TOWN OF SOUTHOLD, NEW YORK

LOCAL SOLID WASTE MANAGEMENT PLAN

Volume I

Waste Management District

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Table of Contents

Volume I

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

Table of Contents

List of Figures

List of Tables

Table of Contents

Table of Contents

Volume II

Appendices

Section 1 Description of the Planning Unit

1.1 Description of the Planning Unit

The Planning Unit for this Local Solid Waste Management Plan (LSWMP) consists of the Town of Southold and the incorporated Village of Greenport, which is located within the Town. The Village role in solid waste management is limited to handling waste and recyclables collected in municipal trash barrels located in public areas, which Village personnel deliver to the Town facility in Cutchogue on a daily basis, and the handling of brush and yard waste collected by Village personnel on a seasonal basis. The Town includes Village data in their consolidated annual reports. There are no other neighboring municipalities who have elected to become participants in this Planning Unit. The Hamlet of Fisher's Island was formerly a member of this Planning Unit, but has become a separate unit, as all of their waste is exported to Connecticut due to their geographic isolation from the Town.

The Town of Southold is situated in the northeastern portion of Suffolk County, Long Island, New York, also known as the "North Fork". The Town of Southold is comprised of ten individual hamlets – Cutchogue, East Marion, Fishers Island, Greenport West, Laurel, Mattituck, New Suffolk, Orient, Peconic and Southold. It covers a land area of approximately 55.4 square miles, of which, 16.4 square miles(1) (or 29.6%) is either preserved as open space, farmland or is underwater. The Town's strong commitment to retaining its rural character has a positive implication for future solid waste generation projections, as population increases and development growth are limited by land preservation programs and efforts.

The Town is bounded on the North by the Long Island Sound, on the east by the Atlantic Ocean, on the south by the Peconic Bay and on the west by the Town of Riverhead. Due to its proximity to major waterways, industries such as agriculture and fishing have shaped the Town's development, and contribute to a heightened sense of awareness amongst both local officials and permanent residents to the value of waste and pollution prevention. A Regional Setting Map is provided in Appendix A.

Note (1): Source Town of Southold Land Preservation web page.

1.2 Duration of Planning Period

This Comprehensive Solid Waste Management Plan establishes the structure of the Town of Southold's solid waste and recycling management for a 10-year planning period. Accordingly, a planning period has been selected by the Town of Southold, spanning from 2016 through 2025.

1.3 Objective of the Plan

In accordance with Environmental Conservation Law (ECL) Article 27-0107(1)(a), local planning units must have an approved Local Solid Waste Management Plan (LSWMP) that describes the management, handling and disposal of solid waste and recyclables. This plan has been prepared in accordance with Part 360 and DEC guidance documents.

This Plan examines the Town's current solid waste management experience and future plans to continue and expand its integrated solid waste management plan consistent with the context of the State's goals for waste minimization, and enhancing the reduction, reuse and recycling practices in the Town. A specific discussion of the Town's prior LSWMP, including goals achieved and on-going initiatives to be continued, is included in Sections 6 & 7 of this plan. The ultimate goal of the plan is to achieve the most cost effective solid waste operation feasible that promotes waste reduction and recycling and is convenient for its residents.

1.4 Town and Village Population

As of the 2010 United States Federal census, the population of the Town, including incorporated Villages was 21,969 residents, living in 9,411 households. As this census significantly pre-dates this plan, the baseline population estimates included within will instead reference the 2013 American Community Survey (ACS) data, which indicates a population of 22,035, living in 9,242 households. Note this differs substantially from the available housing unit data, indicated to be 15,377 as of the 2010 Census, and growing to 15,936 for the 2013, as much of the housing stock is only occupied seasonally in the summer, as second homes and/or vacation residences. This is further discussed in Section 1.6.

Section 1 – Description of Planning Unit

According to an analysis of U.S. Census and other data prepared for the Town's Planning Department during their ongoing process to update the Town's Comprehensive Plan, the Town's population last major growth period was during the 1960s, with a 27% increase between 1960 and 1970. Since then, the change in population on the mainland has been steadily increasing within the range of 3-7% per decade. Table 1-1 below depicts the Town's population over the last 50 years including residents residing in the villages. The planning unit population, which is exclusive of Fisher's Island, is also contained within the table.

Table 1-1. Town Wide Population Including Villages

Year	Town Population[2]	Planning Unit Population[3]
1960	13,295	12,787
1970	16,804	16,342
1980	19,172	18,854
1990	19,836	19,507
2000	20,599	20,310
2010	21,969	21,733
2013	22,035	21,800

Table 1-2 below depicts the population of the incorporated Village of Greenport, which is located within the Town. The residents in the village comprise approximately 10.6% of the total Planning Unit population.

Table 1-2. Village Population

Village	2010 Population[4]
Greenport	2,313
Total:	**2,313**

Note (2): Data source is Suffolk County 2035 Plan, as transcribed from U.S. Census Bureau
Note (3): Data has been adjusted based on the source is Fisher's Island "Framing the Future" Plan (2011)
Note (4): Data source is 2013 American Community Survey Data

Table 1-3 compares the population in the unincorporated area of the Town with that in the incorporated Village. Household sizes are presented for comparison, revealing that the average household within Greenport Village is slightly larger than those in the unincorporated area of the Planning Unit.

Table 1-3. 2013 American Community Survey Data

Municipality	Population	No. of Households	Household Size
Town (unincorporated portions of the planning unit)	19,487	9,242	2.35
Greenport	2,313	917	2.42
Planning Unit Population Total:	**21,800**	**9,242**	**2.36**

The information presented in Table 1-1 through Table 1-3 presents a consistent growth trend; moreover, additional household characteristics differ somewhat than Suffolk County as a whole. Recent planning documents(5) have been completed which cite the following trends within the Town of Southold:

- The Town has been experiencing an influx of children and working age persons, unlike the overall trend of declining families within Suffolk County
- The Town's overall population is growing rates slightly higher than the remainder of Suffolk County
- In Suffolk County as a whole, household size has declined significantly since 1980, but in the Town of Southold it has remained relatively the same, though the household size for the Town of Southold as of the 2010 U.S. Census is still less than the County-wide size of 2.96 persons.
- The Town's population is growing older. Just under one third of Southold's residents are over age 65.

Based on a land mass of 48.1 square miles (adjusted to deduct underwater land and Fisher's Island), the population density of the Planning Unit is approximately 453 people per square mile which is indicative of a suburban setting rather than a rural or urban area. It is noted, however, this is at the lower end of the suburban spectrum that ranges from 326- 5000 people per square mile as defined by6NYCRR 360.2(b)(264). Though the character of the Town is mainly rural, a

Note(5): Population and Demographic discussion is based on material contained within The Suffolk County Comprehensive Plan 2035 (Draft dated August 2011) and Town of Southold Comprehensive Plan: Southold 2020 (Demographic Inventory dated 2009).

comparison of the population density rates of its various communities is presented to better understand the demographics of the Town.

Table 1-4. 2010 Population Density

Census Designated Place (CDP)	Area [6] (Square Miles)	Population Density[7] (persons per square mile)
Cutchogue	9.72	344.4
East Marion	2.24	413.7
Fishers Island[8]	4.08	57.9
Greenport West	3.21	661.8
Laurel	3.00	464.7
Mattituck	9.00	469.0
New Suffolk	0.56	627.2
Orient	5.12	145.1
Peconic	3.38	202.1
Southold	10.46	549.3

Calculations based on the figures provided in Table 1-4 above indicate that approximately 17.7% of the planning unit's population resides in a rural setting, and 82.3% of the population resides in a suburban setting. That is using the NYSDEC guidelines for their waste composition and recovery projection tool. However, as 30% of the Town's land use is either used agriculturally or is preserved for open space, and this land is distributed throughout the Town's hamlets, it is reasonable to adjust these numbers for Southold's specific land use patterns.

1.5 Administration

The Town of Southold is governed by an elected, Town Board of six members (one of whom is also the Town Supervisor), Town Clerk, Receiver of Taxes, Assessor and Superintendent of Highways. They additionally have an elected Board of Trustees, consisting of five members, whose purpose is to administer all activity within 100 feet of the wetlands and underwater lands

Note(6): Population Density Source is 2010 U.S. Census Bureau; these figures appear to include underwater land, in contrast to statistics maintained by Suffolk County Planning and Town of Southold Planning.
Note(7): Population Density Source is 2010 U.S. Census Bureau; these figures appear to include underwater land, in contrast to statistics maintained by Suffolk County Planning and Town of Southold Planning.
Note(8): Fisher's Island is no longer part of the Planning Unit, but is included for general demographic purposes.

held in ownership by the Trustees as "common lands" for the benefits of the citizens of Southold.

Over twenty (20) departments provide services to the residents of Southold. These include agencies such as Planning, Land Preservation, Southold Police Department, and Human Services that are run by Department heads who report to the Town Supervisor and Town Board.

Solid Waste Management in the Town is handled by a "Special District", which was designated by the New York State Legislature in 1993. The District is headed by a Solid Waste Coordinator who reports to the Town Supervisor and Town Board. The District is charged with the primary responsibility for solid waste planning and management in the Town. The District's mission is to "ensure that the Town's solid waste and recyclables are managed in an efficient and environmentally sound manner based on the principles of maximizing waste reduction and recycling in accordance with State guidelines, while providing residents of the Town maximum choice in how to achieve these goals on a personal level."[(9)] The department handles all aspects of waste management for the Town, including public education, exploration of new programs and technologies, compliance with State and Federal regulatory requirements, and oversight of both the Town Transfer Station and Yard Waste Compost Facility.

The Town does not have curbside collection for either solid waste or recyclable materials. Residents in both the unincorporated portion of the Town and the Village of Greenport must either self-haul or contract collection privately. The exception is that both the Town and the Village of Greenport operate seasonal collection of grass, leaves and brush. The District facilities also accept waste from the Towns of Riverhead and Shelter Island, though the Town estimates 80% of all materials received originate within the Town of Southold.

The District also is responsible for the monitoring of the closed and capped landfill, located adjacent to the site of its current waste management operations. A separate Town Code Enforcement Department is responsible for enforcement Chapter 233[10] (Solid Waste) of the Town Code.

A map of the Town of Southold is presented as Figure 1-1 and Figure 1-2 on the following pages.

Note(9): Departmental summary information from Town of Southold website and Town Facility Operation and Maintenance Manual.
Note(10) :The most recent version of Town Code Chapter 233 can be found online here: https://ecode360.com/5159892

Section 1 – Description of Planning Unit

Figure 1-1. Town of Southold – West

Source: Town of Southold GIS Division

Figure 1-2. Town of Southold - East

Source: Town of Southold GIS Division

1.6 Special Population Centers and Household Distribution

The Town of Southold houses some unique facilities. The most significant of which include:

- Over 10,000 Acres of Working farms, which is estimated by the Town Planning Department to comprise over 30% of land within the Town
- Over thirty (30) working vineyards, breweries and/or distilleries with facilities ranging from small, boutique tasting settings serving only a few clients at a time to major event venues which are capable of hosting a variety of special events such as parties, weddings and festivals.
- Eastern Long Island Hospital, a 90-bed community health care facility servicing the North Fork.
- San Simeon by the Sound, a comprehensive health care facility offering medical services, adult day health care, and having 120-bed capacity to provide short-term rehabilitation and long-term care
- Peconic Landing, a retirement community campus of 144 acres that provides 250 units of residency options for various levels of senior living including 109 cottage homes, and 141 apartments with access to assisted living services and skilled nursing care services for short- and long-term rehabilitation. Peconic Landing is the second largest employer in the Town of Southold, and employs 220 people, of whom 196 live in the Town.
- Plum Island, an 816-acre Island formerly used as a Federal Disease Control Research Center, which is currently inactive. Its future is being debated.

Please refer to Section 2.2.2. and Section 2.2.3.3 for more detailed discussions of the waste estimates and impacts associated with these facilities.

The Town's daytime population is estimated to decrease by approximately 445 people, or roughly -2%. As the U.S. Census Bureau does not maintain employment data in line with the boundaries of the Planning Unit, LKMA has prepared estimate on employees within the Town based on land use factors. The US Census Bureau County Business Patterns survey for 2013 indicates a total of 557,995 people were employed in Suffolk County. According to Suffolk County Planning Statistics (2011), the County has 60,086 acres of land being utilized by the commercial, institutional and industrial sectors (CII). Southold's CII land use, not including Plum Island, of 1,389 acres represents 0.02% of this total. Based on population, Southold's share of CII employees would be 11,160.

As the agricultural industry is a significant segment of the Town's population, LKMA is including these industry statistics for reference in waste generation calculations, especially those related to organic waste. Based on an analysis of a number of different sources, including Town Assessment Data, Town Planning Data and the 2013 Suffolk County Agriculture Industry Report, it is estimated that between 60-100 unique farm owners are active within the Town, employing a median value of three (3) full-time employees and six (6) part-time/seasonal employees. For purposes of this plan, it will be assumed that the part-time employees are all seasonally employed, and the average of farm owner estimates will be used. This results in an estimate of 240 full-time year round employees and 480 seasonal employees, including resident family members of the farm owners.

It is prudent additionally to examine the effect the high percentage of land use has on the population density within the Town, especially in regards to the waste composition analyses and projections presented throughout this Plan. Based on the family household size of 2.88 people per the 2010 US Census, it is estimated that approximately 230 people within the Town live on farms. As discussed throughout Section 1, approximately 10,008 acres of the Town are used agriculturally, resulting in a calculated population density of substantially less than one (1) person per acre (or 15 people per square mile) for just over 30% of the Town. The hamlets of Orient and Peconic, excluding agricultural land, are included in the rural classification, as their population density is calculated to be 280 people per square mile. Nearly 18.7%, or 6,145 acres of the Town are preserved for open space, and no one lives on this land. Conversely, if one calculates the population density of the remainder of the Planning Unit assuming a population of 20,108 people living in the remaining 13,402 acres, the result is just less than one (1) person per acre (or 961 people per square mile) for the remaining land usage, which still falls firmly within the suburban classification as defined by NYSDEC for purposes of solid waste planning.

According to an analysis completed by the Suffolk County Planning Commission based on 2010 U.S. Census data, the Town's summer population increases to 54,160, a 147% increase, and includes an influx of daytime tourists as well, all of which sizably impacts waste disposal in the Town of Southold. Typically by June, the total amount of waste handled by the Town doubles from the average for winter months, peaking in late July or early August over three times the amount of waste handled in February. However, the town has been handling the variation without an impact to the collection, disposal or recycling of the Town of Southold waste stream for quite some time. This seasonal population, however, must be taken into account for per capita rate calculations, future projection, and solid waste management planning purposes.

1.7 General Land Use

Based on available data, including that provided by the Town of Southold's Planning Department, Existing Land Use within the Town is depicted below in Table 1-5. Note this table excludes acreages contained within the community of Fisher's Island, which is not part of the Planning Unit. A sub-total of the Commercial, Industrial, and Institutional (CII) land use has been calculated for use throughout this plan.

Table 1-5. Town of Southold - Planning Unit Existing Land Use

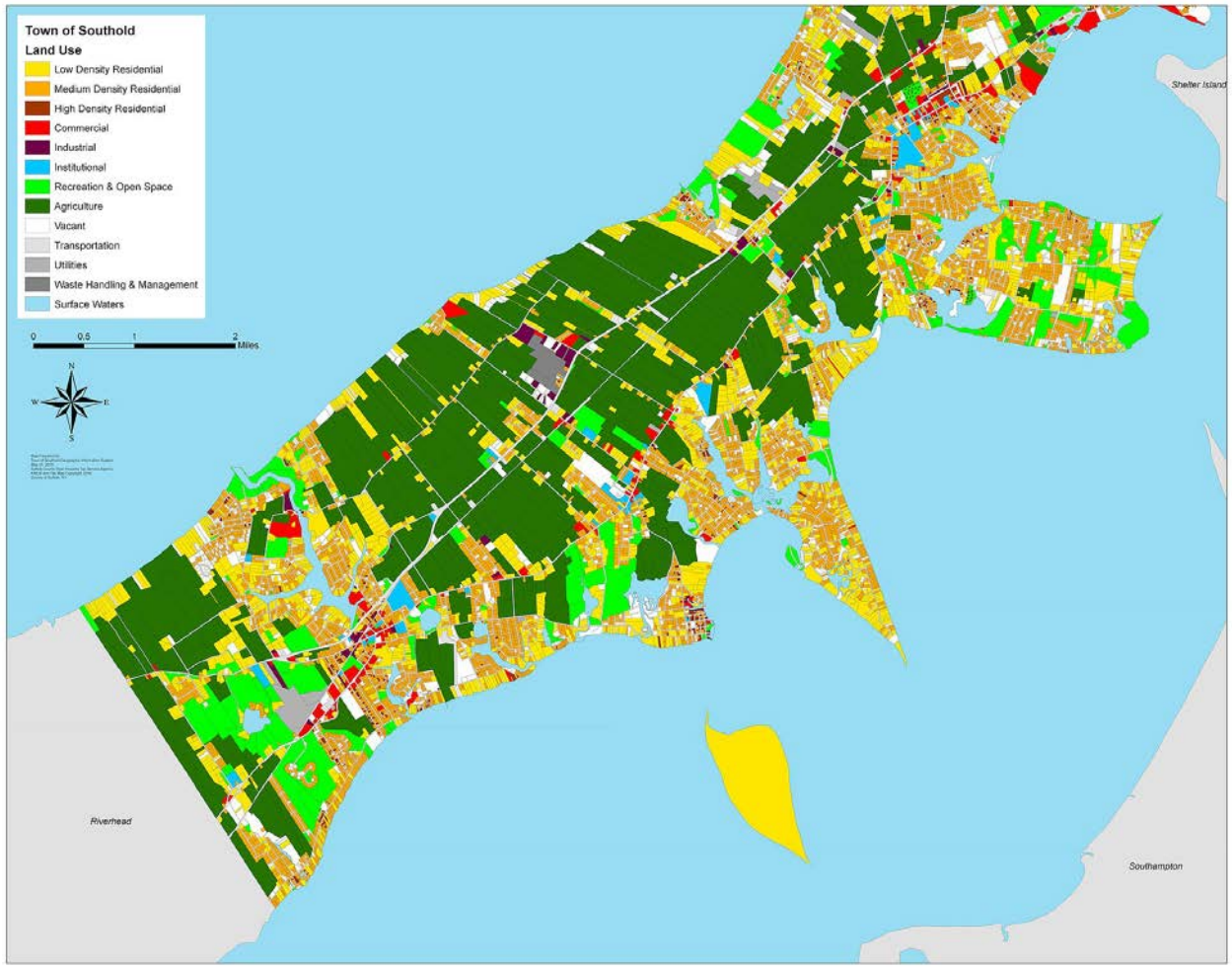
Land Use	Acres	% of Total
Agriculture	10,008(1)	30.43%
Commercial (general)	533	1.62%
Industrial	208	0.63%
Institutional	449(2)	1.37%
Office (major)(3)	12	0.04%
Open Space/Recreation/ Underwater	6,145	18.68%
Residential	9,946(4)	30.24%
Retail (major)(3)	62	0.19%
Utilities/Infrastructure	2,375	7.22%
Vacant	3,155(5)	9.59%
Subtotal CII	1,264	3.84%
Subtotal CII+ Agricultural	11,272	34.3%
Total	**32,893**	**100.00%**

Note(1): Town planning officials indicate over 4,200 of these acres are protected from conversion to other uses.
Note(2): 816 acres of the former Plum Island facility are being calculated for purposes of this plan as open space, as they are currently not generating waste, and Southold residents have been actively petitioning the Federal government for its conversion to open space.
Note(3): Source is Suffolk County Planning Department
Note(4): Town planning officials indicate nearly 40% of residential homes are only occupied on a seasonal basis, primarily from late spring to early fall.
Note(5): Of this vacant land, Town Planning officials indicate the majority of vacant land is currently zoned for single-family residential use, and that results of a hypothetical build-out analysis indicate the potential for this land to be converted to a maximum of 5,319 single-family homes over time. This is further discussed in Section 4.

Section 1 – Description of Planning Unit

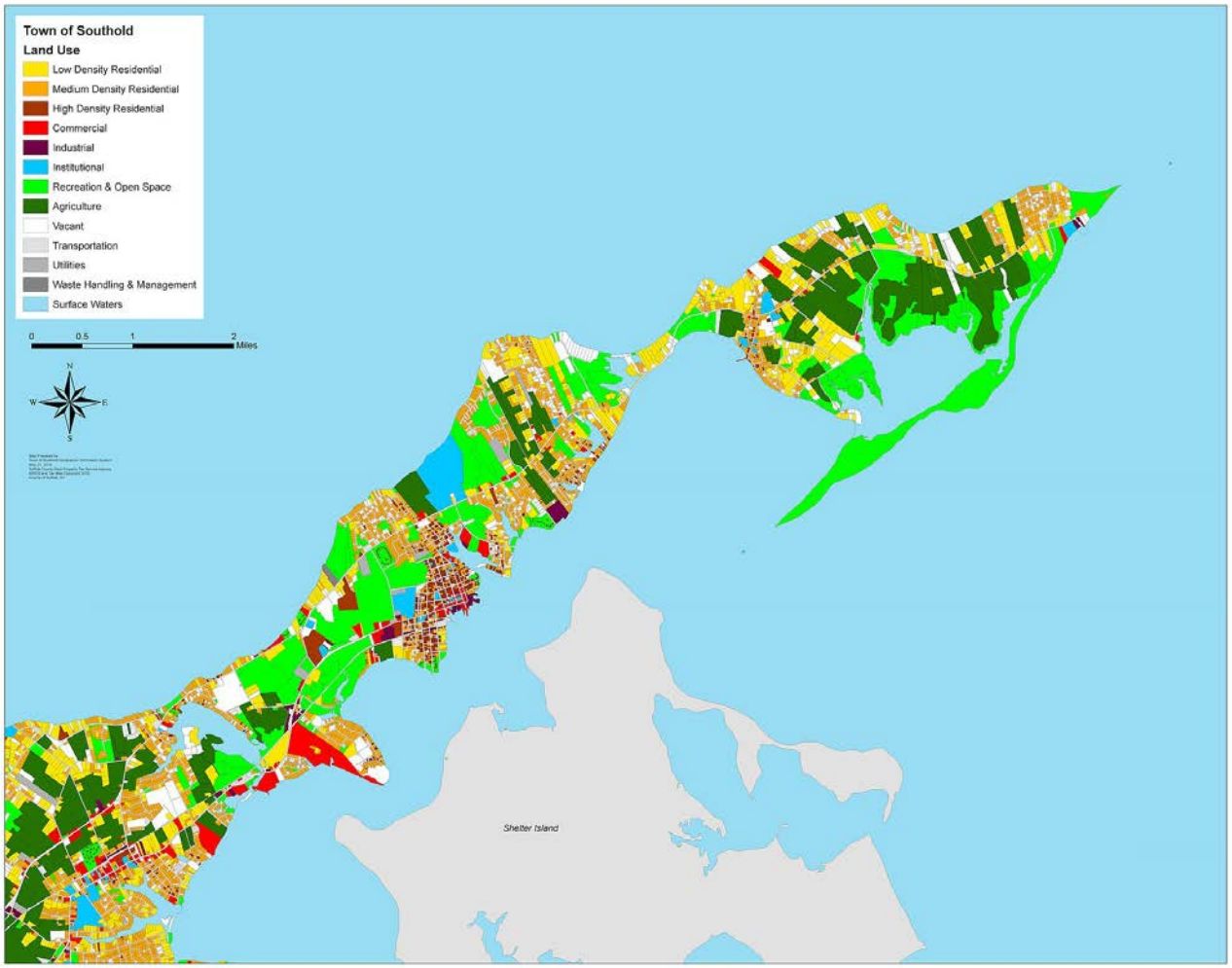
As further illustrated by the map presented as Figure 1-3 and Figure 1-4 on the following pages, the Town of Southold is largely characterized by agricultural and residential land use, with a secondary significant portion of the Town's land being protected open space.

Figure 1-3. Town of Southold Land Use - West



Source: Town of Southold GIS Division

Figure 1-4. Town of Southold Land Use - East



Source: Town of Southold GIS Division

Section 1 – Description of Planning Unit

The Town Waste Management District covers the entire Town, as well as the Village of Greenport. No collection services are provided, but residents can either contract privately or self-haul. (Approximately 55% of the waste handled at the Town facility is delivered by private haulers from curbside collection routes, with 45% delivered by self-haulers). Some indicative statistics households included in the District are described by 2010 U.S. Census data are presented below:

- Total Households: 9,090 households (average size 2.38)
- Family Households: 6,002 households (average size 2.88)
- Families with Children: 2,008 households
- Seniors (65+) living alone: 1,434 households

According to the 2010 U.S. Census, of the 9,090 households, 7,237 reside in owner-occupied housing units and 1,853 reside in rental units.

Agricultural land use is the Town's primary economic generator, accounting for approximately 30% of all land use. The Town of Southold has emerged as one of the leading agricultural production regions in New York State for a number of different crops. By its nature, the agricultural industry generates primarily organic waste, not MSW, and much of the organic waste is able to be re-used in compost and other materials to benefit the growing process. An additional 6145 acres of land is used for open space or preserved from future development, resulting in approximately 49% of the Town's land that generates little or no waste. The subject of agricultural waste generation is discussed further in Section 2.

Commercial and institutional activity located in the Planning Unit are limited to approximately 3.2 percent (1,056 acres)(1) of the town's total acreage. Commercial and community activities are primarily concentrated in the larger hamlet centers of Cutchogue, Laurel, Mattituck, and Southold, along the Main Road (NYS Route 25), with some commercial activity, primarily related to the agricultural and winery industries located along County Road 48. The incorporated Village of Greenport is a main commercial center as well. As the Town's economy has been historically tied to the surrounding surface waters of the Long Island Sound and the Peconic Bay, there remain small commercial areas near historic waterfront landings, which now often feature private or public marinas.

Note(1): Refer to Table 1-5 in Section 1.7.

Industrially-zoned lands in the Town occupy just 0.6% (208 acres)(1) of the Town's total area, though at present time, industrial usage is less than this. Most of this land use is concentrated near the Town Waste Management complex, or scattered within other commercial areas. In some cases, the industrial parcels are located along the LIRR right-of-way, or in others, they support commercial activities near the waterfront.

The Suffolk County Planning Department maintains statistics on Hotels/Motels, Major Office space and major retail space within the Town. It is estimated based on available County and Town data, that the Town contains roughly a total of 5,400,000 square feet of commercial, institutional, and industrial space broken down approximately as follows: approximately 240,000 square feet of office/cultural space, 850,000 square feet of retail/grocery space, 1,300,000 square feet of hospitality space (i.e. hotel, motel, restaurants, and agri-tourism), and 2,900,000 square feet industrial space (which includes primarily warehousing, marinas, and auto-related functions) Not included in these square footage totals are the public school systems, which serve a student population of approximately 3,000 students. Further details regarding private commercial development are provided in Appendix B.

Note(1):Refer to Table 5.1 in Section 1.7
Note(2): Source Suffolk County Planning Department, Statistics Division
Note(3): Source Suffolk County Master Plan 2035: Framework for the Future

1.8 Community Facilities and Parks

The Planning Unit is served by five public school districts, six volunteer fire districts, and police protection is mostly provided by the Town of Southold Police Department.

Detailed lists of all schools, local parks, hospitals, nursing homes/assisted living, and adult rehabilitation centers are included in Appendix C, as well as a map of lands protected from further development

The Town is home to one state park, Orient Beach State Park, and contains no federal parks. As far as the Town understands, the waste management policy at this park is "carry in, carry out."

Section 2 Solid Waste Quantities and Composition

2.1 Overview

The Town of Southold's Solid Waste Management District is responsible for the environmentally sound disposal of solid waste within the Town. The Incorporated Village of Greenport participates in the district, and the Town retains the authority to license carters, even within Village borders. This program provides for the handling of municipal solid waste (MSW) and recyclables for over 9,000 households, but does not include the hamlet of Fishers Island, which is an island that is a separate planning unit due to the handling of all of their waste via boat to the State of Connecticut.

The key element of the Town's program is its transfer station and recycling center. The Town does not provide collection services; residents must self-haul their waste to the transfer station or contract privately for collection. Commercial and institutional solid waste is also accepted at the Town facility. A "pay as you throw system" is in effect, charging residents by using designated "Town bags" which are priced based on the capacity of waste the bags can hold , as opposed to a flat fee or an annual property tax assessment, which is how most Suffolk County municipalities fund their residential waste disposal costs.

While the Town of Southold Solid Waste Management District and its facilities were created to serve the residents of the Towns of Southold, waste from outside the Town is accepted so long as it is delivered pursuant to the Town's solid waste management rules and policies. Prior to 2015 close to one-third of the residential waste handled by the transfer station originated from outside the planning unit, nearly all of it coming from collection routes in northern Southampton Town and eastern portions of Riverhead Town. . However, since the opening of a private transfer station in Cutchogue in 2015, virtually no out-of-town waste has been delivered to the Southold facility. The private transfer station also handles most of the CII waste generated throughout the Town.

Due to the Town's geographic isolation from most waste handling facilities in Western Suffolk County and great distance from the mainland of the eastern United States, it is unlikely any statistically significant quantities of waste are generated that are NOT handled by facilities within the Town. As such, only waste handled at facilities within the Town will be considered for the purposes of this plan.

At the time of plan initiation, the year of 2013 was the most recent year for complete demographic information to correspond to waste management data available. As such, for the purposes of this plan, thorough analyses and waste generation estimates will be based on data from the year 2013.

2.2 Current Estimates of Solid Waste Generation

2.2.1 Residential Waste Quantities

Following please find a discussion of the various disposal methods available for residential waste generated within the Town, and in Section 2.2.1.5., a summary estimating the breakdown handled by each method.

2.2.1.1 Municipal Transfer Station

The Town transfer station accepts waste from all sectors within the Town, and is by far the most cost-effective disposal option for residents, resulting in an estimated 90% of residential waste generated within the Town being handled by the Town facility. Approximately 55% of this waste is delivered by private carters, 45% by self haulers. While in the past much of the commercial waste also came to the Town facility, since the opening of a private transfer station in Cutchogue in 2015, the Town facility is estimated to handle only about 10% of commercial waste generated within the Town.

Household recyclables and yard waste are also accepted for processing and sale to markets. The recyclables are delivered mixed together in a "single stream" and are delivered in a breakdown similar to that of residential waste (55% vs. 45%). Most of the yard waste is delivered by commercial landscapers and Town Highway Department trucks in performance of their "seasonal cleanup" service to Town residents (70%), with the remainder brought in by self-haulers.

Please see Table 2-1 below for a tabulation of total residential waste quantities received at the Town transfer station from the service area.

Table 2-1. Total Residential Tonnage

Calendar Year	Total Residential Tonnage Totals
2015	6,463
2014	6,839

2013	6,654
2012	5,595
2011	5,809
2010	6,336

An analysis of the above residential waste tonnage received over the last five years does not reveal a predictable trend in the generation rate of residential waste from 2010 to 2015. It is, however, likely that overall the Planning Unit may see some modest growth in waste generation throughout the Planning Period, because the Town of Southold has been the subject of both residential and economic growth during the same timeframe. This is due to its having been largely undeveloped for many years and the popular agri-tourism industry that has been expanding. As has been its practice for many years now, in response to this growth, the Town intends to continue its pro-active programs to reduce waste generation and encourage recycling

The Town waste management personnel carefully monitor in-coming waste, and as they run a yard waste composting operation at the same location, are able to ensure there is very little yard waste in the Town's disposal stream.

As reported in the Town's prior LSWMP, in 1994, the Town generated an estimated 11,362 tons of MSW for a permanent population of 20,002 and a seasonal population of 10,000, for a maximum population of 30,002. As of 2013, the Town generated a minimum of 6650 tons for a permanent population of 21,800, with a maximum population of 54,160, including seasonal visitors. Thus, while the population has increased, the quantities of waste handled by the Town have declined, likely due to primarily to greater participation in recycling programs, but also due to a greater availability of alternatives. It appears from preliminary analysis that the per capita residential waste generation rates have declined substantially.

2.2.1.2 Town "Pay as You Throw" (PAYT)

The Town's PAYT system is further described in Section 3.1.5. The system, which requires all residents to dispose of waste primarily in approved "Town bags", provides some metrics on the maximum waste lawfully disposed of within the Town each year. For 2015, three bag sizes were sold. The quantities of

residential waste generated within the Town should roughly correspond to the capacity of the bags sold. The quantities depicted in the following table are provided for reference and to demonstrate the success of the Town's PAYT system. Note the actual amount of waste handled was less than the capacity of bags purchased, which indicates a high level of enthusiasm for the program. It should be further noted that bulky items or items not easily bagged can be paid for by weight, with residents self-hauling to the Town facility and passing over their scale.

