City of Los Angeles Local Enforcement Agency
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Alternative Methodologies for Determining SB 1383 Organics Waste Characterization and Recovery Rate

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Background

- Waste Management Materials Recovery Facility (Sun Valley)
  - Startup Operations in October 2020
  - Processing Lines for Blue Bin, Black Bin, and Organics (SSO, WCW)
  - Infrastructure built for Meeting Compliance with City of LA Franchise
- Utilize Anaergia's OREX (Organics Press) Technology
  - Utilized compressive forces to extract "organics" (targeting food waste)
- Collaborative Effort with City / County LEAs and LASAN / Industry
  - Develop Protocols for Waste Composition
  - Methodology for Determining Recovery Rate

Title 14: Section 17409.5.1. Organic Waste Recovery Efficiency.

(a) This section applies to transfer/processing facilities and operations that conduct processing activities.

(b) For the purposes of compliance with the reporting requirements in Section 18815.5, and demonstrating that the facility is a "high diversion organic waste processing facility" as defined in Section 18982(a)(33) that meets or exceeds an annual average mixed waste organic content recovery rate of 50 percent on and after January 1, 2022 and 75 percent on and after January 1, 2025 as determined in Section 18815.5(e), the operator shall conduct the measurements described in this section.

(c) The operator shall:

*(1) Determine the sum of outgoing weights of **organic waste** **recovered** from the **mixed waste** organic collection stream by adding together the weights determined pursuant to Section 17409.5.2(b)(6) for each operating day that measurements were conducted during the reporting period.*

*(2) Determine the sum of outgoing weights of **organic waste** **removed** from the **mixed waste** organic collection stream for **landfill disposal** by adding together the weights as measured pursuant to Section 17409.5.3(b)(5) for each operating day that measurements were conducted during the reporting period.*

(3) Report the sums of Subdivisions (c)(1) and (c)(2) to the Department pursuant to Section 18815.5. 4

(d) The operator shall additionally:

*(1) Determine the sum of outgoing weights of **organic waste** **recovered** from the **source separated** organic waste collection stream by adding together the weights determined pursuant to Section 17409.5.4(b)(6) for each operating day that measurements were conducted during the reporting period.*

*(2) Determine the sum of outgoing weights of **organic waste** **removed** from the **source separated** organic waste collection stream that is sent for **landfill disposal** by adding together the weights as measured pursuant to Section 17409.5.5(b)(5) for each operating day that measurements were conducted during the reporting period.*

Section 17409.5.2. Measuring Organic Waste Recovered from Mixed Waste Organic Collection Stream

(2) Record the weight of each sample from each organic waste type. If the total weight of a single organic waste type processed in a single operating day is less than 200 pounds, the operator shall sample all of that organic waste type that is separated after processing for end-use, recovery or further processing.

3) For each sample, **remove any incompatible material and determine the remaining weight of organic waste in that sample.**

CalRecycle Clarification: There is only a need to identify the total amount of organics in a sample and the total amount of non-organics (including organic incompatibles) in a sample. “Incompatible Material” or “Incompatibles,“ means human-made inert material including, but not limited to, glass, metal, plastic, and also includes organic waste for which the receiving end-user, facility, operation, property, or activity is not designed, permitted, or authorized to perform organic waste recovery activities as defined in Section 18983.1(b) of Article 2, Chapter 12.

Entire Facility or Only Organics Processing Line

Organics Recovery Rate for Organics Processing Line to Include “whole waste stream” of the Facility (e.g., Facility has Blue Bin processing, Black Bin processing, C & D processing, etc.,…. Does NOT make sense to be “representative of whole waste stream”.

CalRecycle: “To clarify, the measurement of total organics in materials sent for disposal should be a sample that is **representative of the whole waste stream** (section 17409.5.3 [for MO], section 17409.5.5 [for SSO]), and **not from just one of the processing lines** (in this case just the OREX line). How would the alternative method for measuring organics in material sent for disposal be representative of the whole waste stream if it is only sampling from the OREX processing line?”


