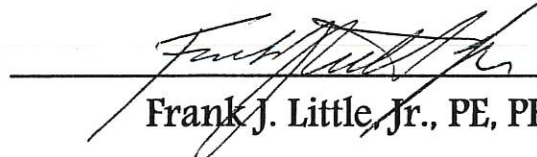


LONG BEACH TOWNSHIP COMPREHENSIVE MASTER PLAN UPDATE 2017

Prepared By:



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Date December 13, 2017

LONG BEACH TOWNSHIP LAND USE BOARD RESOLUTION

WHEREAS, N.J.S.A. 40:55D-89 imposes upon a municipality the obligation to provide for a general reexamine of it's Master Plan and development regulations by the Planning Board of the Municipality every ten (10) years, and requires the Planning Board to prepare and adopt a report on the findings of such reexamination; and

WHEREAS, the Long Beach Township Land Use Board has the responsibility for the reexamination of the Long Beach Township Master Plan; and

WHEREAS, the Long Beach Township Land Use Board, with the assistance of it's professionals, has reexamined the Master Plan and has rendered a report entitled " Long Beach Township Comprehensive Master Plan Update 2017 a copy of which is annexed hereto and made a part hereof;

WHEREAS, the Long Beach Township Land Use Board, has conducted a Public Hearing concerning the proposed 2017 Update to the Master Plan on December 13, 2017 and has considered the input from members of the Public; and

WHEREAS, the Long Beach Township Land Use Board has reexamined and prepared an update to the Master Plan, with the assistance of it's professionals, and specifically finds the following:

- A. That Long Beach Township is a fully developed community and that the assumptions, policies and objectives made at the time of the initial enactment of the Master Plan and all subsequent reexaminations thereof remains unchanged;
- B. That no major changes or recommendations need be made to the existing Master Plan but has determined that several ordinance changes are needed to update the current Zoning Ordinance to meet current development trends in the Township, as set forth in pages 2-4 of Land Use Plan Element of the Long Beach Township Comprehensive Master Plan Update 2017;
- C. The Board further finds that it is important to encourage local businesses since the services they provide are needed to service the local residents;
- D. The Board has reviewed Recreation and Open Space, Traffic Circulation, Community Facilities and Services, Utilities Municipal Storm water Management, and Sustainability and Recycling and has made recommendations concerning same; and

- E. The Boards findings and conclusions as to the aforesaid are contained in the Long Beach Township Comprehensive Master Plan Update 2017 which is incorporated herein by reference.

NOW THEREFORE, BE IT RESOLVED, this 13th day of December, 2017 by the Long Beach Township Land Use Board as follows:

- (1) That the reexamination report entitled "Long Beach Township Comprehensive Master Plan Update 2017 ", be and is hereby adopted; and
- (2) That a copy of the said reexamination report and this Resolution be forwarded to the Long Beach Township Clerk, Mayor and Counsel, for their review and that a copy also be filed with the County Planning Board; and
- (3) That notice of the adoption of the Long Beach Township Comprehensive Master Plan Update 2017; be forwarded to the Municipal Clerks of each adjoining municipality, who may, on behalf of their Governing Body, request a copy of the Long Beach Township Comprehensive Master Plan Update 2017; and
- (4) That a notice of this approval be published in the official newspapers of Long Beach Township.

Moved by: KONNOR

Seconded by: PINGARO

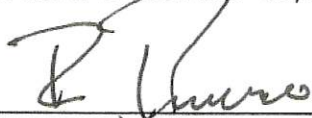
ROLL CALL VOTE:

Ayes: APPELEGATE, KONNOR, LEONETTI, HUMMEL, PINGARO, SCHNELL, SOUTHWICK, VANBUREN, MORAN AND JONES

Nays: NONE

Certified to be a true copy of a Resolution adopted at a regular special meeting of the Land Use Board held on December 13, 2017.

Dated: December 13, 2017



Ronald Pingaro, Secretary

PUBLICATION DATE: DECEMBER 21, 2017

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INTRODUCTION

Long Beach Township is a coastal barrier island resort community in Southern New Jersey and is the largest community on Long Beach Island. The community provides many amenities for year round residents and vacationers. The Township provides full public access to the Little Egg Harbor Bay, Barnegat Bay and the Atlantic Ocean beaches through their extensive park and recreational system.

The current Long Beach Township Master Plan was originally adopted in 1978, updated in 1990, and re-examined in 1997, 2001 and 2007. The original Master Plan outlines a plan for continued orderly development of the Community and serves as a foundation upon which the development ordinances (site plan, zoning and subdivision ordinances) are based.

In accordance with N.J.S. 40:55:D-89, the Land Use Board is required to periodically re-examine the Master Plan and development ordinances at least once every ten (10) years, in order to be certain that the assumptions, policies and objectives incorporated in the original plan and the subsequent re-examination reports and the Township's ordinance continue to address present development problems the Township faces.

The analysis which follows is formulated to comply with this mandate.

This report is being submitted pursuant to the provisions of N.J.S. 40:55D-89, which provides that:

"The governing body shall, at least every ten (10) years, provide for a general re-examination of its master plan and development regulations by the Planning Board, which shall prepare and adopt by resolution a report; on the finding of such re-examination, a copy of which report and resolution shall be sent to the County Planning Board and the Municipal Clerk of each adjoining Municipality...[A] re-examination shall be completed at least once every ten years from the previous re-examination.

The re-examination report shall state:

- [a] The major problems and objectives relating to land development in the Municipality at the time of the adoption of the last re-examination report;*
- [b] The extent to which such problems and objectives have been decreased or have increased subsequent to such date;*
- [c] The extent to which there have been significant changes in the assumptions, policies and objectives forming the basis for the Master Plan or development regulations as last revised with particular regard to the density, and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition and recycling of designated recyclable materials and changes in State, County and Municipal policies and objectives.*
- [d] The specific changes recommended for the Master Plan or development regulations, if any, including underlying objectives, policies, and standards, or whether a new plan or regulation should be prepared.."*
- [e] The recommendations of the planning board concerning the incorporation of redevelopment plans adopted pursuant to the "Local Redevelopment and Housing Law", P.L. 1992, c.79 (C.40A.12-1 et al) into the land use plan element of the municipal master plan, and recommended changes, if any, in the local development regulations necessary to effectuate the redevelopment plans of the municipality..."*

MASTER PLAN GOALS

The following goals were first compiled in the Township's 1978 Master Plan and have followed through in the various updates to the plan. The goals have been updated somewhat to reflect current conditions in the Township.

Residential Land Use

- A. Maintain the low-density, single-family character of the community by upgrading minimum lot sizes, where possible, and limiting multi-family housing development.
- B. Maintain and upgrade the quality of seasonal housing converted to year-round occupancy, but adopt and administer proper codes and standards.
- C. Restrict the spread of trailer parks and mobile homes.

Commercial Land Use

- A. Encourage concentrated patterns of commercial activity to facilitate traffic control and to promote conservation of the Township's residential character.
- B. Provide for marine-oriented commercial use in certain compatible areas of the bay front with a residential mix.

Public Facilities and Services

- A. Promote residential and commercial development consistent with the ability of public services and facilities to support additional demands.
- B. Continue to promote public access to waterfront areas.
- C. Increase the supply of recreational services to permanent and seasonal residents where and when feasible.
- D. Continue to meet State Recycling Plan goals for the collection, disposition and recycling of recyclable materials.
- E. Continue upgrades to the Township Infrastructure, i.e., roadways, stormwater, water and sewer facilities.

- F. Continue to support Federal and State agencies in maintaining navigable waterways and marina access. In addition, the use of Sedge Islands should be prioritized for the beneficial reuse of dredge spoil material.

PROBLEMS AND OBJECTIVES

The 2007 Master Plan Re-examination Report and all of the previous updates, indicated that the Township is fully developed and the analysis of the Land Use and Zoning in general is consistent with the original Master Plan Goals and Objectives.

CHANGES IN ASSUMPTIONS, POLICIES AND OBJECTIVES

Based on the current review, a detailed analysis of the current Master Plan Goals, Problems and Objectives are detailed in the various sections of this Master Plan Update.

VISION STATEMENT

The Township of Long Beach and its residents strive to provide a unique and vibrant coastal community and vacation destination that focuses on our exceptional quality of life, valued natural resources and premier recreational amenities that support all citizens and visitors.

LAND USE PLAN ELEMENT

Major Trends and Issues

This barrier island community is the largest on Long Beach Island and provides many amenities needed for a full time year round resident including a post office, restaurants and shops, and the largest grocery store on the island but also caters to the vacationer by providing recreational areas for swimming, access to the bay front for fishing, boating and birdwatching as well as a community that is easily accessible, in all its neighborhoods, by the Long Beach Island Shuttle System. This Township, as well as the neighboring communities, have seen a surge in real estate prices over the last decade and older, smaller structures are being demolished in favor of larger homes that can accommodate multiple families simultaneously. Also, larger parcels, especially those that are at least 100 FT in width, are being subdivided to allow for the construction of two or more homes. Many property owners are also in favor of adding additional paver driveway area, in-ground pools and expansive entertaining areas all of which impact the drainage patterns in this area.

From an environmental viewpoint, the increase in large scale residential development, increasing sea level rise and recent historic storm events are directly affecting the Township's shoreline and infrastructure. One of the most problematic issues is the increased occurrence of nuisance flooding throughout the town and also to the south and north in the neighboring Boroughs of Beach Haven and Ship Bottom. On average, the Township experiences a nuisance flooding event that affects local roadways at least one time every 2 months and this event may span several tide cycles and often inhibits the use of certain roads, especially Long Beach Boulevard which is a major evacuation route. The Township has been working with it's Municipal Engineer and also seeking guidance and recommendations from the New Jersey Department of Environmental Protection and the United States Army Corps of Engineers for possible solutions to combat this problem. As many other coastal communities are facing similar issues with coastal flooding, Long Beach Township understands the effect these events have on the local community and therefore have initiated plans to complete three stormwater drainage projects in the Brant Beach area of town. Specifically, drainage pump stations will be installed at 71st Street, on 76th Street at the cul-de-sac and at 81st Street near Joey's Pizza Restaurant. These drainage pumps will be sub-grade and will assist to alleviate nuisance flooding in these poor drainage areas but will be of little aid in mitigating tidal flooding.

Demographics

As a seasonal barrier island community, Long Beach Township's population increases to an estimated 50,000 people in the summer months which includes second homeowners, seasonal and weekly tenants and those on day-trips. As the construction of new large scale homes and the request for subdivisions of existing parcels continues, it is anticipated that this estimate will increase. A significant portion of the population leaves the Township for the winter months and resides outside of the area.

Historically since 1950, the Township's year round population increased decade after decade which can be attributed to the consistent development of housing and coastal community atmosphere that many people seek while raising families or during their retirement years.

Long Beach Township Population Trends								
1950	1960	1970	1980	1990	2000	2005	2010	2015
840	1561	2910	3488	3407	3329	3411	3453	3746

Source: US Census, NJTPA Forecast 2016

Since 2000, the median home values of single family residences have risen more than 200% from \$334,400 to \$710,000 which can be attributed to the housing boom and subsequent real estate market crash from 2005 through 2007 as well as the demand increasing for prime real estate in this sought after community where land is at a premium.

Established Zoning Districts And Land Use Recommendations

The Township utilizes the following districts to enact and enforce local zoning regulations: R-10 Single Family Residential District, R-10E Single Family Residential District, R-75 Single Family Residential District, R-6 Single Family Residential District, R-50 General Residential District, R-50A Single Family Residential District, R-36 General Residential District, R-35 General Residential District, C-General Commercial District, Special Commercial District and the MC-Marine Commercial District. The parameters associated with these districts have functioned well for controlling development in accordance with it's goals for land use.

