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October 21, 2014

Council Member Benjamin J. Kallos
Council of the City of New York
250 Broadway
Room 1738
New York, NY 10007

Dear Council Member Kallos:

At your request, the Independent Budget Office has prepared an updated estimate of the cost of constructing and operating the East 91st Street Marine Transfer Station (MTS) compared with continuation of the interim plan of exporting waste to transfer stations in New Jersey and in Yonkers under short-term contracts. Based on IBO's analysis, the present value of the twenty-year cost of exporting under interim contracts to transfer stations is \$253.2 million, compared with \$632.5 million for constructing and operating the East 91st Street MTS. We estimate in 2016, the first year of operations at the new facility, the cost per ton—including capital costs—would be \$278 for the East 91st Street MTS and \$93 for the interim plan.

The costs of both scenarios have increased since our May 2012 analysis prepared at the request of then-Council Member Lappin, where the 20-year cost was then estimated to be \$218.9 million for the interim plan and \$554.3 million for the MTS option. Similarly, our current estimates of the cost per ton for 2016 are higher for each scenario than they were in our 2012 analysis, when they were \$90 for the interim plan and \$238 for the MTS.

Cost Components

IBO's methodology for deriving this estimate is largely the same as it was in our 2012 analysis, although we have updated some of our assumptions about the annual growth in different components of the costs under both scenarios. Our estimates of costs in the facility's first year of operation under both the interim plan and the East 91st Street MTS are shown below, with detail on the cost per ton of export, transport, and facilities.

First Year Project Cost by Category				
	2012 Estimate		2014 Estimate	
	Interim Plan	East 91st Street MTS	Interim Plan	East 91st Street MTS
Export Per Ton	\$76.91	\$106.72	\$70.23	\$151.65
Transport Per Ton	\$13.09	\$3.23	\$12.03	\$2.86
Facility Per Ton	\$0.00	\$128.47	\$10.98	\$123.15
Total Cost Per Ton	\$90.00	\$238.43	\$93.24	\$277.66
NOTE: The 2014 interim plan estimate assumes that the city would have a one-time cost of \$46.5 million in 2015 to terminate the MTS construction contract and prepare the site for an alternative use; however, this amount is not included in the facility cost per ton because it is not a recurring cost.				
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Export costs are those associated with the export contracts between the Department of Sanitation (DSNY) and the transfer station operators, which include the operators' costs of sending waste from the transfer stations to its final destination, such as out-of-state landfills. Transport costs are the costs of moving waste from the curb to the transfer stations, which represent the costs associated with running DSNY's trucks. Facility costs are the costs of building and operating the East 91st Street MTS. The complete list of assumptions used in our estimate is provided in Appendix A, while the estimates of the yearly total cost and the export, transport, and facility costs per ton are provided in Appendix B.

The per ton export cost is higher under the MTS option due to the more costly multimodal method of transporting the waste from the transfer station to its final destination via barge and rail. Additionally, the cost for the MTS option is based on a twenty-year export contract while the cost of the interim option is based on shorter-term contracts that would be renewed every five years. Long-term contracts tend to have higher initial prices than short-term contracts but are likely to be less volatile over time and the city might benefit from locking in long-term landfill capacity, especially if constraints on the supply of landfill space drive up prices over time. While IBO did not model that scenario, it is important to consider the possibility that future market conditions could lead to renewal rates for the short-term contracts that are greater than our assumption of 4.0 percent.

The interim option has a higher per ton transport cost than the MTS option. This is due to the greater truck mileage and the payment of tolls for trucks that cross back from New Jersey under the interim plan. Under the MTS option, the proximity of the transfer station to the sanitation districts significantly reduces truck mileage and does not require the payment of any tolls.

The largest difference between the two options is facility cost per ton, which is much greater under the MTS option as it includes debt service payments for the full capital cost of building a new large-scale facility, as well as the costs associated with staffing the facility with municipal employees. The facility cost per ton for the interim plan, on the other hand, now includes debt service payments for capital costs already incurred in the construction of the transfer station; however, it does not include the one-

time expense of \$46.5 million the city would incur to stop construction on the facility and to secure and close the site.

Differences Between IBO's 2012 and 2014 Estimates

IBO has updated the analysis to reflect developments that have occurred in the two years since our original estimate was released. The biggest changes are the addition of facility costs for the interim plan and changes to the method of estimating the export fee at the MTS. These changes are also the largest drivers of the increases in both scenarios' costs since the 2012 estimate.

Since IBO's original estimate, the city has registered a contract with Skanska and Trevcon for the construction of the MTS and with Covanta 4Recovery L.P. for the long-term export of waste once the facility is operational. Construction is currently underway and capital dollars have already been spent by the city. Although we assumed in 2012 that there would be no need for spending on the facility if DSNY continued to operate under the interim plan, that assumption is no longer valid. Now that construction is underway, a scenario where DSNY continued to operate under the interim plan would require termination of the construction contract, forcing the city to pay for construction that has already commenced, work that would need to be done to close and secure the site, and certain contract termination fees. Based on estimates provided by DSNY, the costs associated with terminating the construction contract would total \$79.6 million. This amount represents the costs of ceasing work on the MTS and getting the site to a point where it could be used for building an alternative project; however, it does not include the cost of actually building anything else on the site, which would be in addition to this amount. Of the \$79.6 million, \$33.1 million has already been spent. We assume that this amount will be capitalized in 30-year bonds at 4.0 percent interest, resulting in annual debt service of \$1.9 million under the interim plan. The remaining \$46.5 million would be paid for through the city's expense budget in 2015 as these costs would not be eligible for bond financing. More detail about these assumptions can be seen in Appendix A.