Table 2-2. Town of Southold Residential MSW Bag Sales

Bag Size	Capacity (Gallons)	Total Quantities Sold	Total Gallons in Bags Sold
Small	16	77,665	1,242,640
Medium	36	171,835	6,186,060
Large	56	112,366	6,292,496
Totals		**361,866**	**13,721,196**
Gallons to Cubic Yards			67,934
Cubic Yards to Tons 225/cy[1])			7,643

Note (1): Conversion factor as per table supplied by NYSDEC for uncompacted MSW

2.2.1.3 Private Collection

Not all of the waste generated by residential complexes is included in Table 2-1, as several of the complexes are collected as commercial waste by private carters, and hauled to private facilities. According to the Suffolk County Planning Department, within the Town of Southold there are 868 housing units in Apartment, Condominium and Town House Complexes. Using the 2013 household size for the unincorporated areas of Southold of 2.35 people per household, this results in an estimated 2,040 people residing in these complexes. All of the units are serviced as commercial entities. Based on the EPA per capita waste generation rate of 4.4 lbs/person/day, , a reasonable per unit estimate for multi-family residential complexes generate is 1.9 tons per year per unit. Using a factor of 1.9 tons/unit yields an estimate of 1640 tons of multi-residential waste within the Town of Southold is privately collected and handled as commercial

waste. Refer to Sections 6 & 7 for initiatives included in this plan to refine this estimate in the future.

2.2.1.4 Private Transfer Station

In addition to the Town transfer station, a private facility is currently handling a significant portion of the Town's waste. This facility became fully operational for the reporting year of 2015. The vast majority of the waste handled at this facility is generated either by the CII sector in Southold or within other Towns. Since all residential waste generated in the Town, whether self-hauled or picked up at curbside by private haulers, must be in the "Town bags", virtually all of that waste is presumed to be going to the Town facility as there are no tip or other fees charged for its disposal, the costs for which were paid by the residents when they purchased the bags. It wouldn't make sense to bring "Town bag" waste to a private facility as that operator would have to charge his customers AGAIN to pay his private disposal costs. In this way, the Town bag program acts as a de-facto flow control system. Any Town-originated residential waste going to the private transfer station either came from multi-unit complexes which, as mentioned, are generally treated as commercial waste not subject to the PAYT system, or came with haulers collecting waste in violation of the PAYT ordinances. A drawback of the PAYT system is that residents may try to dump their waste in unattended commercial containers. Statistically, the majority of people in society follow the rules. As such, an allowance of 400 tons, approximately 5% of known residential waste stream, will be added into the estimate to account for residents who are finding alternate methods to dispose of their waste.

2.2.1.5 Summary

The table below summarizes the sources and quantities of residential household solid waste generated throughout the Town of Southold and the Incorporated Village of Greenport.

Table 2-3. Estimated Residential Waste Generated in 2013

Description	Annual Total (Tons)
Residential - Municipal Transfer Station	6,654

Residential Complexes – estimate –privately collected	1,640
Residential –alternate disposal - estimated	400
Total 2013 Residential Waste	**8,694**

The quantities presented above in Table 2-3 will be used as the basis for further analysis throughout the remainder of this solid waste management plan.

2.2.2 Commercial and Institutional Waste Quantities

The Town of Southold currently has little involvement with the handling of commercial and institutional waste beyond its intake at their transfer station, and as such, comprehensive and detailed data regarding these waste streams is not currently readily available. As such, various methodologies are being applied to estimate the quantities and characteristics of the commercial and industrial waste stream.

Regarding institutional waste data gaps, Section 6 contains specific initiatives for possible future remedies, but it is important to understand that the total population utilizing institutional facilities such as schools and healthcare facilities is very low due to the limited number and small capacity of said facilities. Local, County, State and Federal recreational facilities within the Town are likely more heavily used due to the Town's economic reliance on tourism. It is, however, the Town's understanding that the Federal parks within their boundaries adhere to strict "carry in, carry out" policies, and as such, do not impact the Town's waste generation rates. For State and County parks, refer to Initiative 41 detailed in Sections 6 & 7 which relates to data collection on this subject. Waste generated in local parks which would be disposed of locally is included in the discussions of the Town and private transfer stations below.

Following is a discussion of the various data and methods used to estimate the amount of commercial and institutional waste generated within the Town of Southold. Please note that due to the Town's geographic isolation from the western portion of the Suffolk County, it is overwhelmingly likely that the vast majority of waste generated within the Town is handled by transfer facilities located within the Town's boundaries.

2.2.2.1 Town Transfer Station

The Town of Southold operates a waste transfer station which accepts commercial waste. Though it is likely this facility was capturing a significant portion of waste generated in the CII sector prior to 2015 (See 2.2.2.2 below), it is reasonable that commercial and institutional entities located in the western section of the Town may have been utilizing facilities in nearby Riverhead or Eastern Brookhaven. As such, the commercial MSW tally of 10,210 tons for 2013 likely represents just a portion of the CII waste generated for 2013. It is noted that this amount dropped substantially subsequent to the commencement of operations of a private waste transfer station, which is discussed in following subsections.

2.2.2.2 Private Transfer Station

A private waste transfer station, Peconic Recycling and Transfer Corporation (PRT), began operations recently (NYSDEC Activity #52T120, Permit #1-4738-03697/00001). 2013 data is not available for this operation, but the facility's Annual Report for the period of 2015 indicates they handled 35,388 tons of MSW, a small portion of which was likely residential waste, as discussed in Section 2.2.1. As the amounts of MSW handled by the Town transfer station were relatively consistent from 2012 through 2014, and then experienced a sharp decline with the opening of PRT, it is reasonable to presume that the total waste generated within the Southold Planning Unit in 2015 is comparable to that generated in 2013. Had PRT been operational in 2013, they likely would have handled a comparable amount of waste to that in 2015.

This transfer station also handles all of the waste generated in the nearby Town of Shelter Island, as well as a significant portion of waste generated within the Town of Riverhead. Waste generated within other Towns is handled as well. As such, anecdotally based on informal surveys, it is estimated that 15%, or approximately 5310 tons, of the waste handled is generated by the CII Sector within the Town of Southold Planning Unit.

2.2.2.3 Estimates Based on other Studies

LKMA had conducted a study of various waste generation studies performed across the nation, and presents those herein for comparison.

New York State

NYSDEC's Beyond Waste concludes that 46% of all waste generated in New York State is commercial and institutional (versus 54% is residential). Using this ratio, and holding the residential waste generated at 8,694 tons/year (as outlined in throughout this section) suggests the Town of Southold generates 7,406 tons/year of commercial sector waste. The data presented within this plan is not in line with this estimate. Perhaps because of the Town's high percentage of agricultural land, or the large change in seasonal population, this guideline does not seem to apply to the Town of Southold, as it indicates waste generation rates that are less than what it is known to exist.

Other Communities within New York State

LMKA evaluated every recently NYSDEC-approved Local Solid Waste Management Plan, as posted on their website at http://www.dec.ny.gov/chemical/65541.html in anticipation of finding another Planning Unit within New York State with similar demographics and seasonal variations. LKMA identified Cortland County and Saratoga County as examples of relevant communities, however, detailed waste generation rates were not available for these communities. Counties such as Onondaga and Albany include metropolitan areas with dense populations, and are not representative of the Town of Southold. Other upstate rural communities with similar agricultural development and year-round populations do not have the seasonal fluctuations in population that Southold experiences. As such, it was determined there was no other recent waste generation study within New York State at this time that was suitable for use as a basis for waste generation rates in this plan.

The State of California

The California Department of Resources, Recycling and Recovery (CalRecycle) publishes a summary of various waste studies performed from 1991-1997 with generation rates for various types of commercial and office use ranging from 5-

250 pounds/1000 square foot of space/day. The studies were performed primarily in the Los Angeles area, and thus reflect rates of a densely populated area. As such, they may or may not be applicable to the Town of Southold. (Refer to Appendix D for summary data from CalRecycle).

Though in part due to different types of commercial uses, the variability of this data illustrates the challenge of accurately estimating waste generation rates. Though the studies are older, US EPA findings are indicating that though recycling has increased over the past twenty years, waste generation rates have remained consistent. LKMA's analysis of the study below, combined with the square footage statistics presented in Section 1.7 and adjusted for seasonal business operation, suggests 13,748 tons of commercial waste may be generated on an annual basis within the Town of Southold.

Table 2-4. CalRecycle Commercial Sector – Study Summary

Gen. Rate	Units of Measure	Source Date	Source Type
5	lb/1000 sq ft/day	1992	Commercial
13	lb/1000 sq ft/day	1993	Commercial
46	lb/1000 sq ft/day	1992	Retail
6	lb/1000 sq ft/day	1991	Retail
2.5	lb/1000 sq ft/day	1992	Retail
6	lb/1000 sq ft/day	1992	Office
6	lb/1000 sq ft/day	1991	Office
84	lb/1000 sq ft/day	1992	Office
90	lb/1000 sq ft/day	1997	Auto dealer and service stations
31.2	lb/1000 sq ft/day	1997	Retail
250	lb/1000 sq ft/day	1997	Shopping Center
31.2	lb/1000 sq ft/day	1997	Supermarket
47.6	*lb/1000 sq ft/day*	*Average*	
6	*lb/1000 sq ft/day*	*Mode*	

Gen. Rate	Units of Measure	Source Date	Source Type
27.9	*lb/1000 sq ft/day*	*Adjusted Average, excluding outliers*	
0.0279	**lb/sq ft/day**	Adjusted Average, excluding outliers	
150,660	**lbs/day**	(x 5,400,000 square feet of commercial development in Southold)	
75.3	**tons/day**	(x 1/2000 tons/lb)	
27,495	**tons/year**	(x 365 days/year)	
13,748	**tons/year**	Adjusted for Seasonal Business operation (most businesses open May 1-November 1; waste pro-rated 50%)	

2.2.2.4 Summary Commercial Waste Generation Rates

A side-by-side comparison of the three different methods used to estimate the commercial, institutional and industrial MSW generated within the Town of Southold is presented below. The amount of waste estimated using statistics from the NYSDEC Beyond Waste is lower than the other three totals. A possible cause for this may be that the relatively low population density throughout the majority of New York State may drive down summary statistics for the state. In contrast, application of rates from study for the Los Angeles, CA yielded an estimate for Southold that was significantly higher than the local data, likely due to those rates being more indicative of an urban population, rather than the combination of rural and suburban populations found within Southold.

The differences in these waste generation estimates illustrate the need for the Town to continuously improve data collection efforts, not just of waste collection data, but also to create inventories of commercial, industrial, and institutional facilities within the Town so that they may more accurately apply generation rates from reputable studies as well. For the purposes of this plan, LKMA is choosing to rely upon the local data provided, as it is likely that the tourism industry is the reason that CII generation rates are greater than residential waste generation rates. Beyond Waste and the many extant studies on commercial waste rates which would indicate that commercial waste generation in a locality is less than residential waste generation, but the unique aspects of the Town account for the

differences. As such, the generation estimate based on local data of 9,303 tons per year, derived in the table below, is slightly more than the estimated residential waste estimate, and appears to most likely reflect conditions within the Town of Southold Planning Unit. This figure will be utilized throughout the LSWMP as a baseline for analysis.

Table 2-5. Estimated Commercial Waster Generated

Description	Annual Tonnage Total
Town of Southold Data – Municipal Transfer station– self-hauled (2013)	10,210
Town of Southold Data – Municipal Transfer station– self-hauled (2015)	3,086
Private Collection – based on local private transfer facility (2015)	5,310
2015 Local Data Total	8,396
Estimate based on Local Data (average of 2013 and 2015 data)	**9,303**
NYS Beyond Waste	**7,406**
CalRecycle Comparison	**13,748**

2.2.3 Organics

2.2.3.1 Food Waste

At the commencement of the planning process, the Town of Southold created food waste surveys and publicized the survey effort to those establishments such as restaurants and supermarkets that were identified to be major food waste generators. A sample survey form is included as Appendix E. Very few responses were received, however the few respondents did indicate that they would be interested in learning how to reduce disposal costs by participating either in source-separating for composting at the Town operation, or through food donation programs. Unfortunately, no useable data was gathered in the effort, as the sample size was too small. However, the Town will examine additional means and methods to engage food waste generators throughout this plan.

As more detailed local data regarding food waste is not available at this point and time, this plan will rely on waste composition model provided by the NYSDEC

for the estimated amount of food waste contained within the Town's waste stream. This model, customized to the Town of Southold by adjusting for allowable local parameters, is fully presented in Section 2.5.1. It suggests 13.09%, or 2,355 tons, of the MSW generated within the Town on an annual basis is food scraps. Future goals to remedy the lack of specific local data are presented in Sections 5-7. At the present time, this tonnage is included within the residential and commercial waste estimates presented in Table 2-1 through Table 2-3. The estimate is provided as a baseline for future planning purposes, and this sub-section has been provided as a demonstration of the Town's commitment to addressing this waste stream in the future.

Commented [LFC1]: Review and update if necessary

2.2.3.2 Yard Waste

The Town of Southold operates a municipal composting operation which makes it affordable for local residents and businesses to recycle yard waste. In 2013, the Town of Southold composting operation received a total of 12,843 tons of yard waste, including brush, leaves and woodchips. This does account for a portion of yard waste, and agricultural waste, generated from the CII sector, though it is difficult to ascertain what portion.

Compared to the NYSDEC Waste Composition model presented in Section 2.5.1, this is approximately ten (10) times the amount anticipated to exist within the Planning Unit's waste stream. So while it is likely there may be residential and CII establishments are serviced by private landscapers who do not utilize the Town facility, the data suggests the Town's facility is by far the most popular disposal option. However, to account for this, an allowance of 10%, or 1284 tons, of the total yard waste handled by the Town will be added into the overall estimate of generation of yard waste.

2.2.3.3 Agricultural Waste

As over 30% of the land use in the Town of Southold is designated for agricultural production, a separate discussion of agricultural waste is provided herein. To get a better picture of the waste generated by the agricultural community, LKMA interviewed several professionals in the industry, some of whom hold leadership positions in various local trade councils and committees,

and thus have knowledge of the practices of many agricultural establishments besides their own. The independent interviews all yielded the same results:

- Little, if any, organic waste is disposed of that is generated from traditional farm field operations. For example, unused crops and excess plant materials are in almost all instances tilled back in the soil to serve as organic fertilizer. Anything that is either diseased or otherwise unsuitable for re-use would be transported to the Town Transfer Facility, as the industry considers this the cheapest option. As such, this waste would be included in the totals of either yard waste or MSW that the Town reports in herein.
- The consensus among those interviewed that the vast majority of agricultural establishments, not including those such as wineries that are major agri-tourism destinations, are owner-occupied family farms. As such, they generate the equivalent of a single family residence, and in cases where there are farm stands, additionally generate paper and miscellaneous waste equivalent to a small retail establishment. In Section 1.6, it was estimated an average of 80 farms such as this are active at any one time within the Town. It would be thus reasonable to estimate the amount of waste generated by this portion of the agricultural sector is eighty (80) times (X) (MSW per single family home + MSW per small retail business in Southold). This amount is therefore not included in the organics estimate, but rather is incorporated within the estimates of residential and CII sector MSW presented in Sections 2.2.1 and 2.2.2.
- In Section 1.6, it was estimated approximately 30 working vineyards, breweries and/or distilleries are active within the Town. Industry experts indicated that a significant amount of brush is generated each year by vineyards who cut back their grape vines as part of the annual pruning process. Additionally, food waste is generated by those with catering facilities and/or full service restaurants. However, these waste estimates would be included in figures presented above for food waste and yard waste.

2.2.3.4 Organics Summary

A summary table is provided below of the generation estimates presented within this Section.

Table 2-6. Southold Planning Unit Organic Waste Summary

Description	Annual Total (Tons)
Food Waste[1]	2,355
Yard Waste - municipal	12,843
Yard Waste - other	1,284
Total 2013 Organic Waste	**16,482**

Note(1): This total is a subset of MSW presented in Sections 2.2.1 and 2.2.2.

2.2.4 Biosolids

The majority of the Town of Southold is not covered by sewage treatment districts, however, a small district operated by the Village of Greenport does exist.

The Greenport Sewer District Sewage Plant generates sludge on an annual basis. The Sewer District reports generating 60.5 metric tons of bio-solids in 2013. Currently, after reduction of this waste stream through anaerobic digestion, the biosolids are dried and processed locally. As much of the material is recovered for local agricultural use as is possible. It is anticipated that, as the organics recovery effort is gaining increasing State and Federal advocacy and promotion, and STP treatment technology advances, expanded reduction and recovery options may become available in the future.

Table 2-7 follows, describing the net quantities of biosolids generated, after anaerobic digestion. The Village will continue to monitor advances in technology and organics recovery markets to continue to limit the portion of this waste stream that is landfilled.

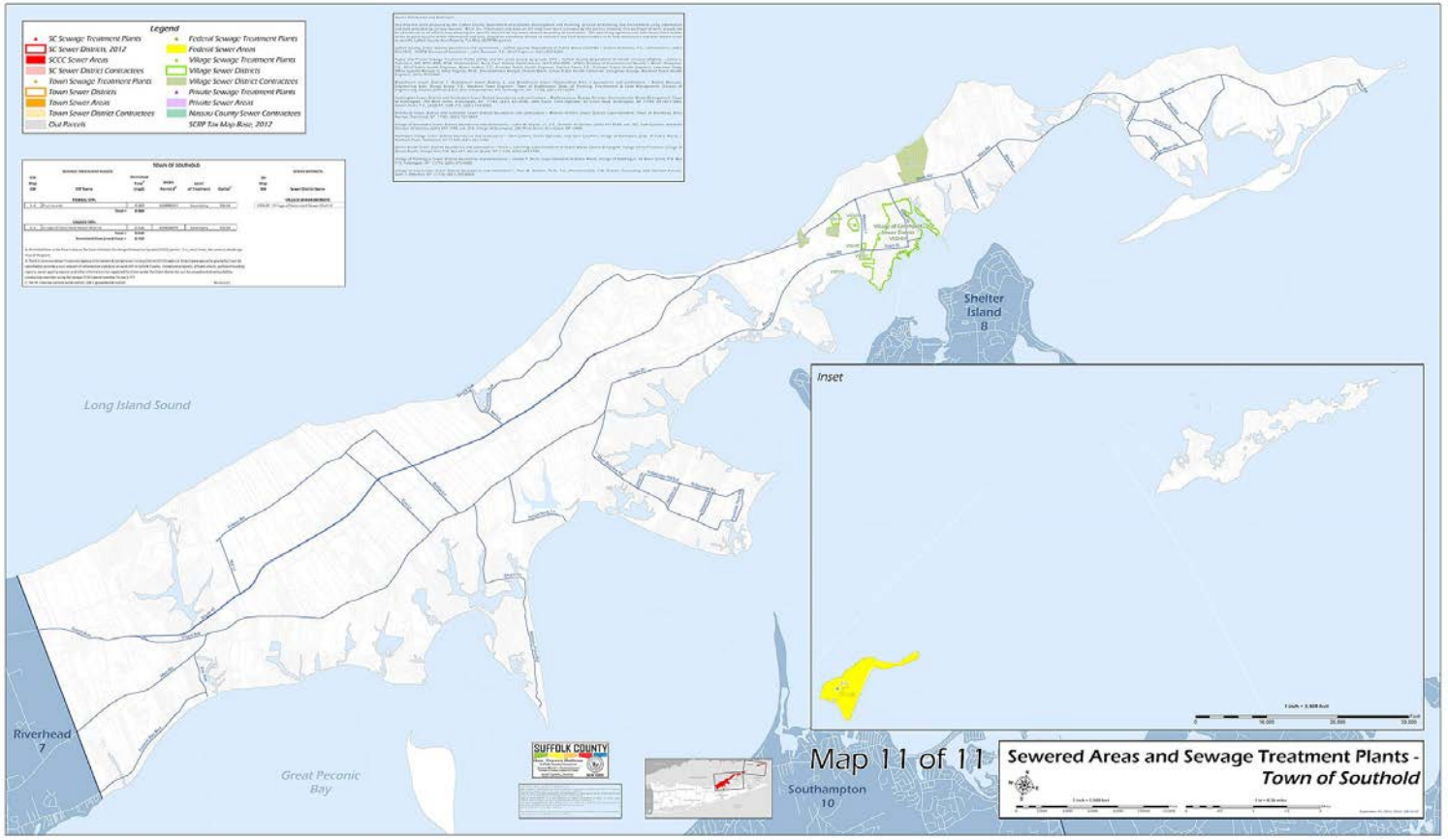
Table 2-7. Greenport Sewer District Annual Sludge Disposal

Year	Dry Solids (Metric Tons)	Dry Solids (Tons)
2012	28.8	31.8
2013	**60.5**	66.7

2014	143	157.7
2015	46.3	51

According to Figure 2-1 presented below, the Greenport Sewer District has the only active treatment facility within the Town. (Note the Plum Island facility is currently inactive, and plans are underway to preserve the island as open space.) As of 2013, the Greenport Sewage Treatment Plant (STP) was operating at 65% of its permitted capacity, leading to the conclusion that its max capacity, the biosolids generated would be approximately 103 tons. That would represent approximately 0.2% of all waste generated within the Town. It is unlikely that biosolids would expand during this planning period to the point where it would become of priority in the face of Town's limited resources to further quantifying and characterizing of this waste stream.

Figure 2-1. Sewer Districts and Plants in Southold



Source: Suffolk County Department of Economic Development and Planning

2.2.5 Construction and Demolition Waste

New York State's Part 360 defines Construction and Demolition (C&D) waste as "uncontaminated solid waste resulting from the construction, remodeling, repair, and demolition of utilities, structures, and roads; and uncontaminated solid waste resulting from land clearing". In practice, the NYSDEC Annual Report form completed by all authorized C&D processors includes categorical reporting for Aggregate, Asphalt, Brick, Brush/Stumps, Bulk Metal, Concrete, Mixed C&D, Mixed Fill, Other Masonry, Paper/Cardboard, Rock, Roofing Shingles, Clean Soil, Wallboard, Wood Chips, Clean Wood, and Emergency Debris. This definition is somewhat wider than that used for many C&D studies, which focus primarily on materials generated from buildings.

Because the wide variety of sources for C&D waste, and the many markets available for processing and re-use, it is furthermore difficult to distinguish C&D waste generation rates from C&D disposal rates. For example, it is common in site development activities for aging asphalt pavement to be processed and re-used as sub-base on site, or on nearby sites being developed concurrently. While technically this is waste generated and then 100% recycled, in typical practice many activities of this nature may escape any data collection process by municipal, county and state agencies.

The Town of Southold transfer station handles C&D. All C&D received is transferred to the Town of Brookhaven C&D processing facility, as such, it is possible to accurately account for all C&D received. However, there are several other outlets for C&D within the Town. There is no definitive information regarding what portion the Town handles, although due to its relatively high tip fees on C&D ($120/ton) virtually all containerized C&D is handled privately. This is estimated to account for 80% of the C&D generated within the planning unit. C&D handled by the Town facility is limited to small amounts generated by "do-it-yourself" homeowner projects.

For the current plan, in order to comply with the Agency's goals outlined in Beyond Waste to more accurately characterize and calculate waste generation rates, LKMA has chosen to examine three different sources of data to generally quantify and characterize C&D waste generated within the Town of Southold: existing literature and/or studies conducted by various agencies and organizations within the United States, Town of Southold Transfer Station records, and NYSDEC Annual Reports for C&D processors and

landfills located within Suffolk County, NY. Future efforts to quantify this waste stream are discussed in Sections 6 & 7.

2.2.5.1 Literature Study

Over the past few years, LKMA has conducted a literature search of various technical reports for studies that have been made researching C&D material and in particular, any data presented on generation rates for this waste stream. We have also consulted the NYSDEC Beyond Waste Solid Waste Management Plan. A summary of some prominent studies follows.

The USEPA released a report in 2009 entitled "Estimating 2003 Building Related C&D Material Amounts" and concluded that the C&D per capita generation rate from building-related construction in 2003 is 3.2 lbs per day per capita, an increase from an earlier 1997 report of 2.8 lbs. per day per capita for a national average.

A study conducted by DSM Environmental Services, Inc. in May of 2008 for the State of Massachusetts researching the C&D industry presented an average per capita generation rate for C&D at 1.7 pounds per person per day, based on aggregating 11 studies of C&D both generated and disposed of, including the 1997 EPA study. The rates of individual studies ranged from .8 (disposed C&D only) to 2.9 (from the State of Delaware, who has tight state controls on solid waste disposal facilities). LKMA performed an analysis of the data presented in this study, excluding studies which focused only on quantities of C&D disposed, not total generation rates. The resulting per capita rate was 1.61 lbs/person/day.

Another document issued in June 2009 by the Northeast Waste Management Officials Association (NEWMOA) entitled "Construction and Demolition Waste Management in the North East" reports a New York State C&D generation rate of 0.29 tons per capita per year which equates to 1.59 pounds per day per capita. This figure matches closely with a calculation LKMA has performed using a reported statewide C&D total tonnage of approximately 5,500,000 tons generated annually and a statewide population of 20 million residents (a C&D per capita generation rate of 1.51 lbs./person/day). This figure also closely matches the LKMA analysis of the data presented in the 2008 Massachusetts report presented above.

It is interesting to note that the two largest studies available, the 2009 EPA study and the 2006 California study have widely different rates – 3.2 versus 1.3 lbs per day per capita. It is important to understand that local construction trends and natural resources available can change these rates greatly. For an example, an event such as a tropical storm or hurricane would raise the amounts of brush and stumps substantially in the year of the event, and then perhaps a year or two afterwards, as insurance and other aid money becomes available, raise the amounts of building materials disposed of. As such, even the composition of the waste is not consistent from year-to-year.

In summary, the rates provided in the literature discussed above range from 1.3-3.2 lbs per person per day. Based on the Planning Unit's population of 21,800, it is anticipated that local data should reveal an annual quantity generated within the range of 28,340-69,760 tons.

2.2.5.2 Town of Southold Transfer Station

The Town currently collects very accurate data on the C&D handled at their facility. Table 2-8 below indicates the amounts of C&D received in the years 2010-2015.

Table 2-8. Town of Southold Transfer Station C&D

Calendar Year	C&D Tonnage
2015	2292
2014	2302
2013	2087
2012	2009
2011	2029
2010	2035

2.2.5.3 NYSDEC Annual Reports for Suffolk County, NY

To better understand local C&D generation rates, LKMA has summarized and analyzed C&D Waste data for the year 2013, obtained from NYSDEC Annual reports for C&D processors and for C&D landfills in Suffolk County, NY. The resulting County-wide per capita rate is then calculated based on Southold's share of the population. The data contained there-in is self-reported by processors, and of varying quality. Two significant observations regarding the data are that many handlers do not always seem to apply the NYSDEC definition of "direct haul" properly nor do they specifically detail the sources of the waste. As such, the waste generation rates are significantly higher than those reported in existing controlled studies. However, it is noted that many of the reports provided indicated 100% recovery of the C&D materials, so although the waste generation rates calculated off of these reports may seem high, it is likely that much of the C&D was re-used, and not landfilled.

Summary Spreadsheets of this data are presented in Appendix F. It should be noted that two assumptions were used during data compilation: 1) Only amounts specifically identified as "Direct Haul" were reported, and 2) If the source of the waste was unidentified, or listed generally as "Nassau/Suffolk County", the Suffolk County share was assumed to be 50%. Additional notes regarding specific handlers are included in the tables provided in Appendix G.

The amount of C&D reported on NYSDEC Annual Reports by permitted or registered C&D handling facilities for Suffolk County for the year 2013 was 1,836,505 tons, or per capita based on Suffolk County's population of 1.5 million, calculated to be 6.71 pounds per person per day. At Southold's population level of 21,800, this would suggest 26,629 tons of C&D. As this figure greatly exceeds the amount of MSW generated by the residential and commercial sectors, and most nationwide waste stream studies would suggest this is an anomaly, great caution should be applied to using this figure. It is also important to note, in addition to the difficulties with data quality reported above, that most of the emergency debris, brush debris, and demolition debris generated by Hurricane Sandy which hit Suffolk County on October 28, 2012 would be included in these numbers. Additionally, the definition of C&D for NYSDEC Annual Reports

includes material that is generated and re-used in the course of site work, such as asphalt, concrete and clean fill.

To generate a more useful statistic, LKMA has prepared an alternate calculation from the Annual Report data based on an adjusted total which includes only waste amounts recorded in the categories of Recycled Concrete Aggregate, Brick, Bulk Metal, Mixed C&D, Mixed Fill, Roofing, Paper/Cardboard, and Unadulterated Wood. These categories more closely correspond to the materials analyzed within the literature studies most solid waste management professionals rely upon, and more truly reflect those materials associated with typical building construction, renovation and demolition. Using this methodology, the amount of C&D for Suffolk County for the year 2013 totals 724,764 tons, or per capita based on Suffolk County's population of 1.5 million, calculated to be 2.65 pounds per person per day. At Southold's population level of 21,800, this would suggest 10,509 tons.

To compare these waste generation quantities to the tonnage being landfilled on an annual basis, LKMA also examined Waste Flow reports for various Planning Units within Suffolk County, prepared and provided by the NYSDEC, as well as the C&D Landfill Reports for facilities operating in Suffolk County. These tables are included in Appendix H.

The amount of C&D reported to be disposed of within Suffolk County for the year 2013 was 488,115 tons, or per capita based on Suffolk County's population of 1.5 million, calculated to be 1.78 pounds per person per day. At Southold's population level of 21,800, this would suggest 7,192 tons of C&D enters Southold's waste stream. As the disposal sites generate their reports off of scale records, this figure should be more reliable than the estimated amounts contained within all the handlers' reports. Based on a generation quantity ranging from 10,509 – 69,760 tons, the annual recovery rates range from 68%-10%.

2.2.5.4 Local Factors

While the per capita rates generated by the analyses of the NYSDEC annual reports may appear reasonable in a general comparison to literature studies and other available data, unique features of the Southold Planning Unit suggest that generation of a quantity of C&D which far exceeds the total of all other waste streams in the Planning Unit is not a reasonable conclusion. For example, LKMA analysis of NYSDEC Annual Reports concludes that much of the C&D handled and processed within Suffolk County is actually generated within Nassau County and/or the five boroughs of New York City. Southold is remotely located from these western areas, and is unlikely to be affected by development activity within them.

The Town of Southold has relatively little building activity in comparison to many communities within Suffolk County. For example, a 2014 analysis of 2010 U.S. Census New Residential Construction Building Permits indicated that less than 1% of new homes in Suffolk County were being constructed within the Town of Southold.

Furthermore, Southold's PAYT system in all likelihood prevents C&D from being mingled within the residential waste stream; it is likely the C&D handled by the Town transfer station represents the majority of DIY materials generated within the Planning Unit. And the Town's main private processing and transfer facility for commercial waste employs optical and other sorting systems which effectively remove recoverable material such as wood, concrete, bricks et al. from the waste stream. In short, it would not be to profitable for the private transfer facility to be disposing of C&D material which would suffer little contamination, have a high market value, and due to weight, a high disposal cost.

2.2.5.5 C&D Generation Rates Summary

A summary of the information presented in Section 2.2.5 is presented below.

Table 2-9. Comparison of C&D Waste Generation Rates (2013)

Source	Tons	Rate
Literature Studies	28,340-69,760	1.3-3.2 lbs/person/day

Town Transfer Station	2087	n/a, does not reflect entire C&D waste stream
2013 NYSDEC Annual Reports – actual	26,629	6.69 lbs/person/day
2013 NYSDEC Annual Reports – adjusted	10,509	2.65 lbs/person/day

The summary displayed in Table 2-9 reflects the challenges local solid waste management professionals face in estimating the waste generated within their borders. While the expertise and resources of those who performed the literature studies must not be discounted, the local data reflected in the NYSDEC Annual Reports for Suffolk County is a significant source which cannot be overlooked. Comparing the average per capita C&D generation of the literate studies of 2.25 lbs/person/day, the estimates obtained from the Adjusted NYSDEC Annual Report data is the local data that is closest to this amount, and falls solidly within the range suggested by the studies. As such, it is reasonable to use this figure of 10,509 tons, or 2.65 lbs/person/day, as the basis for further C&D analysis within this local solid waste management plan.

2.2.6 Non-Hazardous Industrial Waste

The term "Non-hazardous Industrial Waste" signifies waste that is generated by various industrial processes which is not otherwise included in commercial waste or C&D estimates. The Town of Southold has very few industrial establishments which have the potential to generate this type of waste, as according to Town Assessment data, industrial establishments occupy just .01%, or 4.32 acres, of overall land use. While the Town does not currently maintain exact data on the waste streams generated by these businesses, an estimate for planning purposes can be derived by calculating the percentage of State-wide non-hazardous industrial waste generated. Please refer to Sections 6 & 7 for future activities which will aim to refine this estimate.

The New York State DEC Beyond Waste Plan cites a figure from 2008 that 3.5 million tons of non-hazardous industrial waste was generated in New York State. Based on the U.S. Census Bureau's County Business Patterns dataset from 2013, Suffolk County houses 53,039 out of 429,298, or 12.4%, of manufacturing employees in the State. These employees are classified under NAICS as codes 31-33. This would preliminarily suggest

that 12.4% of state-wide industrial waste, or 432,419 tons, is generated within Suffolk County. However, multiple land use statistics extracted from several different Suffolk County and Town-based planning documents, as well as LKMA's common knowledge of industrial development in Suffolk County, suggest that the majority of the manufacturing uses locally are actually for warehousing and distribution, activities which typically do not generate industrial waste materials such as ash, slag, foundry sand, etc. As such, it is reasonable to estimate that approximately 40% of Suffolk's share of that waste, i.e. 4.96% of the state-wide total, is more representative of the actual amount of industrial byproducts generated in Suffolk County. Performing the calculation yields an estimated 173,600 tons generated with Suffolk County in the year 2008.