We note that with the elimination of duplexes in the Single Family Residential Zone, there is no difference in zoning for the R-50 and R-50A Zones and therefore these districts should be merged to meet only the R-50 General Residential District requirements.

As property values continue to rise and more commercial establishments are being demolished in favor of single family homes, the Township has modified ordinances to be more business-friendly in an effort to preserve existing commercial locations and promote new commercial development. Changes made to the Ordinances since the 2007 re-examination primarily focused on promoting mixed use development and simplifying the process for food and beverage establishment to increase seating without obtaining Land Use Board approval. The Township should consider providing incentives to retain commercial business or construct new commercial development and allow for as many apartments above a commercial unit as can be constructed while adhering to the parking requirements of the Ordinance and maintaining the setbacks associated with the commercial zone.

Also, after an extensive evaluation by the Board prior to the 2007 re-examination regarding the history and future of marine services which include the availability of boat slips as well as facilities for the repair and service of watercraft, it was decided that this area may eventually evolve into a residential/marina mix which would result in a reduction of boat slips. Since 2010, the Land Use Board has approved at least four (4) applications in the Marina Commercial District resulting in single family homes and this figure does not account for developments that did not require Land Use Board approval, confirming that this District is becoming more residential in nature. Also, in the MC-Marine Commercial Zone, a conflict exists regarding the maximum building height of 30 FT versus the 34 FT building height minimum town-wide. This Ordinance should be amended to permit a maximum building height of 34 FT. Variances for exceeding the permitted height have been issued in this Zone.

With the change in building design along the bay front and also with the substantial increase in new construction homes since Superstorm Sandy in 2012, Ordinance 205-11.E.3 which states "*where in a given block along the bay front there is a pronounced uniformity in the alignment of existing buildings and the setback depths are greater than required by the setback requirements of this Chapter, then any new building shall conform substantially with the established setback line*" should be retracted as it no longer aligns with the Land Use Design of the Township.

As noted earlier in this plan, the Township's new construction of single family homes is trending to be larger and accommodate more people or several families at one time. At the present time, two (2) parking spaces are required to be part of a plot plan to obtain a building permit and one of those spaces can be in the garage area. It is typical though for the garages to be used for storage and then vehicles are parked on the streets or encroaching in to the right of way from the driveway area. Therefore, it is recommended that utilization of the garage space as a designated parking space be eliminated and the proposed dwelling be designed for the site in a way that accommodates the parking of two (2) vehicles, outside the building footprint, each within a 9 FT x 18 FT space. A 1 ½ -car garage, at least, 16 FT wide, can be used as one parking space. Also, if the depth of the garage is 30 FT or greater, then it can also be counted as one parking space. In addition, concrete curb should

also be installed on any property that is considered substantial improvement, new construction or at the time of new driveway installation. A minimum distance of 18 FT should be maintained between driveways to encourage on-street parking.

In regard to Ordinance 176-26 of the Subdivision Ordinance, it was determined through a review of prior Land Use Board applications and further amendments to 176-26, which recognize smaller lots in developed neighborhoods, that the 6,000 square foot with 60 foot of frontage for new subdivisions is not practical. It is therefore recommended that this provision in the Ordinance be revised to allow new subdivisions to conform to the various lot sizes listed in the zoning regulations. As an example, lots in the R-50 Zone are permitted to be 5,000 square feet with 50 feet of frontage.

Ordinance Section 64-13.B.1 specifically requires that bayside or lagoon bulkheads within Zones R-10, R-10E, R-6 and R-75 should have an elevation of 6.0 FT above Mean Sea Level, NAVD 1988. In all other zones, the top of any Bayfront bulkhead and any bulkhead located within 200 FT from the waters of the bay shall have an elevation of 7.0 FT above Mean Sea Level, NAVD 1988. This ordinance should continue to be enforced as it will provide the resiliency needed from future storm events and anticipated sea level rise.

RECREATION AND OPEN SPACE ELEMENT

PART 1 – PARKS

The Township offers six (6) parks within its municipal boundary limits and each offer different recreational opportunities for the user. Long Beach also employs a Recreation Coordinator who is responsible for creating, maintaining and promoting a parks schedule for the spring, summer and fall seasons. These parks include Bayview Park in the Brant Beach Section of the Township as well as the annex located directly across the street, Hideaway Bay Park, Osborn Avenue Park, Loveladies (two locations) and North Beach Tennis Facilities, Veterans Park in Beach Haven Terrace and the Janet Avenue Playground. Since Superstorm Sandy in 2012, the Township has prioritized providing premier park facilities and also acquiring property to provide additional open space as well as access to public water.

In November 2017, Long Beach Township held a referendum for a one-cent open space tax and it was passed by local voters. This open space tax could raise \$850,000 a year and would be matched by the County which would allow the Township to purchase selected properties that come on the market and turn them back into open land or parks.

As the Township is essentially fully developed and is within a floodplain that experiences flood events often, community stakeholders should continue to support the acquisition of land for use as open space or parks as they will allow places for the recreation but will also assist in floodwater mitigation.

Hideaway Bay Park

This parcel of property has been owned by the Township and never developed with any sort of recreational pastime. It is a waterfront parcel on the bay that has varied topography and offers spectacular views of the water and sunsets. Long Beach is in the process of obtaining permits that would allow for the construction of a small parking lot off Long Beach Boulevard. Future plans for the park include a walking trail, kayak and stand-up paddleboard launch, and a new bulkhead. Funding, if needed, should be prioritized for this park.

Veterans Park

Veterans Park is a brand new park that was constructed in the Summer of 2017 after being a vacant undeveloped gravel lot for some time. The park is located in the center of a small shopping and retail area and appears to be a welcome addition to the neighborhood by area residents. This park not only serves as a location to remember Veterans of the United States but it also functions as a meeting spot, an area to sit and relax or eat foodstuffs from the adjacent stores.

Bayview Park

Bayview Park may be, arguably, the most popular and used park by residents and vacationers. This park is traversed by Long Beach Boulevard and a traffic light and crosswalk allow for safe passage from one side of the street to the other. This park was damaged during Superstorm Sandy but the Township was able to make the repairs prior to the 2013 summer season. Additional improvements followed including constructing new bathrooms to meet the FEMA flood regulations. This park is guarded for safe swimming during bathing months and many recreational programs are offered from this park including eco-kayak tours, paddleboarding and various lessons.

The park annex across the street and in front of the Municipal Building has been recently rehabilitated with a new parking area, a dog park, basketball, pickle ball and bocce courts. The dog park appears to have been a great addition to the community and residents from other communities come to Long Beach Township as well to use this facility. No additions to this park are anticipated in the near future.

Osborn Avenue Park

This park parcel located at the bayside end of Osborn Avenue is a recent land donation received by Long Beach Township and recently gained Township Land Use Board approval to construct an education field station possibly in partnership with a local university. This field station, when constructed, will offer a location for bay monitoring as well as meeting location for environmental research groups and classrooms for outreach and instruction. The Township should pursue any funding opportunities that are available for this site.

Loveladies and North Beach Tennis Facilities

These tennis facilities at the north end of the Township in the Loveladies (two locations) and North Beach sections each provide beach access, tennis courts, parking and restroom facilities for use by area residents. After Superstorm Sandy, these facilities were rehabilitated. As a result, no upgrades to these facilities are anticipated in the near future.

Janet Avenue Playground

This children's playground is located in the Holgate area of the Township and also provides parking, tennis and basketball courts. After Superstorm Sandy, these courts were rehabilitated. As a result, no upgrades to these facilities are anticipated in the near future.

PART 2 – NJDEP MUNICIPAL RECREATION AND OPEN SPACE INVENTORY (ROSI)

The following list represents the most current ROSI available from the NJDEP Green Acres Program.

County: OCEAN Municipality: LONG BEACH TOWNSHIP

Block	Lot	Facility Name	Interest	Type
1.05	1	MAINTAINED OCEAN BEACH	FEE	M
1.08	1	MAINTAINED OCEAN BEACH	FEE	M
1.11	2	MAINTAINED OCEAN BEACH	FEE	M
1.14	2	MAINTAINED OCEAN BEACH	FEE	M
1.20	3	MAINTAINED OCEAN BEACH	FEE	M
1.20	8	MAINTAINED OCEAN BEACH	FEE	M
1.26	1	MAINTAINED OCEAN BEACH	FEE	M
1.26	2	MAINTAINED OCEAN BEACH	FEE	M
1.32	3	MAINTAINED OCEAN BEACH	FEE	M
1.35	3	MAINTAINED OCEAN BEACH	FEE	M
1.75	4	BEACH HAVEN INLET	FEE	M
1.78	10	BEACH HAVEN INLET	FEE	M
1.80	1	BEACH HAVEN INLET	FEE	M
1.81	1	BEACH HAVEN INLET	FEE	M
1.81	2	BEACH HAVEN INLET	FEE	M
1.81	3	BEACH HAVEN INLET	FEE	M
1.81	4	BEACH HAVEN INLET	FEE	M
1.83	2	BEACH HAVEN INLET	FEE	M
1.83	5	BEACH HAVEN INLET	FEE	M
1.85	1	BEACH HAVEN INLET	FEE	M
1.85	3	BEACH HAVEN INLET	FEE	M
1.85	5	BEACH HAVEN INLET	FEE	M
1.85	8	BEACH HAVEN INLET	FEE	M
1.87	4	BEACH HAVEN INLET	FEE	M
10.01	3	MAINTAINED OCEAN BEACH	FEE	M
10.04	9	MAINTAINED OCEAN BEACH	FEE	M
10.05	7	MAINTAINED OCEAN BEACH	FEE	M
10.12	7	MAINTAINED OCEAN BEACH	FEE	M
11.12	10	MAINTAINED OCEAN BEACH	FEE	M
11.14	8	MAINTAINED OCEAN BEACH	FEE	M
11.20	1	MAINTAINED OCEAN BEACH	FEE	M
14.02	3	MAINTAINED OCEAN BEACH	FEE	M
15.08	1	BAYVIEW PARK	FEE	M
15.08	2	BAYVIEW PARK	FEE	M
15.08	3	BAYVIEW PARK	FEE	M
15.08	4	BAYVIEW PARK	FEE	M
15.08	5	BAYVIEW PARK	FEE	M
15.11	1	BAYVIEW PARK	FEE	M
15.11	2	BAYVIEW PARK	FEE	M
15.11	2.01	BAYVIEW PARK – RIPARIAN	FEE	M
15.11	3	BAYVIEW PARK	FEE	M
15.11	3.01	BAYVIEW PARK – RIPARIAN	FEE	M
15.11	4	BAYVIEW PARK	FEE	M
15.11	5	BAYVIEW PARK	FEE	M
15.11	6	BAYVIEW PARK	FEE	M

