Brookhaven Ash Fill
Exploratory Report
February 2021

Town of Brookhaven Ad-Hoc Committee for Solid Waste Disposal

Gregory C Miglino Jr. - Chairman, Chief of South Country Ambulance Company
Tom Williams - Brookhaven Village Association
Linda Peterson – President, Yaphank Civic Association
Clyde Parker – South Country School Board
Kevin Gershowitz – Business Owner, Gershow Recycling
Adrienne Esposito – Executive Director, Citizens Campaign for the Environment
Ray Fell – Mayor of Bellport
James Vaz – President Horizon Village Civic Association, Past Chief of Brookhaven Fire Department
Dr. Frank Roethel – Stony Brook University
Introduction
The Town of Brookhaven (TOB) is Long Island’s largest Town by area and the second largest by population with a 2020 community estimated at 500,000 people. The TOB does not manage solid waste in any of its eight villages but does manage the residential waste stream in the unincorporated portion of the Town. Several villages manage at least a portion of their waste through agreements with the Town.

In 1983, all landfills on Long Island including the Town of Brookhaven Landfill became subject to the Environmental Conservation Law, Section 27-070, which became known as the Long Island Landfill Law. This law restricts household waste from being landfilled on Long Island. Consequently, all municipalities on Long Island do not have landfill options for raw municipal solid waste (MSW) since 1990. Brookhaven sends its residential MSW to a Waste to Energy facility (WTE) operated by Covanta in Hempstead, NY. The by-product of this MSW incineration process is ash that is then brought back to and deposited in the Brookhaven Landfill. This arrangement is known as “Ash for Trash.”

The Brookhaven landfill is anticipated to reach the capacity limits of its DEC permit by December 2024, creating a challenge for residents and Brookhaven Town regarding the future disposal of MSW, ash and construction and demolition debris. Currently, the Brookhaven landfill accepts construction and demolition (C&D), brush, clean fill, ash from Covanta, white waste, and recyclables at the locations it manages.

Purpose & Scope of the Committee
The Town of Brookhaven’s Ad-Hoc Committee for solid waste disposal was created by Town resolution # 2020-0468, August 27, 2020. The charge to the committee as stated in resolution 2020-0468:

"Whereas the Town of Brookhaven is desirous of establishing open and efficient communication pertaining to current and future solid waste disposal procedures with its constituents; and

Whereas the Town Board recognizes the importance of community input and suggestions to improve the process by which the Town disposes of same; and

Whereas the Town Board of the Town of Brookhaven feels that it is in the best interest of the Town of Brookhaven and its constituents to establish an Ad-Hoc committee to advise the Town in connection with the disposal of solid waste within the Town."
The committee was convened by the Town of Brookhaven. There are 10 members including:

1. Gregory C Miglino Jr. - Chairman, Chief of South Country Ambulance Company
2. Tom Williams - Brookhaven Village Association
3. Linda Peterson – President, Yaphank Civic Association
4. Clyde Parker – South Country School Board
5. Kevin Gershowitz – Business Owner, Gershow Recycling
6. Adrienne Esposito – Executive Director, Citizens Campaign for the Environment
7. Ray Fell – Mayor of Bellport
8. James Vaz – President Horizon Village Civic Association, Past Chief of Brookhaven Fire Department
9. Dr. Frank Roethel – Stony Brook University
10. James Heil – Former Director of Brookhaven Landfill – did not participate.

The Town issued a Draft Scoping Document for an environmental impact statement regarding the creation of a new ashfill facility east of the landfill. “The new Regional Recycling Residual Facility (RRRF) would be constructed of several parts, called "cells" that will accept only ash residue, recycling residues such as glass cullet and auto shredder material, and limited amounts of dredge spoils. The Regional RRRF will not accept any C&D materials, except for de minimis amounts of materials generated by Town governmental operations such as street sweepings, soil, gravel and/or concrete aggregate that will be considered for acceptance.”


The Ad Hoc committee had numerous zoom meetings and several of the members participated in site visits to Covanta’s ash recycling plant in Pennsylvania and to the Town of Babylon’s ash fill. These site visits allowed committee members a more comprehensive and thorough understanding of the potential impacts of an ashfill and an ash recycling facility. The first meeting of the Committee was held September 23rd, 2020 and met on the following additional dates; 10/7/2020, 10/21/2020, 11/4/2020, 11/18/2020, 12/2/2020, 1/13/2021, 1/27/2021, 2/3/21, 2/10/2021 and 2/17/2021.

The Committee had presentations from:

- Brookhaven staff at the landfill; Chris Andrade and Matt Minor gave an overview of the operations of the current landfill.
- Winter Brothers regarding the costs and the challenges of shipping/trucking/railing waste off Long Island.
- Mike O’Brian who oversees the Port Jefferson Village Municipal Solid Waste disposal by Maggio/Paumonok.
- John Sullivan who oversaw operations in the Bronx and Harlem transfer stations and disposal of waste by rail.

The Ad Hoc Committee is not a decision-making body. Committee members evaluated the advantageous and challenges of various potential waste management scenarios. These management options include:

1. Construct a new ashfill east of Brookhaven Landfill and an ash recycling facility on 5 additional acres.
2. Consider other potential ash fill locations in Brookhaven and other Towns.
3. Truck all of the Town’s waste off LI - Contract with a private industry for Brookhaven’s entire solid waste process, from pick-up to disposal of Municipal Solid Waste (MSW) or some variation of a public-private partnership.
4. Send the Town’s residential waste to Covanta and they would be responsible for the off-island ash disposal.
5. Establish a zero-waste policy.

