



**DRAFT**

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# BOROUGH OF SOUTH TOMS RIVER



## STRATEGIC RECOVERY PLANNING REPORT

THIS REPORT WAS PREPARED WITH A GRANT FROM  
THE NJ DEPARTMENT OF COMMUNITY AFFAIRS  
POST SANDY RECOVERY PLANNING ASSISTANCE PROGRAM



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**PURPOSE**

The New Jersey Department of Community Affairs (NJCA) has established a Post Sandy Planning Assistance Grant Program. The purpose of this program is to support long range planning for community redevelopment in the municipalities and counties sustaining damage from Superstorm Sandy. The Program provides grants to municipalities and counties to hire American Institute of Certified Planners/New Jersey Board of Professional Planners (AICP/PP) licensed planners to address conditions created or exacerbated by the storm, identify approaches to rebuilding that will be more resistant to damage from future storm events, and encourage sustainable economic growth.

The first step in the grant process is the preparation of a Strategic Recovery Planning Report (SRPR). An SRPR must be completed for municipalities and counties to be eligible for additional Post Sandy planning assistance. The purpose of the SRPR is to evaluate the impacts of the disaster on relevant community features. The evaluation can be broad or narrow but should focus on planning goals, strategies, and priorities leading to actions that are most urgently needed for public safety and economic recovery. The SRPR should serve as a guide for actions to be taken going forward not only to recover from the effects of Superstorm Sandy but also to reduce vulnerabilities to future disasters. The following document serves as the SRPR for the Borough of South Toms River, Ocean County, NJ.

**IMPACTS & NEEDS ASSESSMENT**

**COMMUNITY PROFILE**

**OVERVIEW**

The Borough of South Toms River is a 1.2-square mile coastal municipality located in Ocean County, New Jersey with river frontage along the Toms River. South Toms River was incorporated as a separate municipality on May 3, 1927. The Garden State Parkway bisects the Borough, connecting Beachwood to the south and Berkeley Township to the north. U.S. Route 9 heads from Beachwood to the east and begins a concurrency with the Garden State Parkway at exit 80. County Route 530 (Dover Road / South Main Street) traverses the Borough from Berkeley Township to the southwest to its eastern terminus in Toms River Township. Route 166 (Main Street) connects from Beachwood in the south to Toms River in the north.

The Borough is suburban in character with development primarily consisting of detached single-family dwellings. Townhouses and duplex units can be found in the western portion of the Borough. Commercial development is concentrated in the eastern portion of the Borough along Dover, Road, Flint Road and Atlantic City Boulevard. Marine related uses are located along the Toms River waterfront.

South Toms River Borough is a built-out community, with development potential limited to infill development and redevelopment opportunities. The Borough experienced minimal changes in population

**Figure 1: Historic Population Trends**

| Year | South Toms River |                | Ocean County   | New Jersey     |
|------|------------------|----------------|----------------|----------------|
|      | Population       | Percent Change | Percent Change | Percent Change |
| 1930 | 405              | -              | -              | -              |
| 1940 | 445              | 10%            | 14%            | 2.9%           |
| 1950 | 492              | 11%            | 50.2%          | 16.2%          |
| 1960 | 1,603            | 226%           | 91.2%          | 25.5%          |
| 1970 | 3,981            | 148%           | 92.6%          | 18.2%          |
| 1980 | 3,954            | -1%            | 66%            | 2.7%           |
| 1990 | 3,869            | -2%            | 25.2%          | 5%             |
| 2000 | 3,634            | -6%            | 17.9%          | 8.9%           |
| 2010 | 3,684            | 1%             | 11.3%          | 3.2%           |

since 1980, as shown in Figure 1. Population change in South Toms River is largely dependent upon fluctuations in household sizes and residential occupancy rates.

Just after South Toms River was incorporated, the 1930 Census showed a population of 405 people. The Borough grew by about 10 percent for the following two decades and experienced rapid growth from 1950 to 1970. The largest increase occurred between 1950 and 1960, when the population increased from 492 persons to 1,603 persons, a 225 percent increase. In comparison, Ocean County grew at a 25 percent increase from 1950 to 1960.

The population of the Borough continued to increase between 1960 and 1970 by 148 percent. The continued movement of population from urban areas to newly developing suburbs and to the major interchange areas along the Garden State Parkway led to substantial residential growth. Similarly, during the 1960's, Ocean County's population grew by 92 percent and New Jersey's population grew by 18 percent.

The relatively stable population, including population decreases from 1980 to 2000 in South Toms River is largely due to lack of vacant land and fluctuations in the average household size. In 2010, the Borough's population increased from 3,634 to 3,684 persons.

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## STRENGTHS AND OPPORTUNITIES

South Toms River's has the strengths to capitalize on the amenities of the Toms River and proximity to the Garden State Parkway. The Land Use Plan element of the Master Plan recommends three new land use districts that would provide opportunities for development or redevelopment that would take advantage of the strengths of South Toms River. The plan also evaluates additional opportunities for the creation of an interconnected system of passive recreation trails.

The Land Use Plan proposes to replace portion of the existing B-1 Neighborhood Business/Professional Zone with a new Mixed-Use (M-U) District. While the intent is to retain and to promote nonresidential uses, opportunities exist to better utilize waterfront views and the proximity to downtown Toms River. The proposed M-U district is located adjacent to the Toms River, downtown Toms River, and maintains roadway frontage on Flint Road and Main Street. Historically, this area provided the majority of the Borough's non-retail non-residential uses, primarily of an industrial character on Flint Road. Over the years, however, this area has been impacted by deferred maintenance and a national loss of manufacturing and industrial uses as corporations shifted jobs overseas. The new vision for this area stresses the need to better capitalize on existing waterfront views and to allow for the adaptive reuse of existing warehouses and other uses of an industrial nature. The Borough plans for increased retail, restaurant, service and office uses close to the waterfront.

Located east of the GSP, adjacent to Dover Road, is the Special Economic Development (SED) tract. The 20-acre tract is currently used primarily as a concrete company with an oil company occupying the southwest area. If and when the concrete company closes, an underutilized oversized lot with significant redevelopment potential will remain. The tract is appropriate for a full range of nonresidential uses ranging from commercial shopping centers, office and other similar non-residential uses within large building footprints.

Areas along Dover Road and Route 166 in the proposed Neighborhood Commercial (NC) district are predominantly nonresidentially zoned. From a planning perspective, there is concern over the future layout and scale of development within these areas. It is the intent to improve the existing layout of development over time. The Land Use Plan recommends new design guidelines to encourage modern development standards.



The Marine Recreational (MR) zone is intended to encourage water-related and water-dependent uses and the business and commercial uses that serve and support them, including but not limited to fishing, marine transportation, recreation and tourism. Unique natural features of the marine environment contribute significantly to the economic and social environments, therefore performance standards are required to minimize the impact of development on the natural features on which they depend. The Route 166 Waterfront Redevelopment Area is also within the MR district.

## IMPACT ASSESSMENT

Superstorm Sandy damaged at least 15 homes within South Toms River. Flooding caused much of the damage in the Borough. Based on reports, homes on the Toms River and its tributaries, such as Jakes Branch, typically saw several feet of water. Commercial properties, such as Miller's Boat Basin (aka Cedar Cove Marina) also were impacted. Several boats that were abandoned at Miller's Boat Basin were grounded by Sandy and forced the Borough to take enforcement and cleanup action, working collaboratively with NJDEP enforcement.

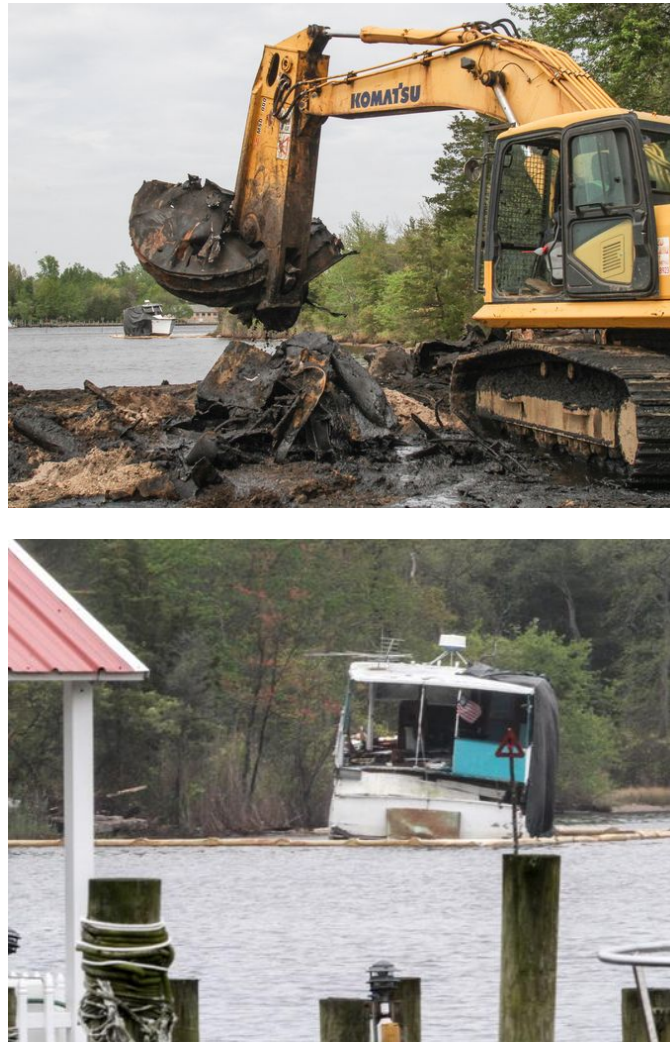


Figure 2: Images of the cleanup of several abandoned boats that were grounded by Sandy and were leaking fuel into the Toms River, forcing the Borough to intervene on an emergency basis.



Figure 3: Flooding in South Toms River from Super Storm Sandy.

As shown on Map 5, the storm surge essentially followed the ten foot elevation contour along the riverfront. The surge inundated the downtown area including Route 166, Center Street and Flint Road. A total of 15 homes and 13 commercial properties were inundated with storm surge flooding.

Looking at historic trends, the National Flood Insurance Program (NFIP) maintains a database of loss claims. NFIP considers “repetitive loss properties” parcels with structures insured under the program that had at least two paid flood losses of more than \$1,000 over any ten-year period since 1978. A property is considered a “severe repetitive loss property” when there are at least four losses (each exceeding \$5,000) or when there are two or more losses where the building payments exceed the property value.<sup>1</sup>

As shown in Figure 10 below, there are only 35 NFIP policies within South Toms River. As of July 31, 2013, 39 claims were paid and closed, totaling over \$2 million. There have been 953 repetitive loss events within the Borough that have resulted in payments of over \$42 million.

