



THE TOWNSHIP OF
BRICK, NJ

NEIGHBORHOOD PLAN



Cherry Quay-Bay Harbor, Brick Township, New Jersey

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POST SANDY RECOVERY PHASE II PLANNING

Neighborhood Plan

Cherry Quay-Bay Harbor, Brick Township, New Jersey

INTRODUCTION

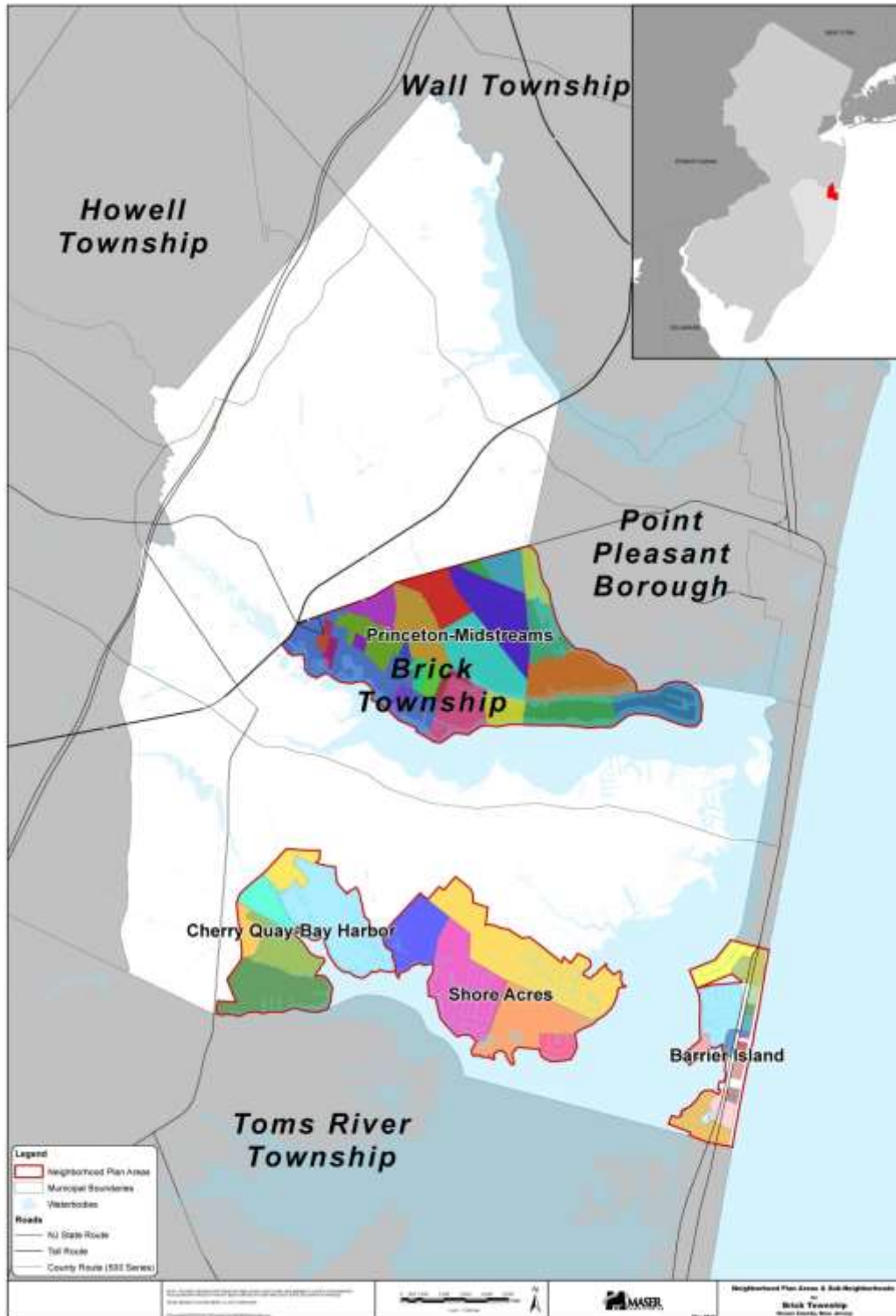
In a Resolution #15-00739 on February 18, 2014, the Township Council of the Township of Brick, County of Ocean and State of New Jersey approved the preparation and submission of Post-“Sandy” Planning Studies and Reports, which allowed for the four Brick Neighborhood Plans. The Cherry-Quay Neighborhood Plan is included in these Planning Studies and is intended to look at a number of factors which will affect the future viability of this area, from the present state of the infrastructure and the ongoing re-building efforts, to methods of providing a sense of unity and community. The Cherry-Quay Plan area is composed of four peninsulas within the tributaries of Kettle Creek in the southwest of Brick Township. The neighborhood borders Toms River Township to the south, the Shore Acres neighborhood and Kettle Creek to the east, and Hooper Avenue and Brick Boulevard to the west. This Neighborhood Plan has been prepared in conjunction with three other Brick Neighborhood Plans and is also intended to complement the Hazard Mitigation Plan (HMP) and Floodplain Management Plan (FMP) prepared by Tetra Tech, Inc. collectively with other Post-Sandy Phase II planning projects by the Township.

This Neighborhood Plan provides an overview of the neighborhood and an analysis of the existing development pattern within the Cherry Quay-Bay Harbor Neighborhood and its associated bulk standards to determine specific recommendations for changes that would make the neighborhood more resilient to future storm events comparable to Superstorm Sandy. As noted in the project scope, the Plan uses the sustainable development principles of the Leadership in Energy and Environmental Design (LEED) rating systems; specifically, LEED for Homes (LEED-Home) and LEED for Neighborhood Development (LEED-ND). The LEED-Home standards are applicable for homeowners who are renovating as well as those considering a complete demolition and rebuild. The LEED-ND standards apply to the neighborhood as a whole and relate to maintaining and enhancing connectivity (and thereby “walkability”) within the neighborhood for pedestrians and bicyclists, sustainable stormwater management, and enhancing neighborhood goods and services, parks and open space and schools within walking distance of the homes (1/4 mile or less). The subsequent section of the Neighborhood Plan provides design standards to assist homeowners with renovating and rebuilding.



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Map 1: Four Brick Township Neighborhood Plan Areas





NEIGHBORHOOD DESCRIPTION

The Cherry Quay-Bay Harbor neighborhood is generally located within the southwesterly most portion of the mainland of Brick Township, Ocean County, New Jersey, directly north of Toms River Township. It is located east of Hooper Avenue, south of Drum Point Road, and west of the Shore Acres neighborhood at the point where South Branch Kettle Creek, North Branch Kettle Creek, Tunes Brook, and Long Causeway Branch meet at the head of Kettle Creek.

Cherry Quay-Bay Harbor is protected from the direct impact of the Atlantic Ocean by the Barrier Island to the east. The mainland neighborhoods are separated from the Barrier Island by Barnegat Bay, which extends from Bay Head, New Jersey to the north to Island Beach State Park, New Jersey and is a small part of the eastern U.S. Intracoastal Waterway. The surrounding area is densely developed with suburban communities, separated by a series of creeks, rivers, wetlands, marshes, and forest. Kettle Creek and the wetlands of the Joe Pal Airport Property form the eastern boundary that separates the two Brick neighborhoods of Cherry Quay and Shore Acres. These numerous estuarine waterbodies shape the landmass and the identity of the Cherry Quay-Bay Harbor neighborhood.