15.14	10		FEE	M
15.14	7.02		FEE	M
15.14	7.03		FEE	M
15.14	7.04		FEE	M
15.16	1	BAYVIEW PARK	FEE	M
15.16	1.01	BAYVIEW PARK – RIPARIAN	FEE	M
15.17	1	BAYVIEW PARK	FEE	M
15.18	1	BAYVIEW PARK	FEE	M
15.19	1	BAYVIEW PARK	FEE	M
15.19	1.01	BAYVIEW PARK – RIPARIAN	FEE	M
15.19	2	BAYVIEW PARK	FEE	M
15.22	1	BAYVIEW PARK	FEE	M
15.22	2	BAYVIEW PARK	FEE	M
15.22	2.01	BAYVIEW PARK – RIPARIAN	FEE	M
15.28	2	BRANT BEACH	FEE	M
15.37	2	BRANT BEACH	FEE	M
15.40	2	BRANT BEACH	FEE	M
18.65	1	NORTH BEACH TENNIS COURTS	FEE	M
20.109	1	PARK	FEE	M
20.151	8	LOVELADIES	FEE	M
20.155	2	TENNIS COURT	FEE	M
20.156	7	LOVELADIES BEACH FRONT	FEE	M
20.53	2	TENNIS COURT	FEE	M
20.55	6	TENNIS COURT	FEE	M
25.06	1	SAND ISLAND	FEE	M
25.11	1	DESIDARIO	FEE	M
25.11	2	DESIDARIO	FEE	M
25.16	1	DESIDARIO	FEE	M
25.31	1	BEACHFRONT	FEE	M
25.32	1	BEACHFRONT	FEE	M
25.33	1	BEACHFRONT	FEE	M
25.34	1	BEACHFRONT	FEE	M
25.35	1	BEACHFRONT	FEE	M
25.36	1	BEACHFRONT	FEE	M
25.37	1	BEACHFRONT	FEE	M
4.21	8	MAINTAINED OCEAN BEACH	FEE	M
4.35	6	MAINTAINED OCEAN BEACH	FEE	M
4.49	13	MAINTAINED OCEAN BEACH	FEE	M
4.49	14	MAINTAINED OCEAN BEACH	FEE	M
4.49	5	MAINTAINED OCEAN BEACH	FEE	M
4.49	6	MAINTAINED OCEAN BEACH	FEE	M
4.49	7	MAINTAINED OCEAN BEACH	FEE	M
6.35	4	MAINTAINED OCEAN BEACH	FEE	M
6.45	11	MAINTAINED OCEAN BEACH	FEE	M
7.13	1	MAINTAINED OCEAN BEACH	FEE	M
8.05	22	MAINTAINED OCEAN BEACH	FEE	M
8.09	4	MAINTAINED OCEAN BEACH	FEE	M
8.13	4	MAINTAINED OCEAN BEACH	FEE	M
8.16	2	MAINTAINED OCEAN BEACH	FEE	M
8.16	6	MAINTAINED OCEAN BEACH	FEE	M
8.17	25	MAINTAINED OCEAN BEACH	FEE	M
8.17	33	MAINTAINED OCEAN BEACH	FEE	M
8.20	4	MAINTAINED OCEAN BEACH	FEE	M
8.23	2	MAINTAINED OCEAN BEACH	FEE	M
8.26	2	MAINTAINED OCEAN BEACH	FEE	M
ROW		LONG BEACH BLVD		

The above information is the Recreation and Open Space Inventory (ROSI) on file with Green Acres. Please note that Green Acres relies on the accuracy of the information provided to us by the Local Unit(s) in maintaining the accuracy of our database. Since it is the responsibility of the Local Unit(s) to ensure compliance with Green Acres rules, it is strongly recommended that you confirm this information with the Local Unit(s).

PART 3- PUBLIC ACCESS PLAN

The Public Access Plan prepared by Owen, Little & Associates on behalf of the Township, dated August 31, 2016 is currently under review by the NJDEP. The plan was developed in accordance with DEP Regulations and was funded through a Grant provided by the State of New Jersey. Upon approval by the NJDEP, the Public Access Plan will be formally adopted by the Land Use Board.

CIRCULATION ELEMENT

Existing Traffic Patterns

Long Beach's transportation system focused mainly on the personal vehicle as this residential community lacks close proximity to major bus depots, airports or train stations. However, regional growth on the island fueled by the replacement of small bungalows with much larger homes that can accommodate many more people, is putting pressure on the local road network and the availability of parking as well as the safety of pedestrians.

The Township has only one main principal arterial road, Long Beach Boulevard, which serves as a feeder road to the regional roadway network once at the Dorland Henderson Bridge and NJSH Route 72 on the mainland in Stafford Township. Typical design of these roads includes fewer curb cuts in an effort to facilitate efficient movement of traffic throughout the area. For this reason, curb cuts are usually offered on the side road of corner lots when available. The remainder of the streets are collector and local streets which are maintained by the municipality and typically carry between 500 and 3000 vehicles per day. This varies depending on the month in this seasonal community. As the Township is fully developed, the existing street pattern is expected to continue which will maintain the atmosphere of the town.

In 2017, Long Beach Township joined Ship Bottom and Beach Haven in requesting immediate action from the Ocean County Freeholders to address severe flooding on Long Beach Boulevard. The Township recognizes that Long Beach Boulevard is a major evacuation route for residents and visitors and that mitigation actions must be completed to alleviate flooding in specific areas of the island. The Township also supports the elevation of the crown of Long Beach Boulevard in the area between 23rd Street and 30th Street. Additional support aimed at mitigating flooding issues should be continued.

Roadway Improvements

No transportation projects by the New Jersey Department of Transportation or the County of Ocean are anticipated to occur in Long Beach Township directly, however, there is an on-going roadway and bridge project on the Route 72 bridges and approach roadways which is expected to last through the year 2020.

Prior to the start of construction, all four bridges of the Route 72 span from Stafford Township to Ship Bottom Township exhibited severe deterioration and were outdated. The recently completed deck resurfacing project was only expected to extend the life of the deck until the existing Manahawkin Bay Bridge rehabilitation was completed after the proposed new parallel Manahawkin Bay Bridge is constructed.

Age and deterioration of the structures, increased marine and highway traffic, and the potential for storms to disrupt normal operations are some of the reasons why these bridges needed to be rehabilitated. The existing Manahawkin Bay Bridge and three trestle bridges along Route 72 are over 50 years old. Their serviceable life without major rehabilitation is limited based on their existing conditions and the increasing expenditures of tax dollars for necessary repairs. The continuing development of fatigue cracks in the floor beams of the Manahawkin Bay Bridge and progression of severe rusting requires replacement of its superstructure. The chipping and cracking of the pier caps of the three trestle bridges requires extensive retrofitting for these bridges. It was deemed to be more cost effective to perform a major rehabilitation than to continue repairing the bridges as problems develop.

As noted previously, highway traffic on Route 72 to Long Beach Island has increased with additional population and the popularity of the shore areas. The combination of increased recreational and commuter traffic causes more congestion on the bridges and its access roads, which also hampers access for emergency vehicles. The project will provide wider lanes and shoulders on Route 72 and constructing a new parallel Manahawkin Bay Bridge will provide redundancy for the bridge crossing that can be used during a possible emergency and/or for future maintenance and rehabilitation of either of the twin bridges.

Since Route 72 is a Coastal Evacuation Route and is a vital link as the only access point to and from Long Beach Island, the improvements will allow better traffic flow, shoulders for increased safety and emergency access, continuous sidewalk access from the mainland to Long Beach Island, and relief from storm-related drainage issues in Ship Bottom.

The project has been broken down into five different contracts for completion. Construction on Contracts 3 and 5 began in February 2015. Contract 3 will rehabilitate the trestle bridges over the East Thorofare and West Thorofare along the Route 72 Causeway between the mainland and Long Beach Island, along with various associated improvements.

Included in Contract 5 will be the environmental mitigations needed to comply with the environmental permit conditions for the entire project. The project includes wetland creation, mitigation for freshwater wetlands and retrofit of two existing stormwater basins within the Barnegat Bay watershed and public access improvements.

A contract to rehabilitate the existing Manahawkin Bay Bridge and the trestle bridge over Hillard's Thorofare will be next and the entire Manahawkin Bay Bridge superstructure will be removed and replaced.

A separate construction contract will address safety and operational issues at the Route 72/Marsha Drive intersection in Stafford Township. This contract will also include operational and drainage improvements in Ship Bottom Borough, on Long Beach Island. Two-way traffic will be restored along Central Avenue and Long Beach Boulevard and traffic signals along 8th and 9th Streets (Route 72) will be improved.

Mass Transportation

Regional Service

Long Beach Township is not serviced by any large scale mass transit bus or train network. Regional transportation hubs are available in Atlantic City which is approximately 49 miles away and both bus and trains are available there to Philadelphia and New York City. Connections can then be made to other major cities on the Northeast Corridor as well as to the Philadelphia and Newark International Airports.

Airports

The Atlantic City International Airport is approximately 42 miles from Long Beach Township and is served by Spirit Airlines which offers direct flight service to 10 major cities including several in Florida where many residents of Long Beach Township spend their winters. The nearest major hub airport is Philadelphia International Airport which is approximately 74 miles from the Township.

Long Beach Island Shuttle

Long Beach Island Shuttles (LBI Shuttles) were introduced in 2014 by the Township and is a free service that runs along all 18 miles of the island. With designated areas to stop, it is easy to find a shuttle or waive one down to get anywhere you need on the island during the available season. The service now offers an app for use on wireless cellular devices that enables riders to track the proximity of a bus to their location and is sponsored by local business and is gaining in popularity. It is well suited to the island as it decreases the number of personal vehicles being driven on the roads and each shuttle can also be used as an emergency vehicle in the event of a mass evacuation. Long Beach Township recently constructed a shuttle bus depot & transportation office in the Peahala Park section of town within the ACME shopping plaza and this has been beneficial to the added successes of the system this year. During the Summer 2017 season, the LBU Shuttles carried approximately 110,000 riders which was the highest level of ridership since the programs inception. Such demand though puts stresses on the programs and the buses and ridership is evidence of the popularity of the program and the need for expansion.

Riding the buses is currently free but the introduction of a nominal user fare seems more a necessity if the program is to continue, therefore, the residents supported a referendum, on November 7, 2017 to allow the Township the option to charge a small fee for those who ride the shuttle.

Currently, the service is funded by grants, advertising revenue from bus wraps and signs inside the vehicles, and \$10,000 annually from each municipality on LBI. These funding sources will continue, but they're not adequate due to the program's success. Passengers have been asked to donate to ride the buses, however, donations have been not be high enough to effectively manage the program. Now that the referendum passed, a cost structure will likely be implemented for shuttle riders.

The Gator Program is another initiative aimed at assisting area residents and beach goers to access the oceanfront as the result of large dune post beach replenishment. Once the replenishment project was completed by the Army Corps of Engineers, there was a measureable portion of the population who experienced difficulty accessing the beach including senior citizens, disabled users and pregnant women. Therefore, the Gator program was started to provide transportation from the street end over the dunes to a location on the beach via all-terrain vehicle. The Gator Program operates during the beach hours of 10am-5pm and has been an asset to the community offering more than 7000 rides in 2017. It is recommended that the Township should continue to provide this service.

Biking Network

A designated bike lane is provided on Ocean Avenue and is greatly utilized by bicycle riders along with walkers, joggers and those pushing baby strollers. The Township is currently undertaking a Local Bicycle/Pedestrian Planning Assistance Program through the NJDOT to access infrastructure improvements that can be undertaken and address the safety and access needs. The Township should continue to support programs such as these that facilitate biking and walking in lieu of using vehicle transportation.

On Street Parking Space Striping

As new homes are constructed, curbs installed and driveway entrances widened, it is imperative to maintain as many on-street parking spaces as possible, especially on Oceanside blocks for beach goers. Retaining these spaces should be considered a priority during the planning stage of new construction and building regulations as they pertain to the curb opening for an individual lot should be strongly maintained.

UTILITIES PLAN ELEMENT

Existing Infrastructure

Long Beach Township's utility infrastructure consists of public water, sanitary sewers and storm sewers and is served by natural gas, electric, cable service and solid waste and recycling provided by the municipality. The Township's utility infrastructure is generally adequate to meet the needs of current residents, businesses and vacationers. Numerous infrastructure improvements have been completed since 2009 including the replacement of approximately 90,000 FT of sanitary sewer main and 70,000 FT of water main through the New Jersey Environmental Infrastructure Trust. Since Superstorm Sandy in 2012, the water treatment plants at Brant Beach and Beach Haven Terrace have been completely reconstructed to include all new technologies and be resilient to future storm events. All structures within these plants have been built to the 500 year flood elevation for this area, i.e. 11.0 FT. The Township should continue to periodically televise the system when excess flows are noticed. System upgrades are also made in conjunction with the municipal road paving program on an annual basis.

