

**Northeast Michigan Materials Management Authority (NMMMA)**  
**Material Recovery Facility (MRF) Annual Operating Expenses and Capital Costs**  
**Feb. 2025**

<b>Summary Output</b>										
<b>Project Year</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>
<b>Tonnage</b>	1,505	1,957	2,543	3,175	3,553	4,295	4,295	4,295	4,295	4,295
<b>Revenues</b>	\$579,688	\$633,595	\$703,673	\$781,416	\$837,232	\$941,264	\$891,264	\$891,264	\$891,264	\$891,264
<b>Expenses</b>	\$441,765	\$449,996	\$521,016	\$612,694	\$639,054	\$713,591	\$713,591	\$713,591	\$713,591	\$713,591
<b>Annual Excess Cash</b>	<b>\$137,923</b>	<b>\$183,599</b>	<b>\$182,657</b>	<b>\$168,721</b>	<b>\$198,178</b>	<b>\$227,673</b>	<b>\$177,673</b>	<b>\$177,673</b>	<b>\$177,673</b>	<b>\$177,673</b>
<b>Cum. Excess Cash</b>	\$137,923	\$321,522	\$504,179	\$672,900	\$871,078	\$1,098,751	\$1,276,423	\$1,454,096	\$1,631,769	\$1,809,442
<i>EBITDA / Ton</i>	<i>\$91.64</i>	<i>\$93.84</i>	<i>\$71.81</i>	<i>\$53.14</i>	<i>\$55.77</i>	<i>\$53.01</i>	<i>\$41.37</i>	<i>\$41.37</i>	<i>\$41.37</i>	<i>\$41.37</i>
Total Debt Service	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053
<i>DSCR</i>	<i>1.08</i>	<i>1.43</i>	<i>1.43</i>	<i>1.32</i>	<i>1.55</i>	<i>1.78</i>	<i>1.39</i>	<i>1.39</i>	<i>1.39</i>	<i>1.39</i>

### NMMMA MRF Capital Funding Sources

Source	Amount (\$)	Interest Rate	Term (yrs)	Annual Payment (\$)	Notes
MI EGLE Grant (Secured)	\$ 786,272	0.00%	NA	\$ -	Full grant was \$1M. Reduced to remove contribution to hook lift truck (already purchased)
Corp. Grants (Secured)	\$ 31,000	0.00%	NA	\$ -	FPI, Carton Council, HPC Credit Union
Alpena County Stimulus Funds (Secured)	\$ 354,395	0.00%	0	\$ -	Reduced to remove contribution to hook lift truck (already purchased)
CDS (Secured)	\$ 2,700,000	0.00%	0	\$ -	
Besser Foundation (Secured)	\$ 50,000	0.00%	NA	\$ -	
Bonds (Planned; Final Amount TBD)	\$ 1,243,679	6.00%	15	\$ 128,053	
<b>Total</b>	<b>\$ 5,165,346</b>			<b>\$ 128,053</b>	

### NMMMA MRF Capital Budget

Uses	Amount (\$)
<b>Site/Utilities/Building</b>	
Utilities	\$ 149,760
Sitework	\$ 500,000
Fencing	\$ 120,000
Building	\$ 1,877,000
Contingency & Inflation Escalator	\$ 264,676
<b>Subtotal</b>	<b>2,911,436</b>
<b>MRF Equipment</b>	
Rolling Stock	\$ 125,000
Misc. Equipment	\$ 36,000
Sorting Equip., Compactor & Baler	\$ 1,717,372
Contingency & Inflation Escalator	\$ 171,737
<b>Subtotal</b>	<b>\$ 2,050,109</b>
Engineering , Design, & Professional Services	\$ 203,801
<b>Total</b>	<b>5,165,346</b>

**Northeast Michigan Materials Management Authority (NMMMA)**  
**Material Recovery Facility (MRF) Annual Operating Revenue**  
**Feb. 2025**