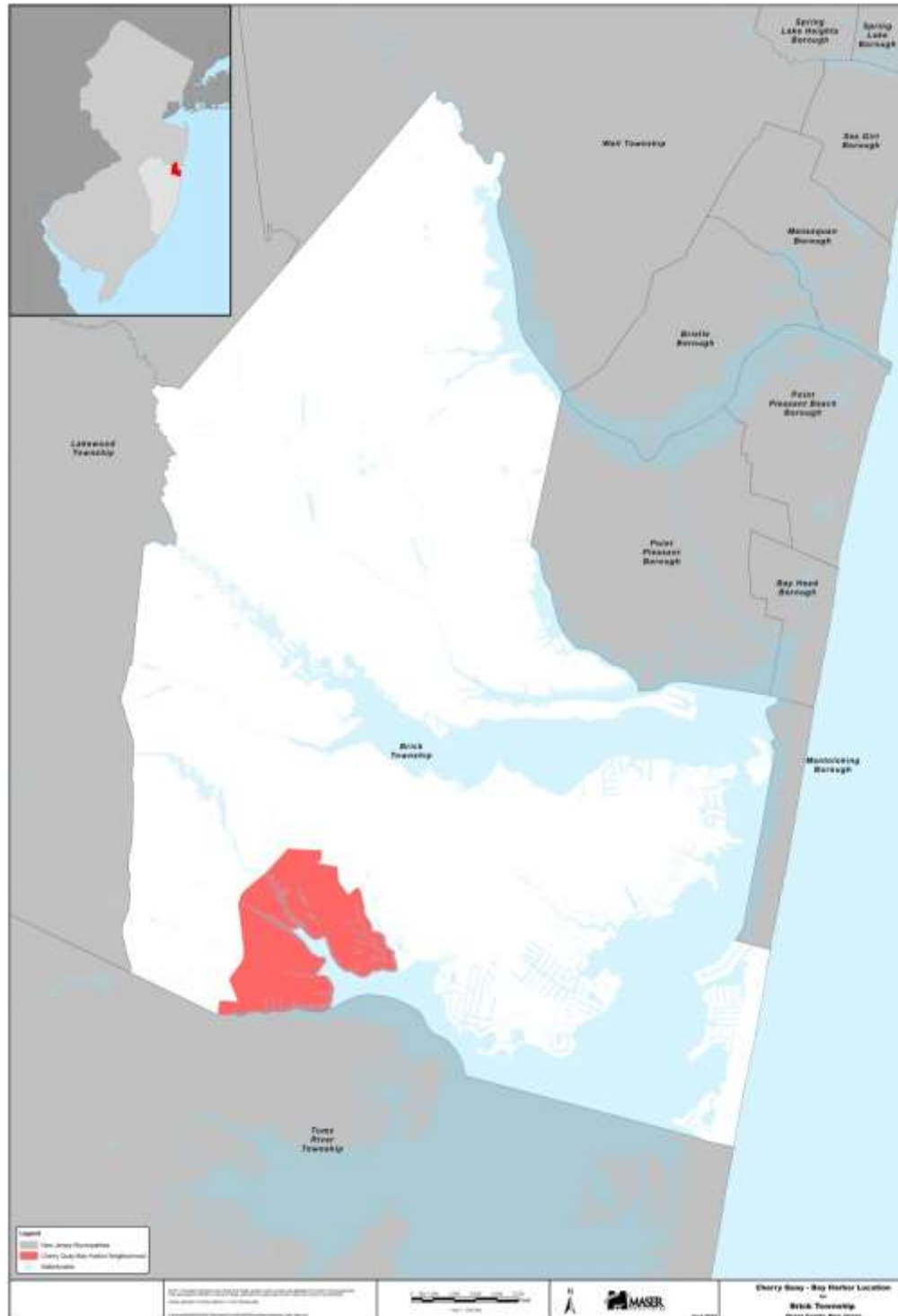
The neighborhood is unique compared to most others because it consists of sub-neighborhoods that are primarily defined by a number of natural peninsulas rather than man-made lagoons. Cherry Quay and Bay Harbor Estates both have some lagoons extending into the neighborhood, but they do not dominate the character of the neighborhood, nor are they nearly as extensive as some of the other neighborhoods.

This neighborhood is generally accessible via Hooper Avenue to the west, which runs from Drum Point Road to the north to Brick Boulevard to the south. However, only Silverton Pine Terrace and Seaview Village sub-neighborhoods are interconnected, while the others are, rather, separated by wetlands, creeks or tributaries, and separate access roads. Sailor's Quay condominiums are accessible via Sailor's Quay Drive and is the only private road in the neighborhood; Mallard Point via Tunes Brook Drive and Havens Drive; Seaview Village has a number of access roads, particularly A Street and F Street; Silverton Pine Terrace has several roads connecting to Hooper Avenue; and Bay Harbor Estates via Bay Harbor Boulevard, Queen Ann Road, and Alda Way. Cherry Quay is the only sub-neighborhood not directly accessible from Hooper Avenue, but rather via Cherry Quay Road off of Drum Point Road.



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Map 2: Location of the Cherry Quay-Bay Harbor neighborhood within Brick Township





Most of the sub-neighborhoods are connected by a network of sidewalks on the interior main connector roads and some secondary roads, and extending along much of Hooper Avenue, with the exception of Cherry Quay and Mallard Point. There are no existing bike lanes, trails, or shared streets and very few crosswalks connecting the neighborhoods to the main roads. Additionally, other than a few signs for Seaview Village and Sailors Quay, there is very little signage indicating the various sub-neighborhoods, their locations, or linking them together in any way. Although several of the sub-neighborhoods were planned communities, the overall area has developed in an ad hoc nature, as evidenced by the lack of connectivity, and has resulted in several sub-neighborhoods within the sub-neighborhoods, such as in Seaview Village and Sailors Quay.

Six sub-neighborhoods make up the area within Cherry Quay-Bay Harbor. Although Cherry Quay and Bay Harbor both specifically refer to individual sub-neighborhoods, the names are also used to describe the whole geographic area in between the two. From north to south, the six sub-neighborhoods include: Cherry Quay, Sailors Quay, Mallard Point, Silverton Pine Terrace, Seaview Village, and Bay Harbor Estates. These sub-neighborhoods represent a variety of homeowner, condominium, and neighborhood associations, as well as distinct physical and social geographies. On average, homes in Cherry Quay-Bay Harbor were built in 1977, which is the most recent in comparison to other Neighborhood Plan Areas in Brick Township.

In total, the neighborhood covers approximately 658 acres, or 1.02 square miles, of densely populated land in the designated area. Cherry Quay-Bay Harbor is entirely residential, although several large commercial business centers surround the neighborhood on Hooper Avenue and Drum Point Road. As of the 2010 U.S. Census, there were 2,328 housing units and a population of 5,180, resulting in 2,282.3 units per square mile and 5,078.4 persons per square mile¹. Cherry Quay-Bay Harbor is therefore the second smallest Brick neighborhood after the Barrier Island and is the most densely populated and developed of the Brick Neighborhood Plan Areas. The neighborhood experiences some additional population increase during the summer with part-time residents with second homes and renters.

Within the densely built neighborhood, there are several public recreational facilities and amenities, which include Cherry Quay Park, Mallard Point Park and beach, and the newly renovated Bay Harbor Park. Neighborhood associations also provide private recreational facilities, such as pools, marinas, and clubhouses, for members only. Existing and proposed natural conservation areas in and surrounding Cherry Quay-Bay Harbor offer additional open space for the public, including the Joe Pal Airport Property and adjacent wetlands. While open space provides pleasure and recreation for residents, it also allows natural ecosystems to flourish and helps to mitigate flooding.