At this time, the Township should continue its maintenance plan of its water and sanitary sewer systems and prioritize the replacement of water distribution mains where needed.

Stormwater and Nuisance Flooding

The Township continues to battle nuisance flooding and stakeholders in the government, business and residential communities agree that it is one of the town's primary problems as it impacts day to day operations as well as the economic climate of the area. Numerous steps have been taken to begin addressing this issue including full participation with the United States Army Corps NJ Back Bays Flood Feasibility Study which is currently underway and expected to be completed by the year 2020. As an additional step, the Township contracted with their Municipal Engineer, Owen, Little & Associates, Inc, in 2017 to install three (3) stormwater pumps at 71st Street, on 76th Street at the cul-de-sac, and at 82st Street by Joey's Pizza.

Other Utilities

Utilities and services such as gas, electric, telephone and cable are provided by independent suppliers and service to Township residents is provided directly from the supplier. The Township should ensure that these services continue to be available to residents by utility providers as technology changes as rehabilitation projects are completed in the community.

When feasible, steps should be taken to install utilities below grade as a way to enhance the aesthetic of this coastal community. However, the impact of flooding to these utilities should also be a consideration prior to construction.

New Technology

With technology consistently increasing, the Land Use Board should continue to monitor the new technology and adequate resources should be provided to the Board to ensure the members stay current especially in terms of telecommunications technology.

Recommendations

1. Continue coordination with Local, State and Federal partners to combat storm surge and nuisance flooding impacts.
2. Consider Best Available Sea Level Rise data when designing new utility infrastructure.
3. Implement appropriate actions derived from recommendations relating to studies of storm water drainage, vulnerability and resiliency.
4. Utilize Best Available Technology when upgrading existing utility infrastructure including public water, sanitary sewer and storm water facilities.

5. Encourage bulkheads and living shorelines or other forms of shoreline erosion barriers that will assist to minimize flooding and enhance the natural resources of the waterway.
6. The condition of roadways should continue to be monitored and repaving should occur as necessary. Each year, the Township makes application to NJDOT Local Aid, to obtain grant funding for roadway paving. In addition, the Township utilizes the County Schedule C Program to overlay roads in need of repair.

MUNICIPAL STORMWATER MANAGEMENT ELEMENT

INTRODUCTION

The Municipal Stormwater Management Plan (MSWMP) documents the strategy for the Township of Long Beach ("the Township") to address stormwater-related impacts. The creation of this plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations. This plan contains all of the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating stormwater design and performance standards for new major development, defined as projects that disturb one or more acre of land or regardless of area of land disturbance requires an approval from the Township Land Use Board for minor or major subdivision or site plan. These standards are intended to minimize the adverse impact of stormwater runoff on water quality and water quantity and the loss of groundwater recharge that provides baseflow in receiving water bodies. The plan describes long-term operation and maintenance measures for existing and future stormwater facilities.

The plan addresses the review and update of existing ordinances, the Township Master Plan, and other planning documents to allow for project designs that include low impact development techniques. The final component of this plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation section of the stormwater plan, specific stormwater management measures are identified to lessen the impact of existing development.

BACKGROUND

Long Beach Township encompasses a total area of 21.99 square miles, with 5.31 square miles being land area, and 16.69 square miles comprised of water area, and is located within Ocean County, New Jersey. The most recent census data indicates that the population has slightly increased from 3,329 in 2000 to 3,450 in 2004, an increase of 121, or 3.5%. The 2000 census also indicates that 9,023 housing units are located within the Township, which is almost triple the number of people living year round within the Township. These figures indicate that this is a resort community, with population surges during the summer months.

Long Beach Township represents a large portion of the barrier island known as Long Beach Island. It is broken up into numerous segments along the island; from the southern end, which is surrounded by water on three sides; the Little Egg Harbor to the west, flowing around to the southern tip into the Atlantic Ocean on the eastern coast, all the way up the island, with the Manahawkin Bay and Barnegat Bay to the west. The Atlantic Ocean remains a constant to the east.

Since the Township of Long Beach is an island town with water on both sides of it's coasts, it is influenced by tidal patterns. The existing stormwater infrastructure is capable of handling design storm events during low tide. However, during a rain storm within high tide, the stormwater piping and inlet system becomes flooded.

No changes in development patterns or population have occurred within the Township in many years. Occasional tidal flooding is expected within this type of community.

GOALS

The goals of this MSWMP are to:

1. Reduce Flood Damage To Life And Property

Policies:

- a. Maintain surface drainage to reduce the threat of flooding, through proper maintenance of the stormwater drainage system infrastructure, with practices that are protective of water quality.
- b. Preserve open stormwater drainage infrastructure where feasible, to best accommodate peak storm flows, maintain flood storage capacity, and promote water quality.
- c. Adhere to standards, policies, and practices which comply with Federal Emergency Management Agency (FEMA) Flood Management Program requirements to insure that the Township maintain flood insurance coverage under this program.

Implementation Actions:

- a. Continue evaluation of maintenance practices and implement appropriate Best Management Practices (BMPs) to assure that the Township adequately maintains the stormwater drainage system capacity in an environmentally responsible manner.
- b. Evaluate and refine programs including educational outreach, inspection, and enforcement components to reduce the negative stormwater impacts from land alteration, erosion, sedimentation, and excessive runoff.
- c. Review and amend the Municipal Code as needed to comply with FEMA requirements for floodplain development.

2. Minimize, To The Extent Practical, Any Increase In Stormwater Runoff From Any Development

Policies:

- a. Through the development review process, the Township will ensure that development is protective of significant open waterways, wetlands, and riparian areas.
- b. The Township shall ensure that all development does not exceed maximum impervious coverages permitted in the ordinance to control stormwater runoff.

Implementation Actions:

- a. The Township will review development proposals for impacts on open drainageways, wetlands, and riparian areas, and protect the functions and benefits of these areas as provided for in the Development Code.
- b. The Township will work cooperatively with citizens, businesses, and agencies to protect and improve surface waterways, seek opportunities for stewardship partnerships, further enhance educational opportunities, and continue participation in intergovernmental work groups

3. Reduce Soil Erosion From Any Development Or Construction Project

Policies:

- a. The Township will implement permitting programs, educational outreach, compliance inspections and enforcement activities as needed to reduce erosion, sedimentation, illicit discharges and other pollution impacts to waterways.

Implementation Actions:

- a. Enhance erosion and illicit discharge detection and compliance efforts, including permitting and Code enforcement.

4. Assure The Adequacy Of Existing And Proposed Culverts And Bridges, And Other Instream Structures

Policies:

- a. The Township will seek funding and partnership opportunities for restoration efforts.
- b. The Township will implement inspection procedures to ensure structures are operating as designed.

Implementation Actions:

- a. Provide adequate funding for public maintenance of the stormwater drainage system, and ensure ongoing maintenance of private stormwater features through development agreements.
- b. Provide operation and maintenance manual which will outline preventative and corrective measures.

5. Prevent, To The Greatest Extent Feasible, An Increase In Nonpoint Pollution

Policies:

- a. The Township will educate the general public and provide technical assistance to businesses, industries, and agencies regarding practices and obligations for keeping pollutants out of the stormwater drainage system.
- b. The Township will enforce Codes prohibiting the discharge of any deleterious material to the stormwater drainage system.
- c. The Township will continue to maintain cooperative partnerships with local water providers to address local stormwater quality issues.
- d. The Township will seek to form partnerships with neighborhoods or groups interested in providing stewardship of local waterways.

- e. The Township will develop, implement, and enforce appropriate building, design, and Municipal codes to address water quality compliance issues, including pollution, habitat, and aesthetic issues, to encourage the development of urban waterways that are positive amenities in the community.

Implementation Actions:

- a. The Township will review development proposals for impacts on open drainageways, wetlands, and riparian areas, and protect the functions and benefits of these areas as provided for in the Development Code.
- b. The Township will work cooperatively with citizens, businesses, and agencies to protect and improve surface waterways, seek opportunities for stewardship partnerships, further enhance educational opportunities, and continue participation in intergovernmental work groups.
- c. The Township will implement and continue to refine/improve BMPs for all Township activities with potential to impact water quality and/or the functions of waterways, wetlands, and riparian areas.
- d. The Township will continue to support outreach and education efforts regarding water quality, riparian and wetland areas, including business, contractor, and developer outreach programs to educate these parties about their impacts on stormwater quality.
- e. Continue to maintain enforcement and compliance activities, including inspections, technical assistance, and Code enforcement.

6. Maintain The Integrity Of Waterways For Their Biological Functions, As Well As For Drainage

Policies:

- a. The Township will maintain its open channels and waterways in a manner that is protective of their natural stormwater management and habitat functions for the benefit of the citizens of the Township, local wildlife, including threatened or endangered species, and future generations.

- b. The Township will, through the Development Code, protect existing significant open waterways and encourage site planning and landscaping that enhances the attractiveness and natural functions of the water features.

Implementation Actions:

- a. The Township will continue to support outreach and education efforts regarding water quality, riparian and wetland areas, including business, contractor, and developer outreach programs to educate these parties about their impacts on stormwater quality.
- b. The Township will ensure that municipal inspectors are adequately trained to protect and maintain the integrity of the waterways.

7. Minimize Pollutants In Stormwater Runoff From New And Existing Development To Restore, Enhance, And Maintain The Chemical, Physical And Biological Integrity Of The Waters Of The State, To Protect Public Health, To Safeguard Fish And Aquatic Life And Scenic And Ecological Values, And To Enhance The Domestic, Municipal, Recreational, Industrial, And Other Uses Of Water

Policies:

- a. The Township will develop targeted education and outreach and technical assistance programs regarding practices and obligations for keeping debris and pollutants out of the stormwater drainage system and train stakeholder groups in appropriate erosion control and sediment prevention practices, as well as stormwater management BMPs.
- b. The Township will develop, implement, and enforce appropriate building, design, and Municipal Codes to address water quality compliance issues, including pollution, habitat, and aesthetic issues, to encourage the development of urban waterways that are positive amenities in the community.

Implementation Actions:

- a. Increase educational outreach to schools to increase awareness of children regarding the need to keep litter and pollutants out of urban drainageways.
- b. Continue to maintain enforcement and compliance activities, including inspections, technical assistance, and Code enforcement.

- c. The Township will review development proposals for impacts on open drainageways, wetlands, and riparian areas, and protect the functions and benefits of these areas as provided for in the Development Code and Engineering Design Standards and Procedures Manual.
- d. The Township will work cooperatively with citizens, businesses, and agencies to protect and improve surface waterways, seek opportunities for stewardship partnerships, further enhance educational opportunities, and continue participation in intergovernmental work groups.
- e. The Township will implement and continue to refine/improve BMPs for all Township activities with potential to impact water quality and/or the functions of waterways, wetlands, and riparian areas.
- f. Continue to support spill response training for Township staff, including training and coordination with other jurisdictions for area or regional major event response.
- g. Consider support for limiting extremely hazardous chemical use in wellhead protection zones.
- h. Support public hazardous waste disposal events.

8. To Provide Long Term Operation And Maintenance Of The BMP's For Preventative, Corrective And Aesthetic Maintenance After Construction

Policies:

- a. The Township shall ensure compliance with the operation and maintenance manual, and shall plan for enforcement in the event of non-compliance.

Implementation Actions:

- a. The Township shall provide operation and maintenance manuals, including guidelines, schedules, checklists, etc. for all stormwater BMP's.