DANGER
480 VOLTS
DANGER
MCC-4

Disposal (Dry Fraction)

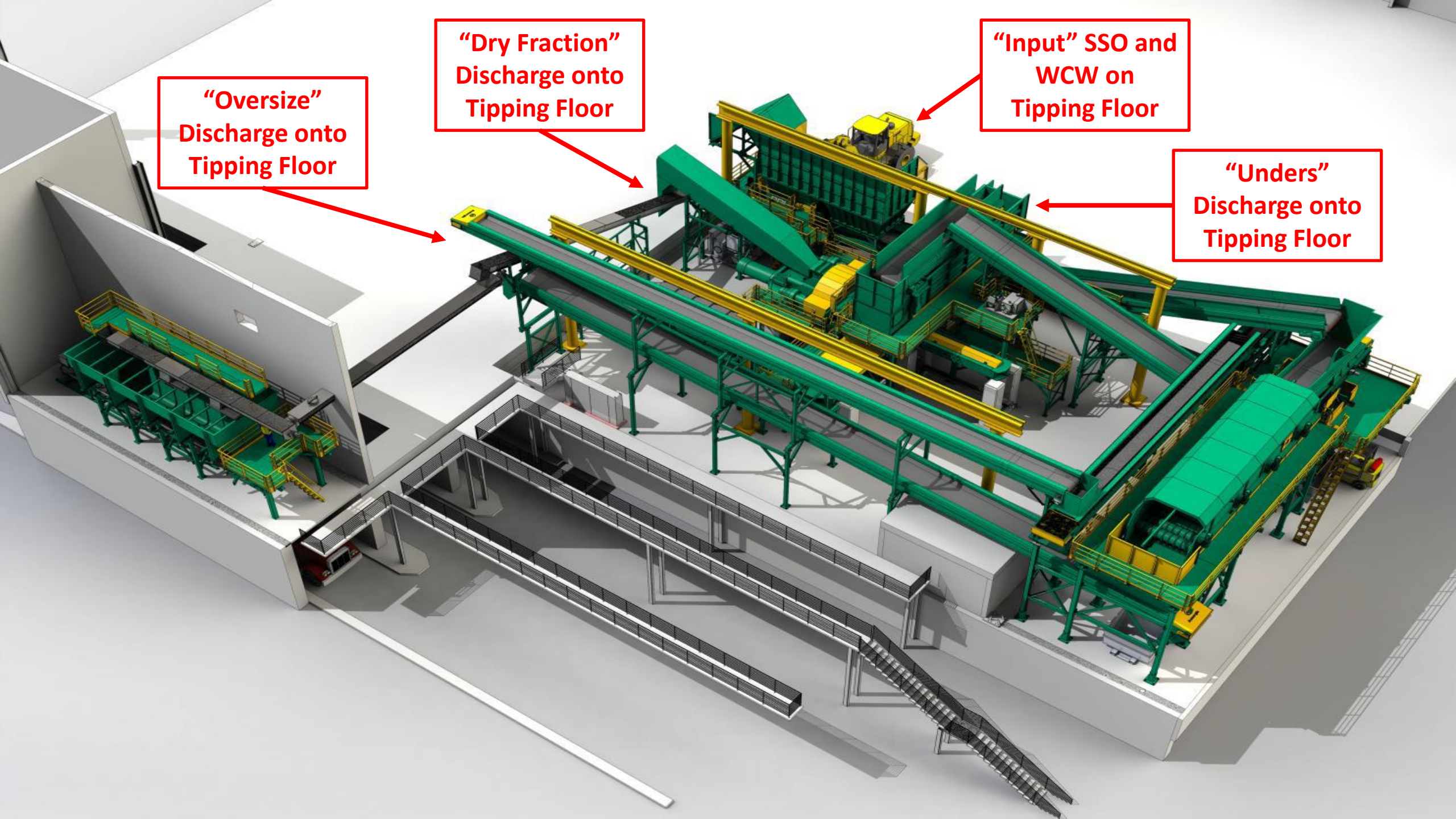
Disposal (Dry Fraction: >3” Mixed Residue Classification)