**Figure 4: NFIP Policies, Losses and Repetitive Loss Properties Through July 31, 2013**

|                   | <b>Policies in Force</b> | <b># of Closed Paid Losses</b> | <b>Amount of Closed Paid Losses</b> | <b>Total # of Repetitive Loss Events</b> | <b>Total Repetitive Loss Payments</b> |
|-------------------|--------------------------|--------------------------------|-------------------------------------|--|---------------------------------------|
| South Toms River  | 35                       | 39                             | \$2,093,827                         | 12                                       | \$325,435                             |
| % of County Total | 0.06%                    | 0.09%                          | 0.12%                               | 0.26%                                    | 0.20%                                 |

Source: 2014 Ocean County Multi-Jurisdictional All-Hazard Mitigation Plan

According to NFIP statistics, South Toms River had three properties with repetitive losses (two non-residential and one single family dwelling) and one severe repetitive loss property.

**Figure 5: Summary of Repetitive Loss & Severe Repetitive Loss Properties as of September 2013**

|                   | <b>Repetitive Loss Properties by Type</b> |                   |                      |              |                          | <b>Severe Repetitive Loss Properties</b> | <b>Total</b> |
|-------------------|---|-------------------|----------------------|--------------|--------------------------|--|--------------|
|                   | <b>Non-Residential</b>                    | <b>2-4 Family</b> | <b>Single-Family</b> | <b>Condo</b> | <b>Other Residential</b> |  |              |
| South Toms River  | 2   | 0                 | 1                    | 0            | 0                        | 1  | 4            |
| % of County Total | 1.98%                                     | 0.00%             | 0.06%                | 0.00%        | 0.00%                    | 0.44%                                    | 0.19%        |

Source: 2014 Ocean County Multi-Jurisdictional All-Hazard Mitigation Plan

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<sup>1</sup> 2014 Multi-Jurisdictional All-Hazard Mitigation Plan, Ocean County, New Jersey, prepared by Michael Baker Jr., Inc., dated May 13, 2014, page 111.



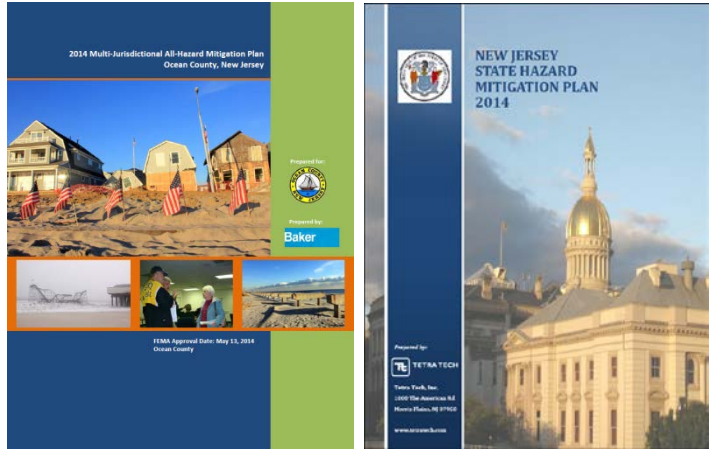




**VULNERABILITY ASSESSMENT**

**HAZARD MITIGATION PLANS**

South Toms River Borough participated with Ocean County in the preparation of the 2014 Multi-Jurisdictional All-Hazard Mitigation Plan (OCHMP). The 2014 OCHMP was prepared by Michael Baker Jr., Inc. and was approved by FEMA on May 13, 2014. The 2014 OCHMP contains a thorough analysis of vulnerability for the participating municipalities in Ocean County and analyzes natural hazards, human-made hazards and climate change hazards.



The State of New Jersey 2014 Hazard Mitigation Plan (NJHMP) was prepared by Tetra Tech, Inc. for the New Jersey Office of Emergency Management – Recovery Bureau (NJOEM). The 2014 NJHMP is an update to the 2011 NJHMP to provide additional information regarding recent hazard events, such as Superstorm Sandy. The NJHMP outlines a strategy to reduce risks from hazards and serves as the basis for prioritizing future project funding.

**CRITICAL FACILITIES VULNERABILITY ASSESSMENT**

The OCHMP summarizes “critical facilities” (hospitals, shelters, fire departments, schools, ambulance buildings, etc.) that would be vulnerable to various hazards, including wildfire, flooding, sea level rise, etc. South Toms River has 12 critical facilities that were analyzed. One of the critical facilities is vulnerable to wildfires and one facility is in the Special Flood Hazard Area, where there is a 1% annual chance of flooding. All 12 South Toms River critical facilities are within ten miles of a nuclear power plant. None of the critical facilities are expected to be permanently inundated or isolated due to three feet of sea level rise. Some facilities may be at risk for more than one incident.

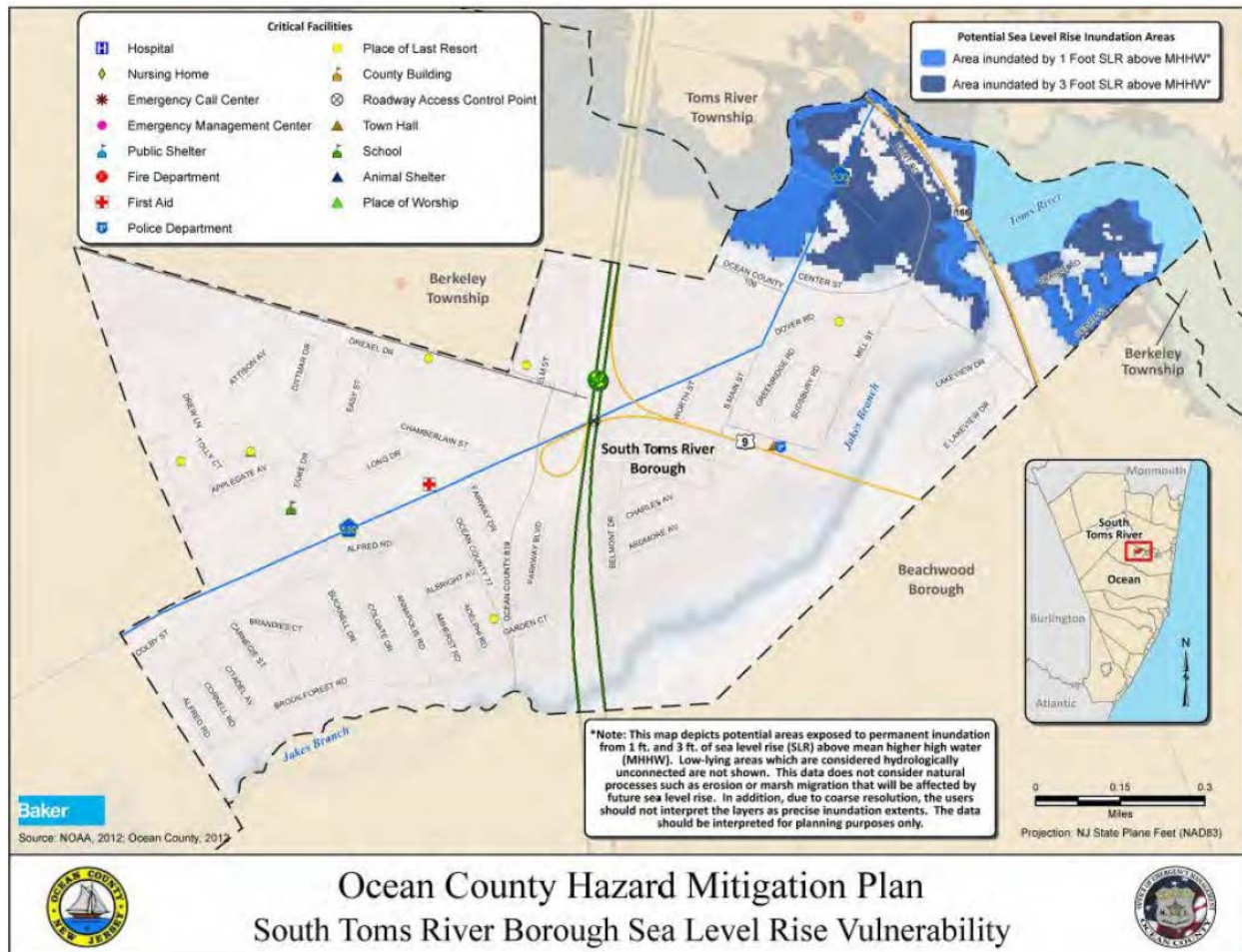
**Figure 6: Critical Facilities**

|   | <b>Critical Facilities</b> | <b>% of Facilities</b> |
|---|----------------------------|------------------------|
| High Wildfire Hazard Areas  | 1                          | 8.3%                   |
| Nuclear Incident Area (Facilities within 10 miles of nuclear plant) | 12                         | 100%                   |
| Special Flood Hazard Area   | 1                          | 8.3%                   |
| Sea Level Rise Impacts  | 0                          | 0%                     |
| <b>Total Number of Critical Facilities</b>                          | <b>12</b>                  |                        |



Map 6 shows areas of potential permanent inundation due to a one-foot and three-foot increase in sea level rise relative to mean higher high water in South Toms River Borough.

Map 2: OCHMP Sea Level Rise Vulnerability <sup>2</sup>



<sup>2</sup> Ibid, page 206.

## MULTI-HAZARD VULNERABILITY ASSESSMENT

Another measure of vulnerability used in the 2014 OCHMP is the assessed value of properties at-risk to various hazards. Figure 13 below shows the hazards, number of properties and value calculated by the OCHMP.

|   | Parcels      | % of Total Parcels | Value         |
|---|--------------|--------------------|---------------|
| Erosion <sup>1</sup>                          | 2            | 0.2%               | \$0           |
| Repetitive Flood Loss Properties <sup>2</sup> | 12           | 0.9%               | \$325,435     |
| Special Flood Hazard Area <sup>3</sup>        | 83           | 6.26%              | \$16,628,900  |
| Tornadoes/Wind Storms <sup>4</sup>            | 0            | 0%                 | \$0           |
| Hazardous Materials Facilities <sup>5</sup>   | 1,112        | 84%                | \$143,395,400 |
| Nuclear Hazards <sup>6</sup>                  | 1,325        | 100%               | \$173,448,400 |
| <b>Total</b>                                  | <b>1,325</b> |                    |               |

<sup>1</sup> Parcels within 200 feet of erodible shoreline and beaches

<sup>2</sup> Number of Repetitive Loss Events from Flooding

<sup>3</sup> Area where there is a 1% annual chance of a flood event

<sup>4</sup> Number of mobile homes in municipality

<sup>5</sup> Parcels within 1.5 miles of hazmat facility

<sup>6</sup> Parcels within 10 miles of nuclear facility

### Coastal Erosion

According to the NJHMP, Ocean County has 45.2 miles of oceanfront shoreline, the longest the four coastal counties. The northern section of Ocean County coastline is unique along the New Jersey coastline in that it lies within a zone where sand transport parallel to the shoreline is essentially zero over long periods of time. According to the OCHMP, there are 2 undeveloped parcels in South Toms River within 200 feet of erodible shoreline and beaches, as defined by NJDEP, representing 0.2% of the total parcels in South Toms River.