9. To Protect Public Safety Through Proper Design And Operation Of Stormwater Management Basins

It shall be noted that there are no stormwater basins in the Township due to tidally influenced conditions.

DESIGN AND PERFORMANCE STANDARDS

The Township will adopt the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include the language for maintenance of stormwater management measures consistent with the stormwater management rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and language for safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins.

Non-structural measures to be considered first shall include site design and preventative source controls. To confirm the effectiveness of such measures, applicants must verify the control of stormwater quantity impacts as detailed in the Stormwater Management rules. The tests of assuring control of the quantity impacts as detailed in these rules will be incorporated into the Township's Stormwater Ordinance.

Specific attention is called to NJAC 7:8-5.4(a)3iv, regarding tidal flood hazard areas. It states that the stormwater runoff quantity analysis shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of discharge. For the Township, which is within a Flood Zone, there is no danger of increased flood damages, as the outfalls are all to the Bays. Therefore, no stormwater quantity analysis will be required of developers but only a water quality analysis. The stormwater quality controls for total suspended solids and nutrient load shall meet the design and performance standards as specified in NJAC 7:8-5.

The general standards for structural measures will be specified in the Stormwater Management rules and will be incorporated into the Township's Ordinance. These measures shall be incorporated as needed to meet the soil erosion standards included in the Township's Stormwater Ordinance. The design standards for the specific structural stormwater management measures are those included in the New Jersey Stormwater Best Management Practices Manual. Other designs or practices may be used if they are approved by the Ocean County Soil Conservation District. The design and construction of such facilities must comply with the Soil Erosion and Sediment Control Standards as well as any other applicable state regulation, including the Freshwater Wetland Protection Act rules, the Flood Hazard control rules, the Surface Water Quality Standards, the Coastal Area Facilities Review Act, Waterfront Development and Harbor Facilities Act, and the Dam Safety rules. The requirement to be consistent with all other applicable rules will be included in the Township's Stormwater Ordinance. Stormwater runoff quality controls for total suspended solids and nutrient loads shall meet the design and performance standards as specified in the Stormwater Management rules.

During construction, Township Inspectors will observe the construction of the project to ensure that the stormwater management measures are constructed and function as designed. Should it be determined that stormwater management measures are not being constructed, maintained or operating as designed, after construction, enforcement will be required. The Township will reserve the right to implement a fine schedule in the event of repeated non-compliance warnings being issued, with all monies being utilized to address the standard being violated.

Where the Township assumes maintenance responsibility, preventive maintenance shall be performed on a regular basis and will be appropriate for the particular structural management measure being implemented. These maintenance measures shall be in accordance with N.J.A.C. 7:8-5 and may include: periodic inspections, vegetation management, sediment, debris and trash removal and mosquito control. Corrective maintenance shall be performed on an as needed basis for structural repairs or replacements, removal of outlet and pipe blockages, erosion restoration, snow and ice removal, etc. The person or persons responsible for maintenance shall keep a detailed log of all preventative and corrective maintenance for the structural management measures incorporated into the design of the development, including a record of all inspections and work orders.

In order to ensure adequate long term operation as well as preventative and corrective maintenance of both structural and non-structural stormwater management facilities, the designers of such facilities should submit to the Township a maintenance plan indicating specific maintenance tasks and schedules as indicated in N.J.A.C. 7:8-5.8 "Maintenance Requirements". This maintenance plan will require the ultimate user of said BMP's to provide an annual certification that the stormwater management measure approved are functioning as designed and that the proper maintenance and inspection of said measures have been performed. Random spot inspections by the Township will be conducted to ensure compliance along with appropriate enforcement actions such as fines to be levied should non-compliance result.

PLAN CONSISTENCY

The Township is not within a Regional Stormwater Management Planning Area and no Total Maximum Daily Loads (TMDLs) have been developed for waters within the Township; therefore this plan does not need to be consistent with any Regional Stormwater Management Plans (RSWMPs) nor any TDMLs. If any RSWMPs or TMDLs are developed in the future, this Municipal Stormwater Management Plan will be updated to be consistent.

The Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21. The Township will utilize the most current update of the RSIS in the stormwater management review of residential areas. This Municipal Stormwater Management Plan will be updated to be consistent with any future updates to the RSIS.

The Township's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. During construction, Township Inspectors will observe on-site soil erosion and sediment control measures and report any inconsistencies to the local Conservation office.

NONSTRUCTURAL STORMWATER MANAGEMENT STRATEGIES

The Township has reviewed the Master Plan and Ordinances, and has provided a list of the sections in the Township Land Use and Zoning Ordinances that are to be modified to incorporate nonstructural stormwater management strategies. These are the ordinances identified for revision. Once the ordinance texts are completed, they will be submitted to the County review agency for review and approval within 24 months of the effective date of the Stormwater Management Rules. A copy will be sent to the Department of Environmental Protection at the time of submission.

Chapter 68 – Storage of Building Materials. This chapter provides regulations for storage of materials, as well as restrictions on dangerous material storage. *It should be amended to include language that no bulk storage shall be located within 50 feet of a stormwater management inlet/basin/facility.*

Chapter 115 – Littering. This chapter defines proper disposal methods, prohibits littering within the Township, and provides requirements for construction debris. *It shall be amended to include the sample NJDEP Model Ordinance on Improper Disposal of Waste. The language should include the prohibition of spilling, dumping or disposal of materials other than stormwater into the Municipal Separate Sewer System (MS4).*

Section 119-11 – Mobile Home Parks – Refuse Disposal. This section provides direction on storage and disposal of refuse within mobile home parks. *It shall be revised to provide language from the NJDEP Model Ordinance on the Yard Waste Collection Program. Some language to be included shall state that activities such as sweeping, raking, blowing or otherwise placing yard waste that is not containerized at the curb or along the street is only allowed during the seven (7) days prior to a scheduled and announced collection and shall not be placed closer than ten (10) feet from any storm drain inlet.*

Chapter 166 – Soil Erosion and Sediment Control. This chapter outlines the requirements for obtaining approval for land disturbance, design principles, inspections, etc., by referencing the “Standards for Erosion and Sediment Control” adopted by the New Jersey Soil Conservation Committee.

Chapter 168 – Solid Waste. This chapter provides methods for pickup and disposal for waste materials, including hazardous waste, recyclable materials, and for commercial establishments. Prohibited acts are also provided, including dumping, storage and transporting of various types of waste material. *This chapter shall be amended to include the sample NJDEP Model Ordinances on Improper Disposal of Waste and Yard Waste Collection. Language shall include the prohibition of spilling, dumping or disposal of materials other than stormwater to the Municipal Separate Storm Sewer System (MS4), and the prohibition of sweeping, raking, blowing, or otherwise placing non-containerized waste at the curb or along the street except for the period up to seven (7) days prior to a scheduled and announced collection, nor within ten (10) feet of any storm drain inlet.*

Chapter 172 – Streets and Sidewalks, Article II Sidewalks, Curbs and Driveways.

Section 172-18 Curb Specifications. This section provides requirements for the location, dimensions and materials for all curbing within the Township. *It shall be amended to allow the use of slotted curb, curb cuts or flush curbs with curbstops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious area.*

Section 172-19.A Sidewalk Specifications. This section provides dimensions, materials and construction techniques for the installation of sidewalks within the Township. It states that all sidewalks shall slope ¼" per foot toward the street. *It shall be amended to require developers to design and install sidewalks to discharge stormwater runoff toward the neighboring lawns, where feasible, to disconnect impervious areas and promote groundwater recharge, or to use permeable materials where appropriate.*

Section 172-20 – Driveway Specifications. This section provides minimum and maximum dimensions for curb cuts, driveway aprons, and materials. *It shall be amended to allow developers to utilize permeable materials where appropriate.*

Chapter 176 – Subdivision of Land – Article IV – Improvements. This section describes the improvements required to be installed prior to granting final approval to any subdivision, specifically including curbs and storm drains. *The curbing Sections (176-15.C, 176-21) shall be revised to allow for the use of slotted curb, curb cuts or flush curbs with curb stops to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious area, as in Section 172-18. The storm drain Sections 176-15.E and 176-23) shall be amended to encourage the use of natural vegetated swales in lieu of inlets and pipes, where feasible.*

Section 176-29 Grading: This section outlines requirements for grading plans and asbuilt grading plans, specifying that elevations shall be based upon United States Coast and Geodetic Survey datum. *This section shall be amended to require developers, wherever possible, to grade the land to allow it to treat the stormwater before it drains into the street. The use of vegetated swales shall be encouraged.*

Section 197-17.1 – Discharge of Water Into Storm Sewer System Prohibited: This section provides restrictions on the disposal of any water from sump pumps, crawl spaces, basements, etc., in excess of eight hours within a 30-day period. *It shall be revised to include language from the NJDEP Model Ordinance on Improper Disposal of Waste, including the prohibition of spilling, dumping or disposal of materials other than stormwater to the Municipal Separate Storm Sewer System (MS4).*

Chapter 205 – Zoning Article IV – District Regulations: These sections provide minimum and maximum lot dimensions, setbacks, separations, floor areas, parking requirements, and allowed and prohibited uses. Some sections include building coverage maximums (at 33 1/3% of the lot). *The individual sections for each zone and division shall be amended to place maximum overall lot coverage restrictions on lots, where appropriate and feasible.*

Section 205-8 – Offstreet Parking Lots: This section requires either gravel, asphalt or concrete paving for all off-street parking areas. It also requires all commercial parking areas to be paved with porous pavement meeting NJDOT Specifications. *It shall be amended to encourage developers to design and install permeable paving materials to promote groundwater recharge for non-commercial off-street parking areas.*

Section 205-55 – Nonconforming Buildings and Uses: This section provides instances in which nonconforming uses will be allowed, as well as restrictions on such lots. *It should be amended with language placing restrictions on impervious coverages, even if variances are granted for non-conforming uses. If maximum impervious coverages are exceeded, a mitigation plan shall be provided to require the developer to mitigate the impact of the additional impervious area.*

LAND USE/BUILD-OUT ANALYSIS

Since the Township of Long Beach contains 5.31 square miles of land area, we are required to prepare a Land Use/Build-Out Analysis. However, Land Use Maps indicate, the existing impervious coverage does not leave more than one square mile of vacant or agricultural lands, and this analysis is only required of municipalities with more than one square mile of vacant or agricultural lands.

MITIGATION PROJECT CRITERIA

Mitigation is defined as an action by an applicant providing compensation or offset actions for onsite stormwater management requirements where the applicant has demonstrated the inability or impracticality of strict compliance with the stormwater management requirements set forth in NJAC 7.8, in an adopted regional stormwater management plan, or in this local ordinance, and has received a waiver from strict compliance from the municipality. Mitigation, for the purposes of this ordinance, includes both the mitigation plan detailing how the project's failure to strictly comply will be compensated, and the implementation of the approved mitigation plan within the same HUC-14 within which the subject project is proposed.

The mitigation project should be implemented in the same drainage area as the proposed development, preferably on the same site. The project must provide additional groundwater recharge benefits, or protection from stormwater runoff quality and quantity from previously developed property that does not currently meet the design and performance standards outlined in the Municipal Stormwater Management Plan. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

If a suitable site cannot be located on the site or in the same drainage area as the proposed development after extensive research, as discussed above, the mitigation project may provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue. For example, if a variance is given because the 80 percent TSS requirement is not met, the selected project may address water quality impacts due to a fecal impairment.

Two mitigation options are provided below, but this shall not be considered all-inclusive. If a developer can provide any different options for mitigation, they shall be presented to the Township Engineer for his approval.

- Retrofit existing stormwater collection inlets, throughout the Township, with grates and/or curb pieces as required in Appendix C of the NJBMP Manual.
- Install prefabricated stormwater filtration systems to provide water quality at the Township's outfalls. Units installed shall be approved by the NJDEP and a maintenance schedule shall be provided.