LEA Approval of Alternative Methodologies

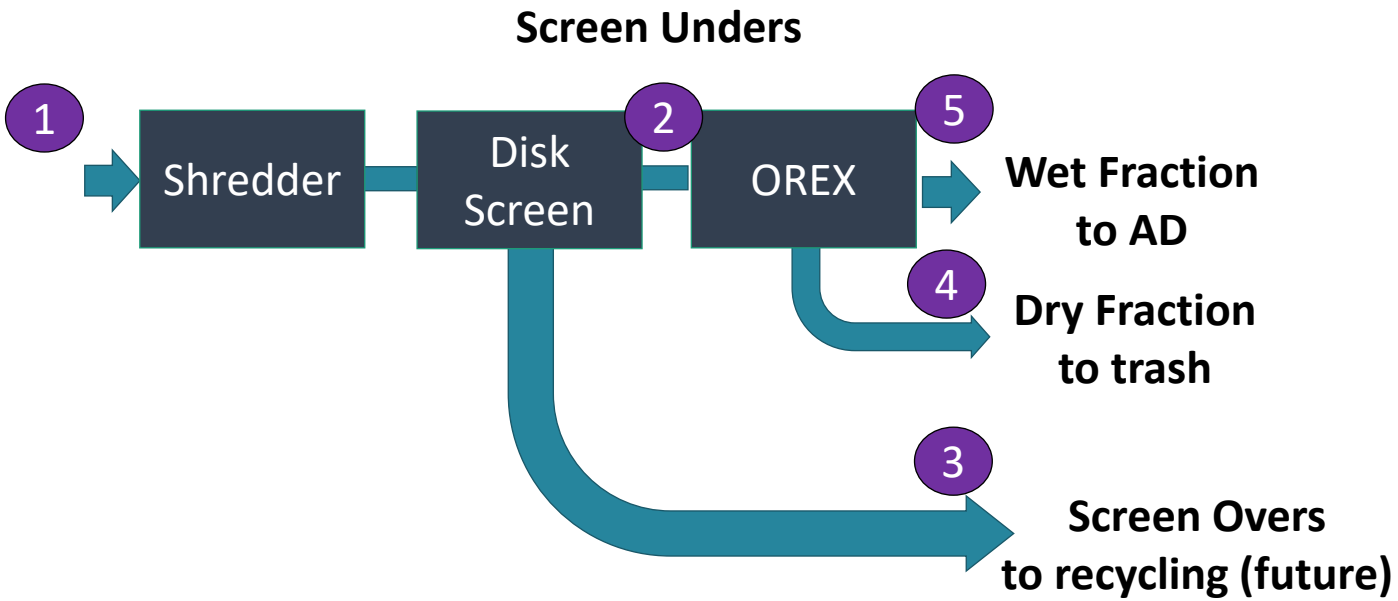
Section 17409.5.9. Alternatives to Measurement Protocols.

(a) The EA may approve, with concurrence by the Department, alternative measurement protocols to the requirements of Sections 17409.5.2, 17409.5.3, 17409.5.4, 17409.5.5, 17409.5.7, and 17409.5.8, as long as they will still ensure that the measurements will be as accurate.