### Flooding

Coastal flooding is a result of the storm surge where local sea levels rise often resulting in weakened or destroyed coastal structures. Hurricanes and tropical storms, severe storms, and Nor'easters cause most of the coastal flooding in New Jersey. Much of the damage in South Toms River is attributed to storm surge and wave action. Figure 14 illustrates the effects of water energy dissipation and regeneration of a wave as it moves inland through the V-zone, Coastal A-zone, and A-zone.

The NFIP identifies properties that frequently experience flooding. Repetitive loss properties are structures insured under the NFIP that have had at least two paid flood losses of more than \$1,000 over any 10-year period since 1978. A property is considered a severe repetitive loss property either when there are at least four losses (each exceeding \$5,000) or when there are two or more losses where the building payments exceed the property value. South Toms River Borough had 12 repetitive loss events as of July 31, 2013. The total payment for these repetitive loss events was \$325,435.

The OCHMP also identified 83 parcels within the Special Flood Hazard Area where there is a 1% chance of flooding. This represents 6.3 percent of the Borough with over \$16.6 million in property values at risk.

### High Wind

Due to their light-weight and often unanchored design, mobile homes and commercial trailers are extremely vulnerable to high winds and will generally sustain the most damage. According to the OCHMP, South Toms River Borough has no mobile homes in its housing stock.

### Wildfire

The OCHMP states that, based on the wildfire vulnerability assessment from the New Jersey Forest Fire Service, the majority Ocean County is at an extreme level of risk for wildfires. Much of the remaining land area has a high or very high risk, while a small portion is shown as low or moderate risk. The urban areas are less susceptible to wildfire. Approximately 360 acres or 45 percent of lands within South Toms River are within the Pinelands Management Area, which is more susceptible to wildfire.

### Earthquake

According to the NJHMP, while earthquakes are unpredictable, the probability of damaging earthquakes affecting New Jersey is low. However, there is a definite threat of major earthquakes that could cause widespread damage and casualties in New Jersey. Major earthquakes are infrequent in the State and may occur only once every few hundred years or longer, but the consequences of major earthquakes would be very high. The NJHMP reports that a 3.9 magnitude earthquake occurred in 1927 near Asbury Park. Three shocks were felt along the coast from Sandy Hook to South Toms River. The NJHMP ran a FEMA Hazus model to estimate potential losses by County for the 100-, 500-, 1,000- and 2,500-year earthquake events. Figure 15 shows potential impacts for Ocean County. Ocean County ranked 12th highest of the 21 Counties in terms of estimated impacts.

**Figure 8: Estimated Earthquake Impacts for Ocean County**

| Earthquake Scenario | Displaced Households | Short-Term Sheltering Needs | Potential Losses |
|---------------------|----------------------|-----------------------------|------------------|
| 100-Year MRP        | 0                    | 0                           | \$0              |
| 500-Year MRP        | 17                   | 11                          | \$43.1 million   |
| 1,000-Year MRP      | 65                   | 43                          | \$178.6 million  |
| 2,500-Year MRP      | 357                  | 233                         | \$826.4 million  |

### Hazardous Materials

There are 1,112 parcels in South Toms River Borough that are within 1.5 miles of a hazardous materials facility. Additionally, all 1,325 parcels are within 10 miles of the Oyster Creek nuclear facility in Forked River Borough.

## RUTGERS UNIVERSITY IMPACT ASSESSMENT

In October 2013, Rutgers University published a study entitled “The Impact of Superstorm Sandy on New Jersey Towns and Households”. The report presents a detailed geographic analysis to determine where New Jersey remains vulnerable. It also provides the first accurate measure of power outages by town across the state and the results of the Rutgers-Newark Sandy Survey of New Jersey municipalities. The report includes a *Sandy Community Hardship Index*, which quantifies the wide range of types and degrees of damage incurred by New Jersey municipalities.

### COMMUNITY HARDSHIP INDEX

The Community Hardship Index is a standardized way to measure economic and physical damage, controlling for population differences so that the impact can be compared across all of New Jersey's 21 counties and 553 municipalities that lost power or reported damage. The index covers economic and physical impact in the residential, commercial, and municipal sectors. Ocean County scored 73 on the Community Hardship Index, making it the second hardest hit county in New Jersey.

Power outages added to economic hardship by closing businesses and slowing disaster mitigation efforts by rendering equipment such as sump pumps inoperable. To compensate for inaccurate and conflicting data available from the power companies, the Index uses a proxy - the number of days public schools were closed - to understand the duration of power loss to each community. Based on this evaluation, power was out 8 days in Ocean County following Sandy.

Residential damage measures scope and severity of damage. Because knowledge of FEMA Individual Assistance (IA) may not have been uniform across the state, the scope and severity are measured by the number and amount of private insurance residential claims as reported by the New Jersey Department of Banking and Insurance (DOBI), as of May 3, 2013. In terms of volume, Ocean County had the most number of claims with nearly 50,000 claims. At 17 percent, Ocean County also had the highest percent of housing units filing a private insurance claim.

Commercial damage measures scope and severity of damage, as indicated by the number and amount of private insurance commercial claims. Commercial losses in Ocean County were reported for 1.11 percent of nonresidential properties at \$166 per property.

The municipal damage area is measured by the dollar amount of FEMA Public Assistance per capita. Ocean County was the second highest county with \$68 per capita.

Shelter services measures the number of people served as of May 2013, as recorded by the Red Cross National Shelter System, controlled by county size. Ocean County had with 9 people per 1,000 in temporary shelters.

South Toms River Borough scored 75 on the Community Hardship Index, which ranked it as the fifteenth hardest hit municipality. At a total \$16.8 million, South Toms River ranked as the second highest municipality in terms of FEMA public assistance dollars.

### HOUSEHOLD HARDSHIP INDEX

While towns and counties were challenged to respond to the damage inflicted by Sandy, households were not spared the storm's wrath. This is especially true for those that earn less than the cost of basic household

necessities, defined as the ALICE Threshold. To understand how these fragile households fared in particular in the aftermath of the storm, a new measure has been developed, which evaluates conditions at both the county and municipal level. The Household Hardship Index measures the scope, severity, and resilience of households with income below the ALICE Threshold. Ocean County scored 62 on the Household Hardship Index, with over \$87 million in lost wages due to Super Storm Sandy. At \$7,652, Ocean County had the highest average FEMA IA assistance in New Jersey.

Lack of homeowners insurance threatens one's ability to repair damage or recoup losses. Ocean County had 46 percent of households below the ALICE Threshold with no homeowners insurance.

The Household Hardship Index at the municipal level reveals an even wider range of impact, including pockets of severe household hardship across the state that was not visible in the county analysis. South Toms River Borough scored 61 on the Household Hardship Index.

## BOROUGH BACKGROUND DOCUMENTS

### PLANNING DOCUMENTS

#### SOUTH TOMS RIVER 2013 MASTER PLAN

The *South Toms River Master Plan* was prepared by John Leoncavallo, P.P., dated February 1, 2013. The Plan includes a Statement of Principles, Assumptions, Objectives, Policies & Standards that is intended to help achieve the Borough's vision. The Master Plan includes the following elements: Land Use Plan, Circulation Plan, Economic Plan, Recreation and Open Space Plan, and Recycling Plan.

The Borough envisions vibrant commercial uses, appropriate infill development, adaptive reuse of obsolete industrial and manufacturing uses and brownfield reclamation. The Master Plan is based upon the principles of balanced land use and sustainable development. The Land Use Plan presents the standards for density and development intensity recommended for South Toms River.

Lands located west of the Garden State Parkway are located in the Pinelands National Reserve. The Pinelands Comprehensive Management Plan (CMP) Land Capability Map establishes nine land use management areas with goals, objectives, development intensities and permitted uses for each Pinelands Management Area (PMA). PMA's are implemented through local zoning, which must conform with Pinelands land use standards. In South Toms River, all lands west of the Garden State Parkway are located in the Regional Growth Area, which allows for a full range of nonresidential and residential land uses.

The Master Plan recognizes that the Borough is will continue to grow in population, which will be limited by increased density of existing developed properties, as there is a diminished land capacity for new development. The limited undeveloped land supply, with minor exceptions, is characterized by floodways, wetlands and pineland areas.

The Land Use Plan was crafted to preserve the existing residential character of the community. With the exception of some minor changes to reflect existing land uses, the majority of changes proposed in the Land Use Plan are within non-residential areas of the community, which are designed to improve the economic base and aesthetic character of the Borough's nonresidential districts.



The Land Use Plan recommends a Marine Recreational land use classification to encourage water-related and water-dependent uses and the business and commercial uses that serve and support them, including but not limited to fishing, marine transportation, recreation and tourism. It is recognized that unique natural features of the marine environment contribute significantly to the economic and social environments, therefore performance standards are required to minimize the impact of development on the natural features on which they depend. One area of the Borough located along Route 166 and the Toms River is included within this land use designation.

The Land Use Plan recommends revising stormwater ordinances to require a range of stormwater management options to be incorporated into home expansions and teardown/rebuilding of homes. Existing stormwater rules are triggered when 1/4-acre of new impervious coverage is installed or 1-acre of disturbance occurs.

Objective 5 of the Economic Plan is to preserve the natural environment and provide access to it for use as passive and active open space. The plan recommend protecting wetlands, floodplains and stream corridors by adopting measures which stabilize stream bank erosion,; relieve flooding adjacent to streams (particularly on private properties); preserve and supplement the existing vegetation throughout the Borough, especially trees, and prevent their unnecessary removal; and provide access to environmentally constrained areas so they can be enjoyed as passive open space.

The Master Plan does not include any other goals, objectives, or policies that would support municipal planning needs related to future storm mitigation or post storm recovery.

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## ROUTE 166 CORRIDOR WATERFRONT REDEVELOPMENT PLAN

The Route 166 Corridor has been a gateway to South Toms River, as well as Toms River and Beachwood Borough going back to the days of the operation of the Barnegat Branch of the Central Railroad of New Jersey in the 19th Century. However, the corridor has suffered from underinvestment and deterioration and the Borough began an aggressive revitalization program in 2014 that combines pursuit of grant opportunities with the use of rehabilitation and redevelopment to incentivize investment and induce positive change.

