
Carl Hursh, PA DEP