

Appendix D - Tribal Recycling Center Options

The Gun Lake Tribe has made a commitment to protect the tribal lands and the environment. The Tribe is continuing this commitment through the envisioning of a Hub Center approach for future recycling and landfill diversion. Within this Appendix to the Integrated Solid Waste Plan is a description of current and future diversion actions and trends the Tribe may desire consider as corridor lands are developed for residential, commercial, and industrial uses.

It is important to differentiate between a *Hub Center* and a *Materials Recovery Facility*. These definitions will allow a better understanding of the different appearances and investments in diversion systems to advance Tribal goals.

A *Hub Center*, is an area of a building, or an entire building, that allows for diverting specific materials from the waste stream. Diverted materials can include electronics, metals, wood, household hazardous waste (HHW), mattresses, furniture, etc. A key component of a *Hub Center* is the added ability to transport mixed recycling (single stream recycling) to a materials recovery facility (MRF). The MRF can process traditional core recycling materials such as paper, cardboard, plastics and cans, and glass (single stream), leaving the more non-traditional recycling to the operator of a Hub Center.

A *Materials Recovery Facility (MRF)*, also called a materials reclamation facility or materials recycling facility, separates and prepares single-stream recycling materials to be sold to end buyers. These facilities can also include designed space for other materials that could include electronics, metals, wood, HHW, mattresses, furniture, etc. However, typically a MRF is focused on core single-stream recycling materials allowing those other collection and diversion activities occur in different facilities.

Today, the Tribe collects various commodities for recycling, which diverts those materials from landfilling. Those collected items are sent to various processors for beneficial reuse and for further distribution. Examples of this are cardboard, electronic waste, pallet recycling, and other easily identified & separated materials. The Tribe also collects HHW for proper disposal.

As the development of Tribal property continues, it has been identified as a priority to expand the diversion of waste materials to reduce the environmental impact. An increase in diversion capability through the development of a Tribal facility for managing waste could include several different types of facilities based on input of materials and Tribal investment:

Basic Transfer Station
3,000 – 8,000 tons per year
Total Investment \$2.5M – \$8M

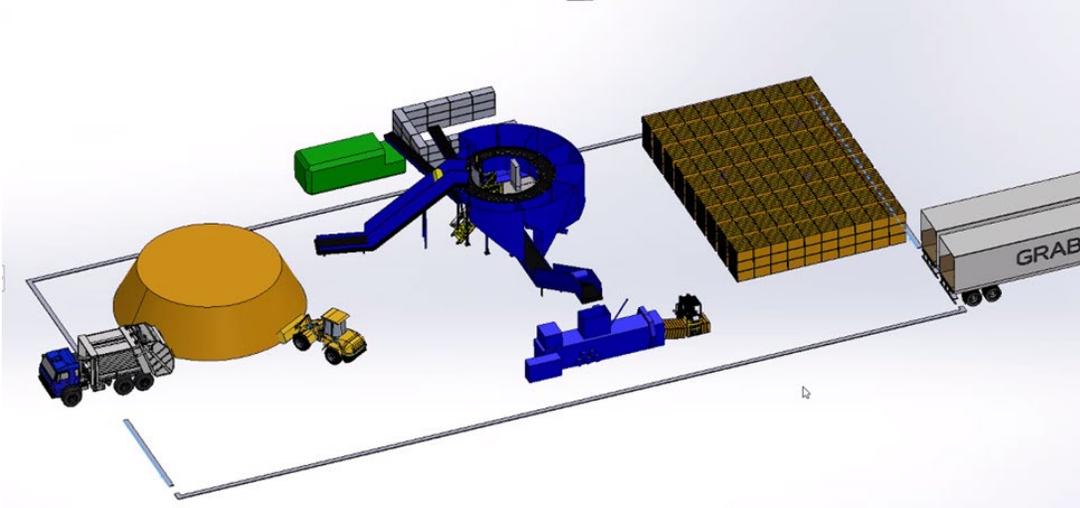
A basic transfer station would include the collection and compaction of materials, and transport of those materials to a local Materials Recovery Facility (MRF). With this model, very little on-site separation takes place, and the use of third-party partners is a priority. Grand Rapids and Kalamazoo are close to Tribal land, both of which have sufficient processing capabilities for multiple streams of diverted materials including single stream recycling, pallets, cardboard, and metal, making the transfer of recyclable materials to a nearby facility very feasible.

As the Tribe thinks about a basic transfer station, the recommendation based on the current inputs from the existing tribal properties could justify a two- or three-bay compaction transfer station utilizing 120-yard compactor semi-trailers as receivers. Each compactor mechanical unit would cost approximately \$500,000, with the combined investment of \$1M to \$1.5M dollars.

The building or structure could also be designed to facilitate the collection, storage, and output of several other commodities including the electronics, HHW, or other items. The estimated cost of a 5,000 to 10,000 square foot building is \$1.5M to \$5.5M.

The additional equipment needed would include a skid-steer style loader or small tractor equipped with a push blade and a 15-yard hydraulic tip trailer for transporting of material onsite. The estimate equipment cost is \$20,000 - \$80,000.