Tax Blocks 3, 4, 5 and 6 were designated by the South Toms River Borough Council on July 21, 2014 as an Area In Need of Rehabilitation under the Local Redevelopment and Housing Law ("LRHL") (N.J.S.A. 40A:12A-1). Meanwhile the Borough pursued and obtained funding to construct a streetscape project along the corridor, inclusive of sidewalks, street trees and curbing. Funds are also being pursued to acquire an easement along the former Central Railroad ROW, which is now privately owned.

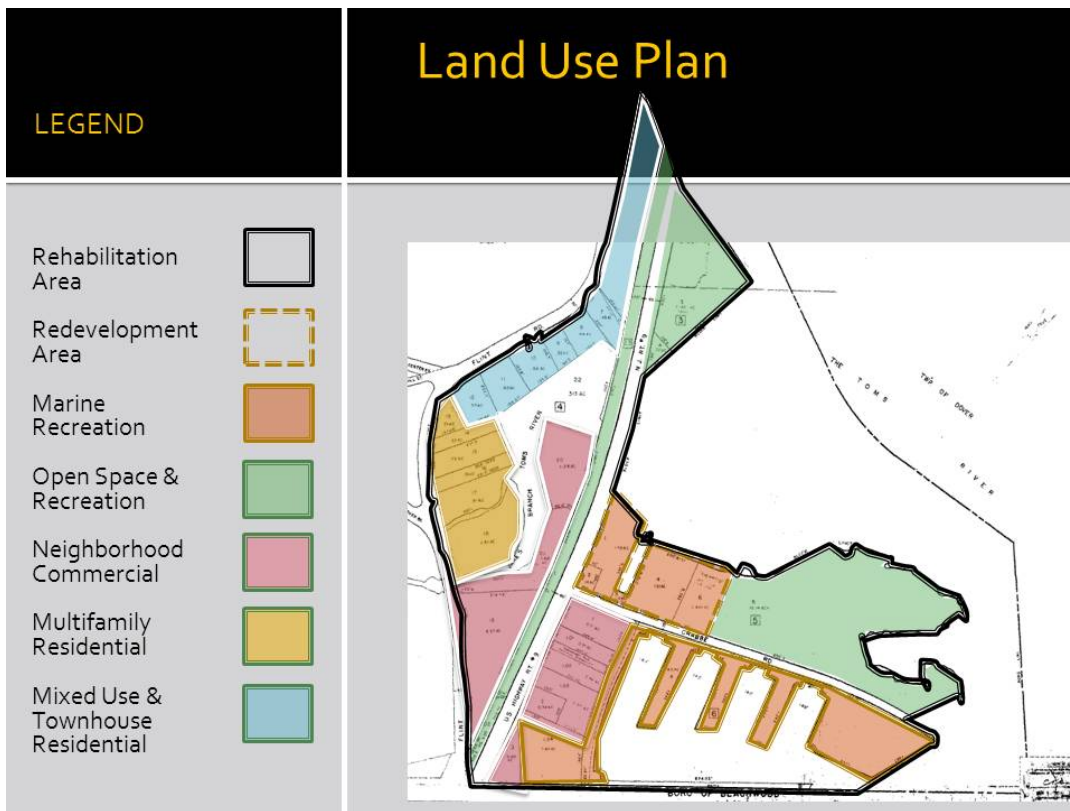
The Planning Board recommended designation of the Area in Need of Redevelopment at their meeting of September 16, 2014 and the Council adopted a Resolution designating Block 5, Lots 1-4 and 6 as an Area In Need of Redevelopment after a public presentation and receipt of additional public comment at their meeting of October 20, 2014. The Route 166 Corridor Waterfront Redevelopment Plan was adopted by the South Toms River Borough Council on January 30, 2015.

The Land Use Objectives of the Redevelopment Plan are as follows:

- Enhance physical and visual connections between the waterfront and the rest of the Borough;
- Encourage future redevelopment of mixed-use retail, restaurant and residential uses between Flint Road and the Toms River that maximizes the value of water views;
- Keep residential uses on upper floors and design lower floors for flood resilience;

- Transform Redevelopment Area into a vibrant waterfront recreational amenity that will serve as a gateway to South Toms River from the north, a catalyst for investment and rehabilitation within the Rehabilitation Area and a focal point for a new, mixed-use waterfront neighborhood;
- Encourage private investment in public spaces to complement the public investment in the extension of the Barnegat Branch Trail bikeway along Route 166, the new streetscape improvements (sidewalks, curbs, street trees, etc.) along Route 166, and the public access improvements (“riverwalk”) along Crabbe Road.
- Encourage contemporary building designs for new construction that will create a unique character for the waterfront district within the Redevelopment Plan Area.

The Plan states that future flooding is of concern within the Redevelopment Plan Area due to its proximity to the river. All new construction and substantial rehabilitation are required to comply with the South Toms River Flood Hazard Prevention Ordinance.





## LAND USE REGULATORY DOCUMENTS

The Borough's code book was reviewed to determine if there are any goals, objectives, or policies that would support municipal planning needs related to future storm mitigation or post storm recovery. The following sections review South Toms River's regulatory documents.

### CHAPTER 26: LAND DEVELOPMENT REGULATIONS

Chapter 26-1.3 states that the purpose of the chapter is to "secure safety from fire, flood, panic and other natural and man-made disasters".

Chapter 26-4.15 allows the Board of jurisdiction, after adequate investigation, to withhold subdivision approval where there is a question as to the suitability of a lot or lots for their intended uses due to factors such as topographical irregularities, erosion conditions, flood conditions or similar circumstances.

Chapter 26-12.6 provides that any nonconforming building or use which has been destroyed by fire, explosion, flood, windstorm, or natural disaster may be rebuilt, restored or repaired without necessity of a variance if the cost of restoration is less than half of the estimated equalized or true valuation of the building. If the damage is greater than 50 percent, the building or use shall be considered completely destroyed and shall not be rebuilt, restored or repaired unless in conformity with the building and use requirements of the regulations. Repairs and restoration of such nonconforming building or structure shall commence within one year from date of such destruction and damage and must be completed within six months.

The Land Use and Development Regulations do not include any other goals, objectives or policies that would support planning needs related to future storm mitigation or post-storm recovery.

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## CHAPTER 24: STORMWATER MANAGEMENT REGULATIONS

The purpose of the Stormwater Management Regulations is to establish minimum stormwater management requirements and controls for major development, consistent with the statewide stormwater requirements at N.J.A.C. 7:8, the regulations and standards contained in the Pinelands CMP, and the provisions of the adopted master plan and Land Use ordinances of the Borough of South Toms River. The first goal of the regulations is to reduce flood damage, including damage to life and property. The regulations ensure the proper design of stormwater systems to mitigate against impacts from stormwater runoff and flooding. However, there are no other goals, objectives or policies that would support planning needs related post-storm recovery.

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## CHAPTER 29: FLOOD DAMAGE PREVENTION

Before Superstorm Sandy, FEMA had begun a coastal flood study to update Flood Insurance Rate Maps (FIRMs) and Flood Insurance Study (FIS) reports for portions of New Jersey using improved methods and data to better reflect coastal flood risk. After Sandy, FEMA released Advisory Base Flood Elevation (ABFE) maps for certain communities based on the partially completed FIS's, which were designed to help in rebuilding and recovery efforts. Subsequently, FEMA released preliminary work maps, which included the full results of the coastal flood study on June 18, 2013. Preliminary FIRMs and FIS reports for Ocean County were released March 27, 2014.

While the National Flood Insurance Program (NFIP) floodplain management regulations do not require communities to use flood hazard data from the advisory or preliminary flood data, in cases where BFEs have increased and/or a more restrictive flood zone has been established, communities have the responsibility to ensure that new or improved construction as well as the health and safety of citizens are protected.

Chapter 19 of the Borough Code, entitled "Flood Damage Prevention", addresses the flood hazard regulations of FEMA and NJDEP. The ordinance was adopted in 2006 by the Borough Council by Ordinance #13-2006. In accordance with §19-3.2, the areas of special flood hazard for the Borough of South Toms River, Community No. 340392, are identified and defined on the following documents prepared by the FEMA:

- A scientific and engineering report "Flood Insurance Study, Ocean County, New Jersey (all jurisdictions)" dated September 29, 2006.
- Flood Insurance Rate Map for Ocean County, New Jersey (all jurisdictions) as shown on index and panel(s) 0303, 0304, 0312, 0315 whose effective date is September 29, 2006.

As shown in Figure 10, 184 acres lie within a Preliminary Flood Hazard Area (excluding the 500-year flood plain), representing 24 percent of South Toms River.

| <b>Figure 9: South Toms River Preliminary Flood Zones</b>                 |               |                       |
|---|---------------|-----------------------|
| <b>Flood Zone</b>   | <b>Acres</b>  | <b>Percent of Twp</b> |
| Preliminary Zone A - 100 Year Flood Plain (no BFE)                        | 3.59          | 0.5%                  |
| Preliminary Zone AE - 100 Year Flood Plain (w/ BFE)                       | 179.34        | 22.7%                 |
| Preliminary Zone VE - 100 Year Flood Plain (w/ High Velocity Wave Action) | 1.31          | 0.2%                  |
| Preliminary Shaded Zone X - 500 Year Flood Plain                          | 27.69         | 3.5%                  |
| <b>Total</b>  | <b>789.69</b> | <b>100%</b>           |

Maps 7 through 11 compare the FEMA ABFE, Preliminary Working Map, and Preliminary Flood Hazard mapping for South Toms River.