Much of the neighborhood was built on former wetlands and, therefore, is very low to sea level and subject to habitual flooding. Although some of the coastline still has a buffer of wetlands, several areas within the neighborhood have become problematic where overbuilding and hard, impervious surfaces do

¹ U.S. Census Bureau, 2010.



not allow the underlying wetlands and natural estuarine cycles to function properly. Cherry Quay, in particular, suffers from a chronic flooding problem because development filled up the wetlands to the edge of the water, but left remnants of wetlands that do not have the ability to drain.

The neighborhood's location slightly more inland from Barnegat Bay and the barrier island is slightly sheltered from major storm events and flooding that outer neighborhoods experience. However, as was the case with Superstorm Sandy, rising flood levels and heavy rain can easily overflow the streams and marshes in the low-lying area. With the breach of the barrier island near the Mantoloking Bridge to the east, the water level in Barnegat Bay quickly rose as it filtered upstream from the ocean. Cherry Quay, which is the easternmost sub-neighborhood, has the most direct frontage on Kettle Creek and the largest lagoon network of the sub-neighborhoods, also had the greatest number of properties that experienced substantial damage, followed by Bay Harbor Estates.

Cherry Quay-Bay Harbor, like other neighborhoods, is still continuing to rebuild, as well as implement new adaptive and mitigation measures for future storms and sea level rise. Since the storm, some homes have either been demolished and rebuilt or renovated, and many homes have been raised to meet BFE requirements in order to qualify for flood insurance or FEMA grant money. Newer properties are more likely to already comply with these measures and generally experience less damage.

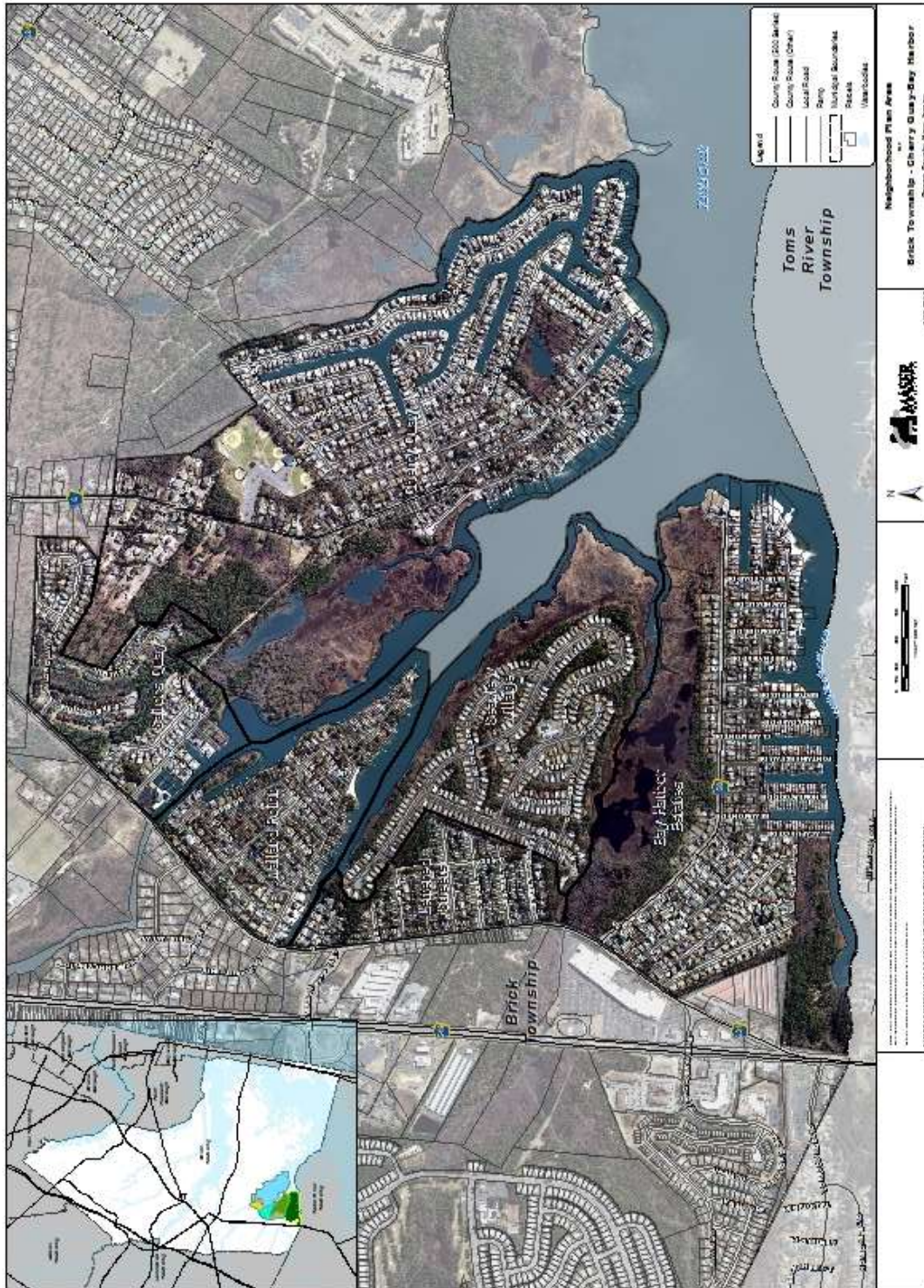
Drainage issues, impact on wetlands, low-lying/flood-prone properties, and a lack of connectivity could prove to be the biggest issues that this community is facing. The ability of these sub-neighborhoods to act together to improve infrastructure, connectivity, and storm preparedness, in addition to the actions that are taken by the surrounding communities, will have a direct impact on the community's future resiliency.

Map 3 below shows a close-up aerial image of the neighborhood, while all of the sub-neighborhoods are listed below in the Existing Conditions section and shown on Map 15.



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Map 3: Aerial Map of Cherry Quay-Bay Harbor Neighborhood Plan Area





Much of the neighborhood was built on former wetlands or marshes, which were dredged to create lagoons to allow private boat traffic and mooring for neighborhood residents, while the dredged silt was likely used to build up the land on which the homes and roads were placed. Cherry Quay and Bay Harbor sub-neighborhoods both have an extensive network of miles of man-made lagoons which meander into the interior of the neighborhood. Therefore, interior parts of the neighborhood are accessible by boat, but are also subject to habitual flooding due to its location on the water and being built on naturally absorbent wetlands.

Cherry Quay-Bay Harbor endured significant damage from flooding and wind during Superstorm Sandy in 2012, similar to other communities in this region. After the barrier island was breached near the Mantoloking Bridge directly to the east, the water level in Barnegat Bay quickly rose as it filtered inland from the ocean.

Many streets in this neighborhood are already prone to flooding, but were inundated when the marshes and storm drains could no longer absorb any more water. Nearly all of Cherry Quay-Bay Harbor was flooded by the storm surge. Therefore, the neighborhood is quite vulnerable to the effects of major storm events. Although most experienced moderate to severe damage, many homes were entirely destroyed.



Figure 1: Damage from Sandy (Claudio Foquina Photography, "Drowned by Hurricane Sandy" Nov. 2012, Google Maps)

PLAN INTEGRATION, COORDINATION, AND BUILDING BLOCK APPROACH

PLANNING COORDINATION AND PROCESS

This Neighborhood Plan is part of the larger initiative taken on by the Township of Brick to better integrate planning processes with community development, local decision-making, and hazard mitigation efforts. This effort included the concurrent development of a series of township-specific working documents that create a framework for reducing vulnerabilities to hazards, increasing safety, and limiting damages to both public and private property. Each plan leverages the findings and analysis of the other planning efforts and fulfills a unique component of a comprehensive approach to hazard mitigation and community resilience. The following documents were developed concurrently with cross-utilization of experts and stakeholders:

- Township of Brick Neighborhood Plans



- Township of Brick Master Plan: Hazard Mitigation Plan Element
- Township of Brick Floodplain Management Plan
- Township of Brick Repetitive Loss Area Analysis
- Township of Brick Capital Improvement Plan
- Township of Brick Master Plan: Green Buildings and Sustainability Element

The development of the Neighborhood Plan was led by the Township's Master Plan Sub-committee consisting of four members of the Planning Commission and supported by a public engagement process that included an open public meeting and presentation. As a result, this plan incorporates a wealth of local knowledge and ensures that recommendations align with the goals and preferences of the community.