The issuance of a waiver under a Land Use Permit by the NJDEP does not automatically waive the requirement for mitigation to be performed under the municipal review. It shall also be noted that the applicant is required to obtain all the required permits for any mitigation project which will be performed under the municipal review.

When submitting for a CAFRA permit and requesting a waiver from the performance standards, the NJDEP can require a mitigation plan regardless of the Township's decision to require one.

SUSTAINABILITY AND RECYCLING ELEMENT

PART 1 – COASTAL VULNERABILITIES ASSESSMENT

Long Beach Township, the largest municipality on Long Beach Island, is made up of numerous different communities such as Brant Beach, North Beach, Loveladies, High Bar Harbor and Holgate. The Brant Beach section which also includes the neighborhoods of Peahala Park, North Beach Haven and the Terrace is located to the south of Ship Bottom and to the north of Beach Haven. The Holgate section is located at the most southerly end of Long Beach Island and one must pass through the towns of Ship Bottom, Long Beach (Brant Beach) and Beach Haven to reach the section. On the north side of the island lies the communities of North Beach, Loveladies and High Bar Harbor. The North Beach section requires one to pass through Ship Bottom and Surf City while Loveladies requires one to pass through Ship Bottom, Surf City, Long Beach (North Beach) and Harvey Cedars. The High Bar Harbor section is located at the northern end of the island and necessitates passing through Ship Bottom, Surf City, Long Beach (North Beach and Loveladies) as well as Harvey Cedars and a section of Barnegat Light.

The Township encompasses approximately 22.036 square miles of which 5.444 square miles is



land and is bordered to the east by approximately 53,900 feet of ocean front on the Atlantic Ocean and to the west by 95,100 feet of Bayfront on the Barnegat Bay and, consequently, suffered devastating damage from Superstorm Sandy in 2012. In 2010, the population of Long Beach was just 3051 people but in the summer months, the population soars to well over 30,000 people. The Township supports its own public

works department, police department, and municipal building and also hosts the LBI Shuttle System in Peahala Park. The Township recently constructed a facility to park these shuttle buses and also constructed a small building to accommodate those associated with running the system. When not being used for shuttle runs up and down the 18 miles of LBI, the buses can be used for mass transport of people in times of evacuation or other times of need.

The development of this town with its mostly grid style streets laid on a narrow swath of land could be the ingredients for impacts and damage from coastal hazards such as storm surge and Sea Level Rise. Based on the latest Preliminary Work Maps released by the Federal Emergency Management Agency, the majority of Long Beach Township lies within the 100-year floodplain and field inspections indicate that most unmitigated residential development sits at 5 feet or below in elevation in relationship to mean sea level. Therefore, a Category 1 hurricane, an extra tropical system like Super Storm Sandy or even a Nor'easter all pose a significant threat to this community. Since Sandy's impact in 2012, and even prior to, residents of this seashore community have noticed to more frequent flooding that occurs after brief heavy rain storms, summer thunder showers or even a strong northeast wind. The area around West Massachusetts Avenue and West Rhode Island Avenue is an area that sees frequent flooding not only during storm events but also heavy rains. Any or all of these influences can cause nuisance flooding in the Township. Described as a nuisance because the flooding typically impacts the streets and disrupts daily activity such as driving or accessing local businesses on foot, it often can cause more significant problems such as flood water intrusion into residential garages, first floors or businesses and can be problematic for traffic attempting to navigate these floodwaters.



This Coastal Vulnerability Assessment will specifically evaluate the Township's level of exposure of its built environment, natural environment and social environment to storm surge related to a Category 1, 2 and 3 storm events as well as 1 FT, 2 FT and 3 FT of anticipated Sea Level Rise. During a recent discussions with Township leaders regarding flooding events and a US Army Corps of Engineers Back Bay Flooding Feasibility Study that is underway, these factors were agreed to be the most serious when determining coastal vulnerability of the town. The Township also prioritizes acquisition and preservation of vacant land areas to help mitigate any future conditions as the result of Sea Level Rise and Storm Surge.

Vulnerability Assessment Introduction

The Township of Long Beach was awarded a grant by the New Jersey Department of Environmental Protection (Department), Division of Coastal and Land Use Planning, with funding through a grant awarded by the National Oceanic and Atmospheric Administration, of the U.S. Department of Commerce, to support the development of a Coastal Vulnerability

Assessment (CVA) Report. A Coastal Vulnerability Report is intended to provide coastal communities with the ability to assess their vulnerability to coastal hazards and then identify opportunities to address those mapped concerns.

In addition, the five (5) other municipalities that make up Long Beach Island (LBI) are also analyzing their risks and vulnerabilities to coastal hazards under this program. In doing so and the Department understanding the interconnected resources and challenges the barrier island must contend with during times of significant weather events or federally declared disasters, the Department recommended the development of a Regional Coastal Vulnerability Assessment, which was accepted by all communities, and will address regional hazards and provide recommendations for the barrier island as a whole entity. The Department's objective with promoting a regional CVA Plan is to increase the resiliency of each municipality through consideration of the coastal hazards challenges and potential solutions of the entire island.

An associated component of assessing the town's vulnerability was to complete the Getting to Resilience Questionnaire with the technical assistance and support of Jenna Gatto and Lisa Auermuller of the Jacques Cousteau National Estuarine Research Reserve (JC NERR). The GTR questionnaire was initially developed and piloted by the NJDEP's Office of Coastal Management to foster municipal resiliency when confronted with coastal hazards and contains linkages, mitigation and adaptation actions to reduce vulnerability and increase preparedness. At a later date, the GTR process was adapted by the Coastal Training program at JC NERR, converted into a digital format, and placed on an interactive website. JC NERR then added additional linkages to the National Flood Insurance Program's Community Rating System (CRS), Hazard Mitigation Planning and Sustainable Jersey. Jenna Gatto, the region's Community Resilience Specialist, was able to meet with each municipality over the course of at least 2 meetings and provide community specific recommendations based on the outcomes of the questionnaire. All stakeholders are in agreement that this step was an ideal launch pad into the investigation of municipal coastal vulnerability.

Methodology

As noted above, the Township of Long Beach received a grant from the NJDEP to complete the GTR process, a Municipal Public Access Plan and a Coastal Vulnerability Assessment. The CVA was developed by Owen, Little and Associates, Inc. (OLA) team of Land Use and Natural Hazard Mitigation Planners, Civil Engineers, GIS Specialists and Certified Floodplain Managers as well

as numerous stakeholders from the community including government officials and residents. Owen, Little & Associates, Inc., holds the professional appointment as Township Engineer for the community of Long Beach and has done so for more than two decades. With that, the office has accumulated a significant amount of data that was beneficial and valuable to this process such as base mapping and shapefiles attributed to the built environment including critical facilities and evacuation routes. This already obtained information allowed for an in-field update of the data to be required instead of a new inventory. However, numerous shapefiles had to be created for data sets such as those for water infrastructure. In coordination with JCNERR and assistance from Jennifer Rovito, GISP, at the Environmental Analysis and Communications Group of Edward J. Bloustein School of Planning and Public Policy, Rutgers University, provided data sets including those for Sea Level Rise and storm surge associated with the category 1, 2 and 3 hurricane.

As stated within the Getting to Resiliency Recommendations Report prepared by JC NERR, SLOSH models for Long Beach indicate that flooding should be expected to be similar to Sandy's flood levels for a powerful Category 1 hurricane and impacts increase exponentially the stronger the storm. Also, scientists expect this area to be impacted by 1 FT of Sea Level Rise prior to 2050. As Sea Level Rise is anticipated to accelerate due to shrinking land ice and thermal expansion, scientists anticipate that that three feet of Sea Level Rise is very likely before 2100.

	Sea-level rise (feet)		
	Global	Bedrock	Shore
2030 central	0.5	0.7	0.8
2030 low	0.3	0.5	0.6
2030 high	0.7	1	1.1
2030 higher	0.9	1.2	1.4
2050 central	0.8	1.3	1.5
2050 low	0.5	0.9	1.1
2050 high	1.3	1.8	1.9
2050 higher	1.6	2.1	2.3
2100 central	2.5	3.1	3.5
2100 low	1.4	2.2	2.5
2100 high	4	4.6	4.9
2100 higher	4.6	5.5	5.9
2100 collapse	8.7	9.7	10
<small>NJ sea level rise projection ranges and best estimates. K.G. Miller, R.E. Kopp, B.P. Horton, J.V. Browning and A.C. Kemp, 2013, A Geological Perspective on Sea Level Rise and Its Impacts along the U.S. Mid Atlantic Coast. Earth's Future 1:3-18, doi:10.1002/2013EF000135</small>			

Tides

General tidal fluctuations along the Township's bay shore, is from elevation -1.0 to elevation +1.5, or so; spring tides are as high as 2.0. Occasionally, maybe once a month, a "blow-out" low tide caused by high pressure and off-shore winds is recorded around elevation -1.5 or lower. Higher tide ranges are experienced at the time of full moons ("spring tides"), and tend to be greater in the winter months when the earth is closer to the moon.

More ominously, storm surge may accompany any severe coastal storm where an extreme low pressure system develops. With some storms a constant easterly wind will "stack up" the ocean waters, causing higher tides, which prevents the bay from emptying out the inlet, and back bay flooding occurs. Stronger and more persistent on-shore winds will mean higher and higher tides. This tends to happen up to four or more times a year and can reach elevations 3 or 4, or higher, flooding roadways and many structures.

At the peninsula at the south of the Township the U.S. Geological Survey (USGS) recorded high water mark was at 5.5 feet NAVD88. Meanwhile, the tide gauge at Route 72 failed at the height of the event but was estimated to have reached just under 6.5 feet NAVD88. With ground surface elevations around 3 to 4 FT, devastating flooding occurred with great property damage. USGS recorded High Water Marks of 7.7 FT in Peahala Park, 7.4 FT in Spray Beach and 7.9 FT in Holgate. All elevations stated in this study are in feet and based on NAVD 1988.

Land Coverage and Topography

General topography of the areas west of Long Beach Boulevard is flat, with surface grades of 1 to 2 percent. Road grades are even less with many roads being as low as 0.3 percent. In order to achieve drainage flow, the roads have a “see-saw” profile, where low points are created every other block or so. These low areas create pockets, where storm water collects and will be subject to flooding when excessive rainfall, tidal tail water or debris clogging may occur. Where streets have been repaved or overlaid, due to the shallow gutter grades, puddling has occurred and runoff is not reaching the inlets.

Areas to the east of Long Beach Boulevard generally are sloped upward towards the Ocean. Elevation change ranges from 3 at the bay area to 12 feet at the eastern street-ends by the beaches.

Stormwater Collection and Disposal

There are no natural drainage ways within the Township, since most of the Township has been built on filled lands. Limited natural wetlands remain along the Bayfront however, the Township has prioritized maintaining the existing shoreline and also promoting living shorelines in lieu of bulkheads. With most of the bayfront properties being filled and having bulkheads, any stormwater runoff from private properties and streets does not naturally drain over the surface into the Manahawkin Bay. All stormwater is conveyed to the bay by drainage collection systems.

All of the collected runoff is directed westward through piping systems towards the Bay and outlets through the street-end bulkheads. These drainage collection systems are gravity flow pipe systems, sloping from east to west within the road right-of-ways.

As the Township grew over the years, the development of the drainage collection system has appeared to be mostly unplanned, similar to the other towns on the island, and has progressed in a piggyback fashion, with later areas of development simply connecting to the earlier systems and with little upgrade in capacity. Some of the pipe systems may be over 80 years old, and are undersized by today's engineering standards.

It should be noted that the ownership and responsibility for stormwater collection systems are shared by the Township and Ocean County.

