

# Waste Management

## Material Recovery Facility (MRF)

### Recycling Processing

Billerica, MA

August 2019



# Some Interesting Recycling Facts:

- Recyclables are a commodity in which values increase and decrease according to market forces.
- In recent years almost 30% of all recyclables, including over 50% of the world's recyclable mixed paper and plastics were shipped to China.
- On January 1, 2018 all mixed paper and mixed plastics were banned as an import into China. On March 1, China began enforcing a new 0.5% contamination limit on imported recyclables.
- Because all loads shipped to China must be certified, recyclables are currently not shipped from the U.S. to China.
- The suspension of U.S. imports into China adds additional pressure on global markets, which ultimately impacts recycling programs in communities across the U.S. A 50% reduction in recyclables as a commodity value is not uncommon.
- Recycling markets have settled somewhat, as reflected in our current Contract with Waste Management.
- The Lincoln DPW Department will continuously monitor recycling conditions.

# Some Interesting Facility Facts:

- Lincoln

- WM has a contaminant level of 5% for Lincoln, vs. 15% average plant wide – saving money on cost formulas
- Glass separation also saves Lincoln money on cost formulas

- Other

- WM Performs regular Audits of incoming recycling
- When one machine gets broken, the whole plant has to shut down.
- 10-20% of the time plant is down to clean machinery from contaminants. Adds to the cost of running the plant.
- Plant processes approximately 400 tons per day
- Plant has significant problems with contaminants from the recycling stream, including:
  - Plastic bags (including bagging of recyclables)
  - Plastic wraps
  - Food waste
  - Textiles
  - Tanglers (hoses, ropes, cords, etc.)
  - Liquids in bottles
- DEP is going to picture description of recycling. Moving away from recycling #'s on plastic. Also, “Recycle the correct way”
- Average community has a Contaminant threshold of 10%
  - Audit can bring additional recycling costs.
  - Some Towns get charged back if WM finds excessive contaminants
  - Some towns have received bills of \$4,000-\$5,000 for actual contaminant cost

# Recycling Tipping Area



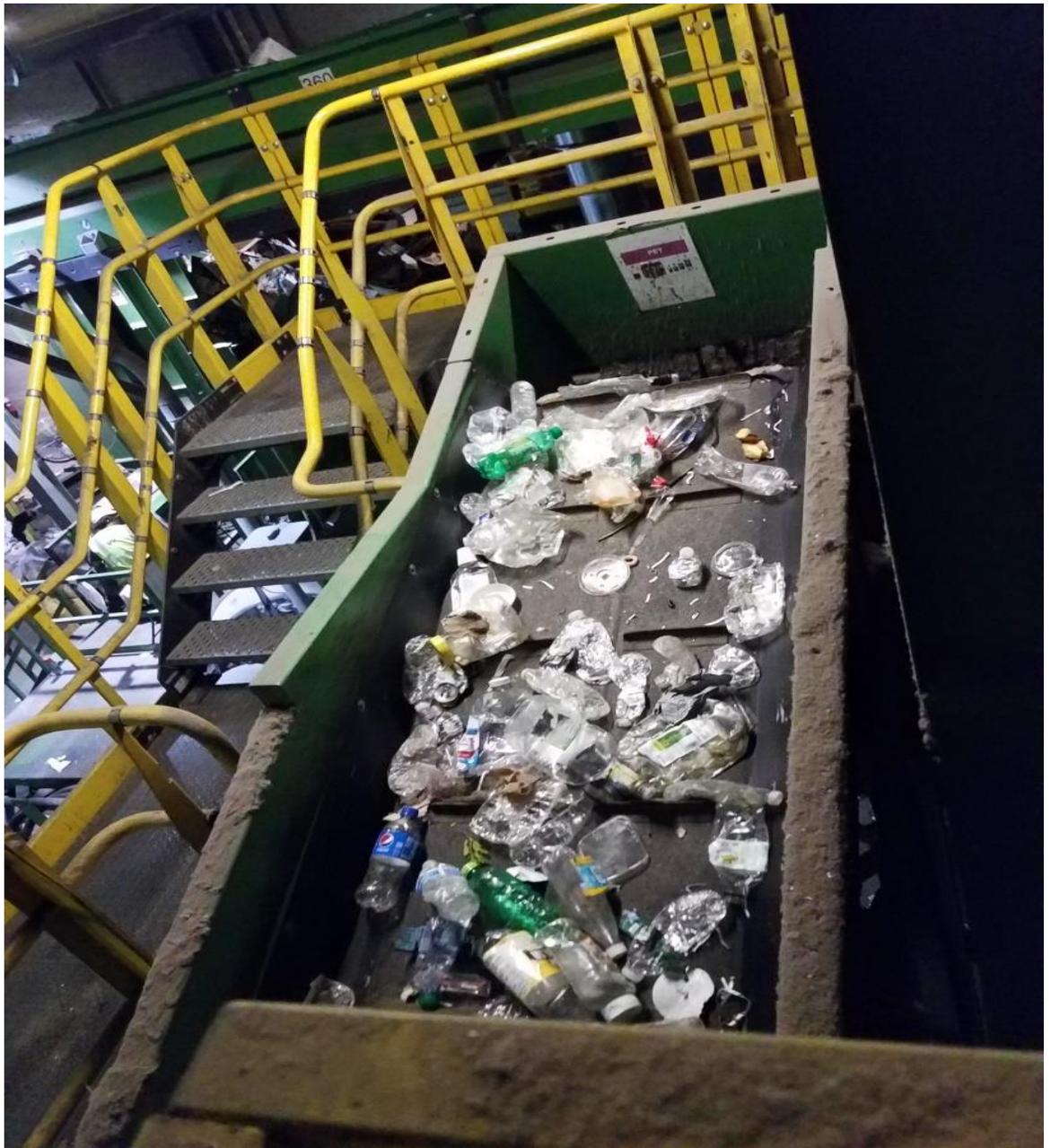
Materials are dumped into tipping area and then are transported to the plant for processing & sorting.