The methodology and associated tasks incorporated into the development of the Neighborhood Plan Element are outlined below.

- Review of existing plans and studies, including but not limited to:
 - 2007 Township of Brick Master Plan, inclusive of all Master Plan elements
 - 2014 Township of Brick Strategic Recovery Planning Report
 - 2014 Township of Brick "Getting to Resilience" Recommendations Report
 - Ocean County Long Term Community Recovery Plan
- Existing conditions analysis to document trends and the current status of the community, including:
 - Population/Demographics
 - Land Use and Development
 - Regulations and Ordinances
- Public outreach and engagement efforts to incorporate local knowledge and values into the planning process. Public engagement included:
 - Open Houses
 - Meetings
 - Surveys
- Site visits and meetings with local officials.

NEIGHBORHOOD PLAN GOALS AND OBJECTIVES

The planning principles employed in this Neighborhood Plan are based on evaluations by the Township professional staff and interaction with Cherry Quay-Bay Harbor property owners through public meetings and surveys.

- To empower the Cherry Quay-Bay Harbor neighborhood, in partnership with the Township, to implement thoughtful, innovative, and resilient projects that will advance the visual and functional "branding" of Cherry Quay-Bay Harbor as a cohesive bayfront community.



- To provide practical and affordable recommendations to make Cherry Quay-Bay Harbor more resilient to future threats while improving quality of life, access to parks and open space and safety for pedestrians and bicyclists.
- To fully engage stakeholders about the impacts of climate change and to develop pathways to resilience based on sound science.
- To leverage investments to help the community implement the recommendations of this Neighborhood Plan.

PUBLIC OPINION

The Township provided several opportunities for the public to voice opinions, concerns, comments, and questions about the Neighborhood Plans throughout the course of the year-long planning process. Public meetings were held for each of the four Neighborhood Plan Areas, as well as with the Township Planning Board. Residents were also able to submit comments by e-mail or by hand to a Township official or Planning Board member.



PUBLIC PRESENTATION – JUNE 16, 2015

A combined open public meeting for the Cherry Quay-Bay Harbor neighborhood and Shore Acres neighborhood was held on June 16, 2015 at Drum Point Elementary School on Drum Point Road.

Township officials and consultants from Maser Consulting, P.A. and Tetra Tech, Inc. were present to share observations of the neighborhood conditions and impact from storm damage. Residents were invited to take part in discussion about the present state, existing conditions, storm damage, and ideas for the future of the neighborhood and wrote comments on poster boards. Below are the visuals created and distributed at this meeting:

Figure 2, Figure 3, and Figure 4 were poster boards that were presented with the intention of getting comments from residents as to their opinions on various design approaches, neighborhood threats, and parks and green spaces concepts. Figure 5 and Figure 6 were presented as visuals to give context and ideas for the comment sheets and boards that were also provided.



(1) Building Design Approaches				
		Context	Approach to Building Elevation	Like (green)/ Dislike (red) No Opinion (yellow)
				Cherry Quay – Bay Harbor Shore Acres
Plan View		Narrow Lots (25 to 50 ft. wide)	Skirting of pilings and conversion of space for parking	
			Recessed front entry to absorb part of the straight-run stairway into side yard	
			Street tree plantings with vase or columnar habit	
Street View		Larger Lots (50 ft to 100 feet wide)	Control over-building with regulation that limits Sq. Ft based on lot size	
			Control over-building by maintaining required setbacks between buildings	
			Use of stone or brick facing on elevated basements in excess of four feet above grade	
			Orientation of entry stairs parallel to the street rather than perpendicular	
			Limit size of garage space and encourage decks and porches	
			Encourage creative grading and landscaping to mask views under homes	
			Street tree plantings of trees with spreading habits	
			Control over-building with regulation that limits Sq. Ft based on lot size	
			Control overbuilding by maintaining required setbacks between buildings	

Figure 2: Building Design Approaches comment board presented at June 16, 2015 meeting

(2) Identification of Neighborhood Threats				
		Context	Description	Enhance Codes (green) Acquire/Provide Assistance (red) No Opinion (yellow)
				Cherry Quay – Bay Harbor Shore Acres
	Variant Buildings		Abandoned properties that or where property owners have not taken action	
	Variant Lots		Vacant lots within neighborhoods where the home was destroyed and demolished but where no further action has occurred and the lot has become an eyesore	
	Flood Prone Properties		Properties that have deteriorated or have become an eyesore in the neighborhood because they are prone to repetitive losses from periodic flooding	

Figure 3: Identification of Neighborhood Threats comment board presented at June 16, 2015 meeting



(3) Parks & Green Space - Flood Storage

Context	Description and Purpose	Agree (green) Disagree (red) No Opinion (yellow)	
		Cherry Quay – Bay Harbor	Shore Acres
	Use Salt Marsh for Stormwater Management		
	Allow parks to act as floodplain for riverine flood events (Kettle Creek)		
	Use Green Infrastructure (rain gardens, bioswales, rain barrels, etc.) to absorb stormwater		

Figure 4: Parks & Green Space – Flood Storage comment board presented at June 16, 2015 meeting

Neighborhood Visual Character – Elevated Homes

Changes in Visual Character:

1. Raised foundations
2. Rebuilds of larger homes
3. More drastic contrasts in height
4. Newer homes are larger and closer together.
5. & 6. Some rebuilds dwarf existing homes.

Design approaches :

7. Skirted pilings
8. Parking underneath w. terraced steps.
9. Split directional stairway











Figure 5: Neighborhood Visual Character – Elevated Homes poster board presented at June 16, 2015



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Figure 6: Visual Preferences – Parks & Open Space poster board presented at June 16, 2015 meeting

A draft version of the Cherry Quay-Bay Harbor Neighborhood Plan was presented on March 30, 2016 during a previously publicized meeting to members of the public, the Planning Board, and Township staff. The consultants received feedback during the meeting and via personal correspondence that was addressed and some of which was incorporated into the final version of this Plan.

NOTES FROM THE CHERRY QUAY-BAY HARBOR PUBLIC MEETING – JUNE 16, 2015

Comments during the meeting at Drum Point Elementary School on June 16, 2015 were synthesized and can be found in Appendix I. These comments have helped to inform the Neighborhood Plan below.

In general, residents expressed an affinity for their neighborhood communities and location. Everyone also expressed dismay about consistent flooding problems and that they would like to see something done to protect their properties. However, some people had conceded that this would continue to be the case and have adapted their strategies and expectations.

A few attendees said that most of the houses are rarely flooded, but the roads are known to flood and cut off access to certain low-lying parts of the neighborhood near Barnegat Bay. Additionally, there was a general consensus by residents that the storm drains and catch basins were a primary cause of the flooding issues, although the breaching of the Barrier Island was blamed for the major, unprecedented flooding that occurred during Superstorm Sandy. It was generally agreed upon by these residents that



something needed to be done to fix the Barrier Island area in order to help protect the Cherry Quay-Bay Harbor neighborhood.