Sea Level Rise Vulnerability

Sea Level Rise is a documented threat to the Township of Long Beach and the change in Sea Level Rise has been validated by members of the community over the years. The impending sea level will rise, due to glacial and ice sheet melting, and the risk of flooding will also increase due to the anticipated impacts from storms which may be more severe and more frequent. The historical rate of Sea Level Rise along the New Jersey coast over the past half century was 3-4mm/year or 0.12-0.16 in/year and these rates are expected to increase. In the recent publication entitled "A Geological Perspective on Sea-Level Rise and its Impacts along the U.S. Mid-Atlantic Coast", authors Miller and Kopp state that in the year 2050, the best estimate for Sea Level Rise is 1.5 FT along the Jersey Shore. By the year 2100, the best estimate for Sea Level Rise is 3.5 FT along the same coast. In this context, the term "best" refers to a 50% likelihood of that extent of sea-level rise occurring.

Built Environment

Long Beach is a coastal resort community located on Long Beach Island, a barrier island, in southern New Jersey and offers an array of residential housing options, countless retail and dining establishments within a widespread area along the Boulevard and numerous parks and public access points to the ocean and bayfront all of which make this town a sought after destination for vacationers and a highly desirable area in which to live seasonally or year-round. The total land area of the town is approximately 5.444 square miles split around several different neighborhoods. As of May 2010, the Township had a total of 66.33 miles) of roadways, of which 54.41 miles were maintained by the municipality



and 11.92 miles by Ocean County. At the time of the 2010 United States Census, there were 3051 people, 1539 households, and 943 families residing in the Township. The population density was 560.5 per square mile and there were 9216 housing units at an average density of 1693 per square mile. The flux in population season to season greatly affects the economic, social and physical makeup of the Township and it's often the year-round residents whom are most affected by these conditions. The summer population can reach 30,000 people or more and its municipal boundaries lie across various

There are many older homes and businesses, built prior to the March, 1962 Great Storm, that are not elevated or on pilings, and are only slightly above the existing street elevation. Since Superstorm Sandy in 2012, many homes have been elevated, but the remaining properties at grade elevation are susceptible to the threat of flooding from both tidal and rainfall events. Although these raised homes will be protected from floodwaters, they often provide a false sense of personal security as the surrounding infrastructure will still be inundated. So although the habitable floors of the structure may not be impacted, a person's ability to leave will be.

The Township has made tremendous strides in mitigating its infrastructure from tidal or surge intrusion, specifically by raising water and treatment plant facilities and requiring higher bulkhead heights along the Bayfront.

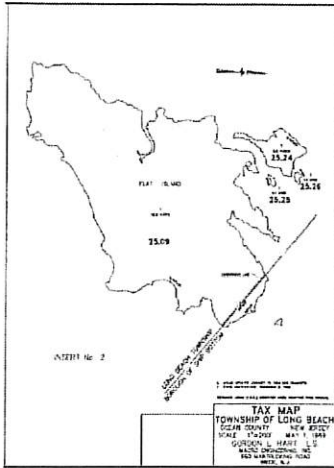


During Superstorm Sandy, the Holgate section of the Township was the most devastated. Even though this area does include some higher elevations, its narrow swath of land mass was no match for surge and overwash from the ocean coupled with tidal surge from the bay. The various other Bayfront sections of town were also hard hit as well as many ocean front homes, especially those under current design standard for flood reduction.

Natural Environment

Long Beach's location on the barrier island between the Atlantic Ocean and the Barnegat Bay provide ideal habitat

for wildlife and native plant species and also offers several islands in the bay which also lies within the jurisdiction of the Township. Flat Island provides protection to the



Borough of Ship Bottom as well as the Township, however, Ship Bottom owns 1.19 Acres of its 69.99 Acres and therefore any potential enhancement or restoration projects would have to be a joint effort between the Borough and the Township. According to the Coastal Research Center at Stockton University, *"this barrier island has a very different morphology and depositional history from the beaches farther*

north in Monmouth County. In particular, these beaches tend to contain sand that is half the average diameter of that found on the beaches farther north and contains an entirely different set of trace materials. This indicates that the sand supply has either been derived from different sources than that in Monmouth County or that geologic reworking on the continental shelf has modified the original sediment prior to its inclusion in the barrier island".

Ham Island lies approximately a half mile west of Beach Haven Borough and is comprised of 3 islets which may have been a contiguous mass in past times. The main island has a diverse shoreline containing marsh meadows and mud flats. The entire islet system is surrounded by shallow waters and about half of the island contains shrub cover consisting of marsh elder and bayberry as well as phragmites. Laughing gulls and common terns do frequent this site however their nesting is often interrupted by flooding.

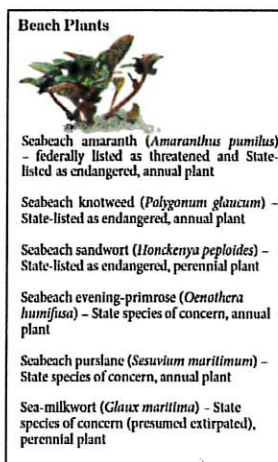
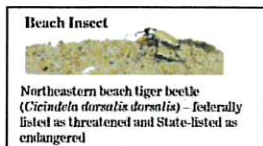
The Marsh Elder Islands lie west of Silver Beach and host a diverse habitat of species and also provide somewhat of a stop-over for nesting birds between Island Beach State Park and Edwin Forsythe Wildlife Refuge to the south. Besides Mordecai Island, these islands are the most developed islands in terms of native composition and close to the barrier island of Long Beach Island. A portion of the islands are under Federal protection as part of the Edwin Forsythe Wildlife Refuge while the remainder appears to be in private ownership.

Shelter Island is privately owned and is about 1.5 miles west of North Haven Beach off of Long Beach Island. The island contained numerous tide pools which flood daily and marsh ponds which accept storm surges and unusually high tides. Eel grass appears to prevail along the shoreline which helps to support marine life and serves as a food source for many water birds.

High Island is approximately 0.3 miles west of the Brant Beach section of Long Beach Township and has likely been the site dredge spoil deposition due to its small scale salt marsh followed inland by phragmites then northern bayberry and groundsel tree as well as some Eastern Red Cedar. Islands in the bay that offer higher elevations are unique and should be nurtured to maintain their integrity.

The potential extent of storm surge in relationship to ecosystems in and around Long Beach Township as well as the accelerated rates of Sea Level Rise will challenge the integrity of these natural resources, which may be transformed or lost over time. Specifically the islands that are low in elevation such as the Marsh Elder Islands and Ham Island are substantially vulnerable even under a Category 1 storm event. Under those conditions, these islands will see 3 FT to 6 FT of inundation. Likewise, even 1 FT of Sea Level Rise will inundate these areas making the developed bayside of the Township even more vulnerable to flooding as the islands will no longer be able to absorb some of this water. Additional action should be taken at the municipal level to secure the condition of these islands.

The Township is actively receiving beach replenishment from the US Army Corps of Engineers and as a condition of that replenishment, the Township is required to prepare a Beach Management Plan which addresses a wide range of issues including symbolic fencing for protection and management of listed species, trash collection and beach raking, sand fencing, vegetation movement and predator management. The widened beaches are known to attract state and federally listed endangered species including nesting birds, plants and insects.



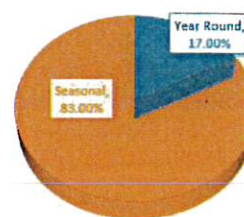
Later in 2016, the Township will be preparing this plan and addressing any critical habitats and designating different beach zones to differentiate more recreation areas with passive areas that promote bird watching, shell collecting and other similar activities.

USFWS, 2016

Social Environment

Long Beach Township is a seasonal community with approximately 3051 year-round residents and upwards of 40,000 seasonal residents. The community is comprised of a diversified age range and over 50% of its population is 65 years or older. The census data also shows that of the 1539 households in the Township, approximately 12% had children under the age of 18 living with them and the average family size was 2.48. In addition, the data indicates that 19.4% of households had someone living alone who was 65 years of age or older. The analysis suggests that seasonal residents likely pose the most risk in terms of general awareness and responsiveness as they may not be cognizant of their geographical location and the associated risk of flooding at their position. This especially is true in the Brant Beach Section of the Township where the seasonal population is dense and where low lying areas and nuisance flooding associated with wind direction and heavy rainfall can be quickly problematic. This area also sees nuisance flooding during higher than normal tidal events where storm drains back up with water from the adjacent bay and as a result, cause street flooding.

LONG BEACH TOWNSHIP HOUSING OCCUPANCY



Initially, our team of Hazard Mitigation Planners intended to utilize the Social Vulnerability Index (SVI) prepared by the Agency for Toxic Substances and Disease Registry (ATSDR), based in Atlanta, Georgia, which is a federal public health agency of the U.S. Department of Health and Human Services, to analyze factors that contribute to a community's social vulnerability. These factors include socioeconomic status, household composition and disability, minority status and language as well as housing and transportation. The principal obstacle with the data set is its restriction to census block only which is a common theme amongst data sets for social factors. Although some communities can utilize field knowledge of the area to supplement the data set, it was determined by the team that the population and community is too small to see a diversity in the category range. With the town being less than one square mile, assigning a range would essentially provide a homogenous outcome.

Next, the team thought to create its own index using information that may be obtained by the local Office of Emergency Management or Health Department anticipating that this source may include homebound residents, those with a disability, or those without vehicles. However, the local agencies in this region no longer maintain a list like this. In addition, the team learned that many people who may be considered vulnerable in a hazardous situation are reluctant to disclose this information to community officials. If the town was to initiate a survey such as this, it would have to be updated frequently as the needs of the contributors change frequently.

Social Vulnerabilities		
Housing		
	#	(%)
Total Housing Units	8739	100%
Occupied Housing Units	1494	17.00%
Seasonal Use Only	7245	83.00%
In group Quarters	0	0
Mobile Home Housing	0	0
Income		
Below Poverty level	7.50%	
Median Household Income	\$81,908	
Race		(%)
Percent Minority	4.10%	
Speak only English	94.80%	
Age		(%)
Age 5 and under	2.90%	
Age 17 and under	9.30%	
Age 65-74	30.70%	
Age 75 +	19.80%	

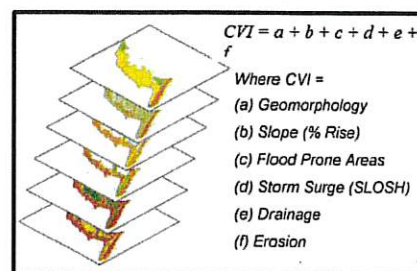
Being a smaller community, both in regards to size and year round population, and without a nursing home, assisted living facility, age restricted housing development or subsidized public housing projects, it is impossible to accurately measure social vulnerability in a map format. Community OEM Coordinators and other municipal officials have a

greater understanding and capacity at the local level to assist those who may require additional assistance during a storm event.

Analysis of some social factors, shown below, indicate that there is not a clear year round population to which the Township could seek additional outreach programs. Local knowledge indicates that the aging population has been in place in the Township for decades and is familiar with storm events and the need to evacuate in a timely manner. In addition, during Superstorm Sandy, the majority of the residents abided by the mandatory evacuation order and there were not significant cases of rescue during the event.

Coastal Vulnerability Index

By definition, a CVI allows for six variables to be related in a quantifiable manner that expresses the relative vulnerability of the coast to physical changes due to future Sea Level Rise or other coastal hazards¹. This method yields numerical data that cannot be equated directly with particular physical effects. It does, however, highlight areas where the various effects of coastal hazards may be the greatest. Once each section of coastline is assigned a vulnerability value for each specific data variable, the coastal vulnerability index (CVI) is calculated as the square root of the product of the ranked variables divided by the total number of variables; where, a = geomorphology, b = slope (% Rise), c = flood prone areas, d = Storm Surge (SLOSH), e = drainage, and f = erosion. The calculated CVI value is divided into quartile ranges to highlight different vulnerabilities within the park. The CVI ranges (lower – major water) reported here applies only to Long Beach Township and may vary from other CVI's prepared by alternate agencies.