Material Revenues/Costs												
Project Year			Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Projected Commodity Revenue (projected) Total	\$	112.96	ton	\$157,524	\$204,781	\$266,215	\$332,720	\$373,928	\$449,324	\$449,324	\$449,324	\$449,324
<b>Tipfees/Millage Proceeds</b>												
Out of County Container Tip Fee		\$65.00	/ton	\$6,930	\$9,008	\$11,711	\$15,224	\$19,791	\$28,744	\$28,744	\$28,744	\$28,744
Out of County Glass Tip Fee		\$25.00	ton	\$885	\$1,151	\$1,496	\$1,945	\$2,529	\$3,673	\$3,673	\$3,673	\$3,673
Out of County Fiber Tip Fee		\$55.00	ton	\$14,349	\$18,654	\$24,251	\$31,526	\$40,983	\$59,523	\$59,523	\$59,523	\$59,523
Out of County OCC Tip Fee		\$25.00	ton	\$4,337	\$5,637	\$7,329	\$9,527	\$12,386	\$17,988	\$17,988	\$17,988	\$17,988
Revenue Share (OCC only)		-\$25.00	ton	-\$4,337	-\$5,637	-\$7,329	-\$9,527	-\$12,386	-\$17,988	-\$17,988	-\$17,988	-\$17,988
MRF Tipfee -		\$0	/ton	\$38.61	\$38.61	\$38.61	\$38.61	\$38.61	\$38.61	\$38.61	\$38.61	\$38.61
MMP \$		\$50,000		\$33.22	\$25.56	\$19.66	\$15.75	\$14.07	\$11.64			
Alpena County- Household Fee \$25/hh. (partial use)		\$210,000	PA	\$139.53	\$107.33	\$82.57	\$66.14	\$59.10	\$48.89	\$48.89	\$48.89	\$48.89
MOA Landfill Surcharge		\$140,000	PA	\$93.02	\$71.56	\$55.04	\$44.09	\$39.40	\$32.60	\$32.60	\$32.60	\$32.60
<b>Total Tipfee/Authority Revenue \$/ton</b>				<b>\$265.78</b>	<b>\$204.45</b>	<b>\$157.27</b>	<b>\$125.98</b>	<b>\$112.57</b>	<b>\$93.13</b>	<b>\$81.49</b>	<b>\$81.49</b>	<b>\$81.49</b>

Notes  
Commodity revenue is based on 5 year average for midwest region of US and projected material mix. Please see commodity revenue table.  
Processing fees and revenue share are based on Emmet county rates and are to be charged on out of county and commercial tons received.  
\$210,000 of the \$386,000 of the revenue from the Alpena County household fee has been allocated to MRF processing with the remainder to be used for collection activities. As NMMMA begins to service other counties, it is anticipated that NMMMA's collection costs will decrease and a greater percentage of the household fee can be allocated to MRF processing.  
\$75k has been allocated to the MRF from the MOA Landfill authority to date. Budget assumes that this amount will be increased to \$140k by year 1 of the MRF opening.  
It is assumed that \$50k per year of MMP funds over a 6 year period will be allocated to the new MRF's operations.

**Northeast Michigan Materials Management Authority (NMMMA)**  
**Material Recovery Facility (MRF) Annual Operating and Capital Costs**  
**Feb. 2025**

