HOW THE *MRF* WORKS!

ECUA's MATERIALS RECOVERY FACILITY is designed for Single-Stream Recycling.

ECUA's MRF uses automation and hand sorting to separate recyclable commodities that have been removed from the waste stream.

The MRF recovers **1,600** tons every month on average of recycled material, which is baled and stored until sold to end markets to be made into new products.

Without the MRF these useful materials would end up in the landfill.

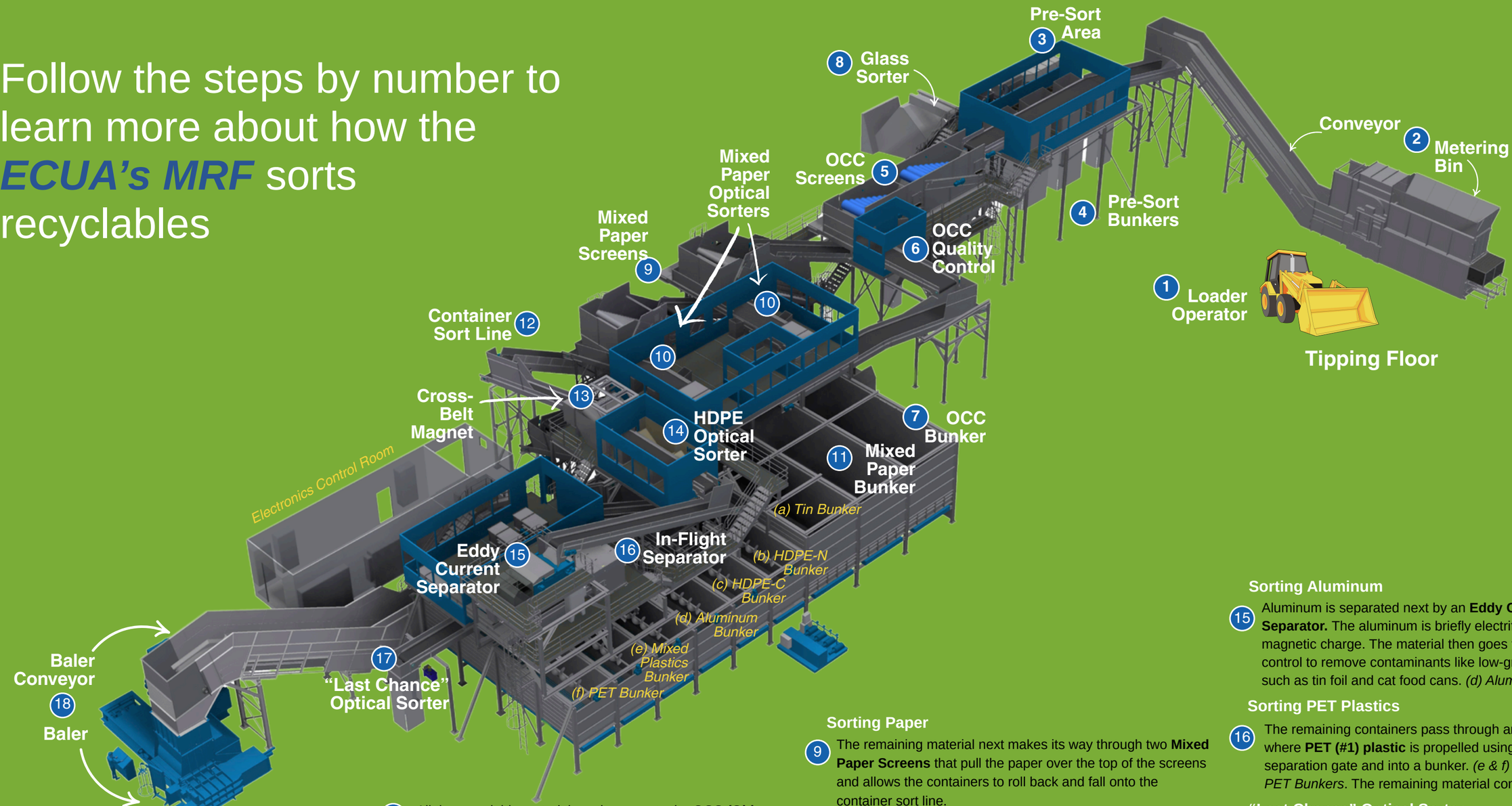
WHAT IS SINGLE-STREAM RECYCLING?