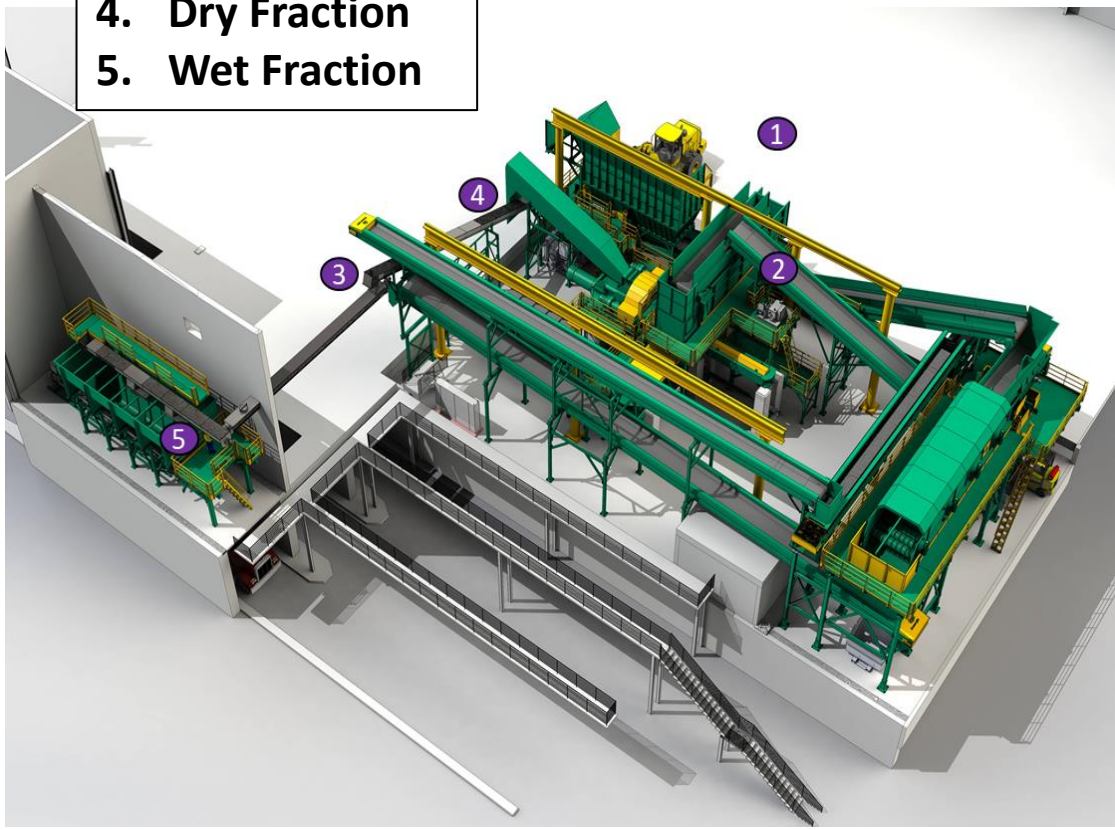
Sun Valley CA, Commercial SSO & MSW Processing Line


“Oversize” Discharge onto Tipping Floor
“Dry Fraction” Discharge onto Tipping Floor
“Input” SSO and WCW on Tipping Floor
“Unders” Discharge onto Tipping Floor