# Plant Process

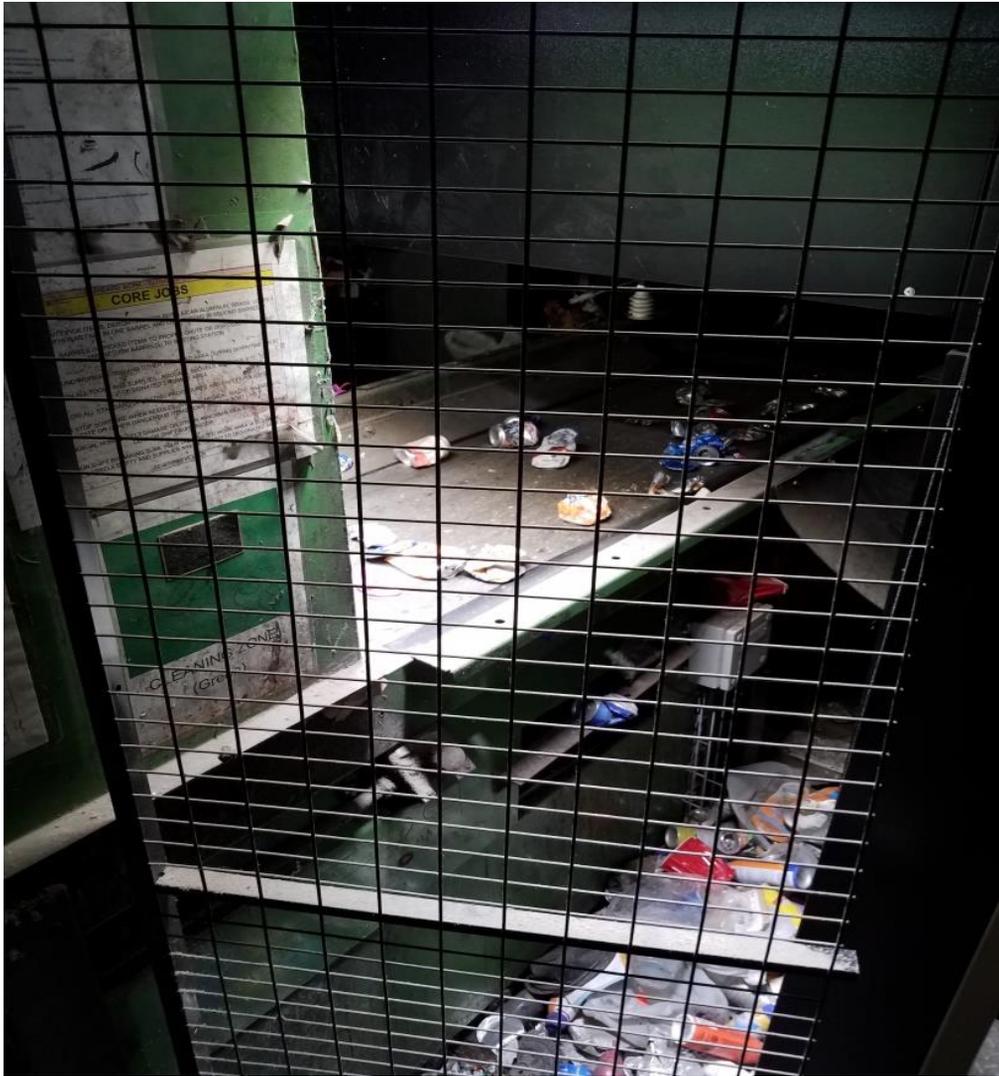


Employees and machines sort recycled materials

# Plastic Sorter



# Metal Robot



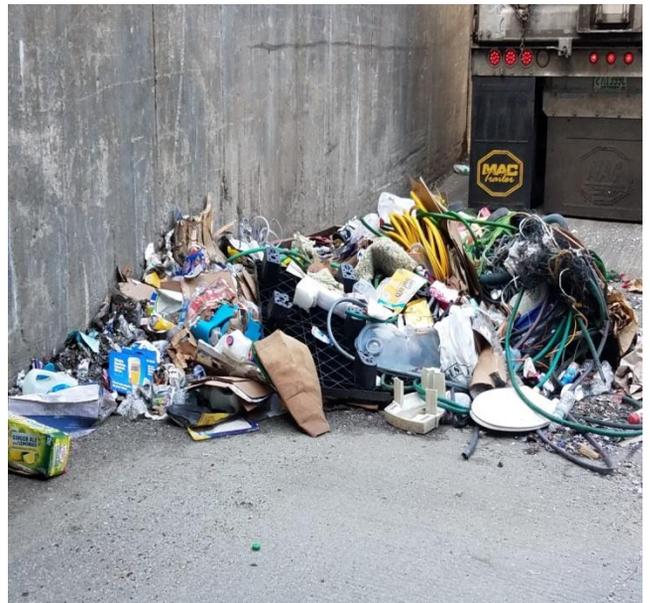
Robot picks out unacceptable items  
from metal area

# Finished Product: Bales of Recycled Product



Material is baled into separate bales according to material. Audits are done regularly on bales. Bales are shipped to recycling plants.

# Contaminants



Items that are not recyclable and jam machines causing the entire plant to shut down to be removed.