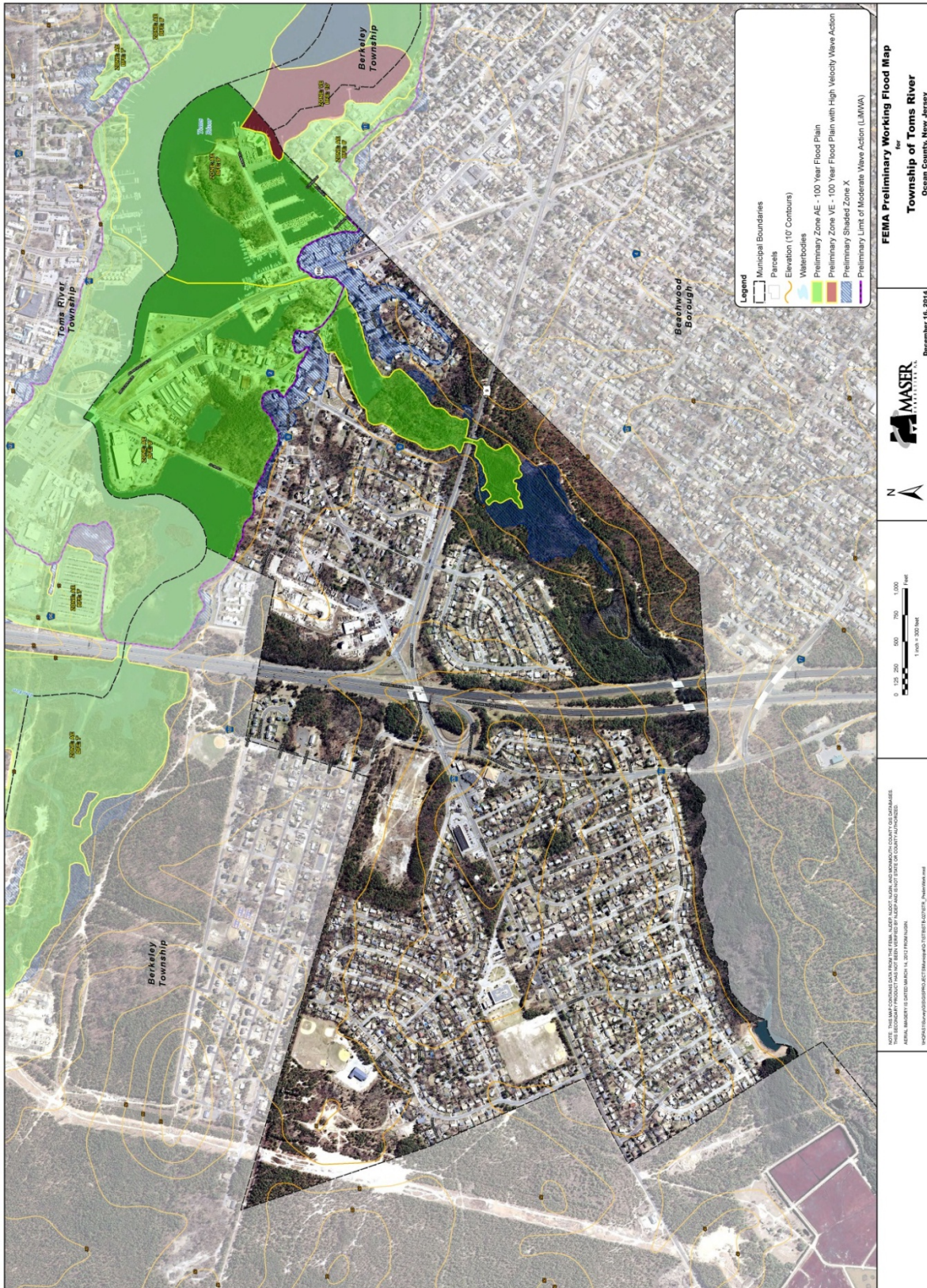






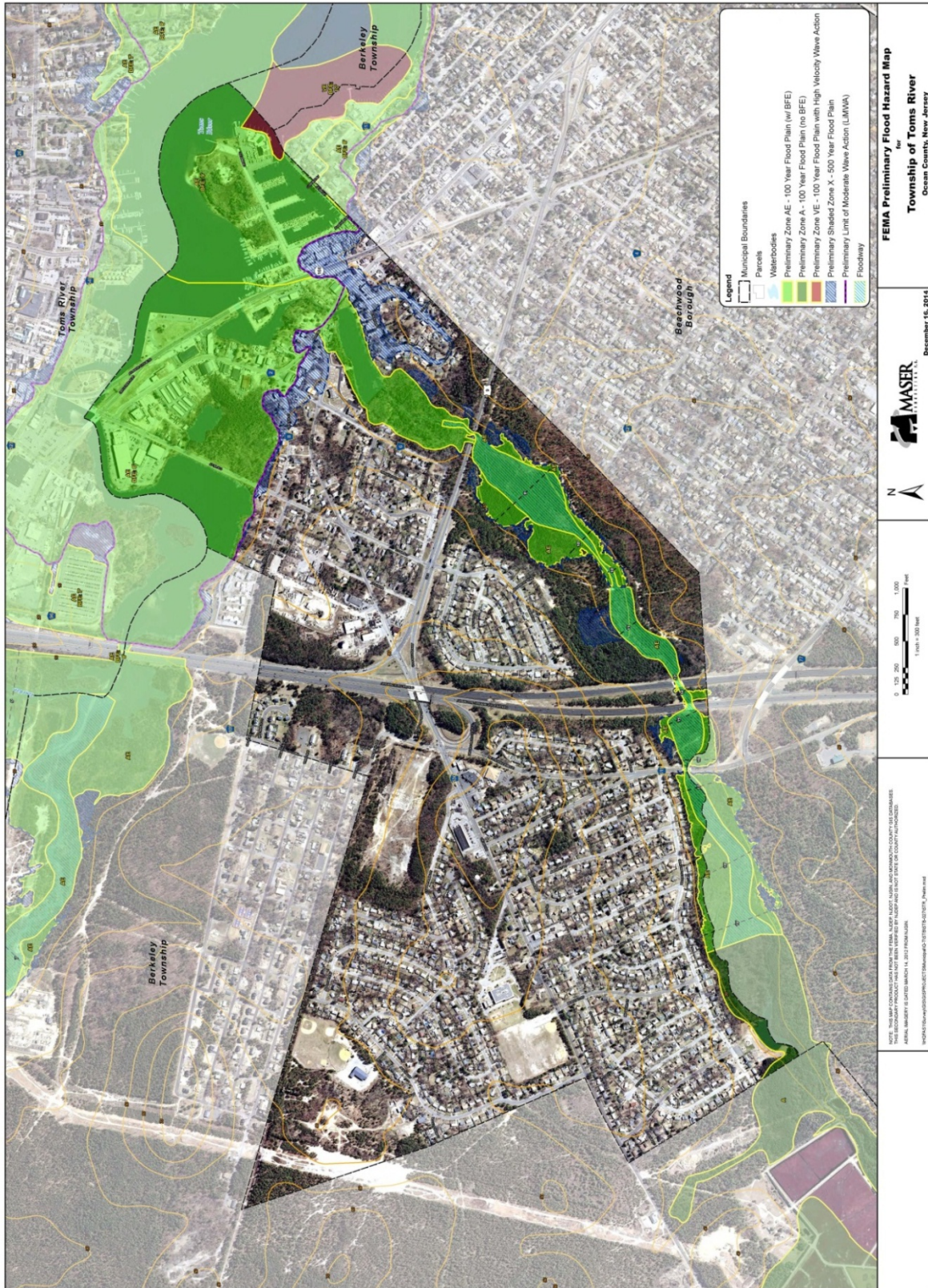


Map 5 - FEMA Preliminary Working Flood Map





Map 6 - FEMA Preliminary Flood Hazard Areas



## PUBLIC OUTREACH

The coordination of public input within the Borough has been handled by the Borough's Community Emergency Response Team (CERT), which has been recruiting volunteers to take a 20 hour training course on disaster preparedness in fire suppression, medical operations, search and rescue operations, etc. For purposes of this SRPR, the CERT serves as the steering committee to provide direction and guidance on the identification of projects for Phase II Post Sandy planning. This Draft SRPR will be posted on the Borough's website and will be presented at public hearings to the Borough Council and Land Use Board for public comment.

## STRATEGIC RECOVERY ACTION PLAN

### IDENTIFICATION OF PROJECTS

The following sections discuss the projects that have been identified in the 2014 Ocean County HMP, projects recommended by stakeholders during the public workshops and projects recommended based on the needs assessment and vulnerability analysis.

### PROJECTS IDENTIFIED IN THE OCEAN COUNTY HMP

Chapter 6 of the Ocean County HMP lists the recommended municipal action plan summary<sup>3</sup>. For South Toms River, there are eight actions recommended:

1. Replace bulkhead between Flint Road and 166 where water rises above bulkhead at only 3 ft. above water and at Lakeview Lake to river. Goal is provide continuous new bulkhead, but must at least repair bulkhead to protect from coastal erosion and flood related hazards.
2. Continue to participate in the NFIP to support pro-active floodplain management that will protect property from flood related hazards, clearly inform property owners about the risks of being in and near the SFHA, and promote flood insurance.
3. Continue to enforce building codes to require building, renovations, and re-building meets or exceeds the Uniform Construction Code thus protecting homes from risk related to hazards including flooding, fire, wind, earthquake, and winter storm
4. Complete improvements to Mathiason Plaza while decreasing impervious surfaces to provide space for drainage and mitigation flood related hazards.
5. Complete dredging/drainage improvements in bay to mitigate flooding.
6. Maintain, improve, and expand education and awareness programs to provide effective and relevant information to community members.
7. Join CRS program to complete pro-active floodplain management and assist residents with flood insurance costs.
8. Continue participating in FireWise to mitigate wildfire and wildfire impacts on properties.

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<sup>3</sup> 2014 Ocean County Multi-Jurisdictional All-Hazard Mitigation Plan, Section 6.4.36, pages G-17; G-522 to G-532.



9. Elevate homes that remain in the floodplain to build to higher standards and elevation that will mitigate impact of flood related hazards while maintaining residents in community.
10. Flood proof Shore Vineyard Church at 1 South Main Street to protect valuable community resources from flooding.
11. Work with Palermo Family leasing properties to flood proof buildings to protect valuable community resources from flooding.

The summary Action Item tables from the Ocean County HMP are included and incorporated by reference to ensure consistency in the recommendations. The Ocean County HMP is especially relevant to this SRPR in that it was prepared after Sandy and incorporates the impacts from Sandy in its mitigation project recommendations.