However, the Suffolk County 2035 Comprehensive Plan indicated that the County lost approximately 12.5% of its manufacturing from the years 2001 through 2012. It is reasonable to suggest that much of that was lost during the economic downturn which occurred between 2007 and 2012. Hence, a further adjustment to the 2008 waste generation data, reducing it by 12.5% from 173,600 tons results in approximately 151,900 tons being generated in Suffolk County for the year 2013. To calculate the share of this estimate that is generated within the Town of Southold, an analysis of Southold's portion of land used for industrial/manufacturing purposes within Suffolk County has been performed. According to the Suffolk County 2035 Plan, industrial land uses account for 4.9% of land use in Suffolk County. Multiplying by 912 square miles of land mass in the County, results in 44.7 square miles, or rather 28,608 acres of industrial land. Southold's 4.32 acres is .015% of this, suggesting that .015% of 151,900 tons, or 23 tons, of non-hazardous industrial waste is generated within the Town of Southold on an annual basis.

Even though studies suggest up to 40% of the waste may be diverted, by all accounts, this is an insignificant quantity compared to the Town's other waste streams. And while it is important to ensure the remainder of this waste is disposed of properly, enforcement of proper disposal would fall under the jurisdiction of various New York State and Suffolk County Health and Environmental regulations. In the face of limited resources to devout to future characterization of waste studies, further study of this waste stream will not be prioritized at this time.

2.2.7 Summary Waste Generation

For purposes of consistent comparison with the 2013 American Community Survey demographic information presented in Section 1, waste generation estimates from the Town for the year of 2013 are summarized in the table below. The source of all figures below has been discussed throughout Section 2.2.

Table 2-10. 2013 Waste Generation

Description	Annual Totals (Tons)
Residential -Municipal Transfer	6,654
Residential - alternate	400
Residential – collected as commercial[1]	1,640
Residential Total	**8,694**
Commercial Total (Estimated)	**9,303**
MSW Sub-Total	**17,997**
Yard Waste, Municipally processed	12,843
Yard Waste[1] - other	1,284
Total Yard Waste	**14,127**
Total, Including Yard Waste	**32,124**
C&D	10,509
Non-Hazardous Industrial Waste	23
Biosolids (maximum STP capacity)	103
Total of all Waste Streams	**42,759**

Note(1): These totals are estimated as discussed throughout Section 2.2

This summary indicates that the breakdown of MSW handled in the Town of Southold is approximately 48% residential and 52% commercial. The results presented in this table rely upon the data and estimates presented throughout Section 2.2, and are the basis for further analysis throughout this plan.

2.3 Recyclables

2.3.1 Recycling Overview

The Town operates a recycling center which accepts a variety of recyclables. Residents and commercial entities can either self-haul recyclables to the facility, or privately contract recyclables collection. The facility offers a wide variety of recycling services, including E-Waste recycling and periodic commercial-grade shredding of documents. The Town has a comprehensive website which lists in more detail the items currently acceptable for recycling by the Town as well those items currently not accepted for recycling. The Town recycling center is available to Village residents and businesses as well.

As of 2014, the Town of Southold has implemented a Single Stream Recycling Program entitled "All Together Now" where residents can combine all of their recyclables into one container. As a result, less specific data on the breakdown of materials diverted is currently available than it was in the past.

2.3.2 Recyclables Quantities

Quantities of residential recyclables collected by the Town and the incorporated villages for years 2010-2015 are shown below in Table 2-11.

Table 2-11. Quantities of Recyclables Collected and Processed Townwide

Item No.	Material	2015 Tonnage	2014 Tonnage	2013 Tonnage	2012 Tonnage	2011 Tonnage	2010 Tonnage
1	Mixed ONP and Paper	n/a	499	587	811	1,017	1,083
2	OCC	n/a	425	608	533	560	603
3	Cans and Plastics #1-7	13	n/a	n/a	n/a	447	488
4	Mixed Bottles, Cans and Plastics #1-7	n/a	1,482	1,500	900	n/a	n/a
5	Single Stream (includes Items #1,2 and 4)	3,160	1,087	n/a	n/a	n/a	n/a
6	Scrap Metal	253	235	256	249	295	322
7	Glass	n/a	n/a	n/a	n/a	600	600
8	E-Waste	96	116	122	113	87	37
9	Miscellaneous Recyclables	284	325	232	238	238	175

	Subtotal Items 1-9	***3,806***	***4,169***	***3,305***	***2,844***	***3,244***	***3,308***
10	Brush	5,128	4,190	6,259	11,225	11,726	6,157
11	Leaves	5,000	6,192	5,074	4,070	3,785	3,715
12	Woodchips	192	1,800	1,510	1,416	808	559
	Total Yard Waste	***10,320***	***12,182***	***12,843***	***16,711***	***16,319***	***10,431***
	Total Items 1-12	**14,126**	**16,351**	**16,148**	**19,555**	**19,563**	**13,739**

2.3.3 Estimated Planning Unit Recycling Rates

Estimated recycling rates are presented throughout this section. These rates are estimated based upon the best available data, and in some cases (as noted), inputs are estimated in order to arrive at rates that are representative of the trends anticipated to be experienced during the planning period.

2.3.3.1 Municipal Program

In 2013, the Town of Southold received and managed the following types of municipal solid waste at its transfer station:

Table 2-12. Total 2013 MSW Quantities Southold Planning Unit

Waste Type	2013 Tonnage Received
Residential MSW	8694
Commercial MSW	10,210
Yard Waste Generated	14,127
Total MSW & Yard Waste	**33,031**
Recyclables - ONP/OCC/Mixed Paper	1195
Recyclables - Comingled Containers	1500
Scrap Metal	256
Yard Waste Recovered	12,843
Other Recyclables	354
Recycling Total	**16,148**

Based on a total of 33,031 tons of waste (MSW and yard waste) estimated to be generated in the Southold Planning Unit in 2013, and the materials recovery achieved by the Town's Recycling Center, a minimum recyclable material diversion rate of 48.9% was achieved.

2.3.3.2 Private Collection Recycling Analysis

Very little private data is available to the Town regarding recyclables that are not brought to the Town recycling center. As such, at the commencement of the planning process, the Town of Southold created recycling surveys and publicized the survey effort to those establishments such as take-out establishments and other commercial entities that were anticipated to be significant sources of recyclables. A sample survey form is included as Appendix E. Very few responses were received, and unfortunately, no useable data was gathered in the effort, as the sample size was too small. However, the Town will examine additional means and methods to increase recycling efforts in the CII sector throughout this plan.

Based on informal interviews with a local privately operated MSW transfer station, roughly 30% of materials received are extracted for materials recovery and recycling. As this is in line with the overall recycling rates reported by many industry studies, including those of the USEPA, it is reasonable to estimate that is the percentage of recycling across the CII sector in the Town of Southold. Especially since because of the Town's unique character, geographic isolation and economic dependence on a clean environment, recycling is culturally encouraged, it is likely this translates into the CII sector as many businesses are owned and staffed by local residents.

For purposes of this plan, it will be estimated that the quantity of recyclables typically handled privately in the Planning Unit is 30% of the estimated waste handled by the private sector. It was estimated in Section 2.2 that the Planning Unit generates a total of 17,997 tons of MSW per year. 9,303 Tons of this is estimated to be generated by the CII sector. In 2015, Town records indicate 3,086 tons of CII MSW was handled by the Town, resulting in 6217 tons of MSW handled by the private sector. Thus, 30% of 6217 tons is 1865 tons of recyclables estimated to be recovered within the private sector from commercial, institutional and industrial establishments.

2.3.3.3 Recovery Estimate Summary

Table 2-13 is provided below as a summary of recovery estimates presented in Sections 2.3.3.1 and 2.3.3.2. Due to factors with limited real data explained throughout Section 2, this table is provided for comparison and planning

purposes only. An initiative is being included in Sections 6 & 7 to address local data deficiencies in the future. The present data suggests a recycling rate for the Planning Unit as a whole of 35.3%, in contrast to the materials diversion rate of 48.9% for municipal programs. This comparison suggests that the Town's programs are more successful at encouraging recycling than the private sector

Table 2-13. 2013 Recovery Summary Southold Planning Unit

Waste Type	2013 Tonnage Received
Residential MSW	8,694
Commercial MSW	10,210
Yard Waste Generated	14,127
Total MSW & Yard Waste	**33,031**
Recyclables - ONP/OCC/Mixed Paper	1,195
Recyclables - Comingled Containers	1,500
Scrap Metal	256
Yard Waste Recovered	12,843
Other Recyclables	354
Commercial Recyclable Estimate	1,865
Recycling Total	**18,013**
Total Waste + Recycling	**51,044**
Recycling Rate - Estimated	**35.3%**

2.3.4 Enforcement of Town Recycling Ordinances

The Town of Southold's PAYT system is a big motive for residents to abide by recycling ordinances, as recycling can be deposited at the Town recycling center free-of-charge, and all bagged waste is paid per bag. As such, residential recycling enforcement is not a big focus for the Town's limited code enforcement department.

Chapter 233[1] of the Town Code, which mandates recycling for all entities, outlines fines and other penalties for non-compliance. Town Code Enforcement is mainly complaint-driven, but the Town does more actively monitor large businesses, especially carters and other related service providers, to ensure general compliance with all provisions of Chapter 233.

2.4 Per Capita Municipal Solid Waste Generation Rates

NYSDEC defines Municipal Solid Waste (MSW) as combined household, commercial, and institutional waste materials generated in a given area. MSW does not include industrial, hazardous, or construction waste. Provided below in Table 2-14 is a summary table of waste generation quantities and per capita rates for the year 2013. As referenced in Section 1, the population for the year 2013 for the Planning Unit was 21,800. Note as the sewer districts which generate biosolids cover only a minute portion of the Town, this waste stream is not included in this table. Refer to Section 2.2.4 for further information.

Table 2-14. Town of Southold 2013 Waste Generation

Waste Description	Annual Totals (Tons)	Per Capita (lbs/person/day)
Residential Total	8,694	2.19
Commercial Total	9,303	2.34
MSW Sub-Total	**17,997**	4.52
Total Yard Waste	14,127	4.14
Estimated Other Organics[1]	2,355	0.59
C&D	10,509	2.65
Non-Hazardous Industrial Waste	23	0.01

Note (1): This amount is a subset of the residential total; refer to Section 2.2.3

Note(1) :The most recent version of Town Code Chapter 233 can be found online here: https://ecode360.com/5159892

2.5 Characterization of Solid Waste

Managing waste in a sustainable manner is an increasing priority for both the public and private sector, as organizations seek to meet their environmental responsibilities, comply with regulations, or seek opportunities for cost savings. Understanding the composition of recoverable materials remaining in the municipal waste stream will enable a municipality to develop programs to target the diversion or recovery of these materials and make informed decisions.

This section presents estimated composition information on the MSW stream and C&D. It is recognized that the Town does not currently have access to more accurate information on these waste streams nor any detailed information on organics and non-hazardous industrial waste. Future waste composition data collection efforts are outlined in Sections 6 and 7 of this plan.

2.5.1 Waste Composition Analysis

For planning purposes, the NYSDEC has provided a model of waste composition within New York State, which should account for local waste trends and be more accurate than relying on nationwide studies. Table 2-15 below is derived from the Agency's provided "MSW Detailed Comp Analysis". Based on the population densities and land use statistics presented throughout Section 1, the waste composition estimates have been adjusted to reflect local specific conditions. Most notably, based on statistics maintained by both the Suffolk County Planning Department and the Town of Southold Planning Department, U.S. Census population density calculations differ greatly, and appear to include underwater land, such as portions of the Long Island Sound and the Peconic Bay, which is not relevant for solid waste management planning purposes.

The inputs for this analysis is explained herein. For instance, as agricultural land use within the Town is 30% of the land use, and the population density estimate calculated was 15 people per square mile, it has been determined to include all agricultural land as waste generated in rural areas. Interviews with farmers and land use professionals indicate that the vast majority of farms in the Town are not generating much more waste than an average single-family residence, so for purposes of this model, agricultural land is classified as residential. The rural land also includes the hamlets of Orient and Peconic according to population density figures from the 2010 U.S. Census, accounting for the

small percentage of CII land use in the rural category. A total of 13,346 acres, or 40.57% , is considered rural land use.

18.68%, or 6,145 acres, of the Town's land is preserved open space, primarily used for passive recreation, if at all. As it is likely that little to no waste is generated on the preserved land, this land is excluded from the waste composition model so as not to skew the results of the model.

The remaining land use in the Town, 40.75% or 13,402 acres, has been classified as suburban, with a population density of 961 people per square mile. According to statistics obtained from the Town of Southold Planning Department, 20.52% of this remaining land, or 2,751 acres is used for various purposes related to the CII sector.

All of this demographic and land use information was presented in Section 1. So as not to compromise the results of the model, 49.9% will be used as the "Rural" input (i.e. 13,346 divided by 26,748, the total of developable land in the Planning Unit), and 50.1% (13,402 divided by 26,748) will be used as the "Suburban" input.

Table 2-15. Town of Southold MSW Detailed Composition Analysis

Material	MSW GENERATED									Planning Unit/ Municipality Percentages
	Rural			Suburban			Urban			
	49.90%			50.10%			0.00%			
	Res.	CII	Combined	Res	CII	Combined	Res.	CII	Combined	
Land Use	**93.35%**	**6.65%**	**100.00%**	**79.48%**	**20.52%**	**100.00%**	**0.00%**	**0.00%**	**0.00%**	**100.00%**
Newspaper	5.20%	1.90%	4.98%	5.00%	1.90%	4.36%	6.60%	2.00%	0.00%	**4.67%**
Corrugated Cardboard	6.60%	13.90%	7.09%	6.60%	13.90%	8.10%	6.90%	13.70%	0.00%	**7.59%**
Other Recyclable Paper										
Paperboard	3.20%	1.10%	3.06%	3.30%	1.00%	2.83%	3.60%	0.90%	0.00%	2.94%
Office Paper	0.80%	3.80%	1.00%	0.90%	4.20%	1.58%	1.10%	5.80%	0.00%	1.29%
Junk Mail	3.00%	0.70%	2.85%	3.20%	0.70%	2.69%	3.50%	0.70%	0.00%	2.77%
Other Commercial Printing	1.70%	2.30%	1.74%	1.70%	2.40%	1.84%	2.30%	2.60%	0.00%	1.79%
Magazines	1.10%	0.90%	1.09%	1.00%	0.80%	0.96%	1.10%	1.00%	0.00%	1.02%
Books	0.50%	0.30%	0.49%	0.50%	0.30%	0.46%	0.60%	0.40%	0.00%	0.47%
Bags	0.50%	0.20%	0.48%	0.50%	0.20%	0.44%	0.60%	0.20%	0.00%	0.46%
Phone Books	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.20%	0.00%	0.30%
Poly-Coated	0.20%	0.30%	0.21%	0.20%	0.20%	0.20%	0.30%	0.20%	0.00%	0.20%
Other Recyclable Paper (Total)	**11.30%**	**9.90%**	**11.21%**	**11.60%**	**10.10%**	**11.29%**	**13.40%**	**12.00%**	**0.00%**	**11.25%**
Other Compostable Paper	6.80%	6.80%	6.80%	6.40%	6.40%	6.40%	6.80%	6.80%	0.00%	**6.60%**

Section 2 – Solid Waste Quantities and Composition

Material	MSW GENERATED									Planning Unit/ Municipality Percentages
	Rural			Suburban			Urban			
	49.90%			50.10%			0.00%			
	Res.	CII	Combined	Res	CII	Combined	Res.	CII	Combined	
Total Paper	***29.90%***	***32.50%***	***30.07%***	***29.60%***	***32.30%***	***30.15%***	***33.70%***	***34.50%***	***0.00%***	***30.11%***
Ferrous/Aluminum Containers										
Ferrous Containers	1.90%	1.00%	1.84%	1.20%	0.70%	1.10%	1.40%	0.70%	0.00%	1.47%
Aluminum Containers	0.70%	0.40%	0.68%	0.60%	0.30%	0.54%	0.50%	0.40%	0.00%	0.61%
Ferrous/Aluminum Containers (Total)	2.60%	1.40%	2.52%	1.80%	1.00%	1.64%	1.90%	1.10%	0.00%	**2.08%**
Other Ferrous Metals	**5.20%**	**5.40%**	**5.21%**	**5.00%**	**5.80%**	**5.16%**	**3.30%**	**3.70%**	**0.00%**	**5.19%**
Other Non-Ferrous Metals										
Other aluminum	0.20%	0.30%	0.21%	0.20%	0.30%	0.22%	0.20%	0.30%	0.00%	0.21%
Automotive batteries	0.80%	0.50%	0.78%	0.70%	0.40%	0.64%	0.20%	0.20%	0.00%	0.71%
Other non-aluminum	0.50%	0.30%	0.49%	0.30%	0.40%	0.32%	0.40%	0.20%	0.00%	0.40%
Other Non-Ferrous Metals (Total)	**1.50%**	**1.10%**	**1.47%**	**1.20%**	**1.10%**	**1.18%**	**0.80%**	**0.70%**	**0.00%**	**1.33%**
Total Metals	***9.30%***	***7.90%***	***9.21%***	***8.00%***	***7.90%***	***7.98%***	***6.00%***	***5.50%***	***0.00%***	***8.59%***
PET Containers	1.10%	0.80%	1.08%	0.90%	0.80%	0.88%	1.20%	1.00%	0.00%	**0.98%**
HDPE Containers	1.10%	0.60%	1.07%	0.90%	0.70%	0.86%	1.00%	0.70%	0.00%	**0.96%**
Other Plastic (3-7) Containers	0.20%	0.10%	0.19%	0.20%	0.20%	0.20%	0.20%	0.20%	0.00%	**0.20%**

Section 2 – Solid Waste Quantities and Composition

Material	MSW GENERATED									Planning Unit/ Municipality Percentages
	Rural			Suburban			Urban			
	49.90%			50.10%			0.00%			
	Res.	CII	Combined	Res	CII	Combined	Res.	CII	Combined	
Film Plastic	5.70%	5.90%	5.71%	5.50%	5.80%	5.56%	5.80%	5.80%	0.00%	**5.64%**
Other Plastic										
Durables	3.10%	3.20%	3.11%	3.00%	3.20%	3.04%	3.20%	3.30%	0.00%	3.07%
Non-Durables	1.60%	1.80%	1.61%	1.60%	1.80%	1.64%	1.80%	1.90%	0.00%	1.63%
Packaging	1.40%	1.10%	1.38%	1.40%	1.10%	1.34%	1.50%	1.10%	0.00%	1.36%
Other Plastic (Total)	**6.10%**	**6.10%**	**6.10%**	**6.00%**	**6.10%**	**6.02%**	**6.50%**	**6.30%**	**0.00%**	**6.06%**
Total Plastics	***14.20%***	***13.50%***	***14.15%***	***13.50%***	***13.60%***	***13.52%***	***14.70%***	***14.00%***	***0.00%***	***13.84%***
Glass Containers	4.10%	3.80%	4.08%	3.90%	3.80%	3.88%	4.30%	3.80%	0.00%	3.98%
Other Glass	0.50%	0.40%	0.49%	0.30%	0.40%	0.32%	0.40%	0.40%	0.00%	0.41%
Total Glass	***4.60%***	***4.20%***	***4.57%***	***4.20%***	***4.20%***	***4.20%***	***4.70%***	***4.20%***	***0.00%***	*4.39%*
Food Scraps	12.70%	13.30%	12.74%	12.90%	15.50%	13.43%	17.20%	25.20%	0.00%	**13.09%**
Yard Trimmings	3.10%	1.10%	2.97%	11.30%	9.10%	10.85%	4.20%	1.50%	0.00%	**6.92%**
Total Organics	***15.80%***	***14.40%***	***15.71%***	***24.20%***	***24.60%***	***24.28%***	***21.40%***	***26.70%***	***0.00%***	***20.00%***
Clothing Footwear, Towels, Sheets	4.60%	3.00%	4.49%	4.40%	3.20%	4.15%	4.80%	2.50%	0.00%	4.32%
Carpet	1.40%	1.30%	1.39%	1.70%	1.40%	1.64%	1.70%	0.90%	0.00%	1.52%
Total Textiles	***6.00%***	***4.30%***	***5.89%***	***6.10%***	***4.60%***	***5.79%***	***6.50%***	***3.40%***	***0.00%***	***5.84%***
Total Wood	***4.10%***	***9.00%***	***4.43%***	***2.90%***	***4.10%***	***3.15%***	***2.00%***	***3.50%***	***0.00%***	***3.78%***
C&D Materials	8.00%	7.60%	7.97%	3.80%	2.70%	3.57%	4.40%	3.80%	0.00%	5.77%
Other Durables	1.90%	1.70%	1.89%	1.60%	1.50%	1.58%	1.90%	1.50%	0.00%	1.73%
Diapers	1.90%	1.10%	1.85%	2.10%	1.20%	1.92%	2.30%	1.10%	0.00%	1.88%

Section 2 – Solid Waste Quantities and Composition

Material	MSW GENERATED									Planning Unit/ Municipality Percentages
	Rural			Suburban			Urban			
	49.90%			50.10%			0.00%			
	Res.	CII	Combined	Res	CII	Combined	Res.	CII	Combined	
Electronics	1.30%	1.40%	1.31%	1.60%	1.70%	1.62%	1.30%	1.30%	0.00%	1.46%
Tires	1.80%	1.80%	1.80%	1.70%	1.40%	1.64%	0.50%	0.40%	0.00%	1.72%
HHW	0.60%	0.00%	0.56%	0.60%	0.00%	0.48%	0.50%	0.00%	0.00%	0.52%
Fines	0.60%	0.60%	0.60%	0.10%	0.20%	0.12%	0.10%	0.10%	0.00%	0.36%
Total Miscellaneous	***16.10%***	***14.20%***	***15.97%***	***11.50%***	***8.70%***	***10.93%***	***11.00%***	***8.20%***	***0.00%***	***13.44%***
Total	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***100.00%***	***0.00%***	***100.00%***

Section 2.5.1 Waste Composition Analysis Continued

Using the total town-wide waste estimates shown in Table 2-12 and the waste composition percentages in Table 2-15, LKMA has calculated a theoretical waste quantity for each of the waste categories shown below in Table 2-16. These values reflect an estimate of the total waste stream generated within the entire Planning Unit.

Table 2-16. Assumed 2013 Baseline Southold Waste Composition (Tons)

Material	Planning Unit/ Municipality Percentages	Waste Stream Estimate (tons)
Newspaper	**4.67%**	**841**
Corrugated Cardboard	**7.59%**	**1,366**
Other Recyclable Paper		
Paperboard	**2.94%**	**530**
Office Paper	**1.29%**	**232**
Junk Mail	**2.77%**	**498**
Other Commercial Printing	**1.79%**	**322**
Magazines	**1.02%**	**184**
Books	**0.47%**	**85**
Bags	**0.46%**	**83**
Phone Books	**0.30%**	**54**
Poly-Coated	**0.20%**	**37**
Other Recyclable Paper (Total)	**11.25%**	**2,025**
Other Compostable Paper	**6.60%**	**1,188**
Total Paper	***30.11%***	**5,420**
Ferrous/Aluminum Containers		
Ferrous Containers	**1.47%**	**264**
Aluminum Containers	**0.61%**	**110**
Ferrous/Aluminum Containers (Total)	**2.08%**	**374**
Other Ferrous Metals	**5.19%**	**934**
Other Non-Ferrous Metals		
Other aluminum	**0.21%**	**38**
Automotive batteries	**0.71%**	**128**
Other non-aluminum	**0.40%**	**73**

Material	Planning Unit/ Municipality Percentages	Waste Stream Estimate (tons)
Other Non-Ferrous Metals (Total)	**1.33%**	**239**
Total Metals	***8.59%***	**1,546**
PET Containers	**0.98%**	**176**
HDPE Containers	**0.96%**	**173**
Other Plastic (3-7) Containers	**0.20%**	**35**
Film Plastic	**5.64%**	**1,015**
Other Plastic		
Durables	**3.07%**	**553**
Non-Durables	**1.63%**	**293**
Packaging	**1.36%**	**245**
Other Plastic (Total)	**6.06%**	**1,091**
Total Plastics	***13.84%***	**2,490**
Glass Containers	**3.98%**	**716**
Other Glass	**0.41%**	**73**
Total Glass	***4.39%***	**789**
Food Scraps	**13.09%**	**2,355**
Yard Trimmings	**6.92%**	**1,245**
Total Organics	***20.00%***	**3,600**
Clothing Footwear, Towels, Sheets	**4.32%**	**778**
Carpet	**1.52%**	**273**
Total Textiles	***5.84%***	**1,051**
Total Wood	***3.78%***	**681**
C&D Materials	**5.77%**	**1,038**
Other Durables	**1.73%**	**312**
Diapers	**1.88%**	**339**
Electronics	**1.46%**	**263**
Tires	**1.72%**	**309**
HHW	**0.52%**	**93**
Fines	**0.36%**	**65**
Total Miscellaneous	***13.44%***	**2,420**
Total	**100.00%**	**17,997**

2.5.2 Recycling Analysis

As indicated throughout this section, precise data on materials recovered is not available to the Town at the present time. As such, we will consider two different approaches to provide a materials analysis to serve as a baseline to guide future waste management programs and efforts within the Town. While perhaps not especially rigorous and exact, the estimates provided herein are useful for planning purposes.

The first approach is to examine the contribution to the Planning Unit's overall recycling efficiency of the Town's recycling center. This is the waste generation described in Section 2.2 and the materials diversion quantified in Section 2.3.3.1, which is estimated to be a total of 32,124 tons generated (MSW and yard waste) from a population of 21,800. To determine an estimate of the waste generation in each recyclables category, the material breakdowns estimated by use of the NYSDEC waste composition model presented in Table 2-15, and associated quantities calculated in Table 2-16 were used. Then, using the estimated composition of this waste stream, it was possible to estimate the recovery efficiency of the Town's recycling process by dividing recyclables handled by the Town in 2013 by the estimate of the total waste stream tonnage.

From the results of this process, as shown below in Table 2-17, it is clear the Town's yard waste and glass recycling programs are exceptionally effective. In fact, it is clear that the NYSDEC Waste Composition model is likely underestimating the amount of glass generated in the planning unit, as a recycling efficiency of greater than 100% is not possible. The Waste Composition model will be adjusted to better reflect specific local conditions later in this LSWMP, in Section 7, were detailed waste projections are primarily.

It is likely that the Town's success in practically eliminating yard waste from its disposal stream is due to their in-house composting operation, which provides a convenient and low cost recycling option for residents and businesses in the Town. The de facto waste control measures provided by the Town's PAYT system support high recovery rates for glass, as it is a heavy and bulky material to dispose of in the yellow bags, as well as support high rates of metals and E-Waste recovery.

Table 2-17. 2013 Southold Recycling Efficiency Municipal Transfer Station

Category	Generated Recyclables (Tons/Year)	Collected Recyclables (Tons/Year)	Recycling Efficiency (%)
Total Paper	5,420	1,195	22.0%
Total Metals	1,546	586	37.9%
Total Plastics	2,490	285	11.4%
Total Glass	789	915	115.9%
Total Yard Waste	14,127	12,843	90.9%
Total Textiles	1,051	116	11.0%
E-Waste	263	122	46.3%
Total Miscellaneous	1,211	86	7.1%
Totals	**26,898**	**16,148**	**60.0%**

The second approach to analysis of recycling efficiency is to use the model for Planning Unit Compositional Analyses provided by the NYSDEC estimate the overall recycling efficiency of the entire Planning Unit. This is combining the waste generation estimates presented in Section 2.2.1 and Section 2.2.2 and recycling estimates presented in Section 2.3.3. In totality, the waste generated within the Planning Unit was estimated to be a total of 17,997 tons (MSW and yard waste) collected annually from an overall population of 21,800. As per the Agency's guidance, the waste inputs for the model include the addition of recovered materials in the amount of 3,305 tons from the municipal recycling center and an additional 1,865 tons estimated to be collected and processed privately from the CII sector, for a total annual tonnage of 23,167. Total estimated diversion amount is based on the minimum recycling rate of 45% that was presented in Section 2.3.3.1.

Though it is included in the NYSDEC Waste Composition Model, yard waste beyond the small amount estimated by the model to be generated within the Planning Unit is being excluded from this analysis at this time, because the amount handled by the Town's composting operation far exceeds what the model predicts should exist. Furthermore,

neither the amounts generated nor the amounts recovered include any type of C & D; rather, that is presented separately is Sections 2.2.5 and 2.5.3.

As detailed material diversion rates are not known, the categories and sub-categories have been estimated based on the data presented in Table 2-17, national recycling trends reported for the year of 2013 by the U.S. EPA, and known local markets for recycling (i.e. there is a strong profit motive for the CII sector to recycle cardboard). This is appropriate as the overall recycling rates estimated for the Planning Unit in 2013 are in line with, or exceed, the rates reported by the U.S. EPA for 2013. State and local laws mandating specific disposal of materials, such as through various types of "Take-Back" programs, and the local control established by the PAYT system drive the recovery of specific materials. For example, a very high recovery rate for items such as automotive batteries and waste oil can be safely assumed.

While it is noted that this table somewhat under-represents the recycling efficiency within the Planning Unit due to exclusion of yard waste, it will be used as the basis for projections presented in Section 4, as well as for future initiatives and goals discussed in Section 6 and 7. Adjustments will be made in Section 7 to account for specific local factors.

Table 2-18. Estimated Planning Unit Recycling Efficiency

Material	Tons Generated	% of Total	Tons Diverted	% Diverted
Newspaper	1,082	4.67%	700	64.68%
Corrugated Cardboard	1,759	7.59%	1200	68.22%
Other Recyclable Paper				
Paperboard	682	2.94%	400	58.65%
Office Paper	299	1.29%	150	50.23%
Junk Mail	641	2.77%	300	46.80%
Other Commercial Printing	415	1.79%	150	36.13%
Magazines	237	1.02%	160	67.53%
Books	110	0.47%	80	73.04%
Bags	106	0.46%	70	65.80%
Phone Books	70	0.30%	55	79.14%
Poly-Coated	47	0.20%	0	0.00%
Other Recyclable Paper (Total)	2,606	11.25%	1365	52.38%
Other Compostable Paper	1,529	6.60%	750	49.05%

Material	Tons Generated	% of Total	Tons Diverted	% Diverted
Total Paper	6,976	30.11%	4015	57.55%
Ferrous/Aluminum Containers				
Ferrous Containers	340	1.47%	130	38.22%
Aluminum Containers	141	0.61%	60	42.52%
Ferrous/Aluminum Containers (Total)	481	2.08%	190	39.48%
Other Ferrous Metals	1,202	5.19%	400	33.28%
Other Non-Ferrous Metals				
Other aluminum	49	0.21%	25	50.52%
Automotive batteries	164	0.71%	110	66.96%
Other non-aluminum	93	0.40%	45	48.15%
Other Non-Ferrous Metals (Total)	307	1.33%	180	58.59%
Total Metals	1,990	8.59%	770	38.68%
PET Containers	227	0.98%	80	35.25%
HDPE Containers	223	0.96%	75	33.63%
Other Plastic (3-7) Containers	46	0.20%	10	21.95%
Film Plastic	1,306	5.64%	110	8.42%
Other Plastic				
Durables	712	3.07%	200	28.09%
Non-Durables	377	1.63%	110	29.18%
Packaging	315	1.36%	100	31.76%
Other Plastic (Total)	1,404	6.06%	410	29.20%
Total Plastics	3,205	13.84%	685	21.37%
Glass Containers	922	3.98%	700	75.93%
Other Glass	94	0.41%	50	53.06%
Total Glass	1,016	4.39%	750	73.81%
Food Scraps	3,032	13.09%	400	13.19%
Yard Trimmings	1,602	6.92%	1300	81.14%
Total Organics	4,634	20.00%	1700	36.68%
Clothing Footwear, Towels, Sheets	1,002	4.32%	80	7.99%
Carpet	351	1.52%	30	8.54%
Total Textiles	1,353	5.84%	110	8.13%
Total Wood	877	3.78%	500	57.02%
Miscellaneous Recyclables				
C&D Materials	1,337	5.77%	700	52.37%
Other Durables	401	1.73%	100	24.91%
Diapers	436	1.88%	4	0.92%

Material	Tons Generated	% of Total	Tons Diverted	% Diverted
Electronics	339	1.46%	170	50.13%
Tires	398	1.72%	300	75.33%
HHW	120	0.52%	95	79.10%
Fines	83	0.36%	60	71.99%
Total Miscellaneous	3,115	13.44%	1429	45.88%
Total	**23,167**	**100.00%**	**9,959**	**42.99%**

2.5.3 Construction & Demolition Debris Composition Analysis

The difficulties with quantifying and categorizing C&D debris were discussed in Section 2.2.5. Two different composition analyses are presented herein to further illustrate this point. Table 2-19 and Table 2-20 are adapted from the NYSDEC Detailed C&D Composition Model. Generation rates have been adjusted based on local land use and building permits analysis (building permit analysis performed by Suffolk County Planning Department based on U.S. Census data). The C&D generation total presented in Section 2.2.5 has been used as the input for Table 2-20.