What currently happens with Brookhaven’s garbage?

The Brookhaven landfill located in Yaphank started operations in 1974. At the time it accepted Municipal Solid Waste (MSW) for final disposal. In 1990 final disposal of MSW in Landfills ceased due to the 1983 Long Island Landfill law that banned landfilling of MSW but allowed landfilling of Construction and Demolition debris (C&D) along with ash generated from MSW, to continue in newly constructed cells.

Values are annual MSW tonnage using 2019 data
Approx. 205,000 tons annually shipped to landfills in Pennsylvania, Virginia and Ohio
Approx. 1,400,000 tons annually incinerated in Hempstead, Babylon, Huntington and Islip
Approx. 350,000 tons annually of ash deposited into the Brookhaven landfill
Approx. 55,000 tons of ash annually deposited into the Babylon monofill

At that time and still to this day MSW, which is collected with residential garbage trucks, is delivered to the Brookhaven Town MSW transfer station and then transferred into trucks for delivery to Covanta in Hempstead for final disposal under the “ash-for-trash” agreement. MSW does not stay at the landfill for disposal.
The Brookhaven Landfill Facility currently accepts a variety of wastes. The three main items it accepts are:

- 720,000 tons per year of Construction & Demolition debris (C&D) for landfilling.
- 350,000 tons/year of ash are deposited at the landfill.
- For Transfer - 220,000 tons per year of MSW for transfer to Covanta.

(above numbers are averages and not related to any specific period)

Recyclable materials also are transported to the landfill MRF – Materials Recovery Facility

Covanta and Brookhaven are partners in mutually interdependent reciprocal Ash-for-Trash arrangement. The MSW generated in Brookhaven is trucked to Covanta. Covanta incinerates the MSW generating electricity that provides power to residents of Nassau and Suffolk Counties. This process results in ash as a waste product. The ash is sent back to Brookhaven (in the same truck) for final disposal at the landfill.

The Brookhaven Landfill is estimated to close in 2024. At that time, the current “ash-for-trash” agreement will expire. Covanta’s Islip, Huntington and Hempstead waste to energy plants use Brookhaven Landfill for final ash disposal. Covanta’s Babylon plant utilizes the Town of Babylon Ash Fill. The Babylon Ash Fill accepts 55,000 tons per year of ash and is estimated to close in 2027.

**Scenario 1: Construct an Ashfill East of Brookhaven Landfill Site and an Ash Recycling Facility on 5 Additional Acres (RRRF)**

**What is a Regional RRRF?**

A new Regional Recycling Residue Facility (RRRF) would accept ash from three of the four Long Island Waste to Energy facilities: Covanta Hempstead, Huntington and Islip. These facilities serve several municipalities including but not limited to the Towns of Hempstead, Long Beach, Islip, Huntington, Smithtown, Brookhaven, Riverhead as well as the Village of Patchogue. The RRRF is proposed to have two major components: an ash facility and an ashfill. The ash processing facility would seek to recover and recycle ferrous and non-ferrous metals as well as produce a manufactured ash aggregate which can be beneficially reused. The ashfill would accept the remainder of the ash.
First, is the extraction of ferrous and non-ferrous metals associated with ash. This is accomplished through strong magnets and eddy separators. Second, the metals are manufactured into new re-found raw materials. These are then valuable products that can be injected back into the raw-material manufacturing supply chain. Lastly, the recycling of these metals is complete when they are remelted into new consumer products. Metals are both economically and environmentally beneficial. They are less expensive than virgin metals and they replace the need to mine the virgin metals from the earth.

A potential hurdle to the beneficial utilization of aggregates removed from the ash is the need to secure from the DEC a Beneficial Utilization Determination (BUD) permit. Unlike our neighboring state, Pennsylvania, where a BUD permit allows the use of ash aggregates in diverse construction applications, New York has yet to institute this mechanism.

**Benefits to locating a Regional RRRF facility in Brookhaven Town.**

The Brookhaven proposal would bring this advanced recycling and recovery technology and its jobs to Long Island and specifically to the Brookhaven proposed facility site. Ideally, the siting of an Ash Processing Plant should be at or near the same site of the final disposal ash fill. Covanta has stated to members of the committee that they believe they can recycle and manufacture for re-use more than 50% of the ash as beneficial aggregates for asphalt & concrete.

This would be a positive economic gain for Long Island. Instead of exporting Long Island dollars, the dollars stay in Long Island. Long Island not only maintains efficient low-cost disposal but also benefits from new jobs, new lower cost of aggregates to be used in construction and creates a circular waste economy.

This would also be a positive economic gain for the residents of the Town of Brookhaven. If the landfill closes and there is NOT a regional RRRF the revenue that the town currently receives will cease, and yet there will continue to be costs associated with the ongoing maintenance of the landfill far into the future. It is not fully clear what exactly the cost implications to the Brookhaven taxpayers will be.

**Ash for Trash arrangement would stay in-tact.**

Covanta and Brookhaven are partners in mutually interdependent reciprocal Ash-for-Trash arrangement. By allowing the development of a regional ash processing and recycling facility, this ash for trash arrangement would stay in-tact. This is a contractual arrangement between The Town of Brookhaven and the Covanta Hempstead WTE Plant. It is a very efficient and profitable contract for BOTH parties. The Ash-For-Trash arrangement is an efficient use of capital equipment at a low cost that both sides equally share in. This reciprocal arrangement allows for a truck to travel loaded in BOTH directions with no loss of time. The truck delivers MSW from Brookhaven to Covanta-Hempstead, then the same truck is reloaded with Ash for delivery to Brookhaven.
This arrangement allows both parties to offer each other competitive and lower cost final disposal pricing. Both parties are tied to each other for the efficiencies which create lower costs. The community benefits, since they are ultimately the one who pays for the cost of solid waste disposal. Lower disposal pricing equates to lower garbage taxes. This also allows taxpayer dollars to remain local and re-invested back into Long Island its employees and businesses instead of the same taxpayer dollars being exported to other States.

