Solar Innovations - HVAC and Waste Stream Analysis

Overview
There are two problems that were voiced by Solar Innovations, HVAC system design and recycling stream improvement. The HVAC system was not providing even conditioning of office areas and indoor air quality is below satisfactory. The waste stream was to be analysed to assess additional recycling possibilities and cut costs for currently recycled items.

Objectives
HVAC system designs included providing accurate floor plans and improve the system for improvement in indoor air quality. The recycling stream was to be increased from 97.7% and locate alternatives to save or make money in the process.

Approach
HVAC
- Site visit to update as-built drawings
- Conversion of updated as-built drawings to two and three dimensional CAD drawings
- Development of proposal for fully zoned HVAC system
- Measurement of existing air flow rates to
- Calculation of ideal air flow rates
- Comparison of existing to calculated flow rates, yielding recommendations for balancing of the HVAC system
- Development of tools for future use and system improvements

Recycling
- Travelled to site and analysed existing waste stream
- Contacted companies within Pennsylvania to find better pricing for currently recycled materials and inquired about other recycling solutions

Outcomes
- Provided recommendations for fully zoned system which would improve overall HVAC system performance
- Provided calculations and recommendations for improving the balancing of the HVAC system
- Developed tools for on-going HVAC system improvements
- Provided updated CAD drawings for office space and updated as-built drawings
- Increased percentage of waste diverted from landfills
- Increased amount of money received for recycled material
- Provided solutions to reduce cost of recycling for existing materials