- Pond in Cherry Quay consistently floods – no drainage out of the pond except to streets.
- Storm drains used to have bevels (?) so water would go out drains and not back in through them – not there anymore.
- Houses sitting empty for years – damaged badly and moldy – health and safety hazard to the whole neighborhood. Need to do something about it at some point soon, whether it's the owner or the Township

PUBLIC PRESENTATION – MARCH 30, 2016

A presentation of the draft mainland Neighborhood Plans, including Cherry Quay-Bay Harbor, Princeton-Midstreams, and Shore Acres, was made to the public on March 30, 2016 at the Brick Township Town Hall courtroom and coordinated by the Township. The intention of the meeting was to present the purpose, findings, and action plan in the Neighborhood Plan and to receive additional feedback prior to adoption of the Plan by the Township Council. Members of the public had an opportunity to make comments and ask questions at the end of the presentation, write on comment sheets, or send comments via email. The comments can be found in Appendix II.

NEIGHBORHOOD HISTORY

The development of Cherry Quay-Bay Harbor is somewhat indicative of changes in regional and national growth, as well as a mix of other factors. Although these external historical factors cannot be fully comprehended, the history of the neighborhood can be visualized and explained at the neighborhood level using a series of historic aerial photographs that were obtained from online sources, such as www.historicaerials.com and Google Maps. The aerial photographs have been analyzed to determine changes that took place within the Neighborhood Plan Area over the course of the past century. The first available photography dates from 1931 in intervals of roughly 5 to 10 years through 2013.

Based on the first aerial image from the year 1931, very little would have occurred prior to that year that would be critical for the development of this Plan, except the natural topography and vegetation. Prior to development, Cherry Quay-Bay Harbor likely resembled a cross between the forested area of the Township Open Space Plan Area, the wetlands area of Swan Point State Natural Area/Forsythe National Wildlife Refuge that exists today in Metedeconk Neck along the Metedeconk River, and Cattus Island in Toms River Township. These are protected natural areas and parks that would have had similar features, although Cherry Quay is unique in its geographic form and is slightly more protected from flooding and wave action in the ocean and Bay.



Figure 7: Example of how Cherry Quay-Bay Harbor may have looked before development – Cattus Island (William Hall, Sept. 26, 2013)

According to the aerials, the subject neighborhood has altered drastically since at least the year 1931. Similar to the other regional neighborhoods, Cherry Quay-Bay Harbor remained mostly in a state of undisturbed natural wetlands until the mid-twentieth century, and then developed rapidly, seemingly all at once.

Each of the sub-neighborhoods began to be developed around the same period, beginning between 1940 and 1953. However, the first major neighborhood road appeared in Cherry Quay by 1940 and Mallard Point, Bay Harbor Estates, and Cherry Quay were built earliest and the most rapidly. These three sub-neighborhoods had nearly filled out by 1972,

while Sailor's Quay and Silverton Pine Terrace/Seaview Village remained fairly stagnant for a long period of time. A second growth spurt occurred between the late 1980s and 2000, when the remaining parts of the neighborhood were developed to approximately its current state. The neighborhood has generally remained the same since the addition of Sailor's Quay in 2002, with the exception of major damage caused by Superstorm Sandy in 2012 and the subsequent rebuilding.



Overall, the entire neighborhood displaced hundreds of acres of wetlands and forest. Although the surrounding wetlands were drastically altered since their natural condition in 1931, the remaining wetlands have existed relatively untouched since mid-century. As a result of the proximity to the beaches, the type of sprawling development that characterized much of the mid- to late-twentieth century, and to some degree, the rise of the leisure class and increase in retirees Cherry Quay-Bay Harbor and Shore Acres experienced similar development patterns, which generally began and ended around the same time period. As majority year-round residential neighborhoods, Cherry Quay-Bay Harbor and Shore Acres began to develop large subdivisions of homes much more rapidly than neighborhoods on the Barrier Island, but also continued to fill in lots much later due to a greater extent of open space.

The development of the neighborhood can be traced through the series of images below, which show the neighborhood outlined in red, with the sub-neighborhoods outlined in black.



Map 4: 1931 Historic Aerial (www.historicaerials.com)

In 1931 ([Map 4](#)), the Cherry Quay-Bay Harbor neighborhood of Brick Township appeared very differently from the way that it appears today. Most of the study area was still in a very natural condition, with the exception of a few unpaved roads and possibly a few homes or farms in the northeast section north of Cherry Quay, called Osbornville. In fact, what would become Cherry Quay Road/Bark Road/Port Road was a dirt road that extended all the way to the end of Cherry Quay to a small beach where Cherry Quay Beach exists today.

Large expanses of undisturbed marshland followed the entire perimeter of the neighborhood extending inland for over a half-mile. The southern part of Cherry Quay alone, as highlighted in green in Figure 8,



included over 40 acres of wetlands in 1931, which have been removed almost entirely. With development already surrounding the area in other neighborhoods, this imagery indicates that the land may have been too unstable and flood-prone to build farms or communities at the time.



Figure 8: 40+ acres of wetlands in southern Cherry Quay in 1931 (left) and 2013 (right) (www.historicaerials.com)

Additionally, while most of the neighborhood was still completely untouched in 1931, a faintly outlined street grid appears in Silverton Pine Terrace. Although they were only paper streets at the time, they would eventually be built in the same layout, but it would not be until at least 1986 that any development occurred.



Figure 9: Silverton Pine Terrace & Seaview Village in 1931 (left), 1953 (center), 1986 (right) (www.historicaerials.com)

Nearly a decade later, in 1940 (Map 5), most of the Cherry Quay-Bay Harbor neighborhood was still undeveloped. By contrast, Shore Acres, Princeton-Midstreams, and parts of the Brick Barrier Island had already experienced some growth and had distinct communities. The only noticeable change was the paving of Cherry Quay Road and a few additional homes. The nearby Osbornville neighborhood to the north and Toms River (then Dover Township) to the south was largely rural and agricultural.



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Map 5: 1940 Historic Aerial (www.historicaerials.com)



Map 6: 1953 Historic Aerial (www.historicaerials.com)



By 1953 (Map 6), the majority of the wetlands still remained, but, as in Shore Acres, it is evident that development was encroaching closer from all around. At this point, at least some initial development could be seen in each of the sub-neighborhoods. The street grids in Silverton Pine Terrace, Mallard Point, and Bay Harbor Estates were the most prominent features, although very few homes were built yet. The first man-made lagoon in the neighborhood was built at this time at the eastern end of Bay Harbor. Additional disturbance is visible in Cherry Quay and Sailor's Quay, as well. These seemingly sudden changes within the neighborhood were concurrent with the development of Brick Boulevard to the west, which was a major thoroughfare for the time.