Disadvantages to locating a Regional RRRF Facility in the Town of Brookhaven

The current community concerns and objections to the Town’s proposed ash fill at this site must be taken into consideration because of decades of concerns about practices at the town’s landfill. The proposed site constructs the ash fill to the east of the current landfill operation. There are homes and a horse farm that will be impacted by the proximity to the facility. These homeowners have already expressed concerns about the existing facility.

The proposed 5-acre RRRF is a significant industrial processing facility and is being proposed to be placed adjacent to a residential area. This raises serious concerns about the impact to local community including escaping ash/dust which is particulate matter, noise, leachate and water quality.

There are documented EPA and DEC violations against the Town regarding landfill regulations, as well as leaking leachate into the groundwater. There has been groundwater and air contamination from the landfill over the past 50 years. The defined groundwater plume can be traced to cells 1-4. Landfill liner design has greatly improved since these cells were constructed in the early 1970’s. There is no evidence to suggest that Cell 5 or Cell 6 (both double lined landfills) are leaking or contaminating groundwater. Leachate from the landfill has reached into the Carmans River and Beaver Dam Creek compromising fish and wildlife. The proposed ashfill moves the facility closer to Little Neck Run that feeds the Carmans River. The community needs reassurance that all precautions have been examined if the ash fill is to be considered and what emergency measures will be taken in the case of any mishaps.

Odor/air quality concerns have long been a problem in the local area with numerous complaints from surrounding communities of Brookhaven Hamlet, Horizon Village, Bellport and particularly the Frank P Long Intermediate School. It is crucial that the Town research and investigate the possible effects of the ash that may come into the site. The mitigation of fugitive dust is a critical issue that the Town must address prior to any development at the proposed site. In the town’s proposal other material was mentioned as possibly being put into the ash fill such as “street sweepings, car shredding material, and other municipal waste”. The town should address what are the implications to the surrounding community if these other miscellaneous materials are introduced into the ash.

The Town would need a state-of-the-art air monitoring system for the community and for Frank P. Long School. Such a monitoring system needs to include fine particulate matter, hydrogen sulfide and volatile organic chemicals (VOCS). Testing results needs to be publicly available in real time. Hydrogen sulfide is not expected to be a concern for the proposed ashfill as it will not be accepting materials known to produce this gas. Assessing a surcharge on a per ton basis to support a comprehensive air monitoring effort would be a reasonable undertaking.
Traffic is always an issue of concern for any community and its projects. While the traffic along Horseblock Road is not considered to be light, it is not expected for traffic to increase or decrease based upon closing the landfill and opening an ashfill. In reaction to the impending closure of the Brookhaven landfill, private investment has reacted and has proposed facilities (waste transfer sites serviced by rail) in the same geographic vicinity of the Brookhaven landfill. So, while the Brookhaven facility may not receive the trucks and tons in the future, those same trucks and tons will still travel the same geographic area which is why the truck traffic is not anticipated to be alleviated regardless of development that may or may not occur at the Brookhaven facility.

Additionally, it should be noted that there is a current problem with garbage, plastic bags and other refuse along Horseblock Road, the road leading to the landfill. There is dust stirred up as cars and trucks enter and exit the landfill facility. All of this contributes to poor air quality, dirty streets and is representative of a lack of care and attention to the maintenance of Horse Block Road (a County owned road) and to the existing Brookhaven facility (a Town owned asset).

Visually, the landfill does have a buffer area around it and not too much can be seen from Horseblock Road. The landfill is now very high and can be seen from the surrounding area as a small mountain in the flat outwash plain of southern Brookhaven. The proposed ashfill will contribute a wider scope to this visual impact.

The ashfill will be a new application to the DEC. Updated siting laws require an environmental justice review of once again locating a large waste disposal operation adjacent to communities of color. In addition, Covanta has stated they intend to reuse/recycle 50-70% of their ash in the next 5 years. A more detailed financial analysis needs to be done to assess the any financial impacts this reduction of ash may have to Brookhaven Town.

**Solid Waste Management is a regional issue – not just an issue for Town of Brookhaven.**

NY State DEC is the agency designated to approve and review the proposed ashfill/Landfill. The Town has worked for over 50 years with the DEC therefore the agency is familiar with the Town and its landfill operations, so this may be an advantage.

The DEC has been asked over the years to assist the Town in addressing the solid waste crisis however, very little has been done from a regional perspective. The Town should not be the only municipality that has to manage this problem and provide regional waste solutions. The State must assist the Town and the region in solving this most difficult problem.

In 2017 in the Brookhaven Town Solid Waste Management Plan, (Town of Brookhaven Updated Solid Waste Management Plan 2015-2016 Compliance Report Local Solid Waste Management Plan (SWMP) dated April 2017.) stated: Long Island Landfill Law is clearly a unique aspect of the Brookhaven program. This facilitates disposal of regional incinerator ash, and allows for disposal of C&D debris, as well as the recovery of recyclables from this C&D stream. The current landfill is expected to close in 8 years; the millions of tons of disposal capacity provided by this facility will no longer exist. To prevent a regional waste management crisis, NYSDEC and all of Long Island needs to become proactive and enter into economically active planning.
processes to ensure that these wastes are not illegally disposed and that viable solutions are put into place post the closure of the Brookhaven Landfill." 