Single-stream recycling is a system in which all recyclables, including cardboard, paper, plastics, glass, tin, and aluminum are placed in a single bin or cart for recycling.

Recycling trucks collect the recyclables and transports them to the Materials Recovery Facility (MRF), where they are sorted by material type. MRFs process tons of recycled materials daily, which are then baled and sent to manufacturers to be used in the production of new items made from recycled content or transformed into raw materials for creating new products.

Visit ECUA at www.ecua.fl.gov or find us on social media!

Follow the steps by number to learn more about how the *ECUA's MRF* sorts recyclables



Tipping Floor

1. The recycling trucks dump the collected recyclable materials onto the **Tipping Floor** where the **Loader Operator** then scoops it up and feeds it into the Metering Bin.
2. **Metering Bin** fluffs the material and opens any unopened bags creating an even flow onto the **conveyor**.

Presort-Removal of Contaminants

3. The material continues on the conveyor to the **Pre-Sort Area** where workers remove contaminants (trash, bulky plastics, film, and metals) that could damage the downstream equipment.
4. The contaminants are pulled from the stream and thrown into dedicated **bunkers** below.
5. All the recyclable material continues on to the **OCC (Old Corrugated Cardboard) Screen** – an array of spinning discs – where bulky cardboard rides up over the top of the discs and smaller items such as containers, smaller paper, glass, and cans fall through the screen.

Sorting Cardboard

6. The OCC travels on a **Quality Control** line where any contaminants are removed by hand.
7. The cardboard drops into an **OCC Bunker** where it stays until it gets baled by the baler.

Sorting Glass

8. What falls through the first section of the OCC screen lands on a **Glass Breaker Screen** where the glass is crushed and then conveyed out of the system to its own bunker where it can be handled separately.

Sorting Paper

9. The remaining material next makes its way through two **Mixed Paper Screens** that pull the paper over the top of the screens and allows the containers to roll back and fall onto the container sort line.
10. The paper that rolls over the top of the mixed paper screens run through one of two **Optical Sorters** which are programmed to pick contaminants out of the mixed paper.
11. The mixed paper drops into its designated **Mixed Paper Bunker** and fed onto the baler conveyor when it's time to bale it.

Sorting Metal

12. The containers travel on the **Container Sort Line** where the next material that is removed is tin.
13. Tin is separated by a **Cross-Belt Magnet** and dropped into a bunker. *(a) Tin Bunker.*

Sorting HDPE Plastics

14. The material continues through the **HDPE natural and colored (#2) plastic Optical Sorter** where a robot removes #2 plastics into a designated bunker. *(b & c) HDPE Bunker.*

Sorting Aluminum

15. Aluminum is separated next by an **Eddy Current Separator.** The aluminum is briefly electrified to give it a magnetic charge. The material then goes through quality control to remove contaminants like low-grade aluminum, such as tin foil and cat food cans. *(d) Aluminum bunker.*

Sorting PET Plastics

16. The remaining containers pass through an I**n-Flight Separator** where **PET (#1) plastic** is propelled using bursts of air over a separation gate and into a bunker. *(e & f) Mixed plastics and PET Bunkers*. The remaining material continues on.

"Last Chance" Optical Sorter

17. At the end of the line, all remaining containers pass under a **"Last Chance" Robotic Arm** where any remaining commodities such as PET or aluminum that may have been missed earlier in the process are removed for resorting. The remaining materials on the belt are mostly small garbage items or non-recyclables which fall into a dumpster and are taken to the landfill.

Baler

18. The final step in the materials recovery process is to compress the separated materials into high-density bales with the baler. Each bunker opens onto the **Baler Conveyor** which takes one material type at a time through the **Baler.**

The baled products are then sold to processing facilities where it is used as a feedstock in manufacturing new products.