**6.4.36. South Toms River Borough**

|  |   |
|--|---|
| <b>Action 6.4.36-1: Bulkhead Replacement – Between Flint Road and 166; Water rises above bulkhead at only 3 ft. above water; Lakeview Lake to river that rises – at least repair the bulkhead; prefer to improve and build a continuous new bulkhead</b> |   |
| <b>Assessing the Risk</b>  |   |
| Hazard(s) addressed  | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change   |
| Risk finding   | Flood risk in community   |
| <b>Describing the Action</b>   |   |
| Action category  | Structure/Infrastructure Project (Property Protection)  |
| Action type  | Structural Project  |
| Action description   | Replace bulkhead between Flint Road and 166 were water rises above bulkhead at only 3 ft. above water and at Lakeview Lake to river. Goal is provide continuous new bulkhead, but must at least repair bulkhead to protect from coastal erosion and flood related hazards |
| Existing, future &/or NA   | Proposed future project   |
| <b>Evaluating the Action</b>   |   |
| Losses avoided (i.e., benefits)  | Avoid overtopping of bulkhead   |
| Cost estimate  | \$2,000,000   |
| Cost effectiveness (i.e., benefit/cost)  |   |
| Technical  | Technically feasible.   |
| Political  | No political obstacles foreseen.  |
| Legal  | No legal issues anticipated.  |
| Environmental  | No adverse environmental effects beyond typical issues associated with construction; could result in negative impacts on the environment if continuous bulkhead is constructed.   |
| Social   | No social obstacles anticipated; Replacing bulkhead is expected to be beneficial because it will provide better shoreline protection.   |
| Administrative capability  | Borough has sufficient capacity and experience to administer this action  |
| Local champion   | Local champion is the borough that has taken the lead on coordinating mitigation projects in the community.   |
| Other community objectives   |   |
| <b>Implementing the Action</b>   |   |
| Priority   | High  |
| Local planning mechanism   | Hazard Mitigation Plan  |
| Responsible party  | South Toms River Borough  |
| Potential funding sources  | HMGP, FMA, RFC, CDBG.   |
| Time line  | 5 years   |

| <b>Action 6.4.36-2: Continue to participate in the NFIP</b> |  |
|---|--|
| <b>Assessing the Risk</b>                                   |  |
| Hazard(s) addressed   | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change  |
| Risk finding  | Community is susceptible to flooding from coastal storms on oceanfront and/or bay front sides  |
| <b>Describing the Action</b>                                |  |
| Action category   | Local Plans and Regulations  |
| Action type   | Planning Mechanism/Prevention  |
| Action description  | Continue to participate in the NFIP to support pro-active floodplain management that will protect property from flood related hazards, clearly inform property owners about the risks of being in and near the SFHA, and promote flood insurance |
| Existing, future &/or NA                                    | Existing participation in the NFIP   |
| <b>Evaluating the Action</b>                                |  |
| Losses avoided (i.e., benefits)                             |  |
| Cost estimate   | N/A  |
| Cost effectiveness (i.e., benefit/cost)                     |  |
| Technical   | N/A  |
| Political   | Purchase of flood insurance is encouraged in order to support the funding base for claims and reduce overall impact to communities post-flood.   |
| Legal   | Flood insurance is mandatory for homes located within zone A, AE, AR, A99, AH, or AO.  |
| Environmental   | Does not adversely affect the environment.   |
| Social  | Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for individual homeowners.   |
| Administrative capability                                   | Borough has sufficient capacity and experience to administer this action   |
| Local champion  | Local champion is the borough that helps share information about NFIP  |
| Other community objectives                                  |  |
| <b>Implementing the Action</b>                              |  |
| Priority  | High   |
| Local planning mechanism                                    | Municipal codes  |
| Responsible party   | South Toms River Borough (Emergency Services) and borough residents  |
| Potential funding sources                                   | Homeowners   |
| Time line   | 5 years  |

| <b>Action 6.4.36-3: Continue to enforce building codes</b> |   |
|--|---|
| <b>Assessing the Risk</b>                                  |   |
| Hazard(s) addressed  | Coastal Erosion; Earthquake; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Tomado, Wind Storm; Wildfire; Winter Storm; Urban Fire and Explosion   |
| Risk finding   | Ocean County residents are at risk for both natural and man-made hazards to impact their homes.   |
| <b>Describing the Action</b>                               |   |
| Action category  | Local Plans and Regulations   |
| Action type  | Planning Mechanism/Prevention   |
| Action description   | Continue to enforce building codes to require building, renovations, and re-building meets or exceeds the Uniform Construction Code thus protecting homes from risk related to hazards including flooding, fire, wind, earthquake, and winter storm |
| Existing, future &/or NA                                   | Existing compliance with National and local building code standards   |
| <b>Evaluating the Action</b>                               |   |
| Losses avoided (i.e., benefits)                            |   |
| Cost estimate  | N/A   |
| Cost effectiveness (i.e., benefit/cost)                    |   |
| Technical  | N/A   |
| Political  | Compliance with building codes is encouraged politically in order to reduce overall impact of natural and man-made disasters on homes and residents.  |
| Legal  | Compliance with building codes is mandated legally.   |
| Environmental  | Does not adversely affect the environment.  |
| Social   | Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for individual homeowners.  |
| Administrative capability                                  | Borough has sufficient capacity and experience to administer this action  |
| Local champion   | Local champion is the borough that enforces the building codes  |
| Other community objectives                                 |   |
| <b>Implementing the Action</b>                             |   |
| Priority   | High  |
| Local planning mechanism                                   | Municipal codes   |
| Responsible party  | South Toms River Borough and borough residents  |
| Potential funding sources                                  | N/A   |
| Time line  | 5 years   |

| <b>Action 6.4.36-4: CARFA &amp; FEMA – No paving – Mathiason Plaza – CIP maintain park &amp; improve.</b> |  |
|---|--|
| <b>Assessing the Risk</b>   |  |
| Hazard(s) addressed   | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change  |
| Risk finding  | Maintaining areas without paving can reduce risk by provide space for water to drain naturally. Sinkholes have been found in plaza and sidewalk.           |
| <b>Describing the Action</b>  |  |
| Action category   | Natural Systems Protection   |
| Action type   | Natural Resource Protection  |
| Action description  | Complete improvements to Mathiason Plaza while decreasing impervious surfaces to provide space for drainage and mitigation flood related hazards           |
| Existing, future &/or NA  | Existing improvement   |
| <b>Evaluating the Action</b>  |  |
| Losses avoided (i.e., benefits)   | Increase stability of park and reduce likelihood of sinkholes.   |
| Cost estimate   | N/A  |
| Cost effectiveness (i.e., benefit/cost)   |  |
| Technical   | Technically feasible   |
| Political   | No political barriers faced.   |
| Legal   | No legal issues.   |
| Environmental   | No adverse environmental impacts from project.   |
| Social  | No adverse social impact as a result of the project; perceived as beneficial by the public because it improved the public asset of the plaza and sidewalk. |
| Administrative capability   | Borough has sufficient capacity and experience to administer this action   |
| Local champion  | Local champion is the Borough engineer that has taken the lead on coordinating mitigation projects.  |
| Other community objectives  |  |
| <b>Implementing the Action</b>  |  |
| Priority  | High   |
| Local planning mechanism  | Hazard Mitigation Plan   |
| Responsible party   | South Toms River Borough   |
| Potential funding sources   | N/A  |
| Time line   | N/A  |



| <b>Action 6.4.36-5: Mitigate bay action flooding</b> |   |
|--|---|
| <b>Assessing the Risk</b>                            |   |
| Hazard(s) addressed                                  | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change   |
| Risk finding   | Community is at risk for bay action flooding during coastal storms; flood risk area has expanded recently.  |
| <b>Describing the Action</b>                         |   |
| Action category                                      | Natural Systems Protection  |
| Action type  | Natural Resource Protection   |
| Action description                                   | Complete dredging/drainage improvements in bay to mitigate flooding   |
| Existing, future &/or NA                             | Elevates the existing structures to remove them from the floodplain   |
| <b>Evaluating the Action</b>                         |   |
| Losses avoided (i.e., benefits)                      | Reduce future losses due to flooding from coastal storms.   |
| Cost estimate  | \$  |
| Cost effectiveness (i.e., benefit/cost)              |   |
| Technical  | Technical feasibility is yet to be determined.  |
| Political  | No adverse political ramifications are expected   |
| Legal  | No legal issues are anticipated.  |
| Environmental  | Environmental impact is yet to be determined.   |
| Social   | Does not adversely affect any particular social group. Perceived by the public to be beneficial to reduce bay action flooding and reduce future losses. |
| Administrative capability                            | Borough has sufficient capacity and experience to administer this action  |
| Local champion                                       | Local champion is the Borough engineer that has taken the lead on coordinating mitigation projects.   |
| Other community objectives                           |   |
| <b>Implementing the Action</b>                       |   |
| Priority   | High  |
| Local planning mechanism                             | Hazard Mitigation Plan  |
| Responsible party                                    | South Toms River Borough Engineer   |
| Potential funding sources                            | HMGP, RFC, and FMA. For 25% local match, in-kind services, and Community Development Block Grant (CDBG).  |
| Time line  | 1 year  |

|  |   |
|--|---|
| <b>Action 6.4.36-6: Letters to floodplain folks – lot/block owner; 300 lots/blocks; 100 letters back</b> |   |
| <b>Assessing the Risk</b>  |   |
| Hazard(s) addressed  | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change                               |
| Risk finding   | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change risk for community            |
| <b>Describing the Action</b>   |   |
| Action category  | Education and Awareness Program   |
| Action type  | Public Education and Awareness  |
| Action description   | Maintain, improve, and expand education and awareness programs to provide effective and relevant information to community members |
| Existing, future &/or NA   | Existing program to continue in the future.   |
| <b>Evaluating the Action</b>   |   |
| Losses avoided (i.e., benefits)  |   |
| Cost estimate  | Staff time for letters  |
| Cost effectiveness (i.e., benefit/cost)  |   |
| Technical  | Technically feasible.   |
| Political  | No adverse political ramifications are expected   |
| Legal  | No legal impediments anticipated.   |
| Environmental  | No adverse environmental impact anticipated   |
| Social   | Does not adversely affect any particular social group. Perceived by the public to be beneficial                                   |
| Administrative capability  | Borough has sufficient capacity and experience to administer this action  |
| Local champion   | Local champion is the South Toms River Borough.   |
| Other community objectives   |   |
| <b>Implementing the Action</b>   |   |
| Priority   | High  |
| Local planning mechanism   | Hazard Mitigation Plan  |
| Responsible party  | South Toms River Borough Engineer   |
| Potential funding sources  | N/A   |
| Time line  | 1 year  |

| <b>Action 6.4.36-7: Consider participating in CRS Program</b> |   |
|---|---|
| <b>Assessing the Risk</b>                                     |   |
| Hazard(s) addressed   | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change   |
| Risk finding  | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change risk in community   |
| <b>Describing the Action</b>                                  |   |
| Action category   | Education and Awareness Program   |
| Action type   | Public Education and Awareness  |
| Action description  | Join CRS program to complete pro-active floodplain management and assist residents with flood insurance costs   |
| Existing, future &/or NA                                      | Potential for future participation in program   |
| <b>Evaluating the Action</b>                                  |   |
| Losses avoided (i.e., benefits)                               |   |
| Cost estimate   | Staff member to act as CRS coordinator.   |
| Cost effectiveness (i.e., benefit/cost)                       |   |
| Technical   | Technically feasible.   |
| Political   | Politically acceptable and encouraged in order to reduce flood insurance premiums for residents.  |
| Legal   | No legal issues anticipated.  |
| Environmental   | No adverse environmental effects from participation in CRS  |
| Social  | Does not adversely affect any particular social group. Perceived by the public to be a good thing because the participation provides a reduction in insurance premiums. |
| Administrative capability                                     | Borough has sufficient capacity and experience to administer this action  |
| Local champion  | Local champion is the Borough and especially the CRS coordinator.   |
| Other community objectives                                    |   |
| <b>Implementing the Action</b>                                |   |
| Priority  | High  |
| Local planning mechanism                                      | Hazard Mitigation Plan  |
| Responsible party   | South Toms River Borough  |
| Potential funding sources                                     | South Toms River Borough; HMGP, FEMA.   |
| Time line   | 5 years   |