DEC has not been as active as it needs to be to bring together the forces that could help alleviate the serious challenges the region has to dispose of waste. The Town should not be alone in this effort. It is not realistic nor feasible for one Town to be responsible for the disposal of all waste in this very populous region. It is also an unfair burden for Yaphank, South Haven, Horizon Village, Bellport and Brookhaven to bear the burden of waste disposal for the vast majority of the Long Island region.

Currently, there are three proposed sites for waste transfer stations in Suffolk. One is from Winter Brothers in Yaphank, one from Gershow Recycling in Medford and a third waste transfer station propose by Omni Recycling in Brentwood. It is critical that all these waste transfer stations and other plans to dispose of waste in Suffolk be part of a coordinated regional plan.

In 2006 Suffolk County published the Suffolk County Waste Management Report and Recommendations study. The document provides several waste reduction initiatives needed by Town, County and State governments. It appears, that those recommendation have not been implemented. The report recommendations included:

- Suffolk County should promote volume-based pricing programs such as the pay-to-throw programs currently in use in many localities throughout the nation.
- Suffolk County should encourage development, recruitment, and retention of firms that will manufacture new products from materials recovered from the waste stream.
- Suffolk County should establish a yard waste composting demonstration project at the county farm in Yaphank and utilize composted material at county fields and parklands.
- Municipalities should consider incentive-based programs to increase recycling rates, and all new site plans should have recycling recommendations incorporated into their final approvals.
- NY State encourage the development and expansion of markets for recyclables such as glass and ash.
- The Long Island Regional Planning Board, with funding from Nassau and Suffolk Counties, should undertake a comprehensive study of the solid waste issues for LI.

Safety issues;
Long Island is subject to severe hurricanes, nor'easters and other storms that can disrupt the orderly collection of Municipal Solid Waste and potentially create stormwater runoff from the entire area of the landfill.

After Hurricane Gloria in 1985 the Town cleared roadways, industrial areas and communities of the debris that was created. This debris was stored at the Landfill for over 30 years and has just been turned into compost. Superstorm Sandy and more recently with Isaias in the summer of 2020, the Town has had to clear hundreds of miles of roadways of fallen trees and other debris. Will the Town need space to dispose of this material in the future on an emergency basis and should the 60 acres where the ashfill is proposed be reserved for such an emergency?
Environmental/Social Justice Compliance

The NYS DEC, the state agency responsible for monitoring the environmental consequences of the Brookhaven Landfill describes environmental justice as an effort to ensure that “no group of people, including a racial, ethnic, or socioeconomic group, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations.” Copied from New York State DEC, Commissioner’s policy CR29: “The applicant should develop an Enhanced Public Participation Plan. Public participation in the DEC environmental permit review process means a program of activities that provides opportunities for citizens to be informed about and involved in the review of a proposed action. To ensure meaningful and effective public participation, this policy requires applicants for permits covered by this policy to actively seek public participation throughout the permit review process. Applicants are encouraged to consider implementing the public participation plan components prior to application submission.”

The communities of Bellport, Horizon Village, Yaphank, South Haven and Brookhaven Hamlet have experienced adverse impacts due to their close proximity to the landfill. Odor impacts diminish residents’ quality of life, cause them to limit the use of their outdoor space and generate health concerns. Odor is primarily caused by the release of hydrogen sulfide which can carry bacteria, fungi and potentially volatile organic compounds. Also, many homes had to be connected to public water due to the plume from cells 1 through 4. At least 25 residents and teachers from Frank P. Long School have filed a lawsuit based on nuisance claims and health impacts. Creating an ashfill may continue to alarm and impact these communities and the school.

Scenario 2: Consider other ash fill locations.

The Long Island Landfill Law (Environmental Conservation Law, Section 27-0704) was enacted by New York State in 1983 and was effective 12/18/1989. This law required the closure of landfills on Long Island except for the Brookhaven Town and Babylon Landfill. As stated above, the law limited waste materials that can be accepted at the landfill and prohibited the creation of new landfills in wetlands or deep recharge areas over freshwater aquifers to prevent the contamination of the groundwater.

Siting a new ashfill in other areas in Brookhaven or on Long Island would be challenging. The restrictions in the Long Island Landfill Law of 1983 make it impossible to build a new landfill within Brookhaven Town due to the elimination of lands that would adversely impacts wetlands or deep flow recharge areas over the aquifers. In addition, just as there is local opposition to the Yaphank site, there will undoubtedly be local opposition in other locations. It is not known if other Towns would consider siting an ashfill, and since the DEC is not engaged in this process, nor any other regional entity, it is very difficult to assess the viability of siting an ashfill in
another community outside of Brookhaven’s jurisdictional control. This committee does not have the capacity to assess the viability of siting an ashfill in the other 12 Towns across Long Island. However, notwithstanding these challenges, the committee wonders if there is thoughtful, comprehensive look for an alternative site in Brookhaven town or elsewhere on the Island.

Scenario 3: Contract with a company to manage Brookhaven Town’s waste - Truck off Long Island

The Ad-Hoc Committee explored the possibility of contracting out to private industry the Town of Brookhaven’s (unincorporated areas) entire solid waste process, from pick-up to disposal of MSW. If this process is contracted out, there would no longer be a need to construct a new ashfill facility. As part of exploring this option, we spoke with representatives from municipalities already contracting out their waste management process, experts in the carting industry, and staff and members on the Ad-Hoc Committee with professional knowledge of transporting materials off Long Island.