Table 2-19. Southold Waste C&D Composition NYSDEC Model

Material	C&D DEBRIS GENERATED									
	Residential				Non- Residential				Infra-structure/ Other	Planning Unit %s
	15.00%				20.00%				65.00%	
	New Construction	Renovation	Demolition	Combined Residential	New Construction	Renovation	Demolition	Combined Non-Residential	Infra-structure/ Other	
	10.00%	**60.00%**	**30.00%**	**100.00%**	**25.00%**	**45.00%**	**30.00%**	**100.00%**	**100.00%**	**100.00%**
Concrete/ Asphalt/ Rock/Brick	9.80%	16.10%	21.50%	17.09%	30.70%	19.10%	23.10%	23.20%	46.00%	37.10%
Wood	29.90%	19.10%	25.70%	22.16%	22.70%	12.40%	24.20%	18.52%	10.50%	13.85%
Roofing	6.00%	22.00%	6.10%	15.63%	2.10%	21.20%	5.10%	11.60%	0.00%	4.66%
Drywall	15.60%	7.90%	5.10%	7.83%	4.60%	6.40%	4.30%	5.32%	0.00%	2.24%
Soil/Gravel	11.30%	7.10%	18.50%	10.94%	13.10%	6.50%	15.60%	10.88%	38.00%	28.52%
Metal	5.30%	11.30%	5.20%	8.87%	12.00%	15.50%	11.10%	13.31%	2.40%	5.55%
Plastic	1.50%	0.70%	0.30%	0.66%	0.50%	0.70%	0.30%	0.53%	0.30%	0.40%
Corrugated/ Paper	9.30%	2.90%	3.10%	3.60%	7.10%	4.60%	4.20%	5.11%	0.30%	1.76%
Other	11.30%	12.90%	14.50%	13.22%	7.20%	13.60%	12.10%	11.55%	2.50%	5.92%

Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Table 2-20. Assumed 2013 Baseline Southold Waste C&D Composition NYSDEC Model (Tons)

Material	Tons Generated	% of Total
Concrete/Asphalt/Rock/Brick	3,899	37.10%
Wood	1,456	13.85%
Roofing	490	4.66%
Drywall	235	2.24%
Soil/Gravel	2,997	28.52%
Metal	583	5.55%
Plastic	42	0.40%
Corrugated/Paper	185	1.76%
Other	622	5.92%
Total	**10,509**	**100.00%**

As a contrast to the model, below in Table 2-21 is presented the information garnished from the compilation of annual data supplied in Annual Report Forms to the NYSDEC from C&D handlers in Suffolk County, for the year of 2013.

Table 2-21. Southold Waste C&D Composition derived from 2013 Annual NYSDEC Reports for Suffolk County Handlers

Material	Suffolk Tons Generated	% of Total
Aggregate & Concrete (RCA)	46,704	2.54%
Asphalt	170,783	9.30%
Brick	16,883	0.92%
Brush/Stumps	196,957	10.72%
Bulk Metal	68	<1%
Concrete	353,596	19.25%
Mixed C&D	502,852	27.38%
Masonry	51,347	2.80%
Mixed Fill	127,953	6.97%

Material	Suffolk Tons Generated	% of Total
Paper/Cardboard	1,394	0.08%
Rock	5,913	0.32%
Roofing Shingles	2,957	0.16%
Clean Soil	132,108	7.19%
Wood Chips	129,630	7.06%
Wood (unadulterated)	25,952	1.41%
Emergency Debris	22,005	1.20%
Other	49,404	2.69%
Total	**1,836,505**	**100.00%**

There are a few necessary observations that examination of the data in Table 2-21 presents:

- Quantities reported in the Brush/Stumps, Wood Chips, and Emergency Debris categories are likely higher than in an average year for Suffolk County, as Superstorm Sandy hit Long Island in late 2012. Much of the clean-up continued into 2013. However, it is useful to study years with large amounts of storm clean-up so that all levels of government can better understand the challenges Debris Management presents.
- The large amount of mixed C&D, 502,852 tons (27.38%) is concerning because recovery of mixed materials is far harder than those separated at its source. Possible remedies to encourage source-separation of materials at construction sites are discussed in Sections 6-8.
- The categories for annual reporting are different than those used by the NYSDEC, and a number of literature studies, for modeling purposes. This makes it harder for municipalities to evaluate the outcome of any new initiatives they undertake, and to compare actual data with published studies.
- As discussed in Section 2.2.5, the aggregate numbers are so much higher than what would be expected based on national and regional studies, that it is likely that C&D is being "double-counted", even though it is listed by handlers as being "direct haul"

- A simpler State annual reporting format that takes into account the observations listed above may have the potential to collect better data from these types of entities, which often have limited office staff.

Section 3 Existing Program Description

3.1 Solid Waste Management Program Overview

The solid waste program of the Town of Southold provides a variety of direct solid waste and recycling services to its 21,800 residents, including making its recycling and transfer station available to residents of the Incorporated Village of Greenport. The Town of Southold's current solid waste management system provides a stable platform for managing the planning unit's solid waste and recyclables waste stream in compliance with New York State regulations and policies in a cost efficient manner.

In Southold, as in almost all of the thirteen towns and two cities of Suffolk and Nassau Counties, waste services are provided to the residential waste generator primarily through the public sector. Most of the towns and cities on Long Island do not provide publicly financed waste services to the commercial and/or institutional sector, and Southold is no exception. Furthermore, the Town of Southold does not provide municipal collection services to its residents.

Key elements of the Town of Southold's solid waste program include:

- A Solid Waste Management District which manages all aspects of local solid waste management. The district's funding is split nearly evenly (50-50) between user fees and tax levies.
- A "Pay-As-You-Throw" (PAYT) bag system for residential waste which is required under Section 133 for disposal of any residential waste, whether self-hauled or collected by private carters
- The operation of a residential/commercial MSW transfer station.
- Licensing of private carters hauling commercial and industrial waste generated within the Town.
- The operation of the Town's Recycling Center.
- The monitoring of the closed and capped Landfill.
- A long term agreement for the use of the Babylon Resource Recovery Facility on Town of Babylon property which is operated by Covanta Energy for the disposal with energy recovery of nonhazardous, non-recyclable solid waste.

3.1.1 Existing Solid Waste Facilities Inventory

The solid waste programs and facilities available to and planned by the Town of Southold are intended to provide a comprehensive and integrated solid waste disposal and recycling system. The existing solid waste management system has proven to be a viable solution to the Town's long term solid waste needs. The Town's solid waste management facilities and programs are comprised of the following:

- A municipal recycling and MSW transfer station located at 6155 Cox Lane, Cutchogue, NY
- A closed municipal landfill adjacent to the municipal transfer station
- Single stream recycling processing that is currently contracted to the Town of Brookhaven, Suffolk County, NY
- A Yard Waste Composting operation operated by the Town at Cox Lane
- A C&D Transfer operation operated by the Town at Cox Lane
- The Village of Greenport operates a yard waste collection program, with their Highway Yard serving as a yard waste transfer station

Table 3-1 provides a brief inventory of the Town's solid waste management facilities.

Table 3-1. SWM Facility Inventory Table

Facility Name	Facility Types	Expected Life	Operating Status
Town of Southold Transfer Station	Transfer Station for recyclables and MSW	Constructed 2007; estimated service life is 25 years	Fully operational.
Town of Southold Compost Operation	Yard Waste Processing	Opened 2003; viable indefinitely with municipal support	Receives residential and commercial yard waste dropped off by Southold residents and businesses
Town of Southold C&D Transfer Operation	C& D Transfer Operation	Opened 2003; viable indefinitely with municipal support	Serves as a transfer station for receipt of small amounts of self-hauled C&D
Southold Landfill	Closed Landfill	Not currently in use.	Monitoring per Part 360 closure requirements continues.
Waste Management Administration	Administration of Waste Management programs and services	Viable Indefinitely	Located at Cox Lane facility. Staffed with a facility manager and clerical staff

Facility Name	Facility Types	Expected Life	Operating Status
Village of Greenport	Public Works Yard/ Yard Waste Transfer Station	Viable Indefinitely with municipal support	Handles residentially generated yard waste, collected municipally
Village of Greenport Wastewater Treatment Facility	Sewage Treatment Plant	Continuously upgraded; viable indefinitely with municipal support	Fully operational; serves the Village of Greenport Sewage Treatment District

3.1.2 Waste Management Administration

The Solid Waste Management District is currently headed by a Facility Manager/Solid Waste Coordinator who reports directly to the Town Supervisor. Assisting the Solid Waste Coordinator with administration of programs are a Senior Account Clerk and an administrative assistant. A list and description of all the positions under the control of the Director follows in Table 3-2. There are currently 8 active titles within the Department besides the Solid Waste Coordinator; the total staff includes 12 full-time personnel and 4 part-timers. As this is a small facility with limited personnel resources, all staff interact frequently with and take direction from the Solid Waste Coordinator, though the Equipment Operator and Scale Operator technically report directly to the Yard Foreman.

The Solid Waste Coordinator is responsible for operations, administration, finance, outreach and education, enforcement, data collection and evaluation, and LSWMP updates and reports. A limited staff described below provides support to the Solid Waste Coordinator as described in the following table. The Town Code Enforcement personnel and the Town Attorney's office supports enforcement activities as needed.

Table 3-2. Waste Management Personnel

Quantity	Staff Location	Title	Description
2	Cox Lane	Yard Foreman	Responsible for day to day operations of entire site including direct supervision of all staff
4	Cox Lane	Equipment Operator	Responsible for the operation of the vehicles and heavy equipment that will be utilized on the site. This includes the front end loader and track loader

Quantity	Staff Location	Title	Description
3 + 1 part-time	Cox Lane	Scale Operator	Responsible for identifying each waste vehicle that enters into the facility. Obtains information such as type of waste and source of waste from vehicle drivers. Ensures that all vehicles are weighed in and out at the scale house.
1	Cox Lane	Senior Account Clerk	Generates daily reports utilizing the computerized weighing system. Responsible for general record keeping, billing procedures and verification of non-tax departmental revenue.
1	Cox Lane	Laborer	Responsible for housekeeping duties such as cleaning, sweeping, and washing. Outside work such as traffic control, grounds keeping, painting, and general policing of grounds is also part of assigned duties.
1	Cox Lane	Mechanic	Performs required maintenance of facility equipment and machines. Responsible for minimizing the number of hours that equipment is out of service.
2 (part-time)	Cox Lane	Gate Keeper	
1 (part-time)	Cox Lane	Administrative Assistant	Interfaces with the public and assists office staff with various activities

3.1.3 Sources of Waste

The modern structure of waste management on Long Island has its origin in the adoption of the Long Island Land Burial Law (ECL §27-0707) by the State of New York in 1983. That legislation recognized the critical importance of the deep flow recharge area of the Long Island aquifer and called for the cessation of landfilling of municipal solid waste in Nassau and Suffolk Counties by December 1990. Prior to the cap and closure of the Southold Town landfill in 1993, municipal solid waste generated within the Town was landfilled therein.

3.1.3.1 Residential Waste

All residential waste within the Town of Southold is required to be self-hauled to the municipal transfer station. Upon closure of the landfill in October of 1993, the Town instituted a "Pay-As-You-Throw" (PAYT) system regulated under Section 233-3.1[1] of the Town Code. The code requires that all residents must dispose of waste mostly in a Town-designated bag (yellow in color, aka "yellow bag(s)"), which residents must purchase and the fee for which pays the cost of disposal of the waste contained in the bags. Since those fees cover the cost of disposal, "yellow bag" waste is accepted free of additional charges (i.e., no tip fee) only at the Town transfer station. As such, the PAYT legislation serves as a form of flow control as well, since it would make no sense to take "yellow bag" waste to an alternate facility which would need to charge a tip fee to cover the cost of disposal. While residents may contract with a private hauler to collect their waste, private haulers are required to collect waste only in the Town-designated bags ("yellow bags").

Recently, a private sanitation company challenged the Town's code by attempting to refuse to make its customers use the Town's yellow bags, and allowing customers to co-mingle recyclables with MSW. The Town litigated the matter in Town of Southold vs. Go Green Sanitation, Inc. et al, and the outcome upheld the Town's regulations. In response to this lawsuit, the Town established a carter licensing program as an enforcement mechanism of their PAYT system.

3.1.3.2 Commercial and Institutional Waste

Most commercial and institutional waste is collected and disposed of by private carters who do have to be licensed by the Town in order to operate within its geographic borders. This includes private carters operating within the incorporated Village of Greenport. The PAYT requirements specified in Section 233 of the Town Code only applies to residential waste.

Up until 2015, there were no viable private commercial waste transfer stations operating within the Town. Because of its remote geographic location with Suffolk County, it was likely at that time that the Town was handling close to

Note(1) :The most recent version of Town Code Chapter 233 can be found online here: https://ecode360.com/5159892

100% of commercial and institutional waste. However, a private facility, Peconic Recycling and Transfer Corporation (PRT), became operational in 2015 and began to accept commercial waste at a lower tip fee than that charged by the Town. As such, the majority of the total estimated waste generated by the CII sector within the Town's borders is now handled by PRT.

3.1.3.3 Construction and Demolition Debris

The Town of Southold operates a small C&D transfer station at the Cox Lane facility in Cutchogue, NY. Primarily, it is receiving small amounts of C&D generated by homeowners or small residential contractors. The private sector is handling the vast majority of C&D generated within the Town. The Town is in the process of expanding its commercial carter licensing program to those companies who just haul C&D.

3.1.3.4 Liquid Waste & Biosolids

One public and a few private sewage treatment facilities exist within the Town of Southold. Refer to map excerpted from the Suffolk County Sewer Study in Appendix I. These facilities primarily treat sewage discharge from the residential, commercial and industrial properties within their district areas of service. As the public facility is owned and operated by the independent Village of Greenport, the Town has no jurisdiction over the disposal of biosolids.

The amount of biosolids generated locally, however, is exceedingly small. At these quantities, it may well be possible to for at least a portion of this waste stream to be used as a fertilizer/soil amendment by the local agricultural community. The Town would consider partnering with the Village to develop and implement a program for this purpose.

Neither the Town nor the Village licenses any type of liquid or scavenger waste haulers, nor accepts scavenger waste at any of their facilities. There is no further information on this waste stream at this time; future efforts to improve this are discussed in Section 6.

3.1.4 Town "PAYT" System

The Town of Southold has been successfully running a PAYT system since 1993, which serves as a form of flow control for residential waste, as Town code requires all residential waste be disposed of in an approved "Yellow Bag", regardless of the disposal location or method of hauling. This system also provides a financial incentive to encourage recycling by making individual households pay for the amount of solid waste they generate. It should be noted that bulky items or items not easily bagged can be paid for by weight, with residents self-hauling to the Town facility and passing over their scale; the same financial incentive to recycle applies to these items.

Yellow bags are available for purchase at over 30 locations throughout the Town, with the vast majority being purchased by residents at retail locations such as supermarkets and hardware stores. The bags are available in three sizes – Small (16 gallons for $ .75 each), Medium (36 gallons for $1.50 each), and Large (56 gallons for $2.25 each). The cost of the bag covers the Town's cost to transfer and dispose of MSW at a properly permitted facility. The Town provides an incentive for retail stores to sell the bags to the public by selling to them at a discounted wholesale price (10% less than retail). The bags are also sold at the transfer station office, a vending machine at the transfer station, and at the Town Clerk's office at Southold Town Hall.

The majority of the bags are redeemed at the Town transfer station, though a small portion may end up at the nearby private waste transfer station. For the year 2015, a total of 361,866 bags were sold, which represents approximately 7,643 tons of waste, using NYSDEC-supplied conversion factors for uncompacted MSW. A quantity of 5,012 tons of waste was received in yellow bags at the Town transfer station in the year of 2015. Please refer to Section 2.2.1.2 for a further description of the waste collected with under the Town's PAYT system.

3.1.5 Town Transfer Station – MSW

The Town receives residential and commercial MSW at its transfer station in Cutchogue. After the waste is received, it is directly transported to Covanta Babylon for waste-to-energy processing. Table 3-3 below lists the tonnages received by the transfer station in 2015, broken down by month.

Table 3-3. MSW Received at Town Transfer Station

Month	Tonnage
January	873
February	428
March	578
April	796
May	848
June	917
July	1083
August	1077
September	890
October	701
November	665
December	693
Total	**9,549**

It is believed that the vast majority of residential waste generated throughout the Town is accounted for the numbers above. The only exception would be private communities, such as condominium complexes, whose waste is handled as commercial waste.

3.1.6 MSW Disposal

Waste brought to the Town Transfer Station is transported daily to Covanta Babylon, the Town of Babylon's Resource Recovery Facility (RRF), under the terms of a long-term inter-municipal agreement (IMA). Terms of IMA govern the waste transport from Southold to Babylon, which is provided by the Town of Babylon. The agreement is effective July 1, 2015 through December 31, 2019, with options for extensions through December 31, 2021.

The facility began operation in April 1989, and has been subject to numerous upgrades over the years, including a relatively recent installation of an advanced water purification process which allows recycling both of leachate generated by the adjacent closed municipal landfill, and of all wastewater generated by the facility, for use in on-site systems. The facility can process up to 750 tons of solid waste per day, and generates up to 17 megawatts of renewable energy.

Any waste from Southold that cannot be processed at Covanta Babylon is sent to the Omni transfer station in Babylon for eventual out of state disposal.

As the current contract with Babylon expires prior to the end of the current planning period, numerous options for future waste disposal are discussed in Section 5, 6, and 7. It is further noted that in 1985, the Town of Southold conducted a feasibility study on constructing their own waste-to-energy (WTE) facility, but concluded they did not have the population or available market to support it.

3.1.7 Private Transfer Stations

The Town of Southold passed legislation (contained within Town Code Chapter 233-6 in regards to Transfer Station special permits in the year 2007. In 2016, a requirement was implemented requiring annual reports containing information on wastes received and disposal locations be submitted to the Town. It was not until 2017, however, that any facilities requiring this report became fully operational within the Town's boundaries. All reports received to date are now included in the plan as Appendix M.

3.1.8 CII Waste

The Town of Southold does not provide collection services for the collection of wastes from the commercial, industrial or institutional sectors (CII). Collection of CII wastes has historically been provided by private sector carting companies based both in and outside of the Town, though CII entities can establish accounts at the Town transfer station and self-haul their waste. All commercial, industrial, and institutional establishments are required to make individual arrangements for the disposal of commercial waste and diversion of recyclables.

3.1.9 Recyclables Currently Collected and Processed

The Town has a comprehensive recycling program. Chapter 233 of Town Code requires all waste generators to source-separate recyclables. This includes institutional and commercial businesses and facilities. The Town's website contains items to educate and inform residents of what materials are recyclable and when to set their recyclables out for collection, in addition to instruction as to how to prepare other waste types for collection and/or proper disposal.

All residents and businesses can self-haul recyclables to the Town Transfer Station. Alternatively, they may contract for private collection. According to the Town's 2013 Solid Waste Management Plan Compliance Report, the residential recycling program is currently achieving a recycling/waste reduction rate of approximately 35%.

3.1.9.1 Acceptable Items for Municipal Recycling

Lists of both recyclable and non-recyclable items established by the Town can be found below.

Recyclables Accepted at Town Transfer Station

- Mixed paper
  - Newspaper
  - Magazines
  - Mail (junk & personal)
  - School & office papers
  - Scrap paper, envelopes, greeting cards
  - Circulars & catalogs
  - Cereal and other grocery boxes
  - Paperback books, other books with no covers, telephone books
  - Detergent boxes & shoe boxes
- Cardboard
  - Shipping and other corrugated boxes
  - Kraft paper
- Glass
  - Empty jars & bottles (rinsed)
  - Lids & tops are recyclable but should be loose in recycling container
- Metal
  - Empty tin & aluminum food and beverage cans (rinsed)
  - Aerosol cans
  - Disposable aluminum pans & trays
  - Clean aluminum foil
  - Empty oil cans
  - Empty pain cans

  - Hangers
  - Durable cookware
  - Small appliances
  - White goods
  - Bicycles
  - File cabinets
  - Assorted bulk metal items
- Plastic
  - All plastic food, beverage, soap, shampoo, conditioner, detergent, bleach, and cleaner bottles and containers with #1 through #7 accepted (rinsed)

- E-Waste (an appointment can also be scheduled for curbside collection)
  - Computers, computer peripherals, monitors, electronic keyboards, electronic mice or similar pointing devices
  - Televisions, VCRs, DVD players, digital converter boxes, cable or satellite receivers
  - Cathode ray tubes
  - Small scale servers
  - Digital videorecorders, portable digital music players, electronic or videogame consoles
  - Facsimile machines, document scanners, printers
  - Cell phones (can only be dropped off at Recycling Center)
  - Plastic Film, including Boat Shrink Wrap
- Textiles
  - Clothing
  - Hats, belts, handbags, socks, paired shoes
  - Sheets, quilts, blankets, bedspreads, curtains towels, drapes
- Polystyrene (pellets only, a.k.a. "Styrofoam")
- Yard Waste
- Auto, marine & rechargeable batteries
- Propane tanks sized up to 25 lbs.
- Waste Oil
- Various Household Hazardous Waste (at special collection events throughout the year)

- Used auto fluids (brake fluid, antifreeze, transmission fluid, motor oil & filters)
- Pest killers (bug/rodent, weed, insecticides, herbicides, pesticides)
- Household chemicals (bleach, ammonia, fertilizer, pool chemicals, spot removers, oven cleaners, varnish)
- Oil based paint, paint stripper, paint thinner
- Flammable liquids
- Flares
- Gasoline
- Kerosene
- Fluorescent lamps
- Mercury
- Thermometers, thermostats

Unacceptable as Recyclables

- Mixed paper
  - Tissues
  - Paper towels
  - Soiled paper
  - Hardcovers of books
  - Spiral notebooks
  - Milk & juice containers
- Cardboard
  - All waxed coated cardboard and soiled cardboard food boxes
- Glass
  - Ceramics
  - Porcelain
  - Mirrors
  - Plated glass
  - Lightbulbs
- Plastic
  - Polystyrene block
  - Plastic bags & plastic wrap
  - Plastic toys

- Non-rigid Flower pots & plant containers
- Tupperware or reusable plastic housewares and items without a resin code symbol

- Containers with hazardous residue, medical waste

3.1.9.2 Current Recycling Quantities

Current quantities of recycling collected by the Town and its incorporated villages are presented in Table 3-4 below.

Table 3-4. 2015 Recycling Quantities

Material	Tons
Cans and Plastics #1-7	13
Mixed Bottles, Cans and Plastics #1-7	-
Single Stream (includes Items #1,2 and 4)	3,160
Scrap Metal	253
Glass	-
E-Waste	96
Shrink Wrap	37
Tires	50
Textiles	120
Waste Oil	39
Vehicle Batteries	8
Other (e.g., clean wood, re-use, etc.)	30
Total	**3,806**

3.1.10 Yard Waste Composting Facility

The Town of Southold has operated a compost facility since 2003 on 17.2 acres of the west side of the transfer station/recycling center site. The Town accepts vegetative yard and agricultural waste from residents, landscapers, the agricultural community and the Town Highway Department. All incoming yard waste is weighed in on scales. Leaves are accepted at the facility loose or in bio-degradable paper leaf bags free of charge year-round. All other yard waste is charged a tipping fee (with the exception being two seasonal month-long "cleanup" periods in spring and fall during which fees are waived for residential branches and brush). Four different products are produced on site for

distribution or sale to residents and commercial entities: "Rough Cut" woodchips, screened woodchips, double-ground woodchips, and leaf compost. The Operations and Maintenance Manual for the operation, recently updated in the year 2015, is included as Appendix J. of this LSWMP. It contains detailed information on policies and procedures of the operation.

3.1.11 Yard Waste Collection Program

As mentioned, the Town of Southold Highway Department operates a seasonal brush and leaf collection program for Town residents. As the Town processes and composts all of its collected yard waste, only compostable bags are allowed.

3.1.12 Village Yard Waste Practices

The Incorporated Village of Greenport conducts an independent yard waste collection program. There is no fee for pick up, and yard waste is currently processed and re-used by the Village, with the exception being larger matter such as stumps, the processing of which they are currently pursuing a mutual agreement with the Town of Southold The Village Highway Department performs collection services.

3.1.13 Recycling Facilities and Drop-Off Areas

The Town of Southold Recycling Center is located at the Town Transfer Station on Cox Lane in Cutchogue, NY. The resident drop-off area is located at the site where residents can dispose of various types of recyclables. The recyclables received are hauled by a private hauler under contract to the Town personnel to the Town of Brookhaven's single stream recycling facility. All of these materials are currently being sold into markets, except for the glass. The Town of Brookhaven has been granted a Beneficial Use Determination from NYSDEC to use all of the crushed glass in the landfill environment. Increased awareness of the Town's recycling efforts coupled with ever expanding programs has increased the volume of residential traffic at the Town of Southold Recycling Center since the last planning period.

This center is the only publicly funded service provided to residents of Southold. Curbside collection of recyclables must be arranged privately. The transfer station is open seven days a week, from 7:00am-5:00pm, all year long except for holidays.

3.1.14 Bulk Metal Storage Area

Residents can dropoff a variety of metal items at the Recycling Center. The Town has a bulk metal rolloff where hangers, cookware, small appliances, white goods, bicycles, file cabinets, bulk items, and miscellaneous metals are collected by Town employees and are temporarily stored until removal from the site by the recycling vendor.

3.1.15 Household Hazardous Waste Management

The Town of Southold established a permanent waste oil containment and receiving facility in 2007 to receive deliveries of no more than 10 gallons of waste oil at a time from residents and small businesses. Additionally, the Town accepts household hazardous waste from Town residents for disposal four (4) days a year, approximately on a quarterly basis. Items such as paint thinners, cleaning chemicals, and unused herbicides can be brought to the transfer station for proper handling and disposal. Removal of household toxics from the waste stream reduces the potential for adverse environmental impacts from these materials. Private contractor personnel receive and package HHW deliveries for storage and removal of the waste for processing or safe disposal at permitted facilities out of state.

3.1.16 Pharmaceutical Waste Program

Sanitary waste systems throughout the community are not capable of adequately treating or removing most pharmaceutical products, and products disposed of in such systems can consequently contaminate the local water supply or area surface water bodies. To alleviate such impacts, the Town of Southold promotes a drop off pharmaceutical waste collection and disposal program. Under this program, resident may safely dispose of unwanted medications at the Town of Southold Police Department. In 2015, the Town facility received approval from the New York State Department of Health Services (NYSDOHS) to establish a "SHARPS" collection program for the acceptance of used needles from residents, in response to requests from for expanded options for the safe, secure disposal of these items. The Town installed a special kiosk where residents can drop off sharps in special containers, where they are held until removal by an approved contractor. The kiosk and the sharps containers were provided by NYSDOHS free of charge to the Town. Eastern Long Island Hospital in Greenport has some limited programs as well, including the take back of "SHARPS" in approved containers.

3.1.17 "Take Back" Programs

Several types of local businesses are mandated by New York State, Suffolk County and other local laws to ensure materials like motor oil, tires, and supermarket plastic bags are taken back and disposed of properly. While the Town does not actively monitor these programs, Section 5 will describe future public education efforts relating to these existing programs.

3.1.18 Plastic Film and Boat Shrink Wrap

For the past 10 years, the Town has accepted plastic film in the form of boat shrink wrap and clean agricultural film into its recycling program. This program has resulted in the diversion of over 500 tons of film from the waste stream over that time.

3.1.19 E-Waste Programs

In addition to the retail take back programs available through stores required by the New York State Electronics (E-waste) Disposal Law to take back e-waste through a drop off or a mail in program, the Town of Southold has been offering alternative electronics recycling methods to residents since 2007. In 2011, in response to New York State legislation requiring electronics manufacturers to cover disposal and/or recycling costs for electronic items such as TVs, computers, video game consoles, etc., the Town instituted a no cost drop off area at their Recycling Center. In addition to the list of equipment covered by the law, cell phones drop-off containers can be found at Town Hall and the Town Hall Annex. Small electric appliances (e.g.: vacuum cleaners, hair dryers, curling irons, toasters, toaster ovens, mixers, slow cookers, clothes irons, et al.) are not covered by the law. All E-waste collected by the Town is recycled by a private vendor selected through a public bid process.

3.1.20 Sewage Treatment & Biosolids

Except for some limited areas covered by the Village of Greenport Sewer District, the majority of the Town of Southold is not covered by sewage treatment systems, and rather by individual, private sanitary systems.

The overall amount of sludge is first anaerobically digested at the plant, and dewatered, to reduce disposal volume. The Village is continuously seeking technological upgrades to cost-effectively reduce disposal volume, which since the waste is transported to

Bergen Point Sewage Treatment plant in West Babylon for disposal, also reduces the greenhouse gas emissions associated with transportation.

Biosolids waste generation and handling (refer also to Section 2.2.4) is currently bid out on an annual basis. The bid is structured to allow the successful vendor to process and/or dispose of the remaining biosolids as determined by market conditions. The Village may consider operational upgrades intended to reduce solid waste and greenhouse gas emissions from these facilities.

To best further commercial growth and increase the overall sustainability of the Town, it is anticipated this facility may be expanded in the future to cover geographically adjacent areas that have potential for commercial and/or dense residential development. Fostering growth of sewage treatment districts has recently been a popular planning initiative throughout Suffolk County, as it is presumed to best protect the drinking water supply Long Island sole-source aquifer from excess nitrogen and phosphate pollution. However, the Town of Southold Planning Department predicts that the most growth in sewage treatment systems will be in non-traditional, community-based systems which do not generally generate biosolids.

3.1.21 Public Education Programs

The Town of Southold Waste Management District conducts public education programs as part of their mission. Education efforts are tailored based on content and the intended audience (e.g., promotional materials directed to the community as a whole, or focused presentations to school or civic groups). . This LSWMP contains numerous references to the programs; this information can be found within descriptions of waste handling program overview discussed in Sections 3, Section 5, and the implementation activities described in Section 6 and Section 7. Samples of public materials are included in Appendix K.

As of the year 2017, following is a summary of the major public education initiatives currently underway. Refer to Section 7 for future expansion plans.

- Household Hazardous Waste events are publicized in newspapers and on the Town website; publications contain educational information
- The Town's website features waste programming information

- The Town's environmental professionals work with school groups and organizations to promote recycling, environmental protection and sustainable lifestyles

3.1.22 Animal Mortalities

As Babylon Covanta does not accept either animal remains or ashes resulting from the cremation process, and having received guidance and permission from the NYSEC on appropriate treatment of animal remains, the Town of Southold currently has a designated area within their transfer station complex to compost animal remains found in public right-of-ways by the Town's Highway Department with application of wood chips. The area processes only deceased animals found by the Town on roadways, and does not accept animal remains from the general public. None of the material used in the pit is incorporated into the products distributed back to the community by the Town. As per instructions given for this type of operation by NYSDEC, the material is constantly recycled in place over time. The Town's Animal Shelter stores remains from their operations in freezers for regular pick-ups by a licensed animal mortuary firm that cremates remains. This outside firm is not located within the Town, nor to the Town's knowledge, are there any other animal crematories which are located within the Town.

3.1.23 Other Waste Streams

As the Town focuses its waste management resources primarily on the operation of its transfer station and composting facility, limited program data regarding construction and demolition debris, commercial waste and industrial waste is available. Small amounts of C & D can be brought to the Town facility. Licensing of C&D haulers is a fairly new program to the Town, and as such, detailed information is not available. Otherwise, the Town currently has no involvement in the management of these waste streams. Refer to Sections 5, 6, and 7 for an evaluation of possible future initiatives which might serve to provide better data on waste stream generation rates to aid in the creation of targeted waste reduction programs.

3.2 Existing Efforts to Recover Recyclables

The Town of Southold prides itself on a long-standing tradition of continuously updating, expanding, and promoting recycling and responsible use throughout its Town. The Town operates a single stream recycling program, which refers to placing all acceptable recyclables, such as bottles, cans, plastics, paper, and cardboard, in a single container for collection. The Solid Waste Management District has titled their single-stream program "All Together Now", and developed public information brochures and web page updates to educate residents on how to participate in the new program. Refer to Appendix K for copies of the brochures.

The Town also offers a Recycling Center for residents a location to self-haul recyclables. The Recycling Center is the primary means that residents have to recycle, though some residents contract private curbside recyclables collection. The center is also available to residents from the Incorporated Village of Greenport. In addition to a wide variety of standard recyclable materials, the Town can accept E-Waste and waste oil at the Recycling Center.

The Town's PAYT "yellow bag" system greatly aids the Solid Waste Management District in enforcement of the mandatory source separation ordinance. The system provides a financial incentive for residents to place as little waste as possible in the bags.

The Town also operates a "re-use," or materials exchange, facility adjacent to the transfer station where items in useable condition can be dropped off and removed by residents free of charge. This "Re-use Center" is open every Friday, Saturday, and Sunday and accepts a range of household items such as furniture, dishes, small appliances, toys, books, tools, etc. The Town estimates that 1.5 tons of household items per week are received and distributed at the facility.

The Town has a user-friendly website which provides comprehensive information to residents on recycling, the Town compost operation, hazardous waste, proper waste disposal and E-Waste.