It is also possible that terminating construction of the MTS would lead to additional costs associated with the export contract with Covanta. The city would not cancel the contract in its entirety because it covers export from both the North Shore and East 91st marine transfer stations, but presumably there would be an impact from significantly curtailing the tonnage to be disposed of by eliminating one of the facilities. While the transfer stations are not yet operational, Covanta and its subcontractors have already made significant investments in infrastructure to barge and transport waste from these facilities. Due to the complex nature of the contract, IBO was unable to estimate these termination costs. As a result, our estimate of the cost of continuing under the interim plan may be understated.

Since the long-term contract for export from the marine transfer stations has been executed, the export costs at the MTS are now easier to estimate. At the time of our original analysis, there were no export contracts registered for any marine transfer stations and we instead based our estimate of export costs on long-term contracts for rail-based export. For this update, DSNY provided us with the city's estimate of what it expects to pay on average per ton at East 91st Street, based on the contract with Covanta. The

MTS option now includes an estimated export cost of \$152 per ton beginning in 2016, which is significantly greater than our original estimate of \$107 per ton.

For every other component, the estimates were derived using the same methodology with the most recent data available. This includes a change in the interim plan disposal network to include trips to the A-1 Compaction transfer station in Yonkers, NY and the Fairview Transfer Station in Fairview, NJ. These changes became necessary because the Essex County Resource Recovery Facility entered into a long-term contract to process waste from sanitation districts elsewhere in Manhattan, leaving no capacity to process DSNY-managed waste from districts in the East 91st Street MTS watershed (Manhattan 5, 6, 8, and 11.) The updated estimates of mileage, number of tolls paid, and number of relay trips reflect this change in the interim disposal network. Other cost components such as the price of tolls, fuel, and various labor costs were adjusted to reflect current conditions.

Other Considerations

There are other factors that were beyond the scope of this analysis and, while not included in our estimate, are still worth considering. IBO did not estimate the economic or fiscal impact of either undertaking a large construction project in Manhattan or keeping a permanently staffed waste processing facility in the city. For example, construction activity would generate jobs, tax revenue, and economic activity in the area. Additionally, we did not estimate the effect the facility might have on real estate values in the surrounding area or property tax revenues. We did not estimate any effects that future changes in DSNY collection operations—such as the likely expansion of curbside organics collection—would have on either scenario. We did not consider the legal implications of ceasing construction of the East 91st Street MTS which might be considered a modification of the Solid Waste Management Plan (SWMP), necessitating approval by the City Council and the New York State Department of Environmental Conservation. We also did not consider the environmental impacts of either of the options, particularly those stemming from differences in export modes – entirely trucking under the interim plan and barge and rail under the MTS option. Nor did we evaluate each option's contribution to the SWMP goal of treating each borough fairly or any benefits that the MTS may provide to the full DSNY export network in adding contingency capacity should other facilities in the network become unavailable.

Another factor is disposal of commercial waste at East 91st Street, which was considered when the SWMP was developed. Although the MTS will have capacity to process commercial waste, following review of available data we determined that it was not feasible to factor that into our estimate. After the MTS is operational, commercial carters will have the option of unloading at East 91st Street—limited to a maximum daily capacity at the MTS after DSNY-managed waste is received—as an alternative to transfer stations in other boroughs or outside the city. The price of the tipping fee that would be charged to the private carters, the portion of that fee that would go to DSNY, and the amount of commercial tonnage that would be received would affect the estimated cost per ton under the MTS option. Because these costs have not yet been determined and DSNY was unable to provide IBO with any data on commercial waste at the MTS, we were unable to include these fees in our estimate. Nevertheless, it should be noted that any fees received by DSNY would partially offset the facility cost,

thereby reducing the city's facility cost per ton and, by extension, the total cost per ton of DSNY-managed refuse. The extent of the reduction in the cost per ton would depend on whether DSNY were to offer any subsidy to private carters to choose the MTS as their unloading facility and how large such subsidies might be.

If you have any questions or would like additional information, please feel free to contact me at ronniel@ibo.nyc.ny.us or 212-442-0225 or IBO's environmental analyst, Justin Bland, who completed the analysis, at justinb@ibo.nyc.ny.us or 212-341-6088.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ronnie Lowenstein", with a stylized flourish at the end.