Mini-Materials Recovery Facility
8,000 - 20,000 tons per year
Total Investment \$6M – \$10M



A Mini-Materials Recovery Facility could be a small hand and mechanically sorted system operated by the Tribe where inbound recycling could be separated and bailed into commodities for direct sale or brokerage into the market. With this model, the investment is larger, but all control is maintained by the Tribe. Jobs created with this option could be used as training for future factory or industrial work.

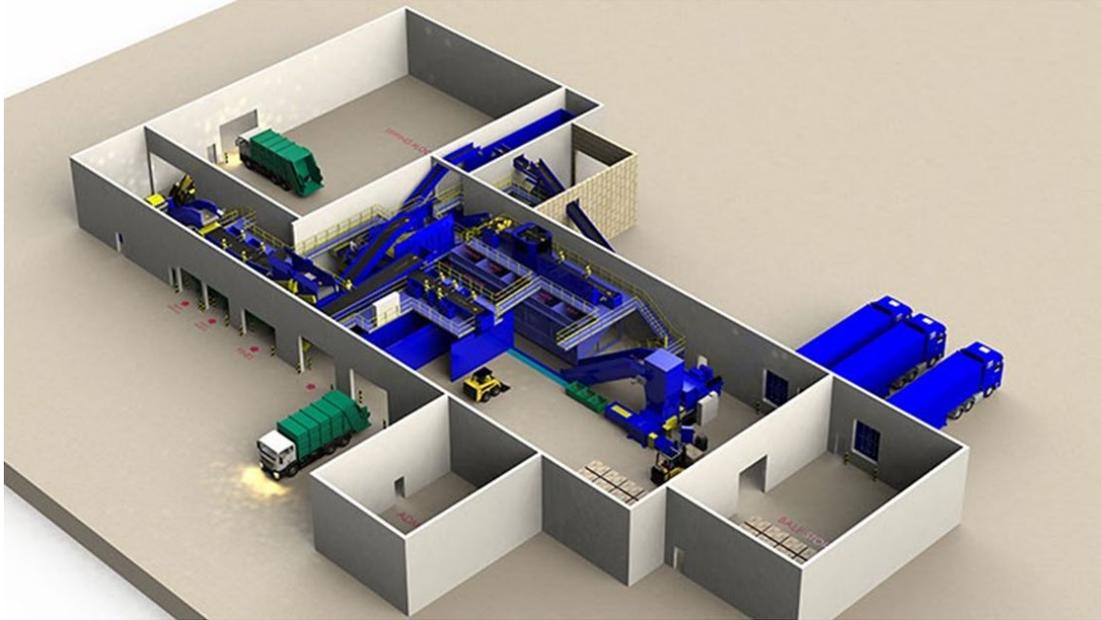
Because of the location of Tribal land and proximity to major recycling centers in Grand Rapids and Kalamazoo, this type of system may not be viable. As the Tribe considers a mini-materials recovery facility, based on the current inputs from the existing tribal properties, this type of facility may not justify the needed investment, as the sorting equipment alone is estimated at \$1M, with building construction and additional equipment added. The system would require construction of a building sized from 10,000 – 15,000 square feet at a cost of \$4M-\$8M. The design should include space to facilitate the collection, storage, and output of several other commodities including electronics, HHW, or other items.

Additional needed equipment would include a skid-steer style loader or small tractor equipped with a push blade, a small hydraulic tip trailer (15-yard) for transporting of material on campus, hi-low, etc. The estimated equipment cost is \$500,000.

Regional Materials Recovery Facility / Hub Center

20,000 - 60,000 tons per year

Total Investment \$15m – \$40m



Construction of a facility this size is significant investment, and based on local capacity of existing facilities, adding a facility of this type may not be the best option for the Tribe.

In 2024, Michigan EGLE began the process of revising County planning documents for materials management & solid waste in the state of Michigan. With this State reorganization, additional diversion is expected in all Counties. This change creates an opportunity the Tribe may wish to consider as part of corridor development. Through a partnership with Allegan or Kalamazoo County, a Tribally owned recycling facility could be constructed to process recyclables from not just the Tribe, but the entire region. This facility could be a Tribally controlled recycling center, or a Tribal owned building leased out to a third party operator as a full-scale Materials Recovery Facility (MRF). The concept of a building and equipment owned by an entity such as a Tribe or a municipality leased to an operator is not uncommon. There are many examples in Michigan demonstrating this model, including recycle centers in Ann Arbor and Oakland County.

Future development of this type of facility would involve the investment arm of the Tribe, local government, and private operation contractors such as Waste Management, Republic Services, GFL or others. Based on the current plan for development of Tribal lands, this could be a possibility through the construction of a building suitable for such use.

As the tribe looks forward to advanced recycling and increased diversion from landfill there are many roads that can lead to success. As it relates to investment, certain activities may or may not make sense depending on the workforce and social development aspects of the equation. However, Gun Lake Tribe, through its deep knowledge of the ecosystems they steward, bring unique tools and resources to sustainability efforts.

There will always be social, environmental, and Tribal considerations when determining how to best to manage discarded resources. The Tribe is not at a We will you are at today at a critical point in time, based on the development of property plans, to make a significant choice and investment in the future of the tribe and the region.