3.3 Markets for Recovered Recyclables

3.3.1 Description of Market Services

The Town of Southold contracts its recycling processing to outside vendors for municipally collected recyclables, and as such, relies upon the vendors to determine

suitable markets for recovered materials. Table 3-5 of current vendor contracts is provided below.

Table 3-5. Recyclables Vendors (Current as of August 2016)

Recycled Product	Recycling Vendor		Ultimate Destination/ Product Re-Use
	Firm Name	Cost or Income to Town	
Single Stream Recyclables (Newspaper, Cardboard, Glass bottles, metal cans, plastic containers, etc)	Green Stream Recycling at Town of Brookhaven MRF for sorting (IMA)	**Income:** $15/ton	Various Domestic and Export Markets
Tires	S&M Tire Recycling, Windsor, CT	**Cost:** $1750/trailer load	Incineration (fuel)
Mixed Metals (including appliances)	Gershow Recycling Medford, NY/PK Recycling, Coram, NY	**Income:** $60/ton (approx.)	New metal products
Used Motor Oil	Strebels Laundry, Westhampton, NY	**Cost: $0.60/gallon**	Fuel for Strebels's used oil furnace
Re-Chargeable Household Batteries	Care Environmental, Landing, NJ	**Cost:** $210/drum	HHW Disposal
Vehicle Batteries	Interstate Battery, Bohemia, NY	**Income:** $440/ton	Recycled for metals
Leaves & Brush	Southold Town Composting Operation	**Income:** $150,000/yr	Leaf Compost/Woodchips
E-Waste	AHRC of Nassau County	**Income:** $60/ton	Valuable metals recovered for industrial use; HHW disposal for leaded glass.
Clean Wood	Southold Town Re-Use Center	**None**	Stockpiled for use by residents
Used Clothing	• St. Vincent de Paul • Big Brothers/Big • Sisters of Long Island	**None**	Re-Used if possible, or manufactured into new textile products
Shrink-Wrap (agricultural and marine	Universal Commodities Service, Islip.	**Income: $100/ton**	Overseas markets, primarily China.

3.3.2 Available and Potential Recyclables Markets

The Town will continue to monitor the ongoing development of recycling practices so as to identify any new recycling markets and opportunities to expand the Town recycling program in a cost effective manner. The Town relies heavily upon market development efforts of New York State government, the Federal government, and private enterprise. As such, the Recycling Markets Database provided online by the NYS Empire Development Corporation has been used to populate the market information presented below in Table 3-6 through Table 3-11. The tables provide a selected directory of current, local markets for recyclables. The Town will continue to expand, update and use these databases to encourage commercial recycling efforts and for public education purposes as further described in Sections 6 & 7.

Table 3-6. Paper (ONP, OCC, Mixed) Recycling Processors in Suffolk County

Company Name	Phone Number	City	State
Brookhaven Recycling & Waste, Inc.	631-475-4788	Coram	NY
Brookhaven Waste Management Division	631-451-6222	Yaphank	NY
DeMatteo Salvage Co. Inc.	631-643-7940	West Babylon	NY
e-Scrap Destruction, LLC	631-348-8801	Islandia	NY
East Hampton Recycling	631-324-7191	East Hampton	NY
Emil Norsic & Son, Inc.	631-283-0604	Southampton	NY
Island Recycling Solutions, LLC	631-702-2770	Bay Shore	NY
Islip Department of Environmental Control	631-472-7061	Holbrook	NY
Leteri Waste Management	631-368-5533	Kings Park	NY
Olympic Fibers Corporation	631-736-5600	Coram	NY
Omni Recycling of Babylon	631-694-1694	West Babylon	NY
Paragon Recycling and Transfer Corporation	631-249-1639	West Babylon	NY
Recommunity Recycling	631-286-4971	Brookhaven	NY
Smithtown Municipal Services Facility	631-269-6600	Kings Park	NY
Southold Town Solid Waste District	631-734-7685	Cutchogue	NY
USA Environmental Resource Management Services, Inc.	631-269-0800	Kings Park	NY

Table 3-7. Ferrous and Non-Metal Processors in Suffolk County

Company Name	Phone Number	City	State
Arrow Scrap Corporation	516-491-3041	Wheatley Heights	NY
Brookhaven Recycling & Waste, Inc.	631-475-4788	Coram	NY
Brookhaven Waste Management Division	631-451-6222	Yaphank	NY
Crestwood Metals	631-567-2727	Holbrook	NY

DeMatteo Salvage Co. Inc.	631-643-7940	West Babylon	NY
e-Scrap Destruction, LLC	631-348-8801	Islandia	NY
East Hampton Recycling	631-324-7191	East Hampton	NY
Emil Norsic & Son, Inc.	631-283-0604	Southampton	NY
Gershow Recycling	631-587-1991	Lindenhurst	NY
Gershow Recycling	631-385-1200	Huntington Station	NY
Gershow Recycling	631-234-1022	Bay Shore	NY
Gershow Recycling	631-289-6188	Medford	NY
Leteri Waste Management	631-368-5533	Kings Park	NY
Paragon Recycling and Transfer Corporation	631-249-1639	West Babylon	NY
PK Metals	631-732-6403	Coram	NY
Recommunity Recycling	631-286-4971	Brookhaven	NY
Smithtown Municipal Services Facility	631-269-6600	Kings Park	NY
Southold Town Solid Waste District	631-734-7685	Cutchogue	NY
USA Environmental Resource Management Services, Inc.	631-269-0800	Kings Park	NY

Table 3-8. Electronics Recycling Processors in Suffolk County

Company Name	Phone Number	City	State
DeMatteo Salvage Co. Inc.	516-491-3041	Wheatley Heights	NY
Arrow Scrap Corporation	631-451-6222	Yaphank	NY
Brookhaven Waste Management Division	917-364-6232	Greenlawn	NY
Castle Ink Cartridges	631-567-2727	Holbrook	NY
Crestwood Metals	631-643-7940	West Babylon	NY
DeMatteo Salvage Co. Inc.	631-277-4283	Bohemia	NY
e-Green Recycling Management, LLC	631-348-8801	Islandia	NY
e-Scrap Destruction, LLC	631-234-7362 X11	Hauppauge	NY
E-Solutions USA, LLC	631-567-2727	Holbrook	NY
ecoTech Management	631-368-5533	Kings Park	NY
Leteri Waste Management	631-694-1694	West Babylon	NY
Omni Recycling of Babylon	631-732-6403	Coram	NY
PK Metals	631-586-0333	Bay Shore	NY
PSC Environmental Services	631-244-0051	Bohemia	NY
Relampit: Projector Bulb Recycling Program	631-269-6600	Kings Park	NY
Smithtown Municipal Services Facility	631-734-7685	Cutchogue	NY
Southold Town Solid Waste District	631-269-0800	Kings Park	NY
USA Environmental Resource Management Services, Inc.	516-491-3041	Wheatley Heights	NY

Table 3-9. Plastics Recycling Processors in Suffolk County

Company Name	Phone Number	City	State
Brookhaven Recycling & Waste, Inc.	631-475-4788	Coram	NY
Brookhaven Waste Management Division	631-451-6222	Yaphank	NY
East Hampton Recycling	631-324-7191	East Hampton	NY
Gardiner Plastics, Inc.	631-928-9098	Port Jefferson	NY
Gianco Environmental Services, Inc.	631-952-9900	Brentwood	NY
Island Recycling Solutions, LLC	631-702-2770	Bay Shore	NY
Leteri Waste Management	631-368-5533	Kings Park	NY
Omni Recycling of Babylon	631-694-1694	West Babylon	NY
Paragon Recycling and Transfer Corporation	631-249-1639	West Babylon	NY
PK Metals	631-732-6403	Coram	NY
Pure Tech Plastics, Inc.	631-755-1124	East Farmingdale	NY
Recommunity Recycling	631-286-4971	Brookhaven	NY
Smithtown Municipal Services Facility	631-269-6600	Kings Park	NY
Southold Town Solid Waste District	631-734-7685	Cutchogue	NY
Universal Composites, Inc.	631-969-1050	Bay Shore	NY
USA Environmental Resource Management Services, Inc.	631-269-0800	Kings Park	NY

Table 3-10. Food Waste Processors in New York State

Company Name	Phone Number	City	State
Action Carting Environmental Services	973-623-7600	New York	NY
AquaTerraSys	978-430-4977	Bolton Landing	NY
Cayuga Compost	607-387-6826	Trumansburg	NY
Cornell University Farm Services Compost Facility	607-423-6145	Ithaca	NY
Delaware County Solid Waste Division	607-746-2128	Walton	NY
Lardon Construction Corporation Organic Management	716-822-4642	Blasdell	NY
McEnroe Organic Farm Associates, LLC	518-789-3252	Millerton	NY
Misty Hills Farm, LLC	518-279-3886	Troy	NY
Mother Natures Farms	845-225-7763	Carmel	NY
New York Biomass Trader	917-238-6218	New York	NY
Outstanding Renewal Enterprises, Inc.	212-477-4022	New York	NY
Valley View Organics, Inc.	917-226-1313	Putnam Valley	NY
Baskin Livestock	585-344-4452	Batavia	NY

Guptill Family Farm/Toad Hollow Farms	315-345-5451	Nedrow	NY
New York Biomass Trader	917-238-6218	New York	NY
Postma Brothers Farm	315-698-9342	New Berlin	NY

Table 3-11. Reusable/Salvageable Remanufactures in New York State

Company Name	Phone Number	City	State
ALPCO Recycling, Inc.	315-986-8900	Macedon	NY
American Recycling & Manufacturing Co., Inc. (ARM)	585-235-2210	Rochester	NY
ASI Systems Integration	516-488-1388	New Hyde Park	NY
Asset Management & Control, Inc.	845-236-6650	Marlborough	NY
Barn Shadow Enterprises	585-593-5075	Wellsville	NY
Bigwood, LLC	585-374-2699	Naples	NY
Brooklyn Flea	347-596-9614	Brooklyn	NY
Brooklyn Flea	347-596-9614	Brooklyn	NY
Bruin Computer Trading & Recycling	315-410-0050	Liverpool	NY
CFY	404-367-9990	New York	NY
City Beautiful Carpentry	917-679-3572	Brooklyn	NY
Cornerstone Salvage Company	917-497-0584	Brooklyn	NY
Country Road Associates, LTD	845-677-6041	Holmes	NY
Davies Office Refurbishing, Inc.	518-449-2040	Albany	NY
Drum Service of Richmond, Inc.	718-494-0255	Staten Island	NY
eco | International	607-321-2079 X327	Vestal	NY
ecoTech Management	631-567-2727	Holbrook	NY
eWorks	516-992-4000	Brookville	NY
GE Elfun Computer Rehab of Schenectady, Inc.	518-385-9606	Schenectady	NY
Green Office Systems	718-418-1717	Brooklyn	NY
IFCO Systems North America, Inc.	518-861-5410	Albany	NY
IT Asset Management Group (ITAMG)	516-681-3550	Plainview	NY
J.M. Murray Center	607-756-8070 X1345	Cortland	NY
J.M. Murray Center	607-756-8070 X1345	Cortland	NY
Levanna Restoration Lumber	315-252-6817	Auburn	NY
Michael McHale Designs	347-688-0070	New York	NY
New Energy Works Timber Framers	585-924-3860	Farmington	NY
NextWorth Solutions, Inc.	978-374-6398	Varies	NY
NextWorth Solutions, Inc.	978-374-6398	New York	NY
Northeast Surplus and Materials, LLC	315-476-4025	Syracuse	NY
Olde Good Things	212-989-8401	New York	NY
Ombligo, Inc.	718-384-0792	Brooklyn	NY
Ongweoweh Corp	607-266-7070	Ithaca	NY
Pallet Exchange, Inc.	716-823-2400	Buffalo	NY
Per Scholas, Inc	718-772-0654	Bronx	NY

Company Name	Phone Number	City	State
PICS Telecom International	585-295-2000	Rochester	NY
Pioneer Millworks	800-951-9663	Farmington	NY
Power Pallet Incorporated	518-843-3100	Amsterdam	NY
Product Research Company, Inc.	607-729-6251	Binghamton	NY
Recycle Pink	914-226-8888	Yonkers	NY
Recycle Tech Solutions	315-635-5330	Rome	NY
Recycle-A-Bicycle	718-858-2972	Brooklyn	NY
Recycle-A-Bicycle	212-475-1655	New York	NY
Recycling Electronics and Computer Technologies, Inc. (REACT)	607-739-8401	Horseheads	NY
Redemtech	800-743-3499	Bronx	NY
RePlayGround	347-885-9368	Brooklyn	NY
Restoration Timber	877-980-9663	New York	NY
Scout & Gather	347-961-8491	Brooklyn	NY
SilverFox Salvage	518-256-3955	Albany	NY
SunnKing, Inc.	585-637-8365	Brockport	NY
SunnKing, Inc.	585-637-9180	Brockport	NY
Sustainable Office Solutions	315-579-7283	Liverpool	NY
Tech Valley Recycling	518-877-9800	Clifton Park	NY
Tekovery, Inc.	914-226-8322	Yonkers	NY
The Hudson Company	845-848-3040	Pine Plains	NY
The Hudson Company	212-981-4559	Brooklyn	NY
TMRnyc (Total Metal Resource, Inc.)	718-384-7818	Brooklyn	NY
Uhuru Design	718-855-6519	Brooklyn	NY
VarData, Inc.	585-321-1950 X106	Rochester	NY
WeRecycle, LLC	914-530-2350	Mount Vernon	NY
Westchester PC-Renew	914-946-5511 X2	White Plains	NY
Xerox Corporation	585-422-0626	Webster	NY

3.3.3 Market Development Restrictions

Markets for recyclable materials continue to expand and increase as technological advances increase the outlets for materials such as Plastics #3-#7 and composted Source-Separated Organic Waste. The Town can do little to enhance these markets on their own, but will continue to expand its programs, adjusting collection efforts by monitoring current market trends. The past few years have seen significant advances and changes in the markets, and as this plan will remain in effect until the end of the year 2025, it is anticipated that by that time, current challenges will have been met, and new challenges will exist.

Section 3 – Existing Program Description

Section 4 Future Planning Unit Projections

4.1 Estimates of Future Solid Waste Generation

A simplified projection of future quantities of solid waste generation in the Town was calculated by multiplying the projected population of the Town by the waste generation rates calculated from the information provided in Section 2. Any per capita rates provided in Table 2-13 have been repeated below. This projection would apply if the current per capita rates continued to remain constant, though it is the goal of the Town of Southold to reduce the current rates. This simplified projection is provided in Table 4-1 below.

Table 4-1. Estimated Future Waste Generation

Year	2013	2016	2020	2025	2030
Projected Total Planning Unit Population[1]	21,800	24,814	26,629	28,037	29,045
	Generation Rate (lbs/ person/ day)	**Estimated Generated Tonnage**			
Residential MSW	2.19	9,896	10,620	11,181	11,583
CII MSW	2.34	10,589	11,364	11,965	12,395
Total MSW[2]	3.93	20,485	21,984	23,146	23,978
Organics[2]	4.14	18,761	20,133	21,198	21,960
C&D	2.64	11,962	12,837	13,516	14,002
Non-Hazardous Industrial Waste	0.01	26	28	30	31
Estimated Total Waste Generation	**11.31**	**51,234**	**54,982**	**57,889**	**59,970**
Materials Diverted					
Municipal Recyclables[3]	0.83	3,762	4,037	4,251	4,403
Private Sector Recyclables[3]	1.45	6,570	7,051	7,424	7,691
Total Recyclables	1.30	5,885	6,315	6,649	6,888
Organics[3]	3.23	14,619	15,688	16,517	17,111
C&D[3]	0.83	3,776	4,052	4,266	4,419
Non-Hazardous Industrial Waste[4]	0.002	8	8	9	9

Total Diverted	**7.64**	**34,619**	**37,151**	**39,116**	**40,522**
Net Waste Generation	**3.67**	**16,615**	**17,830**	**18,773**	**19,448**

Note(1): Population projections sourced from Suffolk County 2035 Plan, Volume I:Inventory, page 2-3

Note(2): The rates presented in Table 2-13 have been adjusted to reflect that the organic waste estimate was derived out of the total MSW rate.

Note(3): Rates calculated based on information presented in Section 2.2 and Section 3

Note(4): In keeping with non-hazardous industrial waste data presented in Beyond Waste, these numbers assume a recycling rate of 30% for this waste stream

As shown in Table 4-1 from Section 1 of the document, the Planning Unit's population has been steadily increasing within the range of 3-7% per decade and is projected to continue to increase. While it appears that the generation of solid waste in the Town of Southold will continue to grow over the next 10 year planning period, the Town's progressive waste management policies will continue to divert a significant majority of waste generated from landfills. Furthermore, the Town is committed to advances in recycling, product stewardship, and waste reduction programs that will likely serve to increase the total waste diverted per capita throughout the planning period. For a more detailed view of what future waste generation and recovery rates could look like, please refer Sections 6 & 7 as specific steps to design and implement programmatic changes to create projected increases in recovery rates are further discussed. Included in Section 7 is table extracted from an application of the NYSDEC Combined Composition and Projection Analysis model to the Town's waste streams to further demonstrate the Town's recovery goals.

4.2 Anticipated Changes to the Planning Unit

4.2.1 Expected Residential Development

The Town of Southold has significant quantities of undeveloped and agricultural land, however, much of this land is preserved from future development. According to the Town of Southold Draft Comprehensive Plan Update, preserving the character of the agricultural community and single-family residential neighborhoods while allowing for some redevelopment of medium-density residential developments along commercial corridors or in unincorporated hamlet centers is a future goal of the Town. It is likely increases in the amount of residential municipal solid waste generated could be offset by increased recycling rates due to new programs and services which could be funded by the increases in tax revenue associated with new development.

4.2.2 Proposed Commercial Development

The Town of Southold has very small percentages of its properties zoned commercially or industrially to support much future development. The Town's Planning Department is currently in middle of a new comprehensive planning effort, but feels the Town's direction will mostly be to focus on land use code changes to support the existing community character of their hamlet downtowns, and the historic traditions of agricultural and marine-based industries within the Town. As such, no significant increases, or changes in waste composition, to the commercial waste stream are anticipated.

4.2.3 Planned Industrial Development

Due to its geographic remoteness and limited zoned industrial land, there is very low potential to increase industrial development much beyond what already exists within the Town. The Town will monitor any new industrial businesses that arise in order to maximize further solid waste reduction, reuse and recycling opportunities.

4.2.4 Special Conditions that may affect any of these characteristics

The Town of Southold Town Board has made sustainability and preserving Southold's unique way of life a priority. As such, it is unlikely significant changes in the Town's approach to residential, commercial, and industrial development will occur in the future. The population of Southold tends to embrace the culture associated with conservation of resources, so the Town anticipates that opportunities to decrease municipal solid waste and increase recycling rates will be embraced by the public.

4.3 Anticipated Changes to the Waste Stream in the Local Planning Unit

The Solid Waste Management District's mission is stated as the following:

"The Southold Town Solid Waste District is committed to ensuring that the Town's solid waste and recyclables are managed in an efficient and environmentally sound manner based on the principles of maximizing waste reduction and recycling in accordance with State guidelines, while providing residents of the Town maximum choice in how to achieve these goals on a personal level."

It is anticipated that over the next ten (10) years of the planning period that the Town will take advantage of newly developing solid waste technologies to cost-effectively reduce the per capita waste generation rates of its population.

4.3.1 Products in use today, and how they will be disposed of in the future

During the next ten (10) year planning period, it is estimated that newspaper and office paper tonnages will continue to diminish as more people come to use E-News and Email services. The advent of public stewardship programs, such as for E-Waste and Household Hazardous Waste, should serve to continue to pull these wastes out of the waste stream, thus reducing toxicity of the waste stream. The Town is interested in exploring programs to encourage food donations and possible pilot programs to introduce new materials into its composting operation. Projections for the generation of specific materials will be more thoroughly examined in Section 7.

4.3.2 Effects of Product Stewardship on the waste stream

Through membership of the Town's Solid Waste Coordinator on its board, the Town maintains direct participation in the New York Product Stewardship Council on finding local ways to encourage product stewardship. Additional efforts to encourage local manufacturers to abide by the principles of product stewardship are discussed in Sections 6 & 7.

4.3.3 Anticipated Effects of the Changes on the Current and Proposed Management Practices of the Planning Unit

No significant changes in the existing management practices are anticipated. The Solid Waste Management District is staffed by proven professional solid waste professionals certified by the Suffolk County Department of Civil Service. They currently operate a viable solid waste and recycling system for Town residents that has received numerous accolades. The Town's existing waste management programs and personnel are thoroughly described within Section 3. It is not foreseen that any significant changes to the management structure will occur during the planning period.

Section 5 Technology Evaluation

5.1 Storage, Treatment and Disposal of Residual Municipal Solid Waste

Currently in the Town of Southold, residential Municipal Solid Waste (MSW) from the Town and the incorporated Village of Greenport, is delivered to the Town's waste transfer station either by self-haulers or private carters, and subsequently transferred to Covanta Babylon, the Town of Babylon's Resource Recovery Facility (RRF), under the terms of a long-term inter-municipal agreement (IMA). The waste transfer station is also open to use by the commercial, industrial, and institutional (CII) sectors of the Town, but since CII tipping fees were increased, and a new private facility with lower tip fees was established in close geographic proximity, the majority of waste generated by these sectors no longer is handled by the Town. The amount of waste transferred to the WTE plant is controlled by the Town's PAYT program, as described in Section 3.1.5.

The Town has entered into a long-term agreement with the Town of Babylon RRF. Terms of the IMA govern the waste transported from Southold to Babylon, a service which is also provided by the Town of Babylon. The agreement is effective July 1, 2015 through December 31, 2019, with options for extensions through December 31, 2021.

The Babylon facility began operation in April 1989, and has been subject to numerous upgrades over the years, including a relatively recent installation of an advanced water purification process which allows recycling both of leachate generated by the adjacent closed municipal landfill, and of all wastewater generated by the facility, for use in on-site systems. The facility can process up to 750 tons of solid waste per day, and generates up to 17 megawatts of renewable energy. Any waste from Southold that cannot be processed at Covanta Babylon is sent to the Omni transfer station in Babylon for eventual out of state disposal.

As the current contract with Babylon expires prior to the end of the current planning period, alternative options for future waste disposal will be evaluated within this section.

5.1.1 Sizing and Available Capacity of Solid Waste Management Facilities

The Town's transfer station is generously sized in proportion to the amount of waste it currently handles, and forsees handling over the course of the planning period. Their

current NYSDEC permit (ID 1-4738-02967/00001) was issued December 3, 2015 and remains in force until December 2, 2020. It permits the transfer station to receive up to 25,000 tons per year of MSW (compared with 9,549 tons received in 2015) and 4,000 tons per year of recyclables (compared with 3,806 received in 2015). Due to the overwhelming success of the "All Together Now" single stream recycling program, other progressive recovery programs, and the growth trends described in Section 1, it is likely the threshold for recyclables will be exceeded prior to the permits expiration. As such, the Town will be working with NYSDEC Region 1 staff on a permit modification application to shift the capacity limits of MSW and recyclables, retaining the overall permit modification, but reducing anticipated MSW threshold and increasing anticipated recycling threshold.

The Town of Southold has entered into an IMA with the Town of Babylon, who is party to a long-term contract with Covanta-Babylon, Inc. granting Babylon sole authority to dispose of a minimum of 215,000 tons of MSW per year. Southold's contract with Babylon indicates the expected MSW shipped to Covanta will not exceed 18,000 tons of MSW per year. Thus, sufficient capacity to handle any population and/or tourism growth that Southold experiences over the planning period exists.

5.1.2 Cost of Alternatives

As discussed above, until 2022, there will not be any significant change in the costs to dispose of MSW at the Babylon RRF, and it is anticipated for the duration of this planning period ending in 2026, that the Town will continue to receive competitive disposal rates at the facility. Disposal rates for all other waste streams are determined by the cyclical procurement process for waste management contracts. At this time, it is not anticipated that there will be any major regional factors in the next ten years that will substantially increase these costs, and the Town is anticipating that various new initiatives will curb growth of these waste streams.

The Town is happy with its arrangement with the Town of Babylon, and would likely seek to extend its IMA with them when the current agreement expires in 2022. If for some reason that does not happen, however, several options would be available to them, including contracting with the Town of North Hempstead or the Town of Huntington to utilize their WTE plants, most likely at a similar cost as all three facilities are operated by Covanta. Should those options not be available for some reason, the Town would be

faced with shipping its MSW off of Long Island, likely at a significantly higher cost. As such, it is likely the Town will seek to continue to utilize one of the Covanta plants for the duration of the planning period.

A general cost-benefit analysis is included in the discussion of alternative technologies and programs that follow. The implementation plan in Section 7 will provide a timeframe for feasibility studies, including specific cost-benefit analyses, for any new options that the Town considers practical to pursue.

5.1.3 Existing Waste-to-Energy Technology

As discussed previously, MSW is combusted at the Babylon RRF and the heat generated is used to produce electricity. The combustion process reduces the weight of waste by up to 75 percent and the volume of waste by approximately 90 percent before disposing of the ash. In 2015, the Babylon RRF processed an average of 631 tons per day of Municipal Solid Waste, and exported 110,000 MWH of electricity. The Town of Southold's waste represents less than 10 percent of waste received. Almost all waste processed in this facility is mixed municipal solid waste received from the Town of Babylon Solid Waste Management Authority, and the remainder of waste received is either from private agreements or spot markets.

In addition to diversion of MSW from landfills and the revenue from electrical generation, waste-to-energy (WTE) has several environmental benefits. These benefits include reduction of greenhouse gases, recovery of ferrous and non-ferrous metals, and enhanced detection systems for unauthorized waste such as large e-waste items and radioactive material.

The WTE process produces a fraction of the greenhouse gases, such as methane (CH4) and carbon dioxide (CO2), associated with landfilling. WTE also avoids greenhouse gas emissions produced by the combustion of fossil fuels to generate electricity. By recovering ferrous and non-ferrous metals from waste, WTE reduces greenhouse gases produced from the production of the metals from raw materials. When compared to coal as a power source, WTE produces electricity at a net emission rate of negative 3,636 lbs. of CO2/MWh. In other words, on a lifecycle basis, for every ton of MSW burned at a WTE plant, approximately one ton of CO2 equivalent is reduced through reducing the use of coal.

The USEPA has recognized the benefits of WTE, indicating its preference for WTE over landfills in its Solid Waste Management Hierarchy. The New York State Energy Law Section 1-103(12) classifies "wastes" in the definition of a renewable energy resource. In addition, Section 27-0403 of the New York State Environmental Conservation Law found and declared that "development and implementation of local programs to conserve energy through sound solid waste management efforts can be of broad benefit to the state" and that "through utilization of resource reuse and other programs, primary raw materials can be conserved, energy savings can be gained, the amount of waste disposed of in landfills can be reduced, and, through proper management of the waste stream, improved operations at waste-to-energy facilities may be realized." In May 2010, Florida passed similar legislation that promotes the use of WTE.

As of December 2013, thirty-one (31) states, the District of Columbia and two territories define MSW, when diverted to a WTE facility for energy recovery, as a renewable energy source. These states are listed in the Energy Recovery Council Fact Sheet for WTE and State Renewable Statues provided in Appendix L. Similarly, the following regulations also recognize WTE as a renewable source of energy:

- Federal Power Act;
- Public Utility Regulatory Policy Act (PURPA);
- Biomass Research and Development Act of 2000;
- Pacific Northwest Power Planning and Conservation Act;
- Internal Revenue Code;
- Energy Policy Act of 2005;
- Executive Order 13123; and
- Federal Energy Regulatory Commission

5.1.4 Environmental, Economic and Social Impacts of Technology

The Town of Southold's existing solid waste management system offers an integrated solid waste system in compliance with New York State regulations and policies. The majority of their MSW that is not recycled or otherwise recovered is converted to renewable energy through combustion of the waste at the Babylon Resource Recovery Facility (HRRF). Metals recovered from the bottom ash are reclaimed and transported to metal recyclers. The residual ash is landfilled at the adjacent Babylon Monofill.

The plant is heavily regulated by NYSDEC, and its air emissions per unit of energy produced are much less than fossil fuel plants. The plant is managed daily in an ideal manner, and as such, they receive little, if any, complaints from plant neighbors, who are largely industrial, as the plant is located within an industrial area. Additionally, Covanta funds a NYSDEC Environmental Monitor position in the RRF, and as such, a NYSDEC Environment Engineer is on-site regularly monitoring compliance with environmental regulations.

The Town further reduces the environmental impact of MSW disposal by having a PAYT system in place. This system is described in detail in Section 3.1.5., and it provides a financial incentive to the Town's population to reduce the amount of recyclable materials disposed with MSW. The Town's extensive recycling programs, and waste inspection procedures at the Covanta plant, also reduce the amount of toxic materials that make their way into the waste stream.

When evaluating alternative technologies and/or programs, the Town is keenly aware of its unique geographical and socio-economic position. As with other Towns in Nassau and Suffolk Counties, they are located on Long Island, which is geographically isolated from the remainder of New York State. The Island is densely populated, faced with high land values, and situated over a Federal designated sole-source aquifer, the region's only source of drinking water. Its developed land is located in close proximity to very sensitive estuarine ecosystems that play a key role in the environmental sustainability and food sources of the entire eastern seaboard of the United States. As such, there are significant financial, social, and economic barriers to the implementation of alternative waste management systems, and a detailed feasibility analysis of each technology would be beyond the scope of this Solid Waste Management Plan. However, the Town is eager to explore regional partnerships and solutions, and as such, they will include feasibility studies on a few new initiatives in Section 7.

General potential environmental, economic and/or social impacts will be included in the discussion of alternative technologies and programs that follow. The implementation plan in Section 7 will provide a timeframe for feasibility studies, including specific cost-benefit analyses, for any new options that the Town considers practical to pursue.

5.1.5 Impacts of Existing System on Neighboring Jurisdictions

The Town is bordered by the Town of Riverhead on the west, the Long Island Sound on the north, and the Peconic Bay to the south. The hamlet of Fishers Island and the Town of Shelter Island are located on neighboring islands nearby, and governed by their own planning units. The Town's transfer station is located in an area that is primarily agricultural, and is adjacent to a private waste transfer station and recycling facility. As such, the facility receives very few complaints. As all waste generated within the Town is transferred to disposal or WTE facilities outside of the Town, the primary impact to residents of this system are the minor air, noise, odor and traffic impacts generated by the collection trucks. However, as a portion of waste generated within Southold is self-hauled in small amounts to their transfer station, the overall contribution of these impacts into the locales of the facilities is likewise insignificant.

The Town's yard waste composting facility and C&D transfer facility are located on the same property as the waste transfer station, but again has a large capacity compared to the actual waste handled, and is thus able to be managed with little or no odors, noise or other impacts to the area. Overall, Southold residents experience little environmental and social impacts from the processing of municipal yard waste and C&D within their borders and the transfer of MSW outside of their borders.

5.1.6 Available Capacity of Planning Unit

Please refer to Section 5.1.1 Sizing and Available Capacity of Solid Waste Management Facilities.

5.1.7 Contractual Requirements to Access Capacity

Please refer to Section 5.1.1 Sizing and Available Capacity of Solid Waste Management Facilities.

5.1.8 Impacts on Recyclables Recovery Efforts

The Town's PAYT system provides a financial incentive to residents to recycle. The CII sector is subject to the Town's mandatory recycling regulations, but the Town has little involvement in that waste stream. However, in general, there is a financial incentive for

businesses to reduce the amount of waste they dispose of, and the Town's Recycling Center is available for use, free-of-charge. Thus, the Town's existing waste management system helps to support their progressive recovery rates.

5.1.9 Cost Analysis of Existing Solid Waste System

5.1.9.1 Estimated Costs for Town PAYT/SMART System ("Yellow Bags")

As the cost of each "yellow bag" purchased by Town residents is based on the amount it costs the Town to dispose of an equivalent quantity (including a portion of overhead costs), this system, considered independently, is revenue neutral. The Town received $540,000 in yellow bag revenue in 2016, while it spent approximately $530,000 in direct contractual and labor costs to manage and dispose of yellow bag tonnage. **This figure of $530,000 represents $381,000 of disposal costs for the waste collected in the "yellow bags" at the Babylon Covanta Facility and $149,000 of internal costs to purchase bags and administer the program**. The system, however, supports increased recyclables and other material processing, which resulted in $374,000 in savings through avoided disposal costs and direct revenues on the sale of recyclables in 2016.

5.1.9.2 Estimated Costs for MSW Disposal

The Town's 2016 total expense for disposal services (including MSW generated from both the residential and CII sectors) at the Babylon Covanta facility was $716,000. This figure represents the tipping fees and transportation costs the Town paid to deliver waste as described in Section 5.1. With estimated labor costs of $250,000 for handling and loading MSW into transfer trailers added, the Town's total estimated expense related to MSW in 2016 was $966,000. This expense is offset by waste district disposal fee revenues (i.e., combination of PAYT fees, revenues and scale tip fees from commercial and "non-yellow bagged" residential waste) for 2016 which totaled $997,000. The difference between the Covanta disposal cost and Southold's MSW fee revenues is used to fund a portion of other overhead costs required to run and maintain the Town transfer station.