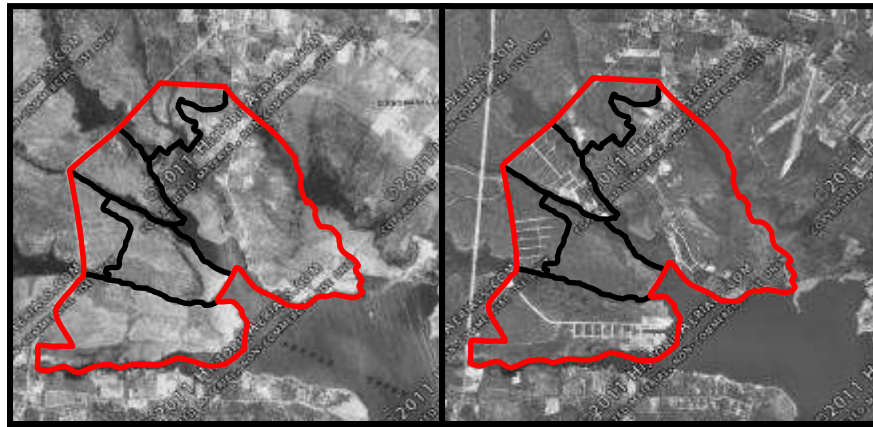
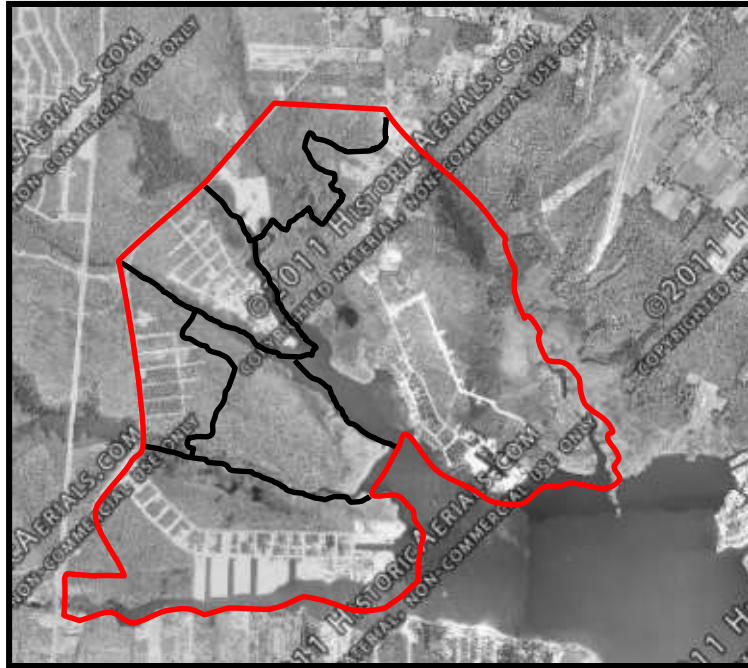


Figure 10: Comparison of Cherry Quay-Bay Harbor in 1931 & 1953 (www.historicaerials.com)



Map 7: 1956 Historic Aerial (www.historicaerials.com)

The tributary neighborhood continued its transformation between 1953 and 1956 (Map 7), although much more sluggishly than other neighborhoods in the region, which can be seen around the outer boundaries. However, of note within those three years are the addition of four lagoons in southern Bay Harbor, one in southwest Cherry Quay, and one in Sailor's Quay. The dredged materials from the lagoons were then used to fill in and stabilize the surrounding wetlands for roads and development. Club House Road in Cherry Quay, which ran parallel to Cherry Quay Road, was one such road that was built during this time and serves as an artery through the neighborhood.

In that same year, the Federal Aid Highway Act of 1956 was passed, also known as the National Interstate and Defense Highways Act (Public Law 84-27), which authorized the interstate highways to be built around the country. While this did not have a direct impact on any of the Neighborhood Plan Areas, it did help to spur on unprecedented suburban growth around the nation in places such as Brick Township. Therefore, development was evidently expedited in the years to follow.



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Map 8: 1963 Historic Aerial (www.historicaerials.com)

Analogous to other Brick neighborhoods, Cherry Quay-Bay Harbor was becoming almost unrecognizable by 1963 (Map 8) from its original state and continued its rapid expansion. The lagoons, while they resembled the narrow streams that once wound through the marshes, have completely transformed the coastline and allowed for unrestricted boat access through the critical habitat.

The lagoons in the eastern part of Cherry Quay and the southern part of Bay Harbor were nearly completed to their fullest extent virtually all at once, within the eight year period. The street grid in Mallard Point was nearly complete, as well, but still had undeveloped blocks. It was also evident that a lagoon and a new road were intended for the northern part of Mallard Point; however, that effort was clearly abandoned, at least by the mid-1970s.



Figure 11: Formation and stagnation of lagoon development in Mallard Point (Left: 1956; center: 1963; right: 1986)
(www.historicaerials.com)

By 1972 (Map 9), new development was actually speeding up, whereas it had slowed throughout most of the other lagoon and Bay neighborhoods. Homes in Cherry Quay and Mallard Point occupied the street grids in a high density close to their full extent. On the other hand, the Seaview Village peninsula remained nearly empty, with the exception of a few homes on the original Silverton Pine Terrace street grid. Sailor's Quay had only one street with a few homes. Except for retaining the same general form, much of the wetlands on which the neighborhood was built – the major natural system that sustained the delicate balance of the area – were compromised almost beyond recovery. Instead, they were quickly being replaced by new streets, subdivisions of single-family homes and lawns, and man-made lagoons built up with retaining walls.



Map 9: 1972 Historic Aerial (www.historicaerials.com)



Figure 12: Comparison of 1953 aerial (left) and 1972 aerial (right) (www.historicaerials.com)

Along with the development in Cherry Quay, a large remnant drainage basin was created in the center of the neighborhood as streets and homes filled in the area around it, but were unable to build over the standing water. However, it is evident that some attempt to fill the natural wetlands basin was made between 1970 and 1972 to a partial extent, as demonstrated in Figure 13.



Figure 13: Attempted filling of drainage basin (Left: 1953; center: 1972; right: 1986) (www.historicaerials.com)

Additionally, the surrounding wetlands along the waterways of the neighborhood continued to deteriorate as development accelerated, leaving the shoreline more accessible, but also exposed and exacerbating the vulnerability to flooding. As shown below, a small island near Sailor's Quay disappeared completely within thirty years, due to a combination of dredging and erosion.



Figure 14: Deterioration of wetlands and island near Sailor's Quay (Left: 1940; Center: 1963; Right: 1972)
(www.historicaerials.com)



Map 10: 1986 Historic Aerial (www.historicaerials.com)

By 1977, the waterfront development would become more restricted and wetlands would stop deteriorating as rapidly. In fact, all of the wetlands would remain untouched by development by law, following the 1977 Clean Water Act, Section 404: Protection of Wetlands Executive Order No. 11990 by the United States Environmental Protection Agency. In 1986 (Map 10), the neighborhood had filled in much more, particularly in the interior sections. Typical of suburban development of the era within the region, the winding tree-lined streets, attempting to mimic a pastoral village, in Seaview Village Association had also been built and filled with homes. The development of the Seaview Village



Association neighborhood occurred within less than a decade and eclipsed the development in Silverton Pine Terrace, which still had remained mostly untouched since 1953.



Figure 15: Comparison of Seaview Village and Silverton Pine Terrace in 1972 (left) and 1986 (right)

The Cherry Quay-Bay Harbor neighborhood as a whole was built-out to its current extent and essentially at maximum capacity by 1995 due wetlands and conservation area constraints to curb over-development (Map 11). Sailor's Quay was the final neighborhood to develop in the early 1990s and the streets in Silverton Pine Terrace finally filled in, as well. However, because the private development in Seaview Village occurred first, the streets did not connect to the street grid.



Map 11: 1995 Historic Aerial (www.historicaerials.com)



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Map 12: 2002 Historic Aerial (www.historicaerials.com)

By 2002 (Map 12) the sub-neighborhoods were complete and the physical layout of the neighborhood remained largely the same from then on. The sub-neighborhoods were well-established and continued to mature, with the exception of some individual homes that may have been knocked down and replaced. The 2007 aerial (Map 13) and 2013 aerial (Map 14) illustrate the continuity.



Map 13: 2007 Historic Aerial (www.historicaerials.com)



Map 14: 2013 Historic Aerial (www.historicaerials.com)

Similarly to its neighbors, the tributary neighborhood changed dramatically between the early 1930s and the present. The Brick neighborhood began to develop between 1940 and 1953, but accelerated around 1963 to generally occupy the footprint of land that exists today, and continued to fill in until approximately 1995. The period between 1953 and 1986 saw the most profound structural and ecological transformation in the neighborhood and was the period in which most of the subdivisions, street network, and lagoons were created. While not all of the natural space had yet been developed, development trends in other areas signified a major shift that it could ultimately become that way. However, many of the wetlands in the neighborhood were either unbuildable or already protected by the time that development was accelerating. Due to constraints on available land along the waterfront, development began to densify in the inland sections until the early 2000s. Although homes have historically been small structures on small, single-family lots, they have continued to increase in size while simultaneously occupying smaller lots to accommodate more growth. Overall, the neighborhood appears generally the same as it did in 2002, with the exception of damage from Superstorm Sandy.