Currently all single, two, and three-family residences in the unincorporated parts of the TOB receive collection services. The Town is divided into 35 separate districts for the purpose of arranging with various contract carters to collect waste. Weekly, residences receive two garbage collections and one recyclables collection. Leaves and brush are collected 32 weeks of the year in a separate pick-up. White goods and bulk wastes are collected separately by Town crews. The following tables detail the current cost associated with these collection services and the projected costs under an outsourcing arrangement.

Table 1: Cost of Waste Management Services – Current. Details the current cost for collection services provided to residential homes and the costs to those residences.

<table>
<thead>
<tr>
<th>2020 - 21 Tax Levy</th>
<th># of residences</th>
<th>Cost of Service/Residence</th>
<th>Total Cost of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Home</td>
<td>110,883</td>
<td>$365</td>
<td>$40,472,295</td>
</tr>
<tr>
<td>Single w/ Accessory</td>
<td>6,656</td>
<td>$547.50</td>
<td>$3,644,160</td>
</tr>
<tr>
<td>Two Family Home</td>
<td>203</td>
<td>$730</td>
<td>$148,190</td>
</tr>
<tr>
<td>Three Family Home</td>
<td>50</td>
<td>$1,095</td>
<td>$54,750.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117,792</strong></td>
<td></td>
<td><strong>$44,319,395</strong></td>
</tr>
</tbody>
</table>
Table 2: **Projected Cost of Waste Management Services – Outsourced.** Details the estimated cost to residences if MSW is outsourced and the costs to those residences.

<table>
<thead>
<tr>
<th>Projected Tax Levy</th>
<th>Number of residences</th>
<th>Cost of Service/Residence</th>
<th>Total Cost of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single Family Home</td>
<td>110,883</td>
<td>$474.00</td>
<td>$52,558,542</td>
</tr>
<tr>
<td>Single w/ Accessory</td>
<td>6,656</td>
<td>$711.00</td>
<td>$4,732,416</td>
</tr>
<tr>
<td>Two Family Home</td>
<td>203</td>
<td>$948.00</td>
<td>$192,444</td>
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<tr>
<td>Three Family Home</td>
<td>50</td>
<td>$1,422.00</td>
<td>$71,100</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117,792</strong></td>
<td></td>
<td><strong>$57,554,502</strong></td>
</tr>
</tbody>
</table>

These cost projections were provided by the Town of Brookhaven.

If the figures used to prepare the cost estimate remain constant, 94% of Brookhaven households would experience increases identified in the charts above for MSW disposal. **However, there may be additional costs to offset the net income provided by the landfill that aided Town services.**

Municipal agents currently using this model and private industry experts both strongly suggested that Brookhaven remain the coordinator of services and fee collection. They indicated that doing so allows the TOB to retain greater control over costs.

**Potential Shortcomings of this Strategy**

Turning the management of 220,000 tons of MSW to the private sector creates hurdles and concerns, principally:
- increased truck traffic,
- air quality issues,
- permitting, and fiscal implications.

Transporting 220,000 tons of MSW annually will require thousands of additional trucks travelling on Long Island’s already congested roads. However, if the landfill site in Yaphank were totally closed then an additional 350,000 tons of MSW combustor ash would be trucked to a new location.

Combustion of MSW results in the production of carbon dioxide (CO₂) but landfilling MSW produces methane (CH₄) a gas that is 22 times more problematic than CO₂ with regards to the formation of greenhouse gas, which is a principal driver in climate change. Compounding this problem is additional exhaust from the thousands of additional trucks needed to transport Long Island's wastes.
This analysis only addresses the cost associated with handling MSW. The loss of revenue from the closure of the Yaphank site would have significant financial implications to the residents and business community in excess to the $109.00 outlined in Table 2.

Allowing the private sector to take over MSW management in Brookhaven may sound easy and beneficial however, questions about siting new transfer stations within the town would need to be addressed. As previously mentioned, the TOB also handles brush, white waste, C&D, and recyclables. Although C&D disposal will become the sole responsibility of residents and commercial practitioners by December 2024, the other items will still require proper disposal options. A plan would be needed to manage resident’s hazardous wastes, tree trimmings, waste oil and the myriad of typical waste should the Yaphank site be completely closed.

In addition, concerns have been raised regarding the potential for an increase in illegal dumping and the impact that might have on the environment within the TOB and in the Pine Barrens.

Scenario 4: Truck and rail all ash off Long Island.

Covanta has four Waste to Energy plants. Three of the four use Brookhaven Landfill for Ash disposal. If Brookhaven does not build a RRRF, but continues to send MSW to Covanta, Covanta would need to dispose of the ash. There are only two real options to move ash: by Truck or by Rail.

Movement by Truck

The WTE (Waste to Energy) plants do not have ability to expand due to physical land restrictions. Therefore, trucks cannot be stored at Covanta facilities. Trucks transporting ash will be traveling longer distances and will need to go to Covanta, get loaded up, then immediately leave the facilities. This will immensely increase truck traffic in the communities. In addition, Covanta facilities will have to extend operating hours for receiving/shipping to accommodate the new trucking.

Trucking waste is extremely expensive. Waste transport requires special, unique, and expensive equipment. Additionally, unlike most transportation efforts, when transporting waste, the trucking is inefficient because:

- The truck is loaded, in one direction for final disposal, and
- Empty, in opposite direction on its way back to origin.

Gross Vehicle Weight
- 120,000 pounds is the maximum allowable weight when traveling on Long Island.
- 80,000 pounds is the maximum allowable weight when crossing any bridge when leaving Long Island. Trucks traveling to other States for final disposal such as New Jersey, Pennsylvania or Ohio travel at 80,000 pounds.