5.1.9.3 Estimated Costs for Recyclables Processing

The Town's estimated costs for its recycling operations in 2016 was $350,000 , which represents costs to staff the Town drop-off site, load long haul trailers, pay to transport to the recyclables to the Green Stream MRF in Brookhaven, and perform related maintenance. The Town earned $71,000 in revenues for the sale of recyclables in 2016. This is about $60,000 per year less than the Town received prior to adoption of Single Stream in September of 2014, however, it is important to note that for every ton of recyclables that is diverted from the Babylon Covanta facility, the Town avoids direct contractual disposal costs of $80/ton, or a total of $303,000 in 2016. When combined with the sales revenue, the total of $374,000 exceeds program operations costs. Total savings are actually considerably more since if the recyclables were handled as waste the Town would still incur costs to staff and operate the transfer facility for this purpose. As such, encouraging recycling is financially advantageous for the Town.

5.1.9.4 Estimated Costs for Compost Operations

The Town spent an estimated $420,000 to operate its yard waste compost facility in 2016. This includes labor, equipment, maintenance, and overhead costs related to the operation. The Town received $194,000 in tip fee revenue on the disposal of brush at the compost site, and earned $169,000 through sales of compost and mulch products. While this total of $363,000 is less than the program costs, it should be noted that the Town waives tip fees on brush during its twice a year seasonal "cleanup" program. In 2016 the Town waived a total of $71,000 in tip fees on brush disposal. In addition, the Town offers residents up to 500 lbs per year of free compost or mulch, which in 2016 amounted to $20,000 worth of material. Finally, the Town does not assess a tip fee on leaves delivered to the compost facility, which in 2016 amounted to over 5,000 tons. Were normal fees charged for these items the program would actually turn a profit.

5.1.9.5 Estimated Costs for C&D Transfer Station

The Town spent approximately $235,000 to cover expenses for the operation of the Town's C&D transfer station. This cost represents tipping fees to dispose of C&D waste at the Brookhaven landfill, and any personnel, supplies, equipment or

other expenses dedicated solely to the C&D transfer operation. This was offset by C&D disposal revenues received of $258,000 in 2016.

5.1.9.6 Estimated Costs for Administration

The Town spent approximately $270,000 to cover the administrative expenses for the operation of the Town's solid waste and recycling programs. This includes office staff salaries and benefits, supplies, and office equipment and utilities. At 7% of Southold's total waste management budget, this represents a very lean management structure.

5.1.9.7 Summary of Costs

A summary of cost for Southold's Residential Solid Waste Program for 2016 is presented below in Table 5-1:

Table 5-1. Solid Waste System Expenses

Program Element	2016 Actual Direct Costs (dollars)
MSW Disposal	966,000
Town PAYT System	149,000
Compost Facility	420,000
Recycling Center	350,000
C&D Disposal	235,000
HHW Program	54,000
Administrative Costs	270,000
Post-Closure Monitoring & Maintenance	75,000
Total Direct Program Expenses	**2,519,000**
Unassigned Overhead[1]	703,000
Debt Service	690,000
Total Solid Waste District Budget	**3,912,000**

Source – Town Waste Management District 2016 Budget Summary
Note (1) – Unassigned Overhead includes employee benefits, pension costs, general equipment maintenance, office supplies & equipment, general utilities, and miscellaneous program expenses.

Table 5-2. Solid Waste System Revenues

Program Element	2016 Actual Revenues (dollars)
Town PAYT System	540,000
C&D Disposal Fees	256,000
Commercial MSW Tipping Fees	242,000
Residential MSW Tipping Fees	198,000
Revenues from sale of Compost Products	169,000
Revenue from sale of Recyclables	71,000
Yard Waste Tip Fees	204,000
Vehicle Permit Fees	196,000
Grants & Interest	49,000
Total Program Revenues	**$ 1,925,000**

Source – Town Waste Management District 2016 Budget Summary

5.1.9.8 Financing Mechanisms and Sustainability Analysis

As the above figures show, more than 75% of the direct cost of Southold's waste management program operations is covered by the fees the Town collects for them. The remaining roughly $1,987,000 of Solid Waste program costs is raised through property taxes, and covers expenses for items like "free" waste services offered by the Town such as paper shredding, waste oil collection, battery collection, textile recycling, the "re-use", or materials exchange, facility, etc.; and unassigned overhead costs (e.g., shop equipment, office supplies and equipment, on-road vehicle fleet, landscaping, advertising and promotional materials, certain maintenance, and various other miscellaneous expenses).

Additionally, the Solid Waste Management District budget covers debt service from the three largest public works projects in the Town's history, (the landfill cap and closure, yard waste compost facility, and new transfer station). As the debt will be mostly paid off in the early part of the planning period, and furthermore because these expenditures cannot be reversed, the debt service was not considered in the analysis of the financial sustainability of current waste management systems. Rather, permanent, re-occurring expenditures were examined.

It should be noted that as a percentage of Southold's Solid Waste budget revenues, taxes dropped in from 53% in 2015 to 51% in 2016, and in 2017 taxes are budgeted at 45% of revenue. By 2019 that total is expected to drop even more substantially as in 2018 the Town will have paid off the 20-yr bond for the landfill capping project, saving approximately $320,000 in debt service costs.

Section 5.2 will consider alternatives to the existing waste management system, present a comparison of their fiscal, social and environmental impacts to the Town's current systems, and position the Town for future achievement of waste reduction goals that would be compatible with the Solid Waste Management Plan of New York State. Though The Town considers its current waste management systems to be financially sustainable, they will explore various alternatives and partnerships to ensure this is the case for the long-term future.

5.2 Alternative Programs for Management of MSW

5.2.1 Privatization

The Town of Southold has provided for the disposal of residential and commercial MSW for its residents since the 1920's. Following closure of the unlined landfill in 1993, the Town implemented an integrated solid waste management system in accordance with State objectives. The system sets basic ground rules for waste disposal and recycling but also allows for private sector involvement and a fair degree of latitude in how residents handle their waste, while simultaneously keeping costs under control. The system incorporates progressive funding mechanisms that limit reliance on property taxes in favor of fees paid by waste generators. In this way, the Town has incorporated direct financial incentives into its MSW program that encourage all sectors of the community to maximize waste reduction in ways that work best for them. As a result, the Town has a well recognized, comprehensive MSW program that has achieved one of the highest recycling rates on Long Island, the basics of which are not expected to change much over the planning period.

Nonetheless, the Town could at any point entertain different scenarios for its waste management program. Some of these are discussed below.

5.2.1.1 Privatize MSW Transfer Operations

Theoretically, the Town could contemplate a partnership with a private facility to take the waste currently received at the Town facility. There is a facility adjacent to the Town's that has the capacity to absorb the Town's current levels of MSW, with room to grow. However, such an arrangement would not likely save the Town much in the way of direct contractual MSW disposal charges which - at $80/ton including shipping, is highly competitive - unless it were to close its own facility to the public altogether and stop serving the "self-haulers." Since no private facility would be in a position to accommodate hundreds or thousands of residents each day, this would almost certainly mean all residents would be dependent on private curbside collection service either by signing up directly with a hauler as is now done, or through the establishment of collection districts (see discussion below in Section 5.2.1.2}. If the Town would want to maintain the facility as an interim drop-off for self-hauler (close to half the Town's population), and transfer that waste to the private facility the cost would limit any savings accrued by privatizing in the first place. In addition, a private facility is not likely to want to take on services such as the free HHW programs, E-waste disposal, mercury bulbs, household batteries, waste oil disposal, Re-Use facility, textile recycling, tire disposal, paper shredding services, etc. currently provided by the Town, meaning the Town in all likelihood would continue to provide them. In either situation therefore, privatizing transfer operations would not likely relieve the Town of significant enough operational costs to justify the move financially. For these and other reasons, the Town is not interested at this time in pursuing such an arrangement.

5.2.1.2 Privatize Curbside Collection

The Town could establish collection districts to offer curbside collection of both MSW and recyclables to Town residents. There are several advantages to this idea such as economies of scale (by replacing multiple carters working in various neighborhoods now with just one carter working under contract to the Town in a given district); introduction of standardized, regulated procedures; increased opportunities to reduce greenhouse gasses through utilization of fewer carters or building in energy efficient or alternate fuel vehicles in bid specifications. However, as this would be a dramatic change to the tradition of allowing self-

haulers to avoid the cost of collection altogether by bringing their own waste to the facility, there would likely be substantial public opposition to the move. (While those residents who currently utilize private collection services would likely see a cost drop, those who don't would see a significant increase in their taxes to cover the cost of a collection vehicle coming to their house). Also, the Town would have to carefully consider the impact this privatization would have on their currently progressive recycling programs. For example, it would make sense both financially in terms of the burden on the tax base as well as to maintain recycling rates, for the Town to retain the PAYT "yellow bag" program under any collection contract. PAYT would also have the added benefit of continuing the "self-budgeting" of disposal costs that comes with it; i.e., both costs and revenues are dictated solely by the amount of bags purchased in advance by residents to cover the cost of the waste contained in them, thereby eliminating the need to predict expenses (and payments to the hauler) based on expected waste stream tonnage. However a private collection company, especially one with their own transfer facility, may resist reliance on such an independent funding mechanism for their own reasons. Another issue with establishing collection districts is that such a move would certainly put some local residential haulers out of business as they would not have the resources to compete with the larger firms most likely to respond to a bid solicitation.

Given these and other issues, while privatizing collection makes sense for Southold in some respects, at this time the Town has no plans to pursue this move. Refer to Sections 6 & 7 for additional information.

5.2.2 Flow Control

Various Towns within the State of New York have explored and adopted legislation to govern all solid waste generated within their borders. "Flow Control" legislation has faced numerous hurdles in both the State and Federal Court systems. In 1994, in C&A Carbone v. Town of Clarkstown, the U.S. Supreme Court struck down a flow control law in Clarkstown N.Y. as violation of the Dormant Commerce Clause, as the subject facility was privately owned. However, in 2007, in United Haulers vs. Oneida-Herkimer, the U.S Supreme Court ruled that when a waste disposal facility is owned by a government, that flow control ordinances requiring all waste generators within a political boundary to use the facility are valid, as the ordinance does not discriminate between in-state and out-of-

state businesses. Several Towns in upstate New York subsequently adopted local laws modelled after the Oneida-Herkimer Solid Waste Authority.

Flow control legislation can provide a variety of benefits to a municipality. For one, it provides a stable stream of waste so that economies of scale can be applied to operational expenditures. Secondly, ordinances could be crafted in a manner that would allow the Town of Southold to gather much more data on the various types and quantities of waste generated within its borders, so that solid waste planning efforts could be more effective. And finally, by setting a known disposal price and providing a reliable disposal method to private businesses, the CII sector would have both a greater incentive and a greater ability to find new ways to reduce and re-use waste.

The Town currently has successfully introduced a PAYT program ("Yellow Bags") that serves as a form of flow control for the Town. The Town likes that residents have a financial incentive to recycle, and as such, would consider how to incorporate PAYT in any feasibility study addressing possible future privatization plans.

The Town could also consider flow control legislation for the CII sector. Any type of flow control legislation, however, should be enacted with careful consideration for the potential economic impact on the CII sector and potential tax revenue loss should CII sector disposal costs rise to a level that businesses leave the Town. In light of the significant changes the Town would be exploring in regards to its residential programs, administrative resources to examine and affect changes to the CII sector will be sparse. As such, the Town does not intend to further study flow control within the CII sector at this time.

5.2.3 Landfill

In 1983, New York State passed the "Long Island Landfill Law" (ECL 27-0704). This law placed stringent restrictions on landfills located on Long Island, especially in the deep flow recharge area of the Island's Federally-designated sole-source aquifer, the region's only source of drinking water. As such, construction of a new landfill is not an option.

5.2.4 Construction of a new Town-owned Conventional WTE Facility

The Town does not generate enough waste to consider constructing its own WTE facility.

5.2.5 Emerging MSW Conversion Technologies

In December 2010, New York State adopted Beyond Waste: A Sustainable Materials Management Strategy for New York State. The plan explored a variety of emerging technologies for converting waste to energy resources. The plan details the advantages and disadvantages of some of the major technologies. The most significant conclusion of the plan is that most of these technologies are not able to operate at the scale that a municipality the size of the Town of Southold would require. However, as the Town may be interested in evaluating their potential for future use in reducing the amount of waste that requires disposal, two options are considered below:

5.2.5.1 Pyrolysis

Pyrolysis is a continuously emerging waste management technology that can be used to produce bio-fuel or synthetic fuel by recycling a variety of different types of wastes, for example bio-solids or plastics. Its advantage is that it produces a fuel that may in the future be able to replace many applications of fossil fuels, of which there is limited supply and considerable associated environmental impacts.

Pyrolysis is an endothermic process that requires a source of heat to initiate the thermal reactions. Pyrolysis systems typically use drums, kiln structures, or tubes which are externally heated in a closed system (in the absence of oxygen). Pyrolysis systems operate at a range of temperatures (750°F to 1,650°F), depending on the inputs and the desired byproducts. At higher temperatures syngas is produced and is potentially reusable as a combustion fuel or as a heat source for the pyrolytic process. At lower temperatures, liquids or oils (typically light hydrocarbons) are more readily produced.

For MSW applications, the initial challenge is the heterogeneity of MSW and associated pre-processing requirements. This technology would best be utilized in municipalities who are source-separating organics, or are able to implement a separate plastics collection and sorting operations, as the quality of the fuel generated depends greatly on the quality of the inputs.

Pyrolysis plants themselves can also produce environmental impacts, such as higher emissions than conventional waste-to-energy facilities, and produce

residual wastes which need to either be disposed of, or processed with an additional technology to further recover energy.

5.2.5.2 Plasma Gasification

Plasma Gasification is a thermal conversion process which reduces waste volume and produces energy without the stigma of mass burn technologies, i.e. incineration. While the technology faced numerous problems twenty to thirty years ago upon its inception, its ability to process waste with little greenhouse gas emissions and small percentage of residuals have helped to sustain interest and research. At present, the advances in the technologies are supporting the construction of two 50MW gasification facilities in Europe. According to the plants' manufacturer, Air Products, each plant will reliably produce enough energy to power close to 50,000 homes, and will divert 350,000 tons of MSW from the waste stream. While Europe is a substantially different socio-economic landscape than the United States, the plants have received community support.

The drawbacks for operations in the United States would be the cost of this technology relative to other options such as landfills and conventional WTE. Additionally, the plant consumes energy sources that may not be readily available or available in a cost-effective manner.

5.2.5.3 Residential Curbside Collection

The Town currently does not offer curbside collection programs for either MSW or recyclables to its residents. The Town is including an initiative in Section 7 to consider the ramifications of establishing a curbside collection program for MSW and recyclables. This program could be crafted in a revenue neutral manner that offset costs of collection programs with tax revenues. As recycling for residents would become far more convenient, it is likely recycling rates would increase, which would be beneficial both for environmental reasons and provide additional revenue to the Town from commodities marketing. The Town would have to conduct careful surveys and studies, however, to ensure that its transfer station would not be overwhelmed with the quantity increase, resulting in costly capital improvements. It would likely be easier to consider establishment of curbside collection through the creation of collection districts which would be bid out to private haulers. This has been discussed within Section 5.2.1.

5.3 Alternative Programs for Recyclables, Organics, Waste Reduction and Reuse

For well over twenty years, The Town of Southold has been actively exploring and implementing a variety of programs in an effort to reduce the amount of waste generated within its borders and increase the amount of re-useable materials that can be recovered. The Town's current recycling efforts are detailed in Section 3.

However, especially because of the unique geographic, environmental and socio-economic conditions the Town faces, conservation is a way of life for many residents, and the agricultural businesses, within the Town. Many of Southold's policies and programs are focused on the conserving natural resources, reducing waste, and being part of the solution to the problem of climate change.

5.3.1 Alternative Recyclables Recovery Program Strategies Evaluation

Following please find a discussion of various programs and procedures evaluated for consideration by the Town to increase their recovery rates of recyclable materials.

5.3.1.1 Education and Outreach Strategies

The Town has a well-developed, user-friendly website which provides comprehensive information to residents and businesses to support recycling and re-use that is directly accessible from the home page. The Town's Solid Waste Coordinator creates brochures and promotional materials for use both online and for distribution throughout the Town (Refer to Appendix K). The Town also sponsors special waste handling events and works with schools and civic groups to promote re-use and recycling.

All of these existing communication streams can be used to ensure the public has access to information on any initiatives the Town chooses to implement. For example, the Town's Waste Management District created the "All Together Now" campaign to roll-out the Town's new single stream curbside collection program. At present, this campaign as resulted in roughly a 10% increase in the amount of residential recyclables collected. Town intends to continuously improve marketing efforts of this program so as to further increase the rate.

The Town also has several different types of specialized committees, such as the Conservation Advisory Council and the Board of Trustees, which have regularly scheduled public meetings at which the public can learn about the Town's environmental initiatives and provide feedback. It is anticipated that any new methods of public outreach will be coordinated across several Town departments, led by the Town Board.

5.3.1.2 Enforcement Strategies

The Town currently lacks a comprehensive enforcement program for all residential, commercial and industrial properties and has few resources, if any, to dedicate to this effort. The Town primarily uses enforcement actions as an opportunity to educate offenders and prevent future violations.

The Town would like to improve enforcement efforts, however, given the New York State 2% Tax Cap, it is very difficult for municipalities to hire new employees in the current economic climate. As such, the Town will explore new mobile technologies and software as it becomes available to create efficiencies and expand enforcement.

5.3.1.3 Residential Recycling Pickup Program

Please refer to Section 5.2.6.

5.3.1.4 Commercial Recycling Partnerships

The Town could consider reaching out to existing professional organizations to help organize pick-up programs for their members, and devise incentives to encourage member businesses within the Town to participate. They could also help these organizations create surveys and other self-evaluation tools that would help both the Town and businesses understand the metrics associated with the potentially recoverable waste they generate. Some potential partnerships to explore could include the Mattituck Chamber of Commerce, the Greenport Chamber of Commerce, the Long Island Cauliflower Association, Long Island Wine Council, and/or the Long Island Farm Bureau.

Another additional avenue to explore could be partnerships with Industrial Development Agencies (IDAs), such as the Suffolk IDA. These authorities specialize in economic development and often provide tax incentives to new businesses relocating to the region. As recycling programs have the potential to both reduce costs and create efficiencies, creating business service programs to potential new businesses interested in participating in IDA programs may be mutually beneficial.

Any new programs such as these face regulatory hurdles and possible opposition from the business community. Devising new voluntary methods to obtain recycling data on commercial and industrial properties within Town, while concurrently increasing the recycling rates in these sectors, will be the subject of some exploratory efforts to support future development of CII sector programs.

5.3.1.5 Source Separation and Collection Strategies (i.e. Single-Stream and Dual-Stream Recycling Comparison)

There has been a recent nationwide trend to move residential recycling programs away from source separated and dual-stream recycling collection/processing to single-stream collection/processing. Single-stream recycling (also known as fully commingled recycling) refers to a system in which all paper fibers and containers are mixed together in a collection truck versus being separated into individual commodities (i.e., newspaper, cardboard, plastics, glass, etc.) or commingled into two streams (fibers and rigid containers). The move to single-stream recycling is believed to offer economic savings, especially for collection. However, it has also led to questions regarding the quality of the recovered materials (especially fibers) and the amount of residuals requiring disposal after processing.

Advantages - Proponents of single stream note several advantages:

- Reduced sorting effort by residents may mean more recyclables are placed at the curb and more residents may participate in recycling
- Reduced collection costs because collection could be automated, and collection may be more efficient (less partially-full trucks on routes) because more materials are being collected on each pass
- Reduced solid waste disposal costs as less recyclables are now left in the MSW waste stream

- Since participation requires less work by residents, volumes per household may increase.
- Worker injuries may decrease because the switch to single stream is often accompanied by a switch from bins to a semi-automated cart-based collection
- Changing to single stream may provide an opportunity to update the collection and processing system and to add new materials to the list of recyclables accepted; Commercial carters may be able to increase recycling efforts, as it may be possible to collect recyclables more economically due to greater weights of material being available at each stop, and because of the need for businesses to reduce the sorting effort
- The number of containers required to comply with recycling regulations (3 for each stop, for instance: MSW, containers, paper) can be reduced to 2 containers (MSW, recyclables), also decreasing collection costs for commercial carters

Disadvantages - Disadvantages of single stream recycling include:

- Initial capital cost for new carts and collection vehicles (if automated collection were to be instituted), upgrading the processing facility and educating residents
- Processing costs may increase compared to multiple stream systems
- Reduced commodity prices due to contamination of paper and cardboard
- Increased "down cycling" of paper, i.e., use of high quality fibers for low-end uses like boxboard due to presence of contaminants
- Possible increase in residual rates after processing (due chiefly to increased breakage of glass)
- Potential for diminished public confidence if more recyclables are destined for landfill disposal due to contamination or unmarketability.

At the simplest level, single stream recycling trades partial sorting by residents for more intensive sorting at a processing center. The benefits (compared to source separation) are largely in the collection process, while the incremental costs are largely connected to processing. This can create pressure to maximize cost savings at the collection end and minimize the additional sorting costs at a

Materials Recovery Facility (MRF). If this pressure is met by capital expenditures such as automated pickup and investment in modern sorting equipment, single stream may increase the overall effectiveness of the recycling program. However, if corners are cut – e.g., by excessive compaction in baling of mixed recyclables for transport, or by poor processing - single stream may harm recycling.

In Southold, a single steam recycling program called "All Together Now" was instituted in September of 2014. Under this system, the Town has entered into an IMA with the Town of Brookhaven wherein the mixed recyclables are hauled to the Green Stream MRF located at the Brookhaven Transfer Station. Brookhaven rebates $15/ton to Southold for the single-stream recyclables. While this has had the desired effect on recycling rates (up approximately 10%), direct revenues from the sales of recyclables that had been previously handled separately have decreased by approximately $60,000 per year. Savings through avoided disposal costs from the increased recycling tonnage makes up for some of that loss however (approximately $30,000). Additional savings are realized by improved operational efficiencies at the facility, though these are difficult to quantify. The "customer experience" at the transfer station has also improved as users can now complete their visit more rapidly as they unload their recyclables in a single location as opposed to navigating to a series of recycling "bunkers" as they did in the past.

As such, the Town anticipates making changes to reverse the downward trend of revenue generation, and also to reduce the likelihood of material contamination. The Town Waste Management Department is also actively collecting data and monitoring results of this program to better understand any additional programmatic changes that might increase the quantities of recovered materials, and evaluating new public information programs aimed at reducing contamination. . At this time, it is anticipated that the single-stream program will continue.

5.3.1.6 Additional Materials to Recover

Plastic Film

The Town would like to explore the feasibility of having containers in their Recycling Center to collect plastic film products such as single-use bags and

packaging from online shipments. This would ideally be facilitated by a public-private partnership, perhaps with local manufacturers who utilize recyclable plastic film as a raw material.

Green Diapers

A significant example of a product that could produce noticeable reductions in waste handled by the Townare "Green" diapers. Currently available locally are cloth diaper services which provide weekly pick-ups and drop-offs, as well as private services which will pick-up residentially generated compostable diapers and transport them to off-Island composting facilities. Helping consumers to be aware of alternatives to traditional products has little cost to the Town, and is in accordance with the Town's waste management goals.

Carpet

The Town is interested in designing a pilot program to allow DIY drop-off of separated carpet on selected days at the Town's C&D drop-off facility.

Textiles

The Town Recycling Center currently accepts clothing and other textiles which are collected for re-use or manufactured into new textile products by organizations such as St. Vincent de Paul and Big Brothers/ Big Sisters of Long Island. They estimate between 50-90% of clothing is re-used in its original form, and the remaining material is transformed into other products. The Town could seek other organizations to partner with in various initiatives to raise awareness of textile recycling and capture more textiles for re-use.

5.3.1.7 "Take Back" Programs

As indicated in Section 3.1.14, The Town currently partners with and monitors a number of types of businesses that are mandated by New York State, Suffolk County and other local laws to ensure materials like motor oil, tires, and supermarket plastic bags are taken back and disposed of properly. The Town Waste Management staff will continue to explore, implement and promote new partnerships with private industry. Given some recent State-wide issues with the e-waste market, all product stewardship/ take-back programs may need to be

further publicized by the Town to offset any economic impacts that may come to the Town by allowing these items to be dropped off at the Town's recycling center.

5.3.1.8 Feasibility of Public Space and/or Event Recycling

The Town is interested in improving its recycling "presence" in large scale public entertainment and civic events. What recyclables are generated at these events are largely handled by the private haulers who service the event's waste disposal needs, and are not delivered to the Town transfer station. The Town has had experience trying to collect recyclables at Town-owned beaches, but unfortunately, even though the efforts have been accompanied by bold signage and awareness efforts throughout the events, recyclable bins at such events were consistently contaminated by MSW. The Town has additionally considered encouraging the Business Improvement Districts (BIDs) to provide public recyclable containers in downtown areas. It is anticipated MSW contamination would be equally problematic.

The Town will, however, attempt to design some pilot programs to determine more effective ways of encouraging public space recycling, however lack of staff tends to inhibit these kind of initiatives.

5.3.2 Organics Recovery Programs

The Town of Southold recognizes the need to both reduce the amount of organic waste generated and divert organic waste from the waste stream. However, currently there are no facilities on Long Island that could meet the capacity needs of Southold's waste stream, and local land costs and existing dense development patterns, as discussed in Section 1, are significant deterrents to new organic recovery facilities being constructed within the Town boundaries.

As such, The Town of Southold is interesting in exploring the feasibility of composting of small amounts of select materials which could be incorporated within their existing yard waste composting operation. Alternatively, should a regional-level organics facility

become available for use by the Town, the Town would have greater flexibility in developing programs to recover more organics.

5.3.2.1 Source Separation and Composting of Organic Materials

The Town would like to conduct a feasibility study on the incorporation of select materials, such as fish hatchery waste and/or agricultural waste into its composting operations. They are including an initiative in this plan to conduct a feasibility study which will include a multi-faceted approach to this issue:

1. Explore Part 360 regulations in regards to the types and quantities of materials that could be accepted into the Town's existing composting operation without the need for major capital improvements.
2. Collect data on the quantities of the identified materials present in the Town's waste streams.
3. Working closely with the NYSDEC Region One Materials Management staff, design pilot programs to source-separate said materials and process in the Town's composting facility
4. Select materials which successfully were collected and integrated into the program for larger scale processing.
5. Pursue any required Part 360 modifications to support permanent changes to the composting operation

5.3.2.2 Minimize Yard Waste

The Town currently operates a compost facility to turn leaves and brush into re-usable landscape products. This facility is used by a significant segment of the agricultural businesses within the Town; those who do not use the facility frequently are found to have their own agricultural waste re-use operations as part of their standard business practices. The Town does not accept grass clippings into its composting operations.

To minimize the generation of yard waste, the Town could explore forming partnerships with environmental education organizations such as the Cornell

Cooperative Extension operating in Suffolk County to provide local seminars and internet-based resources to homeowners about proper plant maintenance to support healthy trees and shrubs, thereby reducing the amount of trimmings generated. Educational materials could also be disseminated regarding the re-use of trimmings to support the organic life cycle of garden and landscape features, which would concurrently reduce dependence on nitrogen-based fertilizers. This is discussed further in Section 5.3.2.3

The Town could also consider working with area landscape companies to encourage and coordinate transplanting/donation of unwanted shrubs and plants to public spaces such as parks and schools. This could be problematic as care would have to be taken to ensure invasive species are not accidentally propagated, and transplants would require substantial maintenance to establish them in new locations.

The drawbacks to producing new programs such as these are the staffing resources available to develop, publicize and implement the programs. The Town lacks the resources to properly research, design, develop, implement, and coordinate major new efforts on a large scale. All potential new programs will have to be evaluated based on their potential to reduce waste generated, and priority will be given to those with the greatest potential waste reduction rates.

5.3.2.3 Backyard Composting

Composting of food scraps and yard waste by residents on a small-scale has the potential to significantly reduce the amount of organic waste entering the waste streams directly at its source. However there are some obstacles to the creation of successful programs, especially in a densely populated urban environment.

The primary issue is to connect homeowners with suitable containers that will protect the compost from rodents and wildlife, and prevent nuisances to neighbors such as infestations, odors, and fires. While grant funding could be sought to subsidize the cost of containers, and regulatory measures taken to propose and enforce requirements, all of these actions require significant study and use of Town resources which may be better dedicated elsewhere.

A secondary issue is not only ensuring homeowners understand the proper ratios of various types of materials needed to produce successful compost, but ensuring regular maintenance such as turning and mixing. The amount of work needed by homeowners can be challenging in an area that is characterized by a high cost-of-living and typically requires a minimum of two household members to work outside of the home just to meet necessary living expenses. As such, backyard composting may not receive widespread enough public participation rates within the Town of Southold to warrant the significant expenditure of Town resources starting the program up would require.

5.3.2.4 Targeted Food Scraps Recovery

As the Town currently offers customization of recycling programs to businesses, the Town is well-poised to work with large generators of food scraps such as supermarkets, restaurants, and healthcare institutions to both reduce food waste generated through self-evaluation and implementation of efficient practices and procedures, as well as helping businesses connect with private organic processing facilities and/or other businesses, such as agricultural entities, including wineries, that may have a use for food scraps in composting and/or other operations.

One example of a resource the Town could promote to businesses is the Empire State Development Organics Recycling Portal, located online at http://esd.ny.gov/businessprograms/organicsrecyclingportal.html . The portal contains information on technical and financial resources available to businesses seeking to divert organics out of the waste stream. Additionally, it features maps and contact information for organics recycling facilities located both in New York State and in adjacent states.

The drawbacks to producing new programs such as these are the staffing resources available to develop, publicize and implement the programs. As with other initiatives, all potential new programs will have to be evaluated based on their potential to reduce waste generated, and priority will be given to those with the greatest potential waste reduction rates.

5.3.2.5 Food Donation Programs

The NYSDEC recommends that food donation be a top priority in order to reduce organic waste. In Suffolk County, there are very few organizations that promote awareness of corporate food donation programs from entities like restaurants and supermarkets. However, Long Island Cares (The Harry Chapin Food Bank) operates a Store Pickup Program to food manufacturers, distributors, and supermarkets. The Town of Southold is interested in doing more to promote the concept of food donation to reduce waste, but will require private sector and/or non-profit organization partnerships. As the potential for waste reduction in this arena is great, and the social and economic costs of supporting food donation are minimal, staff will focus on creating these partnerships and programs.

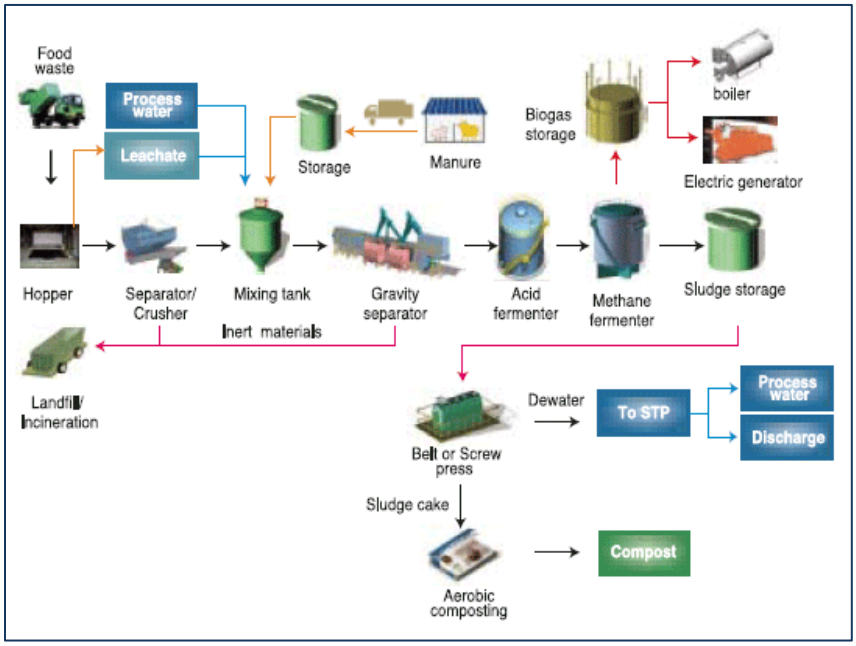
5.3.2.6 Biosolids Re-Use and Processing Options

The Town has no involvement in the management of biosolids at the limited sewage treatment facilities which exist within the Town, and are owned and operated by other jurisdictions. However, as the Town plans for the future, they will consider the environmental impacts of expanding access to sewage treatment facilities and plan for the increased recycling of biosolids produced in the future, as well as compliance with State and Federal biosolids regulations. As the Town is characterized by significant agricultural land use, it is foreseeable that local businesses may develop ways to recycle this material. The Town will add an initiative to create a public education program making the agricultural community aware of the NYSDEC publication *Biosolids Management in New York State* (June 2011), as well as other current industry information, to use as resources to guide the development of private programs.