Project Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Weekly Operating Cost</b>											
<i>MRF Staff</i>											
	Line Picker \$/wk	\$3,480	\$3,480	\$4,640	\$5,800	\$5,800	\$6,960	\$6,960	\$6,960	\$6,960	\$6,960
	Equipment Operator \$/wk	\$1,280	\$1,280	\$1,280	\$1,664	\$1,920	\$1,920	\$1,920	\$1,920	\$1,920	\$1,920
	MRF Repair \$/wk	\$128	\$128	\$128	\$128	\$256	\$256	\$256	\$256	\$256	\$256
	<b>Total (\$/week)</b>	<b>\$4,888</b>	<b>\$4,888</b>	<b>\$6,048</b>	<b>\$7,592</b>	<b>\$7,976</b>	<b>\$9,136</b>	<b>\$9,136</b>	<b>\$9,136</b>	<b>\$9,136</b>	<b>\$9,136</b>
	Authority Executive Administrator	50% of time	\$806	\$806	\$806	\$806	\$806	\$806	\$806	\$806	\$806
	<b>Total (\$/week)</b>		<b>\$806</b>	<b>\$806</b>	<b>\$806</b>	<b>\$806</b>	<b>\$806</b>	<b>\$806</b>	<b>\$806</b>	<b>\$806</b>	<b>\$806</b>
<b>Annual Labor Cost Summary</b>											
	MRF Staff	\$ 254,176	\$ 254,176	\$ 314,496	\$ 394,784	\$ 414,752	\$ 475,072	\$ 475,072	\$ 475,072	\$ 475,072	\$ 475,072
	Authority Executive Director	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895	\$ 41,895
	<b>Annual Labor Cost (includes Fringe Benefits)</b>	<b>\$ 296,071</b>	<b>\$ 296,071</b>	<b>\$ 356,391</b>	<b>\$ 436,679</b>	<b>\$ 456,647</b>	<b>\$ 516,967</b>	<b>\$ 516,967</b>	<b>\$ 516,967</b>	<b>\$ 516,967</b>	<b>\$ 516,967</b>
<i>Building Costs</i>											
	Building & Site Maintenance Costs	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000
	Building Utilities	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000	\$12,000
	<b>Total Building Costs</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>	<b>\$27,000</b>
<i>Processing Costs</i>											
	Baling Wire Costs	\$5.50	\$5,752	\$7,478	\$9,721	\$12,150	\$13,655	\$16,408	\$16,408	\$16,408	\$16,408
	Processing Fuel Costs	\$0.50	\$753	\$978	\$1,272	\$1,588	\$1,777	\$2,148	\$2,148	\$2,148	\$2,148
	Maintenance Costs	\$3.00	\$4,515	\$5,870	\$7,630	\$9,525	\$10,660	\$12,885	\$12,885	\$12,885	\$12,885
	Equipment Replacement	\$6.00	\$9,030	\$11,739	\$15,261	\$19,050	\$21,320	\$25,770	\$25,770	\$25,770	\$25,770
	Overhead	\$40,499.63	\$40,500	\$40,500	\$40,500	\$40,500	\$40,500	\$40,500	\$40,500	\$40,500	\$40,500
	Process Utilities Costs	\$2.00	\$3,010	\$3,913	\$5,087	\$6,350	\$7,107	\$8,590	\$8,590	\$8,590	\$8,590
	Scale Management	\$0.00	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	Safety	\$2,500.00	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500
	Insurance (All/yr)	\$17,500.00	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500	\$17,500
	Land Lease	\$5,576.00	\$5,576	\$5,576	\$5,576	\$5,576	\$5,576	\$5,576	\$5,576	\$5,576	\$5,576
	<b>Total Processing Costs</b>		<b>\$89,135</b>	<b>\$96,053</b>	<b>\$105,047</b>	<b>\$114,739</b>	<b>\$120,595</b>	<b>\$131,876</b>	<b>\$131,876</b>	<b>\$131,876</b>	<b>\$131,876</b>
	Capital Replacement Fund for Rolling Stock	Residual Value = 10%	\$ 17,857	\$ 17,857	\$ 17,857	\$ 17,857	\$ 17,857	\$ 17,857	\$ 17,857	\$ 17,857	\$ 17,857
	Annualized Fabric Roof replacement	\$7,326	\$7,326	\$7,326	\$7,326	\$7,326	\$7,326	\$7,326	\$7,326	\$7,326	\$7,326
	<b>Annual Processing O&amp;M Costs</b>		<b>\$437,390</b>	<b>\$444,308</b>	<b>\$513,621</b>	<b>\$603,601</b>	<b>\$629,425</b>	<b>\$701,026</b>	<b>\$701,026</b>	<b>\$701,026</b>	<b>\$701,026</b>
	<i>Per Input Ton Cost</i>		\$291	\$227	\$202	\$190	\$177	\$163	\$163	\$163	\$163
	Residual Disposal	\$39.60	\$4,376	\$5,689	\$7,395	\$9,093	\$9,629	\$12,565	\$12,565	\$12,565	\$12,565
	Profit for Authority on total O&M costs	0%	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	<b>Subtotal - Annual Other Costs</b>		<b>\$4,376</b>	<b>\$5,689</b>	<b>\$7,395</b>	<b>\$9,093</b>	<b>\$9,629</b>	<b>\$12,565</b>	<b>\$12,565</b>	<b>\$12,565</b>	<b>\$12,565</b>
	<b>Full Annual Processing O&amp;M Costs</b>		<b>\$441,765</b>	<b>\$449,996</b>	<b>\$521,016</b>	<b>\$612,694</b>	<b>\$639,054</b>	<b>\$713,591</b>	<b>\$713,591</b>	<b>\$713,591</b>	<b>\$713,591</b>
	<i>Operating Input per Ton Cost</i>		\$294	\$230	\$205	\$193	\$180	\$166	\$166	\$166	\$166
<b>Capital Costs</b>											
Project Year		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
	Total Equipment Capital	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109	\$2,050,109
	Annualized Equipment Capital Cost	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026
	Total Site/Building Capital	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237	\$3,115,237
	Annualized Site/Building Capital Cost	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026	\$64,026
	Total Annualized Capital Cost	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053	\$128,053
	<i>Capital Input per Ton Cost</i>	\$85	\$65	\$50	\$40	\$36	\$30	\$30	\$30	\$30	\$30