| <b>Action 6.4.36-8: Continue participating in FireWise</b> |  |
|--|--|
| <b>Assessing the Risk</b>                                  |  |
| Hazard(s) addressed  | Wildfire   |
| Risk finding   | High risk of wildfire in the community.  |
| <b>Describing the Action</b>                               |  |
| Action category  | Education and Awareness Program  |
| Action type  | Public Education and Awareness   |
| Action description   | Join FireWise to mitigate wildfire and wildfire impacts on properties  |
| Existing, future &/or NA                                   | Existing outreach and education program to continue  |
| <b>Evaluating the Action</b>                               |  |
| Losses avoided (i.e., benefits)                            |  |
| Cost estimate  | Staff time to maintain program   |
| Cost effectiveness (i.e., benefit/cost)                    |  |
| Technical  | Technically feasible.  |
| Political  | Politically acceptable and encouraged in order to educate homeowners and reduce the risk of wildfire incidents.  |
| Legal  | No legal issues anticipated.   |
| Environmental  | No adverse environmental effects from the outreach program.  |
| Social   | Does not adversely affect any particular social group. Perceived by the public to be beneficial because the program aims to educate homeowners and reduce the community's overall vulnerability to wildfire. |
| Administrative capability                                  | Borough has sufficient capacity and experience to administer this action   |
| Local champion   | Local champion is the South Toms River Borough Fire Department   |
| Other community objectives                                 |  |
| <b>Implementing the Action</b>                             |  |
| Priority   | High   |
| Local planning mechanism                                   | Hazard Mitigation Plan   |
| Responsible party  | South Toms River Borough Fire Department   |
| Potential funding sources                                  | South Toms River Borough, State, HMGP  |
| Time line  | 5 years  |



| <b>Action 6.4.36-9: Elevate homes that remain in the floodplain.</b> |  |
|--|--|
| <b>Assessing the Risk</b>  |  |
| Hazard(s) addressed  | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change  |
| Risk finding   | Flooding has been an ongoing problem for South Toms River Borough residents  |
| <b>Describing the Action</b>   |  |
| Action category  | Structure/Infrastructure Project   |
| Action type  | Elevation  |
| Action description   | Elevate homes that remain in the floodplain to build to higher standards and elevation that will mitigate impact of flood related hazards while maintaining residents in community |
| Existing, future &/or NA   | Elevates the existing structures to remove them from the floodplain  |
| <b>Evaluating the Action</b>   |  |
| Losses avoided (i.e., benefits)                                      | Avoid future flood losses  |
| Cost estimate  | \$   |
| Cost effectiveness (i.e., benefit/cost)                              |  |
| Technical  | Technically feasible.  |
| Political  | No adverse political ramifications are expected  |
| Legal  | Homes must be elevated in compliance with the new FEMA flood maps once they are finalized.   |
| Environmental  | Positively impacts the environment by increasing the permeable surface for each homeowner property.  |
| Social   | Does not adversely affect any particular social group. Perceived by the public to be a good thing because it reduces risk for individual homeowners.                               |
| Administrative capability  | Borough has sufficient capacity and experience to administer this action   |
| Local champion   | Local champion is the Borough emergency management coordinator that has taken the lead on collecting and submitting the letters of interest.                                       |
| Other community objectives   |  |
| <b>Implementing the Action</b>                                       |  |
| Priority   | High   |
| Local planning mechanism   | Hazard Mitigation Plan   |
| Responsible party  | South Toms River Borough   |
| Potential funding sources  | HMGP, RFC, and FMA. For 25% local match, in-kind services, Community Development Block Grant (CDBG) and NFIP Increased Cost of Compliance (ICC).                                   |
| Time line  | 1 year   |

| <b>Action 6.4.36-10: Flood proof Shore Vineyard Church at 1 South Main Street</b> |  |
|---|--|
| <b>Assessing the Risk</b>   |  |
| Hazard(s) addressed   | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change  |
| Risk finding  | Flooding has been an ongoing problem for South Toms River Borough residents  |
| <b>Describing the Action</b>  |  |
| Action category   | Structure/Infrastructure Project   |
| Action type   | Structural project   |
| Action description  | Flood proof Shore Vineyard Church at 1 South Main Street to protect valuable community resources from flooding   |
| Existing, future &/or NA  | Proposed future project  |
| <b>Evaluating the Action</b>  |  |
| Losses avoided (i.e., benefits)   | Reduce future flood losses   |
| Cost estimate   | N/A  |
| Cost effectiveness (i.e., benefit/cost)   |  |
| Technical   | Technically feasible.  |
| Political   | No political obstacles anticipated.  |
| Legal   | No legal issues anticipated.   |
| Environmental   | No adverse environmental effects from flood proofing expected.   |
| Social  | Does not adversely affect any particular social group. Perceived by the public to be beneficial as flood proofing will reduce future losses for the church during future storms. |
| Administrative capability   | Borough has sufficient capacity and experience to administer this action   |
| Local champion  | Local champion is the South Toms River Borough.  |
| Other community objectives  |  |
| <b>Implementing the Action</b>  |  |
| Priority  | High   |
| Local planning mechanism  | Hazard Mitigation Plan   |
| Responsible party   | South Toms River Borough   |
| Potential funding sources   | South Toms River Borough, State, HMGP.   |
| Time line   | 5 years  |

| <b>Action 6.4.36-11: Palermo Family leasing properties to flood proof buildings.</b> |  |
|--|--|
| <b>Assessing the Risk</b>  |  |
| Hazard(s) addressed  | Coastal Erosion; Flood, Flash Flood, Ice Jam; Hurricane, Tropical Storm, Nor'easter; Climate Change  |
| Risk finding   | Flooding has been an ongoing problem for South Toms River Borough residents  |
| <b>Describing the Action</b>   |  |
| Action category  | Structure/Infrastructure Project   |
| Action type  | Structural project   |
| Action description   | Work with Palermo Family leasing properties to flood proof buildings to protect valuable community resources from flooding   |
| Existing, future &/or NA   | Proposed future project  |
| <b>Evaluating the Action</b>   |  |
| Losses avoided (i.e., benefits)  | Reduce future flood losses   |
| Cost estimate  | N/A  |
| Cost effectiveness (i.e., benefit/cost)  |  |
| Technical  | Technically feasible.  |
| Political  | No political obstacles anticipated.  |
| Legal  | No legal issues anticipated.   |
| Environmental  | No adverse environmental effects from flood proofing expected.   |
| Social   | Does not adversely affect any particular social group. Perceived by the public to be beneficial as flood proofing will reduce future losses for the properties during future storms. |
| Administrative capability  | Borough has sufficient capacity and experience to administer this action   |
| Local champion   | Local champion is the South Toms River Borough.  |
| Other community objectives   |  |
| <b>Implementing the Action</b>   |  |
| Priority   | High   |
| Local planning mechanism   | Hazard Mitigation Plan   |
| Responsible party  | South Toms River Borough   |
| Potential funding sources  | South Toms River Borough, State, HMGP.   |
| Time line  | 5 years  |

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## SOUTH TOMS RIVER “GETTING TO RESILIENCE” REPORT RECOMMENDATIONS

The Jacques Cousteau National Estuarine Research Reserve prepared the South Toms River “Getting to Resilience” Recommendations Report in October 2014. The Getting to Resilience (GTR) questionnaire was originally developed and piloted by the NJDEP Office of Coastal Management in an effort to foster municipal resiliency in the face of flooding, coastal storms, and sea level rise. The questionnaire was designed to be used by municipalities to assist reduce vulnerability and increase preparedness by linking planning, mitigation, and adaptation. For South Toms River, the GTR Questionnaire was answered by a team of municipal representatives, including the Mayor, a Borough Councilman, the Borough Administrator, the Borough Engineer, and the Borough Planner. The GTR recommendations are as follows:

### **Outreach**

1. Make sure all outreach programs are quantified and catalogued according to CRS standards.
2. Develop a pre-flood plan for public information projects that will be implemented during and after a flood.
3. Make the public talks that took place post-Sandy about flood zones, flooding risk, building recommendations, etc into annual meetings.
4. Communicate the different information available within different pages of the Borough website to be easily accessible to the public.

### **Mitigation**

5. Establish storm shelters within the Borough or establish shared service agreements for shelter use with neighboring municipalities to ensure residents have adequate storm shelter access.
6. Create a detailed mitigation plan for areas that experience repetitive loss.
7. Consider returning any properties acquired through Blue Acres or other buyout or acquisition programs to natural floodplain functions.
8. Continue to be designated as a StormReady Community by the National Weather Service.
9. South Toms River should identify, map, and keep data on areas of coastal erosion and consider creating erosion protection programs or instituting higher regulations for building in areas subject to coastal erosion.

### **Municipal Organization**

10. Transfer personal knowledge, documents, and other records of coastal storm and flooding event damages to digital format and place on a shared Borough computer drive to allow for access by multiple municipal departments.
11. Have Borough municipal officials participate in FEMA training courses.
12. Utilize the Community Vulnerability Assessment Tool, Risk and Vulnerability Assessment Tool, Hazard Assessment Tool, and HAZUS-MH to identify potential hazards, risks, and vulnerabilities and keep mapping information on file.
13. Revisit efforts to create a special needs database like NJ’s Register Ready Program.



**FEMA Mapping**

14. Adopt the latest version of FEMA's flood maps and rewrite elevation and freeboard requirements in a Flood Damage Prevention Ordinance as based upon the Best Available Flood Hazard Data or the most stringent version of FEMA's flood maps.
15. Ensure the public is aware of any changes to FEMA's flood maps as they are updated and if those updates result in changes to the Borough's building requirements.
16. Make sure all flood maps are available on the town website, at Borough Hall, and at the local libraries.

**PLANNING**

17. Consider bolstering the evacuation plan, noting conditions that would require evacuation, how much of the Borough would need to evacuate, and the time an evacuation would take for numerous potential hazards.
18. Consider creating a Continuity of Operations Plan.
19. South Toms River should identify sea level rise as a hazard in town plans and consider disclosing hazard risks to potential buyers and real estate agents.
20. Examine municipal plans, strategies, and ordinances and consider rewriting sections to include the previous recommendations or reflect the risks, hazards, and vulnerabilities explored in the Getting to Resilience process.
21. Begin the long term planning process to prepare for sea level rise.