Process Flow and Sampling Points

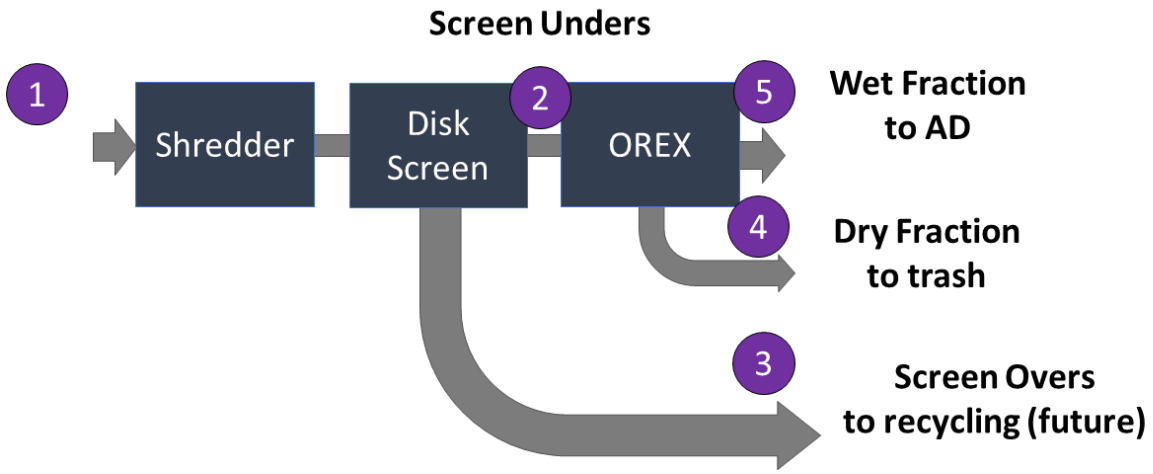


1. Infeed
2. Unders
3. Overs
4. Dry Fraction
5. Wet Fraction



Sampling Point Locations During Field Testing

Overview of Organics Processing Line



1

MSW

3

Screen Overs

4

Dry Fraction

5

Wet Fraction

Data from Waste Composition Study

Outbound

SUMMARY OF SB 1383 ORGANICS WASTE COMPOSITION STUDY FOR EVALUATION OF METHODOLOGY AND PROTOCOLS						
STREAM	**INBOUND**	**INBOUND-SRCSEP**	**UNDERS**	**OVERS**	**DRY FRACTION**	**Wet Fraction**
MASS BALANCE (FRACTION OF INBOUND)	100%	100%	*74%*	*26%*	*44%*	30%
SB 1383 ORGANICS TOTAL (FRACTION OF STREAM)	*58%*	*94%*	*35%*	*50%*	*28%*	*100%*
% OF STREAM THAT ARE SB 1383 ORGANICS	58%	94%	26%	13%	12%	30%
TONS OF SB 1383 ORGANICS IN STREAM FROM 100 TONS OF INPUT	58	94	26	13	12	30
Number of Samples (~200 lbs/each)	*duplicate*	*duplicate*		*triplicate*	*triplicate*	
SB 1383 ORGANICS CATEGORIES (FRACTION OF ORGANICS IN STREAM)						
PAPER-OCC (Recyclable)	4%	7%	19%	49%	20%	
PAPER-Newspaper, Recyclable Paper, Compostable Paper, Non-Recyclable Paper	28%	8%	38%	31%	43%	
GREEN WASTE	0%	0%	1%	3%	1%	
WOOD	1%	0%	14%	2%	20%	
ORGANICS-Food	59%	82%	23%	1%	9%	
ORGANICS-Organics Textile/Carpets	8%	2%	4%	13%	7%	
ORGANICS-Biosolids, Manure, Digestate, Organic Sludges	0%	0%	1%	0%	0%	
Check	**100%**	**100%**	**100%**	**100%**	**100%**	
STREAM COMPOSITION						
SB 1383 ORGANICS	58%	94%	35%	50%	28%	
PLASTICS	17%	4%	19%	37%	28%	
METAL	1%	1%	2%	2%	1%	
GLASS	3%	0%	2%	0%	0%	
INORGANICS (NON-WOOD CONSTRUCTION & DEMOLITION)	7%	0%	3%	0%	3%	
ORGANICS (Disposable Diapers, Leather, Non-Organic Textiles/Carpet, Miscellaneous Organics)	1%	0%	2%	7%	1%	
HOUSEHOLD HAZARDOUS WASTE (HHW)	1%	0%	0%	0%	0%	
MIXED RESIDUE, <3"	10%	1%	37%	4%	39%	
BULKY ITEMS / SPECIAL WASTE	2%	0%	0%	0%	0%	
LIQUIDS - (NOT ADDED IN TOTAL SAMPLE WEIGHT)	0%	0%	0%	0%	0%	
Check	**100%**	**100%**	**100%**	**100%**	**100%**	