Figure 16: Changes to wetlands in Bay Harbor and Seaview Village in 1940, 1953, 1956, 1972, 1986, and 2013 (from left to right, top to bottom) (www.historicaerials.com)

In addition to the changes to wetlands and development coverage, the historic aerials also indicate the substantial damage from Superstorm Sandy. The 2007 aerial image was taken only five years prior to the storm and 2013 was less than one year after the storm. Despite being taken one year later, the extent of the damage is still evident as much of the recovery process did not take place until 2013 or later due to the timing and magnitude of the storm. The aerial images demonstrate the ferocity of the storm by the number of homes were either destroyed, removed, are missing roofs or docks, or have been rebuilt. This is particularly true for properties along Kettle Creek and the lagoons where the storm surge and winds caused flooding and inflicted the most damage upon the community.

Unlike the Barrier Island sub-neighborhoods, the Cherry Quay-Bay Harbor sub-neighborhoods are very distinguishable on an aerial map due to their distinctive geographies and the surrounding waterways, as well as variety of development typologies. This Plan attempts to address both the similarities and differences in issues of each sub-neighborhood on the ground level, while making the identity and connectivity of the entire Brick neighborhood seamless.



EXISTING CONDITIONS ANALYSIS

The initial assessment for the Neighborhood Plan involved several site visits of the area with local representatives and an analysis of the information gathered by Township Planners, investigations, historic documents, and U.S. Census and American Community Survey data. From this baseline information, the following facts and observations were identified:

NEIGHBORHOOD PROFILE

The Cherry Quay-Bay Harbor neighborhood encompasses a total of 658 acres, or nearly 1.02 square miles of land on four different estuarine sub-peninsulas located on the mainland of Brick Township. The peninsulas are surrounded by water and wetlands that drain into Kettle Creek to the east and eventually into Barnegat Bay and the Atlantic Ocean. The neighborhood is due west of Shore Acres and the barrier island. The drop in elevation between the mainland and the barrier island creates Barnegat Bay and the Intracoastal Waterway, which extends along the eastern coast of the United States and protects the mainland from the ocean.

With access to the rivers and bay from nearly every point within the neighborhood, and proximity to the Brick beaches via the Mantoloking Bridge, nature preserves, and to major retail centers, the neighborhood sits at a strategic location that has attracted both year-round and seasonal residents over the past half-century. This location provides residents with plentiful housing, recreational, educational, and economic opportunities.

Although the neighborhood is densely developed, there are a few remaining ecologically diverse areas interspersed throughout. Most homes sit on properties between 5,000 and 7,500 square feet, but including all undeveloped/conservation areas, there are approximately 2.4 housing units per acre (1,524 per square mile) and 5.3 persons per acre (3,360 per square mile). However, the protected wetlands and waterways leave little practical or permitted space for expansion of the highly populated neighborhood, with the exception of rebuilding existing lots.

The tributaries throughout the neighborhood have isolated the communities on the sub-peninsulas. Hooper Avenue, which runs north to south on the western border, is the only major road that provides vehicular access for four of the sub-neighborhoods, while Drum Point Road runs east to west in the north and meets Hooper Avenue and Brick Boulevard. Cherry Quay Road, Bay Harbor Boulevard, Queen Ann Road, A Street, F Street, Tunes Brook Road, Havens Drive, Pleasant Drive, and Sailors Quay Drive are some of the secondary roads that connect the sub-neighborhoods on the peninsulas to the major roads.

SUB-NEIGHBORHOODS

The Cherry Quay-Bay Harbor Neighborhood Plan Area is separated from Shore Acres and other Brick neighborhoods by rivers, and areas of natural, undeveloped wetlands. The neighborhood itself is divided into six distinct areas, in part due to the waterways and undevelopable wetlands in between them, as well as various neighborhood associations and development typologies. There are six resultant “sub-neighborhoods”, which include: Cherry Quay, Sailor’s Quay, Mallard Point, Seaview Village, Silverton Pine Terrace, and Bay Harbor Estates.

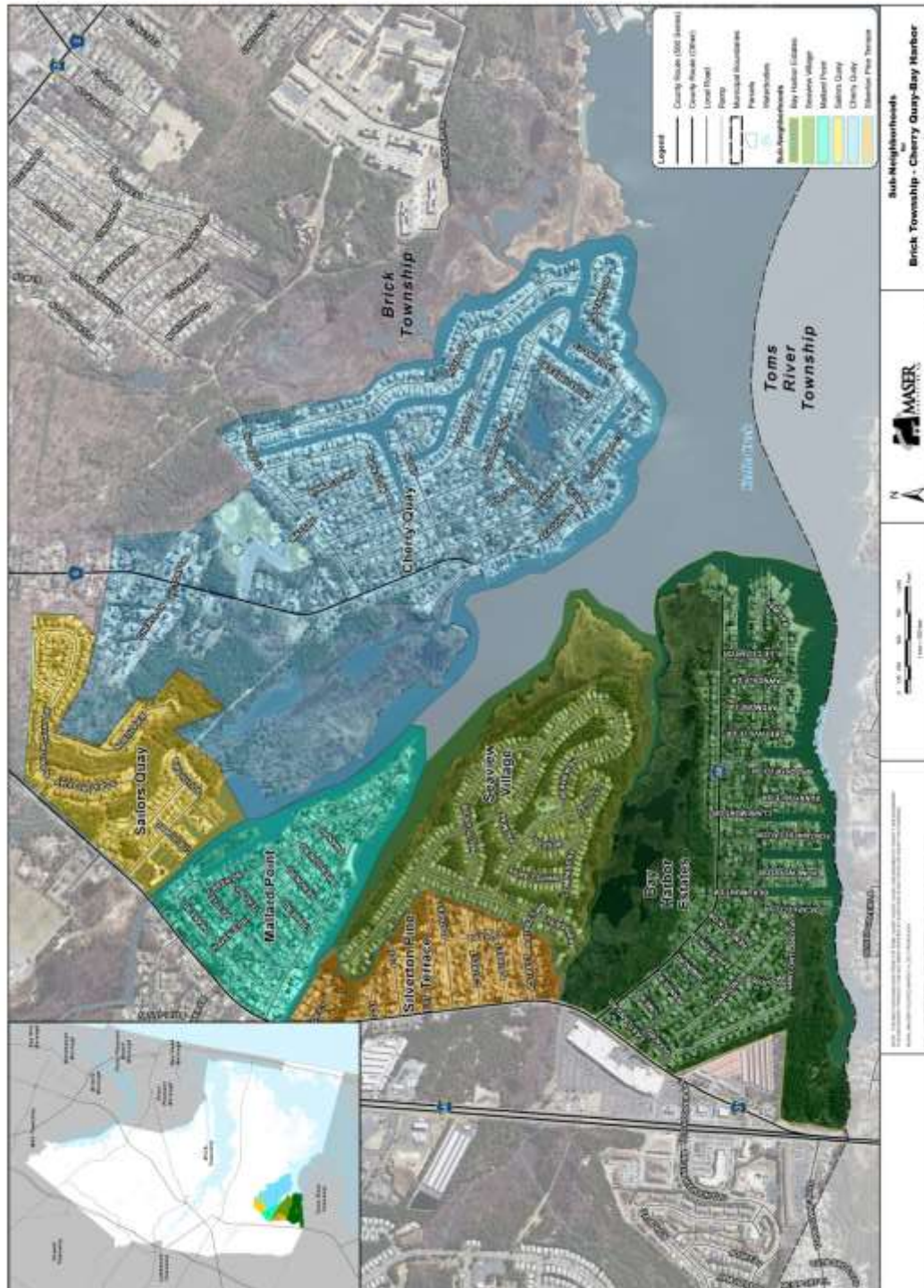
Some of these sub-neighborhoods self-identify as homeowners, condominium, or neighborhood associations. However, there are some areas of the neighborhood that are not officially designated or do not belong to a specified association. Furthermore, there are various typologies within pockets of each sub-neighborhood. The boundary lines of the sub-neighborhoods and the overall neighborhood are estimated based on the delineation of development and guidance from Township officials. The sub-neighborhoods are listed in the sidebar as they are shown on Map 15 below.