**Northeast Michigan Materials Management Authority (NMMMA)**  
**Material Recovery Facility (MRF) Throughput and Staffing**  
**Feb. 2025**

<b>CATEGORIES</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>	<b>Year 7</b>	<b>Year 8</b>	<b>Year 9</b>	<b>Year 10</b>
Total Throughput Tonnage (TPY)	1,105	1,437	1,867	2,296	2,432	3,173	3,173	3,173	3,173	3,173
Total Glass Tonnage (TPY)	100	130	169	220	265	265	265	265	265	265
Total Commercial OCC (TPY)	300	390	507	659	857	857	857	857	857	857
Total Tonnage (TPY)	1,505	1,957	2,543	3,175	3,553	4,295	4,295	4,295	4,295	4,295
Alpena est	931	1,210	1,573	1,914	1,914	1,914	1,914	1,914	1,914	1,914
Merchant - Outcounty	574	746	970	1,261	1,639	2,381	2,381	2,381	2,381	2,381

**Staffing**

Sorters (FTE)	3.0	3.0	4.0	5.0	5.0	6.0	6.0	6.0	6.0	6.0
Equipment Operators (FTE)	1.0	1.0	1.0	1.3	1.5	1.5	1.5	1.5	1.5	1.5
Operation Lead	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Mechanic (FTE) MRF Repair Maintenance	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2
Authority Executive Administrator	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
<b>Total (FTE)</b>	<b>4.7</b>	<b>4.7</b>	<b>5.7</b>	<b>7.0</b>	<b>7.4</b>	<b>8.4</b>	<b>8.4</b>	<b>8.4</b>	<b>8.4</b>	<b>8.4</b>

Notes:

Only staff time allocated to MRF operations is incorporated in this proforma. The same is true for overhead. For this reason only 50% of the executive director's time and overhead are allocated to the MRF and the remainder is anticipated to be billed to collections or other activities.

## NMMMA Projected Commodity Revenue

July 2018 - Aug. 2023			
	NMMMA Est. Composition	Monthly Avg. by Material Type (\$/Ton)	Average Amalgamated Value Based on NMMMA Comp.
Mixed Paper (Grade #54)	45.04%	\$29.93	\$13.48
Corrugated Containers (OCC Grade #11)	30.22%	\$79.79	\$24.11
Aseptic and Gable-top Cartons (Grade #52)	0.42%	\$29.93	\$0.12
Aluminum Cans (UBC)	1.35%	\$1,337.17	\$18.09
Steel Cans	5.68%	\$171.63	\$9.74
PET	3.33%	\$317.38	\$10.57
Natural HDPE	1.86%	\$1,152.33	\$21.44
Colored HDPE	3.67%	\$409.71	\$15.02
Mixed Plastic #3-7	2.27%	\$17.17	\$0.39
Glass 3 Mix (Shown as a cost)	6.17%	\$0.00	\$0.00
<b>Total</b>	<b>100.0%</b>	<b>NA</b>	<b>\$112.96</b>