Moving Volume - Local Delivery / Long Haul Delivery
- With Local Delivery, trucking is extremely efficient in moving volume as multiple trips per day can be obtained without cost of tolls.
- With Long Haul Delivery, trucking is extremely inefficient in moving volume as it involves expensive tolls and there are no multiple trips.

**Regulatory Requirements**
- Permitting a new site for Ash Transfer while “technically” doable would be a challenge.

**Economic Impact to the public** - Covanta and Brookhaven have enjoyed equal pricing leverage with each other, however that equal leverage only exists because Brookhaven accepts Ash for final disposal. Upon closure, Brookhaven loses pricing leverage over Covanta because Covanta loses its ONLY local low-cost disposal option for ash. Covanta will gain pricing leverage over Brookhaven with MSW final disposal pricing, which is not good for the public.

**Moving Ash Off-Island** - Covanta has benefited partnering with Brookhaven. Brookhaven is a convenient local final disposal option with reasonable transportation and disposal costs especially due to the cost-efficient two-way transportation. Anywhere Covanta attempts to send our ash, it will be a ONE-WAY trip. This will likely result in the cost of transportation doubling, which means the cost of disposal will increase.
  - Tolls are expensive - Just to get to Trenton New Jersey.
    - $42.26 toll charge for a 7-axel truck to leave Long Island.
    - $51.06 toll charge for a 7-axel truck to travel GW Bridge to Trenton N.J.
    - $93.32 in toll charges on 19,444 truck trips.
    - $1,814,556 dollars Tolls - ONE WAY of Tolls.
    - $3,769,231 dollars Tolls - Both Directions
    - *Effect is Long Island dollars exported with no return.*
  - Diesel Fuel use will increase.
    - 40 miles one-way from Covanta to Brookhaven
    - 100 miles one-way from Covanta to Fairless Hills PA
    - Mileage alone is 2.5 times greater.
    - Fuel use will increase.
    - This is ONLY ONE WAY. Truck still must come back and incur same costs.

**Movement by Rail**
This is a challenging scenario. Currently, none of Covanta’s plants reside with rail access. Covanta would need a “new” permitted facility just to transload ash. As a solid waste permit would be required for such activity of loading ash into rail cars for disposal. The cost to setup a facility for this would be comparable to the cost of the MSW facility at $15 million and then the cost of rail equipment and infrastructure. Covanta will still incur trucking costs just to move the ash from Covanta to a Rail Terminal site.

The Long Island Railroad, a municipal owned passenger railway, privatized its freight services in 1997 granting concession to the New York & Atlantic Railway (NYA). The NYA operate freight locomotives on the Long Island Railroad (LIRR) tracks. As a municipal owned
passenger railroad line, passenger traffic is the priority for the LIRR. As such the NYA is provided a short window of time, on the main rail line, to provide freight service to industry.

Rail is efficient in moving volume. 20 tons is the maximum a single truck can transport when leaving Long Island. 103 tons is the maximum a single rail car can transport when leaving Long Island.

The downside is rail is not efficient in its turnaround time. The average expected turnaround time for a rail car is once per month. The time to load, transport, unload and transport the rail car back to origin averages 30 days.

Rail infrastructure and equipment is extremely expensive. A single rail car (gondola) has a cost of more than $105,000 to purchase. Track installation has a value of $400/foot of track.

Siting Challenges –
• An Ash Transloading Rail facility will require the heaviest of zonings.
• There is a limited amount of land parcels that have such zoning especially with rail access and many of them are in hydrogeological sensitive areas.
• Local community civic opposition is anticipated to be significant.
• Satisfying/complying with environmental justice regulations would be a challenge.

Economic Cost of Rail Infrastructure to Transload Ash from Truck to Rail –
• New Facility – With Rail Access.
  o Rail access is expensive.
    • $1,000,000 - approx. cost just to connect to the LIRR main line.
    • $687,508 - approx. cost of rail track infrastructure needed.
      (This is rail track cost that will only handle 13 rail cars per day)
      (no back up for lack of service disruption)
  • You cannot move product by rail without owning the rail cars.
    o 1 trip per month is turnaround per rail car.
    o Assume best case scenario of loading of 100 tons per rail car.
    o 350,000 tons per year is 29,166 per month.
    o 291 rail cars will be needed.
    o $100,000 is cost of rail car.
    o $29,166,667 is needed to acquire rail car fleet.

• The Taxpayer will ultimately pay.
  o $15,000,000 to build facility.
  o $1,000,000 to connect to LIRR.
  o $687,508 to build interior track.
  o $29,166,667 to acquire rail car fleet.
  o $45,851,175 TOTAL Dollars.
• If Covanta spread the cost over a 10-year period, then added to taxpayer bill is.
  o $4,585,117 – per year (no interest)

350,000 tons of ash at the best optimum loading of 100 tons per rail car is 3500 rail cars to move off Long Island. At current, the NYA is at close to capacity and moves approximately 36,000 rail cars per year. The ash will have to move by truck.
Upon Brookhaven Landfill closure Covanta will need to transport its ash for final disposal to final disposal destinations that are located off Long Island. The quantity of equipment and the dollars to purchase them are extreme. Covanta will have to invest an immense amount of dollars to build the infrastructure necessary to move 350,000 tons of ash off Long Island.

Scenario 5: Move towards Zero Waste

Background.