5.3.2.7 Anaerobic Digestion Promotion

Anaerobic digestion of MSW is used commercially in Canada and Europe, mostly using source separated organic wastes. Typical organic wastes include kitchen waste, yard waste, and paper waste. For this process to be efficient with mixed MSW, pre-processing is required. A typical anaerobic digestion process flow chart is shown below:

Figure 5-1. Anaerobic Digestion Diagram



The anaerobic digestion process produces gas that is approximately 50-70% methane. This gas (or biogas) requires cleanup and can be used in co-generation engines to produce electricity or exported to a utility pipeline. The compost by-product is produced from the dewatered solids left from the anaerobic digestion process, which typically requires aerobic treatment for several weeks. Dewatering effluent can be recycled to the digester or discharged to a wastewater treatment plant.

Newer advances in the field of anaerobic digestion, including small scale digesters for on-site use by waste generators of specific materials, feature increased efficiency and reduction of undesirable by-products. It is also more likely than in the past that some of the resulting by-products may have some marketability, depending on the type of waste stream the technology is being applied to. While currently the construction of a large scale anaerobic digestion facility within the Town of Southold would not be feasible due to cost, social, and environmental impacts, private manufacturers operating within the Town may wish to explore the technology on a small scale. The Town could consider zoning and land use regulation changes that would make free-market exploration of

these technologies more feasible, as well as considering a "fast-track" building permit process to aid businesses with implementation.

5.3.2.8 Public Education Efforts

In recent years, the amount of biodegradable products on consumer markets has increased, and in many cases, costs have decreased. For example, the popularity of organic foods has increased consumer demand for product packaging that is as "Earth-friendly" as its contents. Non-profit organizations such as the Biodegradable Products Institute (BPI) or "WeHateToWaste.com" maintain online catalogs or "Green Guides" to connect consumers with biodegradable and compostable products. In preparation for future organics recovery efforts, the Town will consider the creation of a page on its website that raises awareness of the benefits of purchasing products that are more easily returned to earth's natural waste cycles.

A significant example of a product that could produce noticeable reductions in waste handled by the Town are "Green" diapers. Currently available locally are cloth diaper services which provide weekly pick-ups and drop-offs, as well as private services which will pick-up residentially generated compostable diapers and transport them to off-Island composting facilities. Helping consumers to be aware of alternatives to traditional products has little cost to the Town, and is in accordance with the Town's practices.

The Town has further agreed to publicize the Recycling Markets Online Databases provided by the Empire State Development Corporation on their website, which provide useful information to businesses and consumers on how to find businesses and/or organizations which can aid them in recycling a variety of products.

5.3.3 Waste Prevention Programs

This section details the various initiatives the Town is considering to prevent waste generation by residents and businesses.

5.3.3.1 Public Education Efforts

The Town seeks to augment its existing public education programs to more clearly communicate the benefits of waste prevention and create additional incentives for residents and businesses to recycle. Specifically, the Town is interested in exploring and promoting the use of online programs and applications such as Recycle Coach and RecycleBank. It is anticipated that these may be low-cost methods of expanding public education efforts, as budgetary limitations, especially in light of the New York State property tax cap, may prevent consideration of new expenditures at this time.

5.3.3.2 Incentive Systems (i.e. Pay-As-You-Throw or Save Money and Reduce Trash (PAYT/SMART) Systems)

The Town will continue its PAYT program for residential waste, or in the case of the selection of an alternative MSW management system, consider ways to alter the program to work within the new system. It would not be feasible, due to limited staff resources, to consider expanding these programs to the CII sector during the current planning period.

5.3.3.3 Reduction of Disposable Packaging

The Town is considering implementation of various programs or local laws that would reduce the amount of waste generated by "disposable" packaging utilized in the food service and other service industries. The Town would possibly model their program after a local law passed by New York City in 2015 banning the use of plastic-foam (i.e. Styrofoam) food service containers.

The Town is also part of a private-public partnership effort to obtain EPA funding under the Trash Free Water grant program, and worked with the Product Stewardship Institute, Inc. on a proposal to fund pilot projects in the Town of Southold to help waterside businesses such as restaurants change the types of packaging used in their services to prevent items like straw wrappers and single-use beverage containers from entering waterways.

In conclusion, the Town will continue to monitor trends in the packaging industry and identify methods to counteract the entry of disposal packaging into the waste stream.

5.3.3.4 Incentivize CII Recycling

The Town could prevent waste by exploring various methods to incentivize recycling in the CII sectors. The Town is considering creation of a voluntary certification program that would provide businesses with signage and a listing online identifying them as "Green" establishments. Since a large part of the Town's economy is tourism, and specifically agri-tourism, it is anticipated this would be a popular program with local businesses. The Town will work with local Chamber of Commerces and Rotary Clubs to obtain feedback from community business leaders on how to design the program successfully.

5.3.3.5 Paperless Office Preference

The Town could consider a feasibility study for a paperless office preference in Town offices. After a successful pilot in a limited amount of departments, the Town could consider expanding to all municipal facilities. Once that program has been successfully implemented, the Town can use that case study to provide technical assistance to area businesses.

5.3.3.6 Toxic Waste Reduction & Product Stewardship Programs

The Town focuses significant efforts on its existing Household Hazardous Waste Collection and E-Waste collection programs. Their waste management staff keeps abreast of current waste management initiatives so that they can augment the list of materials accepted as recovery technologies change.

There is easy-to-find guidance on the Town's website regarding hazardous waste such as prescription medications, "sharps", and smoke detectors, and publicizing the HHW events they hold four times a year at the Town's Recycling Center.

Due to the complexity and cost of transporting hazardous waste, there are not a lot of additional options for the Town to consider that would divert additional hazardous waste out of the waste stream.

As such, they are turning their focus to product stewardship efforts. For example, they are interested in promoting paint stewardship, but they lack the regulatory power to require manufacturers to participate in these initiatives. The Town would welcome state-level regulations similar to those passed in the states of Oregon and Connecticut to assist them in furthering stewardship goals. In the meantime, they are active in the New York Product Stewardship Council.

5.3.3.7 C&D Reduction options

Currently, C&D generated commercially, or by residential contractors is primarily disposed of privately, though the Town does operate a C&D transfer station. The Town has little, if any, handling of the overall waste stream or knowledge of specific metrics. As such, the first step for the Town to become involved in the management and reduction of this waste stream is to develop methods to engage businesses on a voluntary basis to provide metrics on the current types and quantities of waste generated, as well as their current disposal methods. A potential source of data may be capturing debris demolition and disposal information through the Town's building permit process. However, C&D debris is often generated by activities that are not subject to building permits, and even in cases where permitting is applicable, not all property owners will comply with the Town's permit regulations.

The Solid Waste District has developed a "Transfer Station/Recycling Center Annual Report" required to be completed by private facilities with the Town. This report is modeled somewhat on DEC's Annual Report for transfer stations, however it seeks detailed information on the generating sources and disposal destinations for all types of waste and recyclables **by Planning Unit**. In this way, Southold seeks to get a handle on how much out of town waste is being handled by private facilities, and the extent to which the Town is serving as a regional waste handling facility for other planning units. Additional means to obtain this information may include the annual mailing of surveys, the development of a web form to be regularly available on the Town's website, or through partnering with major home improvement retailers. A challenge the Town's Waste Management staff will face is what type of incentive they can offer to property owners to induce voluntary participation, and how to launch this initiative within existing budgetary constraints of their current programs.

5.3.3.8 Non-Hazardous Industrial Waste Reduction options

Currently, any non-hazardous industrial waste is likely long-hauled or brought to Bergen Point, by private parties. The Town of Southold has little, if any, handling of this waste stream or knowledge of specific metrics. In Section 2, it was estimated that this waste stream is likely less than 1% of all waste generated within the Town's borders. However, as studies indicate that up to 40% of this type of waste may be recoverable, the Town is interested in learning more about this waste stream, so that they may devise strategies in the future to encourage re-use or recovery of these materials.

As such, the first step for the Town to become involved in the management and reduction of this waste stream is to develop methods to engage businesses on a voluntary basis to provide metrics on the current types and quantities of waste generated, as well as their current disposal methods. Possible means to obtain this information is through the annual mailing of surveys, the development of a web form to be regularly available on the Town's website, or through the institution of a waste audit program. A challenge the Town's Waste Management Staff will face is what type of incentive they can offer to businesses to induce voluntary participation, and how to launch this initiative within existing budgetary constraints of their current programs.

5.3.3.9 Greenhouse Gas Emissions

The Town of Southold has engaged in the following initiatives to reduce greenhouse gases emitted as a result of municipal operations:

- Solar array on capped landfill. In 2012 the Town engaged a consultant to conduct a feasibility study for the installation of a solar power facility on the closed and capped landfill. The study resulted in the Town approving a formal proposal to LIPA for a 2MW solar array on the property. By 2014 the proposal was accepted and the Town entered a lease agreement with a solar power provider to construct the facility. Unfortunately, the provider went bankrupt ending the project, and it failed to advance
- Purchase of a self-propelled windrow turner. In 2016 the Town acquired a new self-propelled windrow turner to turn and mix rows of leaves into compost at the Town's yard waste compost facility. Prior to this the

necessary turning of rows was done by a front-end wheel loader, a much more time and energy consuming process. The efficiency of the turner has resulted in a reduction in fuel use of approximately 1,200 gallons annually.

- Single Stream Recycling. One result of going to single stream has been a dramatic reduction in the use of the facility's forklift truck to move the mixed paper recycling stream, which had been collected in separate hoppers, to the mixed paper "bunker" inside the transfer station building. Under single stream, there is no longer any need to use the forklift for this purpose. Since adopted in 2014, the use of propane fuel for the forklift has been cut by 75%, or approximately 550 gallons annually.
- Automated fuel use and vehicle speed monitoring. In 2011 the Town purchased an automated fuel monitoring system wherein every gallon of diesel fuel is automatically accounted for by vehicle and operator, along with a vehicle use software 2013 that indicates location and speed of all on-road vehicles, and issues alerts for excessive speed and idling. These systems promote accountability and efficiency with regard to fuel consumption.
- Lighting. In 2017 the Town will replace the 36 sodium vapor light fixtures in the transfer station with new high efficiency LED lighting, reducing electric consumption for lighting by about 50%

In the future, the Town plans to engage in the following efforts to increase sustainable operations:

- Establishment of collection districts. The Town could establish residential waste collection districts to standardize curbside collection practices. This would likely involve going to bid for private haulers to pick up waste in each district, with the winning bidder entering into contract with the Town and having sole responsibility for collecting waste in a given district. This would reduce significantly the consumption of diesel fuel as the contracted hauler would replace the multiple haulers that currently collect waste throughout the Town under contract with individual homeowners. In addition, the creation of collection districts would enable the Town to dictate conditions such use of fuel efficient or alternate fueled vehicles, or dual collection vehicles, a condition of winning any bid. Other

requirements with regard routing, timing, and frequency of collection could also implemented that would lower the carbon footprint associated with curbside collection of waste.

- Ending or restriction of "self-hauling." It is estimated that at least 300,000 residential vehicles per year enter the Town transfer station to dispose of household waste. With the establishment of collection districts, this "self-haul" practice be unnecessary, resulting in some overall fuel savings as trips for the sole purpose of disposing of trash would end completely, and trips combining "going to the dump" with other local stops would become shorter. In addition there would be a drastic reduction in traffic volume in the area around the transfer station offering substantial benefit to the neighborhood.
- Hours of operation. The Town facility currently operates 10 hours per day, 7 days a week, with the heavy equipment in use on any given day running virtually non-stop, even when not engaged in a task (it is not advisable to turn heavy equipment engines on and off frequently over short periods of time). Without having to accommodate residential self-haulers, those hours could likely be substantially reduced with little impact on the commercial users still using the facility, but with a significant reduction in fuel consumption.
- Conversion to In-vessel composting. The Town could construct a facility to house its existing yard waste composting operation and harness methane generated by decomposition of the waste currently being released into the atmosphere. However, the multi-million dollar expense of such a conversion would likely make it economically unfeasible.

5.3.4 Material Re-Use Programs

5.3.4.1 Re-Use/Donation of Textiles

The Town will continue to accept used clothing for donation at its Recycling Center, and explore creation of additional partnerships to capture more of this waste stream and provide the needy with clothing, such as through the sponsorship of winter coat drives.

5.3.4.2 Food Donation Programs

The Town will be exploring how to encourage food re-use and donation. Refer to Section 5.3.2.5.

5.3.4.3 Local Tree Re-Use

The Town Waste Management Department will be considering a program that connects local lumber mills with fallen or removed trees that could be a source for old-growth lumber, and re-used for flooring, paneling or other construction needs.

5.3.4.4 Building Material Re-Use

The Town could consider operating a materials exchange at their C&D Transfer Station.

5.3.4.5 Incorporate Re-use into Town procurement and asset management

Currently, the Town does not have specific requirements to encourage purchase of used materials within purchasing specifications for a number of reasons relating to New York State General Municipal Law, quality of goods, and ensuring the Town has sufficient funds to purchase the goods it requires. However, the Town makes every effort to connect surplus items with end users. It is possible for departments to transfer fixed assets between themselves, and the Comptroller's Office spearheads a public auction program for a variety of these items.

5.3.4.6 Promote Packaging Re-Use by Household Consumers

Many types of plastic packaging for home products such as textiles, linens, and children's clothing are re-useable for other home storage needs. The Town is considering using existing online applications like RecycleCoach to publicize creative and fun ways for families to re-use packaging materials.

5.4 Comparison of Existing Programs to Alternatives

The Town of Southold is dedicated to aligning its solid waste management system with the goals outlined in Beyond Waste, the State's solid waste management plan. Their LSWMP is intended to be a living document and toolbox to continuously improve disposal options, reduce waste and increase materials recovery. The alternative MSW management systems described within Section 5 are summarized for comparison purposes as follows.

5.4.1 Summary Evaluation for the Management of MSW

The alternative systems provided herein demonstrate the Town's thoughtful approach to exploring alternative systems to their programs. A summary of the potential impacts of said systems is provided for comparison purposes in Table 5-3. The Town's approach to system selection will be further discussed in Section 6.

Table 5-3. Summary of Section 5 Comparison of Existing MSW System to Potential Application of New Technologies and/or Programs

Solid Waste Management Technology	Financial Cost/Risk	Social Impact (odors, noise, etc.)	Emissions (GHG or other)	Land Area	Water Quality	Water/Energy Consumption	Resources Generated/ Recovered
Existing program (municipal transfer to WTE out-of-town)	Low-Med	Low	Medium	Low	Low-None	Medium	Medium
PAYT "Yellow Bag" program	Low	Low	Low	None	None	None	Medium-High
Use of private transfer station/disposal method chosen by market rates	Low	Medium	Medium	Low	Low	Medium	Medium
Transfer to MSW Landfill off-Island	High	Low	High	High	Medium	High	None
Construct New WTE Facility	High	High	Medium	High	Low	Medium	Medium-High
Pyrolysis	High	Low	Medium-	Low-	Low	High	Medium

Solid Waste Management Technology	Financial Cost/Risk	Social Impact (odors, noise, etc.)	Emissions (GHG or other)	Land Area	Water Quality	Water/Energy Consumption	Resources Generated/ Recovered
			High	Medium			
Plasma Gasification	High	Low	Low-Medium	Low-Medium	Low	High	High
Waste Prevention	Low	Low	None	None	None	None	High

5.4.2 Summary Evaluation for Waste Reduction and Increase of Materials Recovery

The Town has included the evaluation of several new strategies to increase materials recovery, reduce the amount of organics in the waste stream, and reduce waste generation rates in Sections 5.3.1 through Sections 5.3.4. All of the potential initiatives discussed herein build on the Town's existing efforts, and serve to reduce the environmental, social, and economic costs of managing MSW. The programs and strategies evaluated throughout Section 5 that have been identified for further study and consideration will be subject of Sections 6 and 7, where-in prioritization mechanisms are applied, waste reduction estimates are provided and an implementation schedule is outlined.

Section 6 Integrated System Selection

6.1 Integrated Solid Waste Management System Selection

The integrated solid waste management program that is currently in operation will be continued as described throughout this LSWMP. The program that is in operation is currently successful in meeting the needs of the solid waste management within the planning unit, and compliance with the Town's existing LSWMP is summarized in Section 6.2.

Strategies to continue to provide a stable, reliable and cost effective platform for solid waste and recycling operations in the Town of Southold have been described in Section 3 and Section 5, and are summarized within Section 6.3. This system is consistent with the New York State Solid Waste Management hierarchy of handling waste, having in place a core waste system which minimizes landfilling while relying on the preferred management strategies of waste reduction, recycling, composting, and recovery of energy. The Town of Southold has adopted the following priorities in developing this solid waste management plan. The major elements of the proposed solid waste management system are:

Priority 1: To continue to manage waste in a manner that protects the environment and public health, and that conserves natural resources. Programs will continue to be managed in a cost-effective manner that maximizes environmental benefits and minimizes long-term financial liability for citizens, businesses, and taxpayers.

Priority 2: To expand waste reduction and materials recovery programs, with an increased focus on maximizing reduction of toxicity and volume of waste, and optimizing prevention, re-use, and recycling programs not only to address standard household waste, but with an expanded emphasis on the management of organic waste and waste generated by the CII sector.

Priority 3: To collect the data necessary to more fully understand, evaluate, and ultimately, reduce, waste streams that are not currently managed through the Town facility.

6.2 Compliance with Existing LSWMP

Table 6-1 below summarizes the key specific initiatives of the 1995 LSWMP, and their current status. Items that are not complete or abandoned are explained in the "Comments" column. Items that will be continued are repeated in Table 6-2 as Current Programs. Items to be refined are highlighted, and are further discussed in Section 6.4. Five (5) of forty-one (41) initiatives have been transferred to the management of the Fishers Island Planning Unit, and thirty (30) have been wholly completed. The remaining initiatives will be abandoned in their present form and re-structured into more viable alternatives that are within the means of the planning unit to achieve. On the whole, the Town has achieved its major goals in regards to waste handling and recycling program expansion.

Section 6 – Integrated System Selection

Table 6-1. Compliance with Existing LSWMP

Table 6 1. Compliance with Existing LSWMP						
Item #	**MILESTONE**	**DATE**		**STATUS**		**OTHER/ EXPLANATION**
		Original Planned	**Current Planned or Actual**	**Achieved**	**Not Achieved**	
Solid Waste Planning Actions						
1	State approval of SWMP Update and revised CRA	Spring 1995	Summer 1995	X		
2	Receive NYSDEC permit for construction and operation of permanent transfer station	Summer 1995	September 2006 (A)	X		New facility retains original registration..
3	Receive NYSDEC permit for construction and operation of full-scale yard waste composting facility	Summer 1995	2003	X		
4	Construct permanent transfer station	Spring/Summer 1996	Completed Sept. 2006	X		
5	Construct and begin operations of full-scale yard waste composting operations	Spring 1994	Summer 2003	X		

Section 6 – Integrated System Selection

Table 6 1. Compliance with Existing LSWMP

Item #	MILESTONE	DATE		STATUS		OTHER/ EXPLANATION
		Original Planned	Current Planned or Actual	Achieved	Not Achieved	
6	Submit annual reports to NYSDEC for the yard waste composting operations	Annually beginning Spring 1996	Annually beginning Spring 2003	X		
7	Negotiate and finalize next 5-year contract for hauling residual waste to existing permitted facility	Summer 2002	Summer 2002	X		
8	Initiate 5 year "long-term" hauling of residual wastes	Summer 1994	Summer 1994	X		
9	Submit annual reports to NYSDEC for the transfer station.	Annually beginning Summer 1995	Annually beginning January 1994	X		
10	Methane gas investigation.	Summer/Fall 1994	Summer/Fall 1994	X		
11	Groundwater investigation	Summer/Fall 1994	Summer/Fall 1994	X		
12	Submit Closure Investigation Report	Fall/Winter 1994	Fall 1996	X		

Section 6 – Integrated System Selection

Table 6 1. Compliance with Existing LSWMP

Item #	MILESTONE	DATE		STATUS		OTHER/ EXPLANATION
		Original Planned	Current Planned or Actual	Achieved	Not Achieved	
13	Perform Fishers Island metal dump investigation	Summer/Fall 1994	Summer/Fall 1994	X		
14	Submit closure plan for Fishers Island metal dump.	Fall/Winter 1994	Fall/Winter 1994	X		
15	Reclamation of mined areas (Fishers Island)	Spring/Summer 1995	Summer 1995-Spring 1996	X		
16	Submit Conceptual Closure Plan (Fishers Island)	Spring 1995	Fall 1995	X		
17	Submit Final Closure Plan (Fishers Island)	Winter 1995	Spring 1996			Discontinued as Fishers Island is now an Independent Planning Unit
18	Implement closure activities (Fishers Island)	Spring/Summer 1996	Spring/Summer 1996			Discontinued as Fishers Island is now an Independent Planning Unit
19	Submit Closure Certification Report (Fishers Island)	Winter 1997	Winter 1997			
20	Submit postclosure registration forms (Fishers Island)	Summer 1997	Summer 1997			Discontinued as Fishers Island is now an Independent Planning Unit

Section 6 – Integrated System Selection

Table 6 1. Compliance with Existing LSWMP

Item #	MILESTONE	DATE		STATUS		OTHER/ EXPLANATION
		Original Planned	Current Planned or Actual	Achieved	Not Achieved	
21	Perform operation and maintenance activities and annual reporting (Fishers Island)	Annually beginning Fall 1997	Annually beginning Fall 1997			Discontinued as Fishers Island is now an Independent Planning Unit
22	First compliance reports to NYSDEC	March 1995	March 1995	X		
23	2-year updates of SWMP	March 1997	March 1997	X		
	Recycling Project Schedule					
24	Bid and award contract for private services or enter into inter-municipal agreement for residual waste for additional period	2002,2007,2012, 2014, etc	July 1997 (A); July 2002 (A); July 2007 (A)	X		New contract signed with incumbent contractor (Trinity Transportation Inc.). 3-yr term.
25	Town requires commercial establishments and haulers to document and report all private recycling efforts	January 1996	2017	X		
26	Provide technical assistance to commercial, institutional and	January 1996	Ongoing	X		An example of an achievement under this milestone was the implementation

Section 6 – Integrated System Selection

Table 6 1. Compliance with Existing LSWMP

Item #	MILESTONE	DATE		STATUS		OTHER/ EXPLANATION
		Original Planned	Current Planned or Actual	Achieved	Not Achieved	
	industrial establishments					of boat and agricultural plastic film recycling in 2010.
27	Conduct waste audits of commercial facilities	Ongoing	Not currently planned		X	Town lacks staff to conduct this task.
28	Implement recycling in all schools	Dec 1995	1995		X	Recyclables from schools being handled privately, though technical assistance outreach is available on request.
29	Develop demonstration office paper recycling program in schools	April 1995	2005		X	Have assisted schools upon request on ad-hoc basis.
30	Expand Yard Waste Composting	June 1995	Summer 2003	X		Entire yard waste stream currently being composted.
31	Enforce mandatory recycling ordinance	Jan 1995	1994	X		Brought suit against out of town carter to enforce compliance.
32	Analyze residential and commercial rates of participation	June 1995		X		

Section 6 – Integrated System Selection

Table 6 1. Compliance with Existing LSWMP

Item #	MILESTONE	DATE		STATUS		OTHER/ EXPLANATION
		Original Planned	Current Planned or Actual	Achieved	Not Achieved	
33	Make improvements to self-haul drop-off site (original)	May 1995	Summer 1995	X		
34	Expand/redesign Collection and Transfer Facility	May 1998	September 2006	X		
35	Private vendors process C&D debris	Jan 1995	2000	X		Local C&D vendor permitted for C&D transfer only (not processing)
36	Publish newsletter on recycling and solid waste (original)	May 1995	May 1995 2003	X		Info previously included in Supervisor's newsletter. No staff for ongoing publication.
37	Require C&D recycling	Dec 1996	Summer 1997		X	Stronger effort to divert obvious recyclables (metal, plastic, etc.) has been made. Creation of "Clean C&D" waste category. (Discontinued in 2015 due to lack of staff to conduct screening of incoming waste as required by new DEC rule.)
38	Add mixed paper as mandatory	Sept 1995	N/A		X	Town's pay-per-bag system promotes

Table 6 1. Compliance with Existing LSWMP

Item #	MILESTONE	DATE		STATUS		OTHER/ EXPLANATION
		Original Planned	Current Planned or Actual	Achieved	Not Achieved	
	recyclable					heavy recycling of mixed paper.
39	Work with school districts on education programs	Sept 1995	July 1994. Ongoing as requested.	X		Facility tours and classroom instruction provided.
40	Evaluate technical and economic feasibility of organic waste recycling	Dec 1997	Dec 2000		X	Not allowed under current composting permit.
41	Next Biennial update	March 2013		X		

6.3 Solid Waste and Materials Recovery Current Programs

All programs as described within Section 3 will continue for the duration of the Planning Period, except as otherwise noted in Section 6.4. Key elements of the Town of Southold's solid waste program include:

- A Solid Waste Management District which manages all aspects of local solid waste management. The district's funding is split nearly evenly (50-50) between user fees and tax levies.
- A "Pay-As-You-Throw" (PAYT) bag system for residential waste which is required under Section 233 for disposal of most residential waste (i.e., "bulky" items are paid for by tip fee based on weight), whether self-hauled or collected by private carters
- The operation of a residential/commercial MSW transfer station.
- Licensing of private carters hauling commercial and industrial waste generated within the Town.
- The operation of the Town's Recycling Center.
- The monitoring of the closed and capped Landfill.
- A long term agreement for the use of the Babylon Resource Recovery Facility on Town of Babylon property which is operated by Covanta Energy for the disposal with energy recovery of nonhazardous, non-recyclable solid waste.
- Operation of the Town's yard waste composting facility
- Operation of the Town's C&D Transfer Station
- Continuation of Household Hazardous Waste events
- Continuation and expansion of waste prevention, E-waste, and materials recovery initiatives
- Continuation and expansion of public education programs

6.4 Solid Waste and Materials Recovery Program Initiatives

Table 6-2 is provided to identify current and future strategies for the Town to reduce the quantities of various waste streams and increase material diversion rates. At the present time, very little information is available on future independent planning efforts within the incorporated Village of Greenport, as their resources do not currently permit dedication of staff to this effort. As initiatives arise, the Town will include future Village planning efforts in the bi-

annual LSWMP compliance reports. Additionally, if they so desired, the Village would have the opportunity to participate in many of the proposed Town programs.

As comprehensive data does not currently exist to support estimates of waste reduction and funding levels of new programs proposed, an initiative to collect more data to support more detailed initiative development in the future has been included. Likewise, an initiative to create comprehensive data collection programs to support more detailed waste projections and recovery goals is also included.

Column headings are defined as follows:

A. Where possible, specific estimates of waste to be reduced are provided. Otherwise, the amount is designated in reference to the potential overall waste stream that is managed by the Town, should the initiative be in force for 10 or more years. An overall table of waste reduction estimates possible within this planning period is provided in Section 7. Approximate levels are defined as follows:

Low – less than 2% of overall waste stream (<855 tons[1])

Medium – 2.1-4% of overall waste stream (855-1,710 tons[1])

High – 4.1-10% of overall waste stream (1,711-4,276 tons[1])

Note (1) – calculated based on waste generation summary presented in Section 2.2.6; the tonnage definitions do not apply to the Greenhouse Gas Emissions waste stream

B. The levels of funding are defined as follows:

Light – under $2,000, can be accommodated into existing departmental funding levels.

Low - $2,000-$9,000 could be funded by re-prioritizing funds within existing Town Budget.

Medium - $10,000-$25,000 – would require advance planning to dedicate funds.

High – $25,000-$75,000 may require inclusion in long-term capital planning efforts and may require issuance of bonds.

Very High – over $75,000 – may require hiring of staff, issuance of bonds and/or tax levy increase.

C. The levels of demand on staff time are defined as follows:

Low – can be completed by existing personnel with re-prioritization of existing tasks.

Medium – may require abandoning current programs, finding new efficiency initiatives in other arenas, working with student interns or hiring part-time staff.

High –will likely require hiring of additional full time staff.

Keep in mind that the cumulative effect of pursuing multiple initiatives designated as "Low" or "Medium" could result in the necessity of hiring additional full-time staff.

D. The "Priority" column has been completed by the Town, using a combination of the factors estimated in other columns and local knowledge of what changes to their existing programs could reasonably be enacted in the face of current industry trends and their institutional structure. Principles of traditional cost-benefit analysis have been applied, with lower-cost items having a greater impact on the waste stream receiving higher priority ratings. The efforts producing this rating represent the integrated system selection for these items. The levels are as follows:

Low – A worthy pursuit, but unlikely to completed within the current planning period due to lack of resources. It is documented and included for future planning efforts, or in the case of unforeseen events which allow its consideration and/or completion. Items rated as "Low" will not be included in either the Implementation schedule or the Waste Reduction Estimates outlined in Section 7.

Medium – The Town does not foresee garnering the resources to complete these items within the next five years, but could likely garner institutional and financial support within the Planning Period. The priority of these items may change over the course of the planning period.

High – The Town is able to dedicate resources to these items, and they can likely be completed within the Planning Period.