Anaergia

LEA Recommended Alternative Organics Recovery Rate Calculation Methodologies

Alternative Recovery Rate Methodology #1: (Weight of Outbound Disposal is Available)

$$= \frac{\text{(Tons Diverted SB 1383 Targeted Organics)}}{\text{(Tons Diverted SB 1383 Targeted Organics) + (Tons Disposed SB 1383 Targeted Organics)}}$$

Tons Disposed SB 1383 Targeted Organics in the "outbound" disposal tonnage is equal to:

= ((Percent of SB 1383 Organics in Inbound Tons) X (Tons Diverted + Tons Disposed)) - Tons Diverted

LEA Recommended Alternative Organics Recovery Rate Calculation Methodologies

Alternative Recovery Rate Methodology #2: (Unknown Outbound Disposal Tonnage)

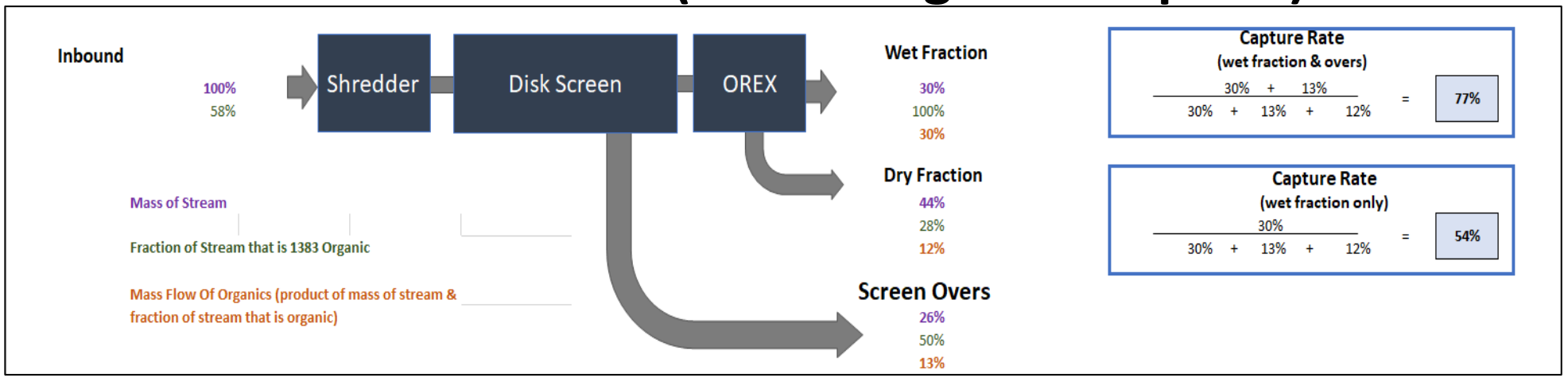
= (Tons Diverted/Tons Inbound) / (Percent of Targeted Organics in Inbound)

This method only requires a waste composition study on the inbound materials to determine the tonnage of SB 1383 targeted materials being processed by the mixed commercial waste organics processing line and the tonnage data of the diverted materials to the anaerobic digestion facility and the corresponding input or inbound tonnage that the diverted materials came from. The tonnage sent to an anaerobic digestion facility is entirely counted as diversion. This calculation assumes that there is no process loss (which would not be included in the other outbound disposal tonnage-based calculation).