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**PROJECTS IDENTIFIED BY THE PUBLIC**

Preliminary projects cited by members of the public during public meetings and hearings on the draft SRPR include:

1. Need for effective command and control facilities – Current Borough Hall is old and the police department is in the basement. The Borough is currently investigating the acquisition of a former day care facility on Double Trouble Road as part of a land swap.
2. Redevelopment of former Cove Marina site – The Borough has adopted a redevelopment plan, but the entire water's edge along Crabbe Road is vulnerable to flooding and the Borough-owned land has the potential for flood mitigation design as part of a public waterfront park and walkway.
3. Jakes Branch Creek is a major tributary of the Toms River that runs adjacent to several neighborhoods between the creek and Dover Road to the northwest. The Creek is snagged in multiple locations by fallen Atlantic white cedar (*Chamaecyparis thyoides*), which in certain locations have become swampy bogs. These conditions are fairly typical in Ocean County, but contribute to flooding and impede public access.
4. Need for design standards to manage appropriate elevations of homes and commercial buildings, as well as to encourage new development in accordance with Flood Damage Prevention requirements.
5. Need for debris management plan.
6. Need to update Master Plan and Zoning regulations to include recommendations of "Getting to Resiliency" report and to address sea level rise and climate change threats to vulnerable areas.

PROJECTS RECOMMENDED IN SOUTH TOMS RIVER SRPR

Projects identified by the Borough and the public during the strategic recovery planning process in South Toms River can be divided into two categories: (1) Mitigation, and (2) Preparedness. Mitigation projects relate to physical alterations to natural or manmade features such as the construction of dunes, elevation of roads, bridges, utilities and buildings, or improvements to stormwater management facilities. Preparedness projects relate to planning activities that look ahead to plan for increased resiliency against future storm events or measures intended to prevent damage to vulnerable properties and facilities, such as the hardening of vulnerable facilities where elevation above the flood elevation is not feasible.

The matrices that follow provide the recommended projects for Mitigation and Preparedness for the Borough of South Toms River. Mitigation projects incorporate those recommended in the Ocean County HMP and add projects as appropriate from the list of projects identified by the public above. Preparedness projects relate specifically to the Post Sandy Recovery Planning Assistance Grants of the NJDCA for which this SRPR is a prerequisite.

Noteworthy among the projects recommended for the second phase of the NJDCA Planning Assistance Grants are two neighborhood plans. One of the neighborhood plans address the vulnerable portions of the Waterfront Redevelopment Plan Area – specifically the Route 166 corridor and Crabbe Road and investigate the elevation of Route 166 and its bridge over the Jakes Branch Creek as an evacuation route. The proposed Neighborhood Plan would recommended traffic improvements, including improvements to roads and intersections to enable them to be more resilient in future storm events and to support the projected build-out in the redevelopment plan. The other neighborhood plan would address the rehabilitation of the neighborhood park that fronts the Jakes Branch Creek on Brook Forest Drive, as well as potential flood mitigation strategies along the Borough-owned floodplain lands to protect the neighborhood from future flooding due to snagging in the Jakes Branch Creek.



Figure 10: Brook Forest Drive Neighborhood.

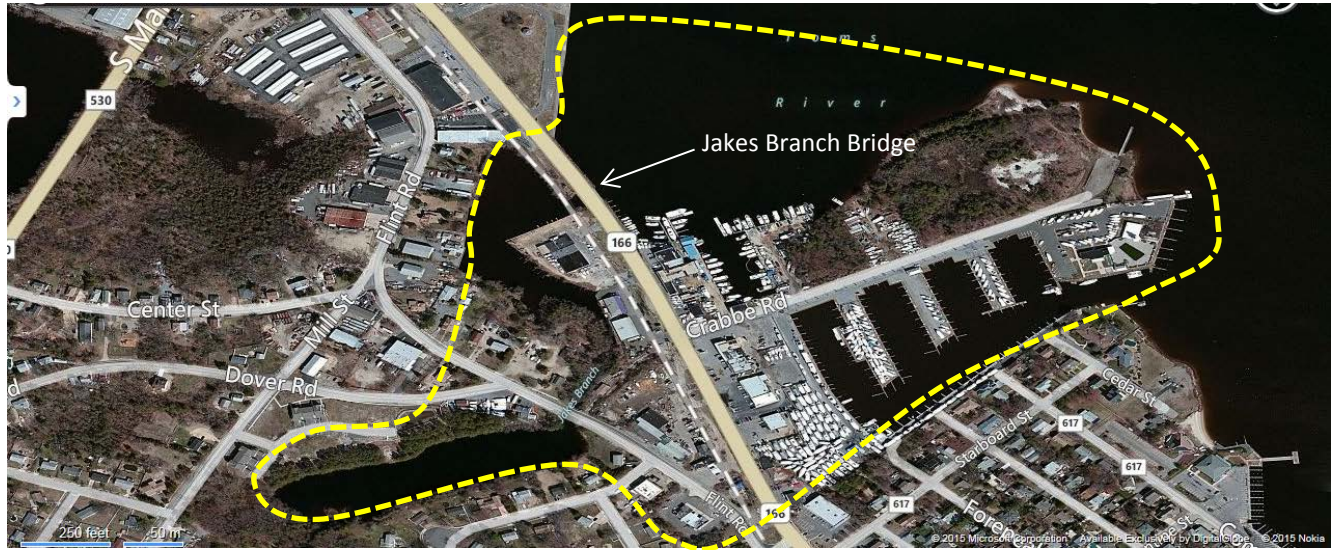


Figure 11: Route 166 and Crabbe Road Neighborhood.

Figure 12: South Toms River Post Disaster Recovery Planning Implementation Matrix – MITIGATION

| Recovery Project  | Responsible Entity      | Duration | Recovery Value |          |             |
|---|-------------------------|----------|----------------|----------|-------------|
|   |                         |          | Need           | Feasible | Sustainable |
| 1. Bulkhead Replacement   | South Toms River        | Moderate | High           | High     | High        |
| 2. Continue to participate in the NFIP  | South Toms River        | Long     | High           | High     | High        |
| 3. Continue to enforce building codes   | South Toms River        | Long     | High           | High     | High        |
| 4. Improvements to Mathis Plaza   | South Toms River        | Moderate | High           | High     | High        |
| 5. Mitigate bay action flooding   | South Toms River        | Short    | High           | High     | High        |
| 6. Floodplain education and awareness programs                                | South Toms River        | Short    | High           | High     | High        |
| 7. Join CRS program   | South Toms River; USACE | Moderate | High           | High     | High        |
| 8. Continue participating in FireWise   | South Toms River        | Long     | High           | High     | High        |
| 9. Elevate homes that remain in the floodplain                                | South Toms River        | Short    | High           | Mod      | Mod         |
| 10. Flood proof Shore Vineyard Church at 1 South Main Street                  | South Toms River        | Moderate | High           | Mod      | High        |
| 11. Work with Palermo Family leasing properties to flood proof buildings      | South Toms River        | Moderate | High           | Mod      | High        |
| 12. Examine current outreach programs and estimate efforts to gain CRS points | South Toms River        | Short    | Mod            | High     | High        |



|     |  |                  |          |      |      |      |
|-----|--|------------------|----------|------|------|------|
| 13. | Develop annual meetings on flooding and coastal risks  | South Toms River | Short    | High | High | High |
| 14. | Update Borough website to highlight flooding and coastal risks                                     | South Toms River | Short    | High | High | High |
| 15. | Establish storm shelter(s) within the Borough or with neighboring municipality                     | South Toms River | Short    | High | High | High |
| 16. | Consider Blue Acres buyouts  | South Toms River | Moderate | High | Mod  | High |
| 17. | Continue to be designated as a StormReady Community  | South Toms River | Short    | High | High | High |
| 18. | Analyze coastal erosion and consider creating erosion protection programs                          | South Toms River | Moderate | High | Mod  | High |
| 19. | Implement Borough inter-department information sharing on coastal storm and flooding event damages | South Toms River | Short    | High | High | High |
| 20. | FEMA training courses for municipal officials  | South Toms River | Moderate | High | High | High |
| 21. | Prepare Vulnerability Assessment   | South Toms River | Moderate | High | High | High |
| 22. | Prepare database of residents in need of assistance during evacuation                              | South Toms River | Short    | High | High | High |
| 23. | Update Flood Damage Prevention Ordinance based on latest FEMA mapping                              | South Toms River | Short    | High | High | High |
| 24. | Inform public of FEMA mapping changes  | South Toms River | Short    | High | High | High |
| 25. | Make flood maps readily available to public  | South Toms River | Short    | High | High | High |
| 26. | Update Evacuation Plan   | South Toms River | Moderate | High | High | High |
| 27. | Prepare Continuity of Operations Plan  | South Toms River | Moderate | High | Mod  | High |

Figure 11: South Toms River Post Disaster Recovery Planning Implementation Matrix – PREPAREDNESS

|    | Recovery Project   | Responsible Entity | Duration | Recovery Value |          |             |
|----|--|--------------------|----------|----------------|----------|-------------|
|    |  |                    |          | Need           | Feasible | Sustainable |
| 1. | Update Master Plan with “Getting To Resiliency” Recommendations & Sea Level Rise | South Toms River   | Short    | High           | High     | High        |
| 2. | Update Zoning Regulations with “Getting To Resiliency” Recommendations           | South Toms River   | Short    | High           | High     | High        |
| 3. | Prepare Flood Hazard Management Plan   | South Toms River   | Moderate | High           | High     | High        |
| 4. | Prepare Repetitive Loss Area Analysis (RLAA) for 12 Repetitive Loss Properties   | South Toms River   | Short    | High           | High     | High        |
| 5. | Neighborhood Plan – Waterfront Redevelopment Plan Area (Route 166 )              | South Toms River   | Short    | High           | High     | High        |

|     |   |                   |          |      |      |      |
|-----|---|-------------------|----------|------|------|------|
| 6.  | Neighborhood Plan – Brook Forest Drive Neighborhood Park Rehabilitation | South Toms River  | Short    | High | High | High |
| 7.  | Preparation of Debris Management Plan                                   | South Toms River; | Moderate | High | High | High |
| 8.  | Prepare Coastal Resilience Plan   | South Toms River  | Long     | High | Mod  | High |
| 9.  | Design Standards: Elevate homes that remain in the floodplain           | South Toms River  | Short    | High | Mod  | Mod  |
| 10. | <b>INSERT OTHER PROJECTS PER CERT AND PUBLIC REVIEW &amp; COMMENT</b>   |                   |          |      |      |      |