Selfridge Air National Guard Base Demolition Debris Diversion

Selfridge Air National Guard Base (SANGB) is a joint-service military facility located approximately 20 miles northeast of Detroit, Michigan on Lake St. Clair. Occupants of SANGB currently include all branches of the United States Armed Forces, as well as other government agencies.

As part of their recent base renovation plan, SANGB contracted DEMEX, Inc., to demolish approximately 22 buildings located throughout the base. A stipulation of the contract instructed the contractor to divert as much demolition debris from the landfill as feasible. The contractor was additionally tasked with reporting their diversion rate.

DEMEX separated usable material into five categories:

- Ferrous Scrap Metal (Steel) – Pipes, Beams, and Tin
- Non-Ferrous Scrap Metal – Copper Wire, Brass Plumbing, Stainless Steel, and Aluminum
- Salvage Items – Electrical Gear, Heating and cooling equipment, etc.
- Usable liquids
- Concrete and Brick

Ferrous Scrap Metal (Steel) – The scrap steel was separated and cut to usable sizes prior to transportation to the steel mill. Approximately 498 gross tons of steel was recycled.

Non-Ferrous Scrap Metal – This material was transferred to a scrap yard for segregation and transfer to the appropriate processing mill. Approximately 3,400 pounds of non-ferrous scrap metal was recycled.

Salvageable Items – DEMEX contacted equipment dealers, liquidators and other individuals prior to demolition of the buildings. These entities surveyed and removed electrical equipment, fire extinguishers, tanks, pumps and other reusable items. In addition, DEMEX donated a refrigeration unit to a religious organization. The reusable salvage value of these items is approximately $5,000.00.

Usable Liquids – Usable heating oils were reused as fuel oil for heavy equipment used in the demolition. Transformer oil was removed and taken to a transformer builder for reuse on new transformers. Approximately 3,000 gallons of liquids were reused as a result of these practices.

Concrete and Brick – Several of the demolished buildings comprised of concrete and brick. These materials were separated from the unusable demolition materials, and were transferred to the Concrete Crusher Plant. The plant then reduced the concrete and brick to a reusable aggregate for new construction applications. Approximately 6,400 yd^3 of material were recycled using this process.

In total, approximately 74% of the demolition debris was recycled or reused, and was diverted from disposal in the landfill. These reuse and recycling practices also resulted in a contract bid price that was 25% below competing estimates, demonstrating significant cost savings to the government. This contract has demonstrated how innovative contractors and base personnel can work together to achieve significant landfill diversion rates and reduce construction/demolition costs.