Cherry Quay-Bay Harbor Sub-Neighborhoods
Cherry Quay
Sailor’s Quay
Mallard Point
Seaview Village
Silverton Pine Terrace
Bay Harbor Estates



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Map 15: Cherry Quay-Bay Harbor Sub-Neighborhoods





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BAY HARBOR ESTATES

Bay Harbor, along with Cherry Quay is one of the oldest of the sub-neighborhoods in the Cherry Quay-Bay Harbor Neighborhood.



Figure 17: Aerial of eastern portion of Bay Harbor (Google Maps)



Figure 18: Aerial of western portion of Bay Harbor (Google Maps)

Despite the density, half of the sub-neighborhood area contains protected wetlands, which bound the developed area to the north and southwest. Bay Harbor is entirely residential with single-family homes, although Bay Harbor Park is a public park at the end of the peninsula on Bay Way. A large-scale shopping plaza and a storage center lie adjacent to the sub-neighborhood to the west along Hooper Avenue and Brick Boulevard. Bay Harbor lies directly across the South Branch Kettle Creek from Toms River Township.

CHERRY QUAY

Cherry Quay is one of the oldest and most recognized developments in the neighborhood. It is also the largest sub-neighborhood by area and population and consists of the most extensive network of lagoons in Cherry Quay-Bay Harbor. The sub-neighborhood is located in the northeastern portion of the neighborhood and sits on the north side of Kettle Creek where several tributaries converge. Although the sub-neighborhood occupies a sub-peninsula that was formerly wetlands, it now resembles many other developed lagoon neighborhoods in the region with little trace of its natural history.



Figure 19: Lagoon neighborhood, south Cherry Quay (Google Maps)



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The sub-neighborhood extends approximately from Cherry Quay Park on Cherry Quay Road to the north, to Kettle Creek to the south and west, and shares a border with the Joe Pal Airport Tract property and Shore Acres to the east. Another wetlands conservation area, part of the Edwin B. Forsythe National Wildlife Refuge, and a lack of connecting roads, separates it from Sailor's Quay and Mallard Point. Cherry Quay is only accessible by vehicle from Cherry Quay Road to the north, by pedestrian/bike paths through the adjacent conservation areas, or by boat. Despite being the most expansive sub-neighborhood, Cherry Quay is also currently the most isolated from the other sub-neighborhoods.



Figure 20: Inland neighborhood, north Cherry Quay
(Google Maps)

Cherry Quay is the most densely developed and populated sub-neighborhood. The land use is almost entirely residential, with the exception of a park and conservation lands. Due to its low-lying coastal location on former wetlands, and its infiltrating lagoon network, the sub-neighborhood is highly prone to flooding and experienced the most damage from Superstorm Sandy.

SILVERTON PINE TERRACE

Despite being immediately adjacent and providing access to Seaview Village, the Silverton Pine Terrace neighborhood is not considered part of the Seaview Village Neighborhood Association. B Street, C Street, D Street, and Bass Road are the only roads in the neighborhood that are internally connected by the street grid.

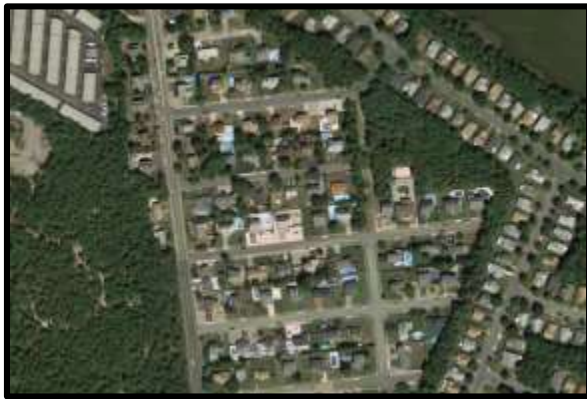


Figure 21: Aerial of Silverton Pine Terrace

Before it was Silverton Pine Terrace, the sub-neighborhood had some of the first streets that were built in the entirety of Cherry Quay-Bay Harbor, yet were some of the last to be developed with homes. In fact, Seaview Village was intentionally built around, but disconnected from, Silverton Pine Terrace. Aerial images, such as that in Figure 21 provide evidence of the incomplete network of streets, which would have

formed a neat, oblong grid. The neighborhood is entirely residential, although surrounded by conservation lands and in close proximity to commercial businesses.

SAILOR'S QUAY

Sailor's Quay is the smallest of the sub-neighborhoods and consists of two separate communities. The sub-neighborhood is named for the private condominium and single-family housing development on Sailors Quay Drive off of Hooper Avenue at the northern extent of the Cherry Quay-Bay Harbor neighborhood. Sailor's Quay was built in the early- to mid-1990s – one of the last developments to occur in the neighborhood.



Figure 22: North End of Sailor's Quay Sub-Neighborhood



Figure 23: Waterfront portion of Sailor's Quay Sub-Neighborhood

Immediately to the south, but disconnected from Sailor's Quay is a small community on Pleasant Drive off of Hooper Avenue, which occupies public roads. This small community of single-family homes began developing in the mid-1950s, although very slowly. There are two small lagoons and a marina on the North Branch of Kettle Creek, as well as forest, wetlands, and another small creek separating the sub-neighborhood.

MALLARD POINT

Mallard Point was developed before Seaview Village and Sailor's Quay, but built out sometime concurrently with Cherry Quay and Bay Harbor. It has some of the oldest homes in the Neighborhood and is densely populated in a traditional oblong street grid pattern. The peninsula is situated at the northern end of Kettle Creek between Seaview Village to the south and Sailor's Quay to the north.

Although Mallard Point does not have a neighborhood association, there is a Neighborhood Watch program, which is indicated on signs on several streets.



Figure 24: Aerial view of Mallard Point Sub-Neighborhood

SEAVIEW VILLAGE

Seaview Village was one of the most recently constructed sub-neighborhoods, emerging after Cherry Quay, Bay Harbor and Mallard Point, but before Sailor's Quay. Although it is adjacent to and accessible by A Street and G Street, Seaview Village is a separate neighborhood than Silverton Pine Terrace neighborhood. The two are differentiated by their street grids, whereas Seaview Village is of a loop and cul-de-sac typology and Silverton Pine Terrace occupies a more traditional city street grid.



Figure 25: Aerial of Eastern Seaview Village

Additionally, the homes in Seaview Village are represented by the Seaview Village Neighborhood Association. The neighborhood is therefore semi-private, although the streets are public.

DEMOGRAPHICS

According to the 2010 U.S. Census, Cherry Quay-Bay Harbor had an approximate population of 5,180 and, therefore, a population density of 5,078.4 persons per square mile². Based on the 2010 population, Cherry Quay-Bay Harbor was the most densely