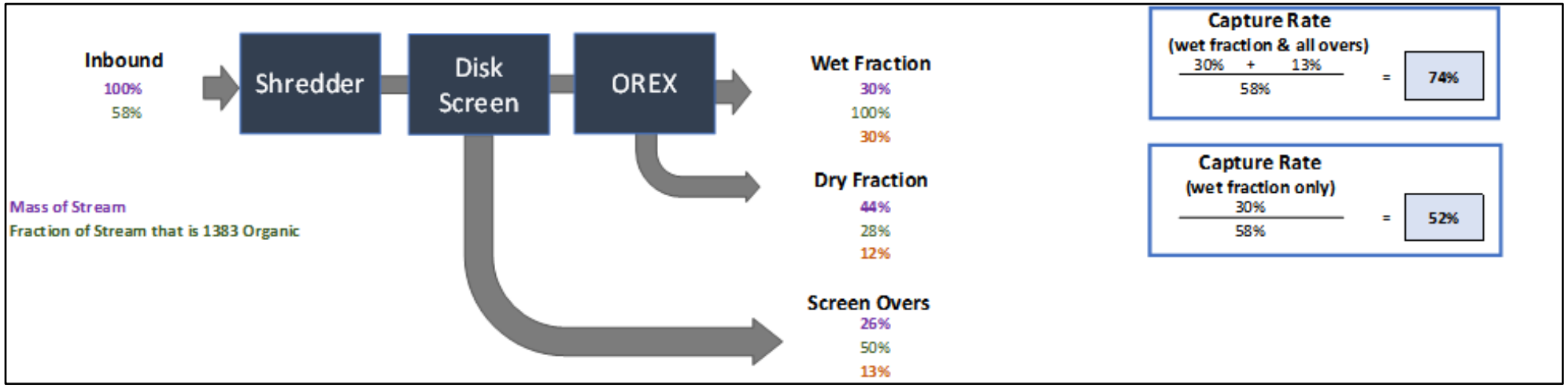
Capture Rate of Organics

Summary of Pilot Waste Characterization Study Metrics	
Total Inbound Tons	**70.18**
Wet Fraction Tons	36.3
Dry Fraction Tons	15.05
Overs Tons	15.5
Total Outbound Tons	**66.8**
SB 1383 Organics Recovery Rate (%)	
Recovery Rate (Inbound-Based Calc.)	52%
Reocvery Rate (Outbound-Based Calc.)	54%
Recovery Rate w/Overs (Inbound-Based Calc.)	74%
Recovery Rate w/Overs (Outbound-Based Calc.)	77%

Outbound #1 Method (Have Weight of Disposal)



Outbound #2 Method (Weight of Disposal Not Available)



Anaergia

Recommended Waste Characterization Classifications

ORGANICS PROCESSING LINE		
1	**PAPER**	SB 1383 Targeted Organic
2	**PLASTIC**	Non-SB 1383 Targeted Organic
3	**METAL**	Non-SB 1383 Targeted Organic
4	**GLASS**	Non-SB 1383 Targeted Organic
5	**INORGANICS (NON-WOOD CONSTRUCTION & DEMOLITION)**	Non-SB 1383 Targeted Organic
6	**GREEN WASTE**	SB 1383 Targeted Organic
7	**WOOD**	SB 1383 Targeted Organic
8	**ORGANICS**	SB 1383 Targeted Organic
8A	Food	SB 1383 Targeted Organic
8B(OT)	Textiles (Organic)	SB 1383 Targeted Organic
8B(NOT)	Textiles (Non-Organic, Blends)	Non-SB 1383 Targeted Organic
8C(OC)	Carpet (Organic)	SB 1383 Targeted Organic
8C(NOC)	Carpet (Non-Organic)	Non-SB 1383 Targeted Organic
8D	Biosolids, Manure, Digestate, and Organic Sludges	SB 1383 Targeted Organic
8E	Other Organic and Remainder / Composite Organics	Non-SB 1383 Targeted Organic
9	**HOUSEHOLD HAZARDOUS WASTE (HHW)**	Non-SB 1383 Targeted Organic
10	**MIXED RESIDUE**	Non-SB 1383 Targeted Organic
11	**BULKY / SPECIAL WASTE**	Non-SB 1383 Targeted Organic
12	**LIQUIDS - (NOT ADDED IN TOTAL SAMPLE WEIGHT)**	

- 200 pound samples, sorting per categories above for “Inbound”
- <3” materials deemed “mixed residue” (safety concerns)
- Laboratory analysis for sludge/slurry sent to AD facility

Difficulty in Sorting Residual

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Thank You

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