Ronnie Lowenstein

Appendix A

Assumptions in Cost Comparison of East 91st MTS versus Continuation of Interim Plan			
Shared Assumptions	2016 Value	Source	Annual Growth Assumption
Tonnage	573	2013 observed	Flat
Trips	16,460	2013 observed	Flat
Cost Per Mile	\$1.47	2013 estimate	Costs Rise 2% a Year
Relay Shift Cost	\$326.85	2014 estimate	Costs Rise 4% a Year
Dump-On-Shift Differential	\$6.52	2014 estimate	Costs Rise 4% a Year
Interim Plan			
Export Fee	\$70.23	Projected, fees adjusted to 2016, based on IWS, Fairview, and A-1 interim contracts	Fees Rise 2% a Year; 4% at Renewal
Mileage	236,459	2013 estimate	Flat
Tolls	\$564,863	2013 estimate	Tolls Rise 2% a Year
Number of Relays	9,972	2013 estimate, assumes 3 trips per worker	Flat
Dump-on-Shift Trips	6,488	2013 estimate, 2 payments per trip	Flat
Costs to Close and Secure Site	\$46,533,741	2014 estimate	Flat
Facility Capital Cost	\$33,064,647	As reported by OMB, August 22, 2014	Flat
Facility Debt Service	\$1,902,405	Capital Cost (30-year bond at 4%)	Flat
East 91st MTS			
Export Fee	\$151.65	DSNY 2018 estimate, fees adjusted to 2016	Fees Rise 2% a Year
Mileage	56,102	2013 estimated	Flat
Number of Relays	2,897	2013 projection, assumes 4 trips per worker	Flat
Dump-on-Shift Trips	13,563	2013 estimate, 2 payments per trip	Flat
Facility OM	\$8,818,070	2014 estimate	Costs Rise 3% a Year
Facility Capital Cost	\$217,437,948	2015 Executive Capital Commitment Plan	Flat
Facility Debt Service	\$12,510,495	Capital Cost (30-year bond at 4%)	Flat
SOURCES: Department of Sanitation, Mayor's Office of Management and Budget			
NOTE: Estimates for 2016 based on data for other years and adjusted for inflation.			
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Appendix B

Yearly Total Costs and Component Costs Per Ton, Interim Plan versus East 91st MTS								
	Interim Plan				East 91st MTS			
	Total Cost	Export Per Ton	Transport Per Ton	Facility Per Ton	Total Cost	Export Per Ton	Transport Per Ton	Facility Per Ton
2015	\$46,533,741	n/a	n/a	n/a	\$0	n/a	n/a	n/a
2016	\$16,148,144	\$70.23	\$12.03	\$10.98	\$48,087,839	\$151.65	\$2.86	\$123.15
2017	\$16,467,856	\$71.63	\$12.47	\$10.98	\$48,908,959	\$154.74	\$2.98	\$124.68
2018	\$16,794,399	\$73.06	\$12.93	\$10.98	\$49,749,830	\$157.90	\$3.11	\$126.25
2019	\$17,130,082	\$74.52	\$13.40	\$10.98	\$50,599,790	\$161.06	\$3.24	\$127.88
2020	\$17,646,415	\$77.01	\$13.90	\$10.98	\$51,470,068	\$164.28	\$3.37	\$129.54
2021	\$18,090,276	\$79.06	\$14.41	\$10.98	\$52,361,178	\$167.56	\$3.51	\$131.26
2022	\$18,456,876	\$80.64	\$14.95	\$10.98	\$53,273,651	\$170.92	\$3.66	\$133.03
2023	\$18,832,552	\$82.25	\$15.51	\$10.98	\$54,208,032	\$174.33	\$3.81	\$134.86
2024	\$19,218,262	\$83.89	\$16.09	\$10.98	\$55,164,881	\$177.82	\$3.97	\$136.74
2025	\$19,807,485	\$86.69	\$16.70	\$10.98	\$56,144,772	\$181.38	\$4.14	\$138.67
2026	\$20,315,544	\$88.99	\$17.33	\$10.98	\$57,148,298	\$185.01	\$4.31	\$140.67
2027	\$20,741,502	\$90.77	\$18.01	\$10.98	\$58,176,625	\$188.71	\$4.50	\$142.72
2028	\$21,177,555	\$92.59	\$18.71	\$10.98	\$59,229,816	\$192.48	\$4.69	\$144.83
2029	\$21,624,712	\$94.44	\$19.44	\$10.98	\$60,308,514	\$196.33	\$4.89	\$147.01
2030	\$22,302,050	\$97.58	\$20.21	\$10.98	\$61,413,377	\$200.26	\$5.10	\$149.25
2031	\$22,888,720	\$100.18	\$21.00	\$10.98	\$62,545,083	\$204.26	\$5.32	\$151.56
2032	\$23,379,262	\$102.18	\$21.83	\$10.98	\$63,704,327	\$208.35	\$5.55	\$153.94
2033	\$23,883,698	\$104.23	\$22.70	\$10.98	\$64,891,825	\$212.51	\$5.79	\$156.39
2034	\$24,400,834	\$106.31	\$23.60	\$10.98	\$66,108,315	\$216.76	\$6.04	\$158.92
2035	\$25,178,007	\$109.85	\$24.54	\$10.98	\$67,354,551	\$221.10	\$6.30	\$161.52
Present Value	\$253,154,531				\$632,513,298			
NOTE: Discount rate of 6 percent used to calculate present value.								
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