Cities around the world have begun moving towards zero waste goals, with San Francisco leading the way in US. The goal of zero waste is to divert solid waste from landfills and incinerators, with a focus on waste prevention, and waste recycling and reuse. San Francisco set their zero-waste goal in 2003 and by 2012, the city managed to reduce solid waste going to landfills by 80%. New York City, Washington DC, Philadelphia, Los Angeles, San Diego, San Jose, Austin, Dallas, Minneapolis, Boulder, Fort Collins, Seattle, and other municipalities have adopted their own zero waste policies.

What is Zero Waste?

There is no standard policy for achieving zero waste. We might never be able to eradicate waste entirely, which is why most cities have a goal of 90% reduction in waste and/or a goal of zero waste to landfills. For example, New York City is working to reduce waste 90% and send zero waste to landfills by 2030, but they will still rely on Covanta’s waste-to-energy facilities for incineration and signed a 20-year contract with Covanta in 2013. Zero waste policies are generally tailored to meet the needs of each individual community and although there are many helpful definitions of exactly what “zero waste” is, there is no agreed upon definition or policy detailing how to achieve this goal.

Recycling and composting efforts are critical to the success of a zero-waste policy, but successful zero waste policies cited by the EPA’s guide to Managing and Transforming Waste Streams also note the importance of taking a products entire lifecycle into account and considering product design and consumption. Policies describe zero waste as moving away from thinking of products as “cradle-to-grave” but instead to think of them as “cradle-to-cradle”, focusing on reducing the toxicity of products, creating a sustainable and useful recycled product, and curbing overconsumption or wasted materials.

3 https://www.epa.gov/transforming-waste-tool/how-communities-have-defined-zero-waste
Connecticut defines zero waste as a “philosophy and a design principle for the 21st Century. It includes ‘recycling’ but goes beyond recycling by taking a ‘whole system’ approach to the vast flow of resources and waste through human society.” Many policies cite Extended Producer Responsibility for product manufacturers and encouraging packaging redesign as a primary objective of a zero-waste initiative, which involves working directly with stakeholders and manufacturers as well as pushing for state-level policies in addition to increasing local existing recycling programs.

Types of Waste Reduction Policies

On the local level, there are initiatives that a municipality can implement to move closer to a zero-waste goal. Some of the most common include:

- Restructuring contracts for waste haulers, recyclers, and other contractors to encourage partnerships and incentivize recycling over landfilling.
- Pay as you Throw, Save as you Throw, or other models that hold households responsible for the price of their garbage through fees, a tiered rate system, or financial incentives for recycling.
- Curbside composting and a mandate for businesses and/or large waste generators to compost.
- Banning landfills.
- Mandatory source separation and fines for those who are not properly recycling.
- Banning or reducing single-use plastics.
- Extended Producer Responsibility programs (packaging, e-waste, pharmaceuticals, paint, and more).
- Mandatory minimums for recycling or reuse of materials in building projects to curb construction and demolition debris (for example 50% of the material used for X size project must be recycled).
- Partnerships and financial incentives for companies that go zero waste or implement sustainable packaging policies.
- Investing in widespread public education for residents and businesses on proper recycling protocols, choosing sustainable packaging, and reducing overconsumption or individual waste. Nearly every municipality included public education as a key to success in their zero-waste policy.

Challenges

Many cities that have implemented zero waste policies have made significant reductions in waste going to landfills and/or incinerators and in improving the effectiveness of their recycling and composting programs, but there is still a long way to go. San Francisco had to adjust their timeline and goals from zero waste by 2020 to reducing waste to landfills by 50% by 2030. New York City has made inroads in organics recycling, but reduced collection days and halted expansion of the program in 2019. The city still recycles less than 20% of residential garbage.

4 Ibid.
Despite 68% of that garbage being recyclable\(^5\), and plans to implement save-as-you-throw and other milestones have been delayed. Long Island faces even greater challenges.

In 2020, many Long Island municipalities switched from single stream recycling back to dual stream. While this will reduce contamination in recyclables in the long term, it caused confusion among residents. Many municipalities, including Brookhaven Town, also stopped curbside glass collection. Glass recycling is an issue across the country, and one that must be solved if communities are going to achieve zero waste.

On Long Island, each town has a different recycling policy, and it is not always paired with a robust education program. Some municipalities, including Brookhaven Town, collect #1 & #2 plastics, while some neighboring towns collect all plastics, and others fall somewhere in between. This leads to residents “wish-cycling” or placing nonrecyclable items in the recycling bin in hopes they are choosing the eco-friendly option. As a result, valuable items become contaminated or recycling plants experience delays and shutdowns. Residents remain confused as to what they can recycle and how to do their part to reduce waste. It will be difficult for any Long Island town to achieve zero waste without cooperation and input from the surrounding municipalities coupled with a robust, island-wide educational program.

One of the key factors in the success of Seattle, San Francisco, and other municipalities is an organics collection program. An anaerobic digester is set to open in Yaphank in 2021, and New York has passed legislation requiring large generators of organic waste to reuse or compost that material, which will further encourage investment in organics recycling infrastructure. However, it would take time, planning, and investment before Brookhaven could successfully implement a curbside compost collection program. In NY, 18% of our garbage is food waste. Mandatory organics recycling for businesses and a curbside collection program are crucial to achieving significant waste reductions, but additional infrastructure and investment will be needed.

Achieving zero waste, or even a significant reduction in solid waste, will require at a bare minimum collection and recycling of glass and #1-6 plastics into useable, marketable products, organics recycling for all residents and businesses, and a well-funded educational program to get the public to invest and business to participate in waste reduction practices. Incentivizing waste reduction through town contracts or pay-as-you-throw programs, encouraging sustainable product manufacturers, updating building codes to reduce construction and demolition debris, and more could be done to get the town closer to zero waste.