6.4.1 LSWMP Potential Initiatives Analysis

Table 6-2. LSWMP Potential Initiatives

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
Solid Waste System						
1	Conduct a feasibility study to examine the costs and benefits of privatizing MSW transfer operations	Low	Medium	High	Low	
2	In an effort to reduce truck traffic associated with collection and transport of MSW, explore the feasibility and convenience of residential and/or commercial curbside MSW and/or recycling collection programs.	Medium	Medium	Medium	High	Should this prove to be feasible, it will not only support the Town's environmental sustainability goals and promote consistent recycling habits, but it will also support the Town's efforts to refine waste generation estimates and recovery projections.
Recycling Program Expansion						
3	Monitor changes in recycling rates and revenue generation of the Town's recycling program. Revise program and market agreements as necessary to encourage rate and revenue increases	Medium	Low	Low	High	
3A	Continue to advocate for NYS-driven regional solutions to maximize recycling market options available to the Town	Medium	Low	Low	High	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
4	Work with Greenport BID, chambers, and /or rotary clubs to design a pilot program to place public recycling bins in certain areas within downtowns	Medium	Low	Medium	Medium	
5	Establish recycling opportunities at Town-owned beaches and major public events.	Low	Medium	Low	High	
6	Establish a recycling educational presence at public events such as festivals and carnivals.	Low	Light	Low	High	
7	Conduct a pilot program by allowing DIY drop-off of separated carpet on selected days at the Town's C&D drop-off facility	Low	Low	Medium	Medium	
General Waste Prevention						
8	Design a PAYT program for the CII sector	Medium	High	High	Low	This may be explored as part of #2 if it is decided to explore the inclusion of some or all commercial establishments in a curbside collection program

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
9	Explore use of the website Recycle Coach and related online resources to provide information to families with small children on recycling resources, containing information on topics such as cloth/compostable diaper services, using leftover food, toys/linens packaging re-use, and activities to teach kids about recycling	Low	Light	Low	High	
10	Continue membership and activity in the New York Product Stewardship Council	Low	Low	Medium	High	
11	Design and implement a public education program aimed at increasing recycling rates within multi-residential developments, such as private condominium complexes, which are currently not part of the Town's "Yellow Bag" program	Low-Medium	Low	Medium	High	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
12	Join and become active in the NYS Association for Reduction, Reuse and Recycling. Use resources obtained through membership to better evaluate the types of recycled products that might be cost-effective for the Town to consider modifying purchasing specifications to encourage.	Low	Low	Medium	Low	Already membership in SWANA-NY Chapter and NYSASWM.
CII Sector Initiatives						
13	Work with Chambers of Commerce and BIDs to establish and participate in Recycling Committees that would perform voluntary surveys in the CII sector, and function as a mechanism to both provide recycling resources and create better communication on recycling issues between the Town and the CII sector	Low	Low	Medium-High	Low	
14	Design an annual commercial recycling summit day; work with local business organizations to ensure relevancy and high participation rates	Medium	Low	Medium-High	Low	Reach out to local manufacturers who are using recycling materials as sources for manufacturing to serve as event sponsors; focus on economic benefits of recycling

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
15	Create a "Waste Audit Toolkit" webpage for businesses featuring software tools and worksheets for download that would assist businesses to self-assess their waste streams, and learn about the cost reduction benefits associated with having professional waste audits performed.	Varies	Light	Medium-High	Medium	Use web pages created by other municipalities as a guide. For example, the Solid Waste Authority of Central Ohio (www.swaco.org) has a page to this effect.
16	Utilize the website Recycle Bank and/or related online resources to connect local businesses and residents with recycling incentives	Low	Low-Medium	Low-Medium	High	
17	Create public information campaigns to educate residents, political subdivisions and the CII Sector on the benefits of purchasing recycled products	Low	Low	Medium-High	Medium	Many products made of recycled materials are currently manufactured in the United States, so there is an added benefit of raising awareness of Made in the USA products
18	Work with the BIDs and Chamber of Commerce to provide greater public information to businesses on the economic benefits to recycling	Medium	Low	Medium	Medium	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
19	Add a page/main menu item to the EWM Town website specifically to provide recycling resources to Businesses, incorporating existing information as well as a link to the Empire State Development Recycling Markets Portal	Medium	Light	Low	High	
20	Provide information on the Town's website aimed at the medical industry on organizations, such as Practice Greenhealth, that can assist entities such as hospitals and nursing homes with reducing the amount of Regulated Medical Waste generated, thus also reducing the toxicity of the waste stream	Low	Light	Medium	High	
Non-Hazardous Industrial Waste						
21	Compile a list of manufacturers and industrial processors who operate within the Town, with detail about industrial processes necessary to support their businesses, as well as number of full and part-time employees	Low	Low	Low	High	This is an extremely small portion of the Town's private sector base.
Organics						

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
22	Conduct a feasibility study as described in Section 5.3.2.1 to determine if any types of food waste or other different types of organics can be incorporated into existing Town Compost Facility.	High	Medium-High	Medium	High	If it is determined feasible to add more organics, a modification to the Town's yard waste compost permit would be required.
23	Conduct a food waste generation and disposal study to inventory all CII sector operations generating food, send surveys, and use other methods to estimate food waste generation with the Town, include public awareness efforts, and provide the Town with specific cost/benefit analyses of various recovery and processing methods.	Medium	Medium	High	Medium	An effort was made to survey food establishments as part of this LSWMP but feedback was minimal. The proposed public awareness component may remedy that.
24	Design a public information campaign aimed at raising awareness of the substantial contribution of food waste to the MSW waste stream	Low-Medium	Medium	Medium	High	
25	Create virtual demonstrations of various types of backyard composting demonstrations for posting on the Town's website. Promote with the Town's social media.	Low	Low	Low	Low	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
26	Reach out to local food banks, and promote a public education program aimed at getting employees of supermarkets, institutions, and other large-scale food waste generators appropriate training so that these entities could become food bank partners/participants	Medium-High	Medium	Medium	High	
27	Institute a Town-licensing or registration program for landscapers, so that generation data on residential and commercial yard waste can be captured, and disposal and/or recovery efforts can be monitored	Low	Medium	High	Low	
28	Provide information on Town's website aimed at homeowners to encourage management of plants and trees in a manner that minimizes yard waste, encourages back-yard composting, and reduces dependence on nitrogen-based fertilizers	Low	Low	Medium	High	
29	Add a menu item to the Town website to provide links and promote the Empire State Development Organics Recycling Portal to food-waste generators	Low-Medium	Light	Low	High	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
30	Hire a consultant to conduct a feasibility study to evaluate zoning and land use regulation changes to promote the use of small-scale anaerobic digesters by local private operators, targeted towards major local generators of food waste	Low	Medium	High	Low	Inter-departmental initiatives can be highly demanding on staff time. This would involve a minimum of two other departments, and to implement outcomes of the study, require extensive public hearings.
C&D						
31	Modify Building Permits to require identification of C&D disposal and recycling locations	Medium	Low	Medium	Medium	
32	Explore ways to publicize and/or incentivize C&D recycling, such as encouraging homeowners and contractors to donate re-useable building supplies to local non-profits. For example, ways to encourage sustainable deconstruction methods and source-separation of C&D will be explored.	Low	Medium	Medium	High	
33	Design a program to collect local data to support estimates of the amount of C&D generated from commercial projects, and separately by commercial contractors working on residential homes.	Medium	Medium	Medium	Low	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
34	Create literature for distribution with commercial and residential building permits, especially demolition permits, to encourage source-separation, recycling and re-use of C&D materials	Medium	Low	Medium	High	Added to LSWMP with an elevated priority to coordinate with the Town's Draft Comprehensive Plan
Biosolids						
35	On an annual basis, send a letter to Village and County and New York State agencies controlling sewage treatment plants to request waste generation data.	Low	Light	Low	High	
Greenhouse Gas Emissions						
36	Continue to expand recycling programs and prevent waste as outlined in this section	Varies	Varies	Varies	High	
37	Continue efforts to reduce energy usage of the Town's operations and facilities	Low-Medium	Varies	Varies	High	
38	Town to consider and evaluate the feasibility of sorting and baling recyclables locally to reduce volume, and truck use, associated with transport of recyclables to distant recycling facilities	Medium	Medium	Medium	High	Added to LSWMP with an elevated priority to coordinate with the Town's Draft Comprehensive Plan

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
39	Town to evaluate transportation alternatives, including creating and enforcing designated truck transportation routes, for the transport of solid waste and recyclables, with an aim towards reducing the social and environmental impacts of the traffic generated by said transport	Medium	Medium	Medium	High	Added to LSWMP with an elevated priority to coordinate with the Town's Draft Comprehensive Plan
Data Collection Efforts						
40	Create a comprehensive plan to Identify gaps in data regarding waste generation, and to increase the Town's access to data regarding institutional and other waste generation, including for public and private schools, hospitals and nursing home facilities, and biosolids.	N/A	Low-Medium	Medium	High	
41	Collect data necessary to support detailed MSW projections, in regards to both existing programs and initiatives contained within this table. Include detailed waste projections in biennial compliance reports	N/A	Low-Medium	Medium	High	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
42	On an annual basis, send a letter to nursing homes and assisted living facilities within the Town to request waste generation and recycling data	N/A	Light	Low	Medium	
43	On an annual basis, send a letter to County and New York State agencies controlling facilities such as parks request waste generation data.	N/A	Light	Low	High	
44	Work with the Incorporated Village of Greenport to suggest data collection programs to provide more information on the residential and CII waste streams within their borders	Low	Low-Medium	High	Medium	
Compliance Activities						
45	Prepare and submit biennial updates to the NYSDEC. These reports will contain a comparison of current waste quantities and characterizations with the projection tables contained within this report at Table 4-1, Table 7-2, and Table 7-3. All of these tables will be refined with each biennial report as additional data becomes available.	N/A	Low-Medium	Medium	High	

Table 6-2 LSWMP Initiatives						
ID No.	**Solid Waste Planning Initiative**	**Level of Potential Waste Reduction**	**Funds Required**	**Demands on Staff Time**	**Priority**	**Comments**
46	Utilize data collected under new comprehensive data collection program to further develop initiatives presented within Section 6 of this plan, but that are not currently included in the Program Schedule in Section 7. The biennial compliance report will be used as a means to identify new initiatives developed.	N/A	Low-Medium	Medium	Medium	
47	Coordinate completion of biennial update with the Village of Greenport and use it as mechanism to follow-up on Village data collection efforts	N/A	Light	Medium	Medium	

6.5 Waste Management Program Needs

All of the programs outlined in Section 6.4 depend heavily on the Town's ability to continue to staff and fund the Town's Solid Waste facilities and operations. In the current economic climate, raising additional funds to expand programs may be challenging, so the Town will be carefully evaluating new program initiatives to identify cost-effective efforts.

6.5.1 Infrastructure

The Town's waste management programs depend heavily on its existing solid waste facilities continuing to operate at the same capacity through the planning period.

6.5.2 Personnel

While many of the initiatives described in Table 6-2 can take place individually within existing staffing levels, the cumulative effect of trying to enact new initiatives simultaneously will place a strain on the current waste management administrative personnel. The Town currently has no resources available to hire additional staff, however, they intends to further evaluate the possibility of attracting college students pursuing resource management-related careers to serve as interns in exchange for college credit. Due to the New York State-mandated tax cap, hiring additional personnel without the prospect of additional revenues or decreased costs would not be an option, and thus may impact the ability of the Town to fully carry out new initiatives in this LSWMP.

6.5.3 Funding

While many of the initiatives described in Table 6-2 can take place individually within existing funding levels, the cumulative effect of trying to enact new initiatives simultaneously will place a strain on the current waste management departmental budget. The Town intends to further evaluate the cost savings associated with various waste reduction measures in order to determine whether these savings would be sufficient to fund an additional materials recovery programs. Due to the New York State-mandated tax cap, enacting new programs without the prospect of additional revenues or decreased costs would not be option, and thus may impact the ability of the Town to fully carry out new initiatives in this LSWMP.

6.5.3 Funding

While many of the initiatives described in Table 6-2 can take place individually within existing funding levels, the cumulative effect of trying to enact new initiatives simultaneously will place a strain on the current waste management departmental budget. The Town intends to further evaluate the cost savings associated with various waste reduction measures in order to determine whether these savings would be sufficient to fund an additional materials recovery programs. Due to the New York State-mandated tax cap, enacting new programs without the prospect of additional revenues or decreased costs would not be option, and thus may impact the ability of the Town to fully carry out new initiatives in this LSWMP.

Section 7 Program Implementation

7.1 Program Summary

7.1.1 Overview

The Town of Southold's existing solid waste system has been presented and analyzed in the preceding sections of this plan. Section 3 contains a detailed discussion of existing programs; Section 6 describes the selected solid waste system, as well as new initiatives the Town will be exploring over the next 10 years and beyond.

The Town assembled a vision for the future of Southold's materials management and recovery programs throughout Section 6, which focuses on maximizing waste reduction and materials recovery, while continuing to manage waste in a cost-effective manner that maximizes environmental benefits and minimizes long-term financial liability for citizens, businesses, and taxpayers. A key priority identified is the need for better data on existing waste streams, especially organic waste and the CII sector, so that the Town can look to further identify initiatives to reduce these waste streams in the future.

Section 6 described a variety of new initiatives that the Town Waste Management District would recommend evaluating over the long term in order for the Town's strategies and programs to be in line with New York State's Beyond Waste Plan. The Town applied a systematic rating system, considering required funds, demands on staff time, and potential for waste reduction to prioritize the initiatives. Though all of these are worthy pursuits, many of these are beyond the means of the Town at this time. As such, Section 7.2 lays out a program of implementation that the Town feels is realistic to achieve prior to the end of the planning period in 2026, within the current fiscal climate, and within the means of the available personnel resources. Section 7.2 contains an implementation schedule for those initiatives that ranked "High" according to the selected criteria. It is intended that the accomplishment of these measures will construct a foundation to better develop the other, lower-ranking initiatives into meaningful and realistic waste management programs in the subsequent planning period.

7.1.2 Highlights

Town of Southold looks to their future as one of marked by greater materials recovery and the continued implementation of waste prevention initiatives. The Town's economic well-being depends on continuing to increase environmental sustainability, as the agricultural and tourism sectors within their Town thrive only if their environment does as well.

Likewise, the Town recognizes the great importance of addressing the organics waste stream, especially in regards to food waste, low-grade paper products and other potentially compostable items. The Waste Management District looks forward to working on the implementation of the initiatives presented in Section 7.2, Program Schedule.

7.2 Program Schedule

This section contains an implementation schedule for twenty-eight (28) "High Priority" new waste management programs and strategies identified within Section 6. The implementation period covers from the present, up to and including the year of 2026.

Every effort has been made to include waste strategies and programs that will improve the knowledge and management of all waste streams within the Town's borders, in accordance with the State's Beyond Waste SWMP. The implementation schedule has been carefully crafted to maximize the benefits of each of the twenty-eight (28) new initiatives, while working within the very real constraints faced by the limited staff and resources of the Waste Management District. The Town considers this schedule realistic, and will work to incorporate this LSWMP as a living document into their existing responsibilities.

Table 7.1 follows below and contains a description of each initiative, an estimated level of potential waste reduction (as defined in Section 6.4), and a proposed completion date. Note the ID numbers included in the table carry over from Table 6.2, and are not meant to be sequential or cumulative.

Table 7-1. LSWMP New Initiatives

ID No.[1]	Category	Solid Waste Planning Initiative	Level of Potential Waste Reduction[2]	Proposed Completion Date
2	Solid Waste System	In an effort to reduce truck traffic associated with collection and transport of MSW, explore the feasibility and convenience of residential and/or commercial curbside MSW and/or recycling collection programs.	Medium	2023
3	Recycling Program Expansion	Monitor changes in recycling rates and revenue generation of the Town's recycling program. Revise program and market agreements as necessary to encourage rate and revenue increases	Medium	Ongoing
3A	Recycling Program Expansion	Continue to advocate for NYS-driven regional solutions to maximize recycling market options available to the Town	Medium	Ongoing
5	Recycling Program Expansion	Establish recycling opportunities at Town-owned beaches and major public events.	Low	2021
6	Recycling Program Expansion	Establish a recycling educational presence at public events such as festivals and carnivals.	Low	2022
9	General Waste Prevention	Explore use of the website Recycle Coach and related online resources to provide information to families with small children on recycling resources, containing information on topics such as cloth/compostable diaper services, using leftover food, toys/linens packaging re-use, and activities to teach kids about recycling	Low	2021
10	General Waste Prevention	Continue membership and activity in the New York Product Stewardship Council	Low	Ongoing
11	General Waste	Design and implement a public	Low-Medium	2022; may be

[1] *Note ID Numbers referenced were established in Table 6.2. They are not sequential. There are 28 items total.*

ID No.[1]	Category	Solid Waste Planning Initiative	Level of Potential Waste Reduction[2]	Proposed Completion Date
	Prevention	education program aimed at increasing recycling rates within multi-residential developments, such as private condominium complexes, which are currently not part of the Town's "Yellow Bag" program		explored as part of #2
16	CII Sector Initiatives	Utilize the website Recycle Bank and/or related online resources to connect local businesses and residents with recycling incentives	Low	2020
19	CII Sector Initiatives	Add a page/main menu item to the EWM Town website specifically to provide recycling resources to Businesses, incorporating existing information as well as a link to the Empire State Development Recycling Markets Portal	Medium	2020
20	CII Sector Initiatives	Provide information on the Town's website aimed at the medical industry on organizations, such as Practice Greenhealth, that can assist entities such as hospitals and nursing homes with reducing the amount of Regulated Medical Waste generated, thus also reducing the toxicity of the waste stream	Low	2022
21	Non-Hazardous Industrial Waste	Compile a list of manufacturers and industrial processors who operate within the Town, with detail about industrial processes necessary to support their businesses, as well as number of full and part-time employees	Low	2022
22	Organics	Explore feasibility as described in Section 5.3.2.1 to determine if any types of food waste or other different types of organics can be incorporated into existing Town Compost Facility.	High	2021
24	Organics	Design a public information campaign aimed at raising awareness of the	Low-Medium	2020

ID No.[1]	Category	Solid Waste Planning Initiative	Level of Potential Waste Reduction[2]	Proposed Completion Date
		substantial contribution of food waste to the MSW waste stream		
26	Organics	Reach out to local food banks, and promote a public education program aimed at getting employees of supermarkets, institutions, and other large-scale food waste generators appropriate training so that these entities could become food bank partners/participants	Medium - High	2021
28	Organics	Provide information on Town's website aimed at homeowners to encourage management of plants and trees in a manner that minimizes yard waste, encourages back-yard composting, and reduces dependence on nitrogen-based fertilizers	Low	2022
29	Organics	Add a menu item to the Town website to provide links and promote the Empire State Development Organics Recycling Portal to food-waste generators	Low-Medium	2020
31	C&D	Modify Building Permits to require identification of C&D disposal and recycling locations	Medium	2022
32	C&D	Explore ways to publicize and/or incentivize C&D recycling, such as encouraging homeowners and contractors to donate re-useable building supplies to local non-profits. For example, ways to encourage sustainable deconstruction methods and source-separation of C&D will be explored.	Low	2021
34	C&D	Create literature for distribution with commercial and residential building permits, especially demolition permits, to encourage source-separation, recycling and re-use of C&D materials	Medium	2020

ID No.[1]	Category	Solid Waste Planning Initiative	Level of Potential Waste Reduction[2]	Proposed Completion Date
35	Biosolids	On an annual basis, send a letter to Village and County and New York State agencies controlling sewage treatment plants to request waste generation data.	Low	Ongoing, beginning 2020
36	Greenhouse Gas Emissions	Continue to expand recycling programs and prevent waste as outlined in this section	Varies	Ongoing
37	Greenhouse Gas Emissions	Continue efforts to reduce energy usage of the Town's operations and facilities	Low-Medium	Ongoing
38	Greenhouse Gas Emissions	Town to consider and evaluate the feasibility of sorting and baling recyclables locally to reduce volume, and truck use, associated with transport of recyclables to distant recycling facilities	Medium	2023
39	Greenhouse Gas Emissions	Town to evaluate transportation alternatives, including creating and enforcing designated truck transportation routes, for the transport of solid waste and recyclables, with an aim towards reducing the social and environmental impacts of the traffic generated by said transpor	Medium	2022
40	Data Collection Efforts	Create a comprehensive plan to Identify gaps in data regarding waste generation, and to increase the Town's access to data regarding institutional and other waste generation, including for public and private schools, hospitals and nursing home facilities, and biosolids.	N/A	2021
41	Data Collection Efforts	Collect data necessary to support detailed MSW projections, in regards to both existing programs and initiatives contained within this table. Include detailed waste projections in biennial compliance reports	N/A	2023

ID No.[1]	Category	Solid Waste Planning Initiative	Level of Potential Waste Reduction[2]	Proposed Completion Date
43	Data Collection Efforts	On an annual basis, send a letter to County and New York State agencies controlling facilities such as parks request waste generation data.	N/A	Ongoing, beginning 2020
45	Compliance Activities	Prepare and submit biennial compliance reports to the NYSDEC. These reports will contain a comparison of current waste quantities and characterizations with the projection tables contained within this report at Table 4-1, Figure 7-1, and Figure 7-2. All of these tables will be refined with each biennial report as additional data becomes available.	N/A	Ongoing, beginning as directed by NYSDEC upon final plan approval

Note (1) -- ID Numbers referenced were established in Table 6.2. They are not sequential. There are 28 items total.

Note (2) – Refer to Section 6.4 for definitions of waste reduction categories

7.3 Waste Reduction Predictions

7.3.1 Overview

At the present time, the Town of Southold does not have sufficient data nor resources to complete detailed waste projections and recovery goals. As such, the Town is including a generic version of the Population and Municipal Solid Waste Composition Calculator, based primarily on NYSDEC default data, with some minor updates to the MSW Materials Composition values based on the Characterization of Waste Study completed by the City of New York in 2017. Please note the data is provided for general reference purposes only, and the calculator is continuously updated by NYSDEC in an effort to better reflect current industry conditions. The source data included in the calculator is reflective of general trends observed on the federal and state levels, and not meant to portray specific local conditions. Section 7.2 contains initiatives regarding the future collection of data to support the inclusion of more detailed waste projection and recovery goals in biennial compliance reports.

The goals included herein are for the most part, conservative, however, due to the Town's plans to examine the feasibility of expanding organics and other compostable items processed in its compost facility, the projections included for these waste streams may be more aggressive than may come to pass. Accordingly, the Town will be closely examining, and revising as necessary, these projections in future biennial updates.

Though the reduction in per capita net waste generation rates throughout this section is substantial and significant, it is recognized that the goals of Beyond Waste are more aggressive. The Town is committed to a sustainable future, and is confident that the data and study that it will devote to understanding the various components of the waste stream generated within its geographic borders within the current planning period will lead to future programs to further decrease waste generation and increase materials recovery, narrowing the gap between the State goals and potential Planning Unit achievements by the end of the subsequent planning period. In addition, it is noted that the Town's goal of reaching a 35.2% materials diversion rate for 2022 is close to the US EPA's goal of reaching 35% in 2020, outlined in their Resource Conservation Challenge (RCC). Most importantly, the programmatic changes and implementation schedule

presented in the Plan are realistic and achievable by the Town, and will facilitate more aggressive goals and accomplishments in the future.

7.3.2 Detailed Waste Stream Projections

The projections presented in this section are based on the 2019 version of the NYSDEC waste stream projection model. The model has been adjusted to reflect more accurately the population estimates and waste generation rates that were presented in earlier sections of the plan. The Town makes no warranty that the included waste generation and diversion rates and quantities are an accurate prediction of the future state of waste management within the Town, but will strive to collect sufficient data to provide more realistic calculations in future biennial updates.

In spite of these limitations, efforts have been made to create a realistic projection for the Town, which faces increasing population, while factoring in modest gains in the recovery of specific materials that both Town programs, general trends and recovery technologies. On the following pages, please find Table 7-2 and Table 7-3, detailing projections and goals for the estimated entirety of the MSW streams within the Planning Unit.

Figure 7-1. MSW Diversion Projections (NYSDEC Calculator Tab 6)

Step 6. Municipal Solid Waste (MSW) Diversion Projections

This tab will be used to create goals for the amount of material the planning unit will divert for each year of the planning period. These goals will be entered as percentages, based on how much of the material generated will be diverted for recycling or beneficial use.
The diversion goal percentages will be entered in the purple cells for each material and each year of the planning period.

Town of Southold (Except Fishers Island) 2016-2025

Year	2016			2017			2018			2019			2020			2021			2022			2023			2024			2025
Projected MSW Generation (Tons/yr)	19,568			19,762			19,958			20,156			20,357			20,559			20,763			20,969			21,177			21,387
MSW Diverted (Tons/yr)	6,106			6,312			6,081			6,287			6,559			6,882			7,304			7,732			8,197			8,691

		2015			2016	2017			2018			2019			2020			2021			2022			2023			2024			2025		
	MSW Materials Composition (%)	MSW Generated (Tons)	MSW Diverted (Tons)	% MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted	MSW generated (Tons)	MSW Diverted	% MSW Diverted
Material	100.0%	19,312	5,885	30.5%	31.2%	19,762	6,312	31.9%	19,959	6,081	30.5%	20,156	6,287	31.2%	20,357	6,559	32.2%	20,559	6,882	33.5%	20,763	7,304	35.2%	20,969	7,732	36.9%	21,177	8,197	38.7%	21,387	8,691	40.6%
Paper	Newspaper	0.4%	84	40	47.5%	48.5%	86	43	49.5%	87	41	46.5%	88	43	48.5%	89	44	49.5%	90	45	50.5%	91	47	51.5%	92	48	52.5%	92	49	53.5%	93	51	54.5%
	Corrugated Cardboard	10.4%	2,004	900	44.9%	45.9%	2,051	962	46.9%	2,071	909	43.9%	2,092	960	45.9%	2,112	991	46.9%	2,133	1,022	47.9%	2,154	1,054	48.9%	2,176	1,086	49.9%	2,197	1,119	50.9%	2,219	1,152	51.9%
	Other Recyclable Paper (Total)	11.3%	2,178	850	39.0%	40.0%	2,229	914	41.0%	2,251	855	38.0%	2,273	909	40.0%	2,296	941	41.0%	2,318	974	42.0%	2,341	1,007	43.0%	2,365	1,040	44.0%	2,388	1,075	45.0%	2,412	1,109	46.0%
	Other Compostable Paper	3.9%	760	355	46.7%	47.7%	777	379	48.7%	766	359	45.7%	793	378	47.7%	801	390	48.7%	809	402	49.7%	817	414	50.7%	825	426	51.7%	833	439	52.7%	841	452	53.7%
	Total Paper	26.0%	5,026	2,145	42.7%	43.7%	5,143	2,297	44.7%	5,194	2,164	41.7%	5,245	2,290	43.7%	5,298	2,366	44.7%	5,350	2,443	45.7%	5,403	2,521	46.7%	5,457	2,601	47.7%	5,511	2,682	48.7%	5,566	2,764	49.7%
Metal	Ferrous/Aluminum Containers (Total)	1.8%	346	210	60.7%	61.7%	354	222	62.7%	358	214	59.7%	361	234	64.7%	365	240	65.7%	368	246	66.7%	372	252	67.7%	376	256	68.7%	380	265	69.7%	383	271	70.7%
	Other Ferrous Metals	5.2%	999	650	65.1%	66.1%	1,022	686	67.1%	1,032	662	64.1%	1,043	710	68.1%	1,053	738	70.1%	1,063	756	71.1%	1,074	774	72.1%	1,085	793	73.1%	1,095	812	74.1%	1,106	831	75.1%
	Other Non-Ferrous Metals (Total)	1.0%	187	90	48.2%	48.3%	191	92	48.4%	193	93	48.4%	195	94	48.5%	197	96	48.6%	199	97	48.7%	201	100	49.7%	203	103	50.7%	205	106	51.7%	207	109	52.7%
	Total Metals	7.9%	1,532	950	62.0%	62.9%	1,567	1,000	63.8%	1,583	969	61.2%	1,599	1,038	64.9%	1,615	1,073	66.5%	1,631	1,099	67.4%	1,647	1,126	68.4%	1,663	1,154	69.4%	1,680	1,182	70.4%	1,696	1,211	71.4%
Plastic	PET Containers	0.8%	177	70	39.6%	39.7%	181	72	39.8%	183	73	39.8%	184	73	39.8%	186	74	39.9%	188	75	40.0%	190	76	40.1%	192	77	40.2%	194	78	40.3%	196	79	40.4%
	HDPE Containers	0.9%	173	70	40.6%	40.6%	177	72	40.7%	179	73	40.7%	181	73	40.7%	182	74	40.8%	184	75	40.9%	186	93	50.0%	188	94	50.1%	190	95	50.2%	192	96	50.3%
	Other Plastic (3-7) Containers	1.7%	332	110	33.2%	33.3%	340	113	33.4%	343	111	32.4%	346	114	32.9%	350	115	33.0%	353	117	33.1%	357	118	33.2%	360	120	33.3%	364	122	33.4%	367	123	33.5%
	Film Plastic	5.6%	1,079	0	0.0%	5.0%	1,104	110	10.0%	1,115	167	15.0%	1,126	169	15.0%	1,139	182	16.0%	1,149	195	17.0%	1,160	209	18.0%	1,172	223	19.0%	1,183	237	20.0%	1,195	251	21.0%
	Other Plastic (Total)	5.8%	1,120	460	41.1%	41.2%	1,146	473	41.3%	1,158	467	40.3%	1,169	483	41.3%	1,181	500	42.3%	1,193	516	43.3%	1,204	534	44.3%	1,216	551	45.3%	1,228	569	46.3%	1,241	587	47.3%
	Total Plastics	14.9%	2,881	710	24.6%	25.6%	2,948	841	28.5%	2,977	890	29.9%	3,007	913	30.4%	3,037	946	31.1%	3,067	979	31.9%	3,097	1,030	33.3%	3,128	1,065	34.0%	3,159	1,100	34.8%	3,191	1,136	35.6%
Glass	Glass Bottles, Jars and Containers	3.9%	756	280	37.0%	37.1%	774	288	37.2%	781	252	32.2%	789	215	27.2%	797	221	27.7%	805	227	28.2%	813	311	38.2%	821	330	40.2%	829	358	43.2%	837	387	46.2%
	Other Glass (Flat glass, dishware, light bulbs, etc.)	0.4%	68	0	0.0%	0.0%	69	0	0.0%	70	0	0.0%	71	0	0.0%	71	1	1.0%	72	2	3.0%	73	4	5.0%	74	7	10.0%	74	11	15.0%	75	15	20.0%
	Total Glass	4.3%	824	280	34.0%	34.0%	843	288	34.1%	851	252	29.5%	860	215	25.0%	868	221	25.5%	877	229	26.1%	886	314	35.5%	895	337	37.7%	903	369	40.9%	912	402	44.0%
Organics	Food Scraps	15.3%	2,955	50	1.7%	1.8%	3,024	57	1.9%	3,054	61	2.0%	3,084	65	2.1%	3,115	128	4.1%	3,145	223	7.1%	3,177	321	10.1%	3,208	484	15.1%	3,240	651	20.1%	3,272	821	25.1%
	Leaves and Grass / Pruning and Trimmings	9.7%	1,867	900	48.2%	48.3%	1,911	925	48.4%	1,930	936	48.5%	1,949	947	48.6%	1,968	996	50.6%	1,988	1,046	52.6%	2,008	1,096	54.6%	2,027	1,148	56.6%	2,048	1,200	58.6%	2,068	1,274	61.6%
	Total Organics	25.0%	4,822	950	19.7%	19.8%	4,934	982	19.9%	4,983	997	20.0%	5,033	1,012	20.1%	5,083	1,124	22.1%	5,133	1,269	24.7%	5,184	1,417	27.3%	5,236	1,632	31.2%	5,288	1,851	35.0%	5,340	2,095	39.2%
Textiles	Clothing Footwear, Towels, Sheets	4.2%	814	90	11.1%	11.2%	833	94	11.3%	841	96	11.4%	849	98	11.5%	858	100	11.6%	866	109	12.6%	875	128	14.6%	884	147	16.6%	892	184	20.6%	901	222	24.6%
	Carpet	1.6%	308	0	0.0%	0.0%	315	0	0.0%	318	0	0.0%	322	0	0.0%	325	0	0.0%	328	16	5.0%	331	17	5.0%	334	27	8.0%	338	41	12.0%	341	55	16.0%
	Total Textiles	5.8%	1,122	90	8.0%	8.1%	1,148	94	8.2%	1,159	96	8.3%	1,171	98	8.3%	1,183	100	8.4%	1,194	126	10.5%	1,206	144	12.0%	1,218	173	14.2%	1,230	224	18.2%	1,242	276	22.2%
Wood	*Total Wood* (Pallets, crates, adulterated and non-adulterated wood)	3.4%	648	100	15.4%	15.5%	663	103	15.6%	669	105	15.7%	676	107	15.8%	683	109	15.9%	690	110	16.0%	696	118	17.0%	703	130	18.5%	710	142	20.0%	717	154	21.5%
Miscellaneous	DIY Construction & Renovation Materials	4.4%	841	150	17.8%	17.9%	860	156	18.1%	869	207	23.8%	877	209	23.8%	886	211	23.8%	895	213	23.8%	904	215	23.8%	913	217	23.8%	922	219	23.8%	931	221	23.8%
	Diapers	3.5%	683	50	7.3%	8.3%	699	65	9.3%	706	96	13.6%	713	97	13.6%	720	98	13.6%	727	99	13.6%	734	100	13.6%	742	101	13.6%	749	102	13.6%	757	103	13.6%
	Electronics	1.6%	302	80	26.5%	28.5%	309	94	30.5%	312	83	26.5%	315	83	26.5%	319	84	26.5%	322	85	26.5%	325	86	26.5%	328	87	26.5%	331	88	26.5%	335	89	26.5%
	Tires	0.9%	182	160	87.9%	88.0%	186	164	88.1%	188	146	77.7%	190	148	77.7%	192	149	77.7%	194	150	77.7%	196	152	77.7%	198	153	77.7%	200	155	77.7%	202	157	77.7%
	HHW	0.5%	95	35	36.9%	37.1%	97	36	37.3%	98	36	36.9%	99	37	36.9%	100	37	36.9%	101	37	36.9%	102	38	36.9%	103	39	36.9%	104	39	36.9%	105	39	36.9%
	Soils and Fines	0.2%	40	10	25.2%	25.3%	41	10	25.4%	41	10	25.2%	41	10	25.2%	42	11	25.2%	42	11	25.2%	43	11	25.2%	43	11	25.2%	43	11	25.2%	44	11	25.2%
	Other Composite Materials - Durable and/or inert	1.6%	316	175	55.5%	55.6%	323	180	55.7%	326	31	9.5%	329	31	9.5%	333	32	9.5%	336	32	9.5%	339	32	9.5%	343	33	9.5%	346	33	9.5%	349	33	9.5%
	Total Miscellaneous	12.7%	2,459	660	26.8%	27.4%	2,515	706	28.1%	2,540	609	24.0%	2,566	615	24.0%	2,591	621	24.0%	2,617	627	24.0%	2,643	634	24.0%	2,669	640	24.0%	2,696	646	24.0%	2,722	653	24.0%

Section 8 Local Laws and Regulations

8.1 Local Laws in Effect to Support the Plan

The Town is in compliance with all applicable Federal and State statues in regards to local legislation supporting the solid waste system and associated materials recovery, including, but not limited to, New York State General Municipal Law 120-aa. Local laws and ordinances governing the management and transport of solid waste, including hauler licensing, the mandatory source separation of recyclables, and the use of the Town's "Yellow Bags" are codified in the Town of Southold Code Chapter 233[1]: Solid Waste. The Waste Management District is vested with authority by a 1993 act of the New York State Legislature. Municipal Building Energy Benchmarking, an initiative to reduce the Town's energy use, is governed by Chapter 177[2]. Refer to Chapter 174[3]: Littering and Chapter 100[4]: Buildings, Unsafe; Property Maintenance, which relate to proper waste storage and disposal.

8.2 Legal Constraints to the Selected System

There are no laws within the jurisdiction in the Town of Southold that would prevent or impede the implementation of the comprehensive LSWMP, or inhibit Town programs.

8.3 Potential New Local Legislation

The majority of new initiatives described within Section 6 could be implemented with little, if any, changes to Town Code. The implementation schedule provided in Section 7 focuses on "high priority" initiatives. For the most part, an initiative could not receive a "high priority" rating in Section 6 if significant legislative changes were required, because those types of changes are beyond the immediate jurisdiction of the Waste Management District, and depend on an extensive public hearing process. Some of the initiatives related to licensing and permits, however, may require minimal code changes to fully support the new programs.

[1] Note: The most recent version of Town Code Chapter 233 can be found online here: https://ecode360.com/5159892
[2] Note: The most recent version of Town Code Chapter 177 can be found online here: https://ecode360.com/31873653
[3] Note: The most recent version of Town Code Chapter 174 can be found online here: https://ecode360.com/5159105
[4] Note: The most recent version of Town Code Chapter 100 can be found online here: https://ecode360.com/5161767

Section 9 Public Approval Process

<<This section is provided as a placeholder to be utilized to document the public approval process>>

9.1 Public Comment Period

9.1.1 Overview

9.1.2 Public Notice

9.1.3 Public Comments and Town Responses

9.2 SEQR Assessment

9.3 SEQR Determination

9.4 Municipal Adoption