Long Beach Township Recommendations

Action Items related to Storm Surge Projections

- It should remain topmost priority to convey to Township residents, vacationers and business owners that the safest place in the event of any storm in which local officials declare a Mandatory Evacuation is OFF THE BARRIER ISLAND. There is no location within the Township of Long Beach that is a designated storm shelter.
- Additional Outreach and Education should also be provided to year round residents who may be resistant to leave during the next mandatory evacuation.

- Pursue the design of and seek funding opportunities to complete a LBI Regional Stormwater Pump Installation and Drainage Improvement Project.
- Consideration and feasibility of modifications to existing boat ramps at should be made to ensure these facilities can be utilized during storm events for supply delivery. Coordination with local yacht clubs and marinas is also encouraged.
- Make critical information easily understandable and readily accessible before, during, and after a disaster.
- Explore the possibility of commissioning off shore barges (bayside) during a storm event to maintain critical equipment and supply.
- Continue mitigation efforts already underway by raising all critical infrastructure to the 500 year flood elevation.
- Create a coastal conference to provide a means of connecting Township Officials, Land Use and Construction employees as well as Emergency Management with local business owners and members of the public to discuss recent storm events and exchange knowledge, ideas and experiences to address future coastal hazards.
- Develop an Outreach Campaign that specifically targets young seasonal tenants, elderly residents with pets and the non-English speaking population.
- Continue to work with Mordecai Land Trust to support projects that will protect the existing island and marshlands.

Action Items related to Sea Level Rise Projections

- Township Officials should consider incorporating a parking area within the community as a location for vehicle parking during abnormally high tidal events.
- Pursue the design of and seek funding opportunities to complete a LBI Regional Stormwater Pump Installation and Drainage Improvement Project.

- Continue mitigation efforts already underway by raising all critical infrastructure to the 500 year flood elevation.
- Review existing evacuation routes and consider modifications to these routes based on projected Sea Level Rise projections.
- Continue to monitor Sea Level Rise projections on a yearly basis, updating mapping and necessary, to plan for the future of the Township.
- Continue to prioritize coastal lands and minimize potential loss through acquisition of contiguous storm-prone properties or those contiguous to adjacent municipally owned land or for the purpose of increasing the Township Open and Greenspace.
- Create a coastal conference to provide a means of connecting Township Officials, Land Use and Construction employees as well as Emergency Management with local business owners and members of the public to discuss recent storm events and exchange knowledge, ideas and experiences to address future coastal hazards.
- Continue to promote the elevation of homes and businesses.
- Prioritize Sea Level Rise as a Hazard in future planning documents such as the Township Master Plan.
- Screen all infrastructure projects for Sea Level Rise impacts.
- Continue to work with Mordecai Land Trust to support projects that will protect the existing island and marshlands.

RECYCLING PLAN

The Recycling Plan is intended to provide guidance for the efficient management, containment, processing and reuse of recyclable materials. The purpose of recycling is to reduce the amount of waste going to landfills and reuse materials, which protects the environment and helps to conserve natural resources.

The Township of Long Beach administers its own recycling program and recycled materials are collected via curbside collection weekly year round. These items are as follows.

- Automobile Batteries (Monday thru Friday 7.00 AM – 3.00 PM)
- White Goods, i.e., Large Household Items (Call for Pick Up)

Recycled materials may also be delivered to the Southern Recycling Center, which is located by the State Motor Vehicle Inspection Station at the intersection of Recovery Road and Hay Roads (off Route 72) in Manahawkin, Stafford Township.

Residents may drop off the following recyclables at the Recycling Center 24 hours per day.

- Aluminum and tin cans
- Glass containers
- Plastic beverage containers
- Aerosol cans
- Newspapers
- Mixed paper and residential cardboard

However, the recycling of the following materials is restricted to the regular operating hours of 7:30 AM – 3:00 PM Monday through Saturday:

- Household dry cell batteries and automobile batteries
- Motor oil
- Oil Filters
- Antifreeze
- Tires
- Empty steel paint cans
- Boat shrink wrap
- Telephone books
- Computers
- Cell phones
- Leaves
- Light brush
- Christmas trees

In addition, the appropriate disposal of the following items is managed by the Long Beach Township Public Works Yard:

- Automobile Batteries (Monday thru Friday, 7:00 AM – 3:00 PM)
- White Goods, i.e., Large Household Items (Call for Pick Up)

The Township regulates what can be recycled, what materials are not permitted for curbside collection, and how permitted recyclable materials are to be packaged for curbside collection. The Ocean County Department of Solid Waste Management maintains a list of items required to be recycled under New Jersey law. They are as follows:

Residential Sector – Picked up curbside unless otherwise noted.

- Aluminum and tin cans
- Glass containers
- Plastic beverage containers
- Newspapers (bundled with string and stacked no higher than 12 inches)
- Leaves
- Brush (i.e., tree limbs/branches bundled in 3 FT lengths weighing 40 lbs or less) between September 20 and June 6*
- Mixed Paper
- Automobile batteries
- Motor oil*
- Gasoline ***
- White goods (large household items)
- Tires**

Commercial and Institutional Sectors – All of the above and the following:

- Cardboard
- High grade office paper
- Stumps and tree trunks**
- Concrete, cement blocks, bricks, asphalt, ferrous scrap and non-ferrous scrap**

* Drop at Southern Ocean Recycling Center between June 5th and September 19th

** Drop at Southern Ocean Recycling Center during normal business hours

*** Drop off at designated Public Works facilities during the Ocean County Household Waste Disposal Program. Dates can be obtained from the Ocean County Solid Waste Management Office.

**** Drop at Township Public Works Yard.

To promote recycling Township wide, recycling containers are available on the beach during the tourist season.

Other

- Medical waste is to be handled by private disposal company only.
- Propane tanks can be handled one of three ways:
 1. Return to where the tank was originally purchased for disposal.
 2. Drop off at Modern Gas in Manahawkin for a nominal fee.
 3. Drop off during the Ocean County Hazardous Waste Disposal Program held twice per year at varying Public Works garages. Contact the Ocean County Department of Solid Waste Management for dates.

Plastic Bag Initiative

In October 2017, the Township tabled an Ordinance 17-31C as it related to the distribution of single use plastic carryout bags. The proposal will be revisited at the November 2017 Meeting. According to the United States Department of Environmental Protection, as many as one trillion plastic bags are used worldwide each year and it is estimated that less than 5% of the plastic is recycled. The Ordinance states that *"the use of single use plastic carryout bags have a severe and negative environmental impact on the local global environment as a result of the greenhouse gas emissions omitted to produce such bags, the land based and ocean based pollution created, the hazards posed to wildlife, the blocking of storm drains by plastic, the hazards posed to courses of water for humans, and the negative impact on the ecosystem and food chain as a whole."* The Township is considering a six month phase-in of the bag ban if the Board of Commissioners adopts the measure. Shoppers would be responsible for bringing their own reusable bags to the stores or pay a fee for recycled bags. The Township should continue this initiative and support others of its kind.

Hydration Stations

In past years, the Township has installed numerous hydration stations which are higher quality water refill stations as compared to standard drinking fountains. These stations have been installed both indoors and outdoors and have proven to be an asset to the community. Additional hydration stations should be located throughout town where appropriate and funding sought to continue this initiative.

Oyster Recycling

Plans to grow oysters were being discussed before Superstorm Sandy devastated our region and five years Post-Sandy, the Township is now able to add other important initiatives that support cleaning up the Barnegat Bay.

Long Beach Township is the leading municipality in oyster shell recycling, providing staff and vehicles to control the busy logistics of pick-ups from the restaurants. The proposed Osborn Avenue Field Station will be a home base for education and outreach, as well as a launching point to visit the man-made oyster reefs. Oyster recycling is not only important for the local ecosystem, it also enhances the culture of a seashore community.

Bay Dredging and Spoil Sites

With the perennial question of what to do with dredge spoils from the Barnegat Bay to keep navigation channels open, significant consideration should be given to the Township's Sedge Islands as spoil sites. These isolated islands have the potential to be an innovative solution for dredged material management which will restore the disappearing islands. The loss of these islands can be reversed using clean dredged materials from the Barnegat Bay's channels. A dike would likely have to be constructed to original footprint and then dredged material placement can begin. Not only could this restoration help open navigation channels but habitat could be created and these islands could absorb anticipated sea level rise and storm surge from future storm events.

The Township should support the dredging of the Barnegat Bay.

Issues

1. The need to continually reassess and reevaluate the recycling system to address the waste stream, disposal and recycling market.
2. As a means to further reduce the amount of solid waste and recyclable materials that require processing, green building techniques should be emphasized in remodels and new construction.

Recommendations

1. The Township should increase the recycling awareness throughout the municipality through school programs, outreach, and increased recycling containers in high traffic areas such as business districts.
2. The Township's Building Department and Land Use Review Board could increase awareness of green building techniques by including informational handouts with all construction permits and Land Use Board applications.
3. Municipal initiatives such as plastic bag bans and oyster recycling should be supported at the local level as the Township could continue its goal of being at the forefront of sustainable actions on Long Beach Island.

Conclusion

Since Long Beach Township is almost fully developed, it is unlikely that 50 or more units of single family residential housing or 25 or more units of multi-family residential housing will be constructed with exception of the approved Major Subdivision known as Islands End, LLC in Holgate. Even still, the current Ordinance will support recycling in a development of this magnitude. In addition, all commercial and industrial properties utilizing 1,000 SF or more of land are currently addressed under the Township's Recycling Ordinance. Therefore, no new recycling regulations are necessary.

Long Beach Township should continue to administer its recycling program to achieve the County and State Goals of 50 percent for Municipal Solid Waste and 60 percent for total solid waste and coordinate efforts with Ocean County and surrounding municipalities to explore new and innovative ways to collect, store, process, and recycle materials. Recycling is an important element in maintaining a clean environment while at the same time conserving resources.

RELATIONSHIP TO OTHER PLANS

Beach Haven Borough

Beach Haven is bordered by Long Beach Township to both the north and south and the main corridor of Long Beach Boulevard/Bay Avenue is critical to ensuring Township residents can leave the island. Beach Haven is largely residential with a strip of business development along Bay Avenue and on some side streets from 11th Street through Pearl Street. Like Long Beach Township, Beach Haven prioritizes its access to the waterfront and realizes the importance of mitigating nuisance flooding. In any event, the land use categories of the two municipalities are substantially compatible.

Ship Bottom Borough

Ship Bottom borders the Township's northern boundary within the Brant Beach neighborhood. The adjacent zoning in Ship Bottom generally permits single-family detached residential uses on lots at least 40 FT wide and with 4000 SF of land area. Public, open space and recreational uses are also permitted. These are compatible with the uses proposed in Long Beach Township, including the commercial uses along Long Beach Boulevard.

Harvey Cedars, Surf City and Barnegat Light Borough

At the northern part of the island, the Long Beach Township neighborhoods of North Beach, Loveladies and High Bar Harbor are woven between the existing municipalities of Harvey Cedars, Surf City and Barnegat Light. The adjacent zoning in these areas is generally residential with small pockets of commercial development along Long Beach Boulevard. These commercial uses are comprised of restaurants, service and retail establishments, as well as professional offices including doctors, dentists and attorneys all of which act to support the local community. The residential uses within the Township neighborhoods are compatible with the uses that exist in the adjoining municipalities.