A zero-waste policy would encourage the growth of local green businesses and create jobs, since waste recycling and reuse creates 10 times more jobs than waste disposal.\(^6\) Increases in food, clothing, and textile recycle programs could help those in need in the community, while conserving natural resources and recirculating valuable materials in the market could decrease costs to shoppers.

\(^6\) https://www.torontoenvironment.org/zerowaste_benefits
Moving towards a zero-waste goal would have immense benefits for Brookhaven Town residents. However, with the landfill closing in 2024 and Babylon closing in 2027, zero waste would not be a sole viable alternative to managing the Town’s solid waste. Reducing waste is greatly beneficial, but there will still be waste in the coming decade, and there will at the very least need to be a short-term solution other than only pursuing a zero-waste goal. However, the following recommendations would enhance waste reduction efforts in Brookhaven;

1. Supporting a statewide EPR (Extended Producer Responsibility) law. EPR is a policy tool that shifts responsibility for the postconsumer management of products and packaging from local governments to producers and manufactures. This includes financial responsibility and sometimes day-to-day management of covered material.
2. Supporting a beneficial reuse determination (BUD) for glass. This will incentivize the recycling and reuse of glass which takes it out of the waste stream. Glass will also diminish the need for sand mining on Long Island, which is another controversial and potentially environmental damaging activity.
3. Beneficial reuse determination (BUD) for ash. The more ash we reuse, the less will need to be disposed of at an ashfill. Ash and glass need to be viewed as raw materials and not waste products.
4. Statewide expansion of the bottle bill
5. A thoughtful composting program for businesses and residents that utilizes the new anaerobic digester in Yaphank.
Brookhaven Landfill Ad-Hoc Committee on Solid Waste Disposal

Advisory Recommendation

The Brookhaven Ad-Hoc Committee on Solid Waste Disposal worked diligently in a non-biased and collaborative manner to investigate waste disposal options for Brookhaven Town. The committee completed this assessment to the best of its ability. Our goal was to render an advisory opinion to the Brookhaven Supervisor and Town Board that incorporated multiple perspectives. Our assessment included drawing upon documents, knowledge, and the experience of experts in Brookhaven Town, Babylon Town, outside agencies and professionals in the solid waste management business. We are appreciative of the all the time and assistance provided to us that allowed us to ask questions and gain valuable firsthand experiences. It should be noted that Town of Brookhaven staff and Supervisor were accessible and helpful during this process. Members of the committee came to appreciate the tough job that is being carried out each day by those engaged in waste management.

Municipal solid waste (MSW) and its future in the Town of Brookhaven is a difficult and complicated challenge. There is no credible solution that will yield only positive results. Any direction that is agreed upon will inevitably have an adverse effect on either the town’s fiscal standing, the local environment, or the regional capacity to manage Long Island’s waste. Long Island, which is almost 120 miles long from Brooklyn to Montauk, has almost 8 million residents. If it were its own state it would rank 9th in population. Yet despite that, New York State and County leaders have continued to rely solely on landfills, waste to energy plants and ashfills for waste solutions. During our deliberations it became abundantly clear that these solutions are finite when you live on an island.

Our committee looked for potential strategies developed by state agencies regarding a plan or some solid waste management solutions, however none were available. Although the Department of Environmental Conservation (DEC) is aware of the solid waste challenges and even have held multiple Long Island roundtables to discuss it, they have yet to offer or provide any viable solid waste solutions that the Town of Brookhaven could utilize. The committee did find that in 2006 Suffolk County initiated a comprehensive review and issued a report on solid waste. The report provided recommendations that if acted upon regionally over the last 15 years would have been well developed by 2024. Unfortunately, it appears that none of the recommendations ever advanced any further than the pages of the report.

The estimated landfill closure of December of 2024 meant our committee had to review options that would be implementable within this timeframe. The key questions eventually became - Does Brookhaven site an ashfill next to the landfill or does Brookhaven outsource and manage the privatization of its MSW? This report identifies costs and options to answer primarily these questions while also discussing other options reviewed. As a community advisory committee, we felt an obligation to review and assess not only the cost and viability of disposal options, but also the impact to the communities that will directly be affected by those options.
In doing so it became clear that communities surrounding Brookhaven landfill have long borne the burden of solid waste disposal for the vast majority of Long Island for the last 50 years. Their angst and the adverse impacts associated with this burden cannot be identified by a spreadsheet and cannot be quantified by scientific analysis. The community concerns are substantive and need to be included when making our analysis regarding options. However, the committee also recognizes for those who do not reside locally, the opinion that the landfill is an already existing structure and adding an ashfill will not add much harm makes sense for them.

The history of the Brookhaven Town Landfill makes it clear that Yaphank, Bellport and Brookhaven Hamlet did not volunteer to be the garbage capital of Long Island. Community opposition to this default designation is longstanding, well documented and their shared obligation in waste management has long been paid in full.

"Therefore, upon a Majority vote of the committee it is recommended that the Brookhaven Landfill be closed on or about December 2024 and that an ashfill not be pursued by Brookhaven Town. Furthermore, the landfill property should be repurposed to work in concert with the local environment where possible. The closing of the facility should be achieved by outsourcing our MSW collection and disposal to private industry, while the Town of Brookhaven retains fiscal and regulatory management of the process.

The Town of Brookhaven Ad-Hoc Committee on Solid Waste Disposal would like to thank the Supervisor and Town Board for this opportunity.

On Behalf of the Committee,

[Signature]

Gregory C. Miglino Jr.
Chairman
Ad Hoc Committee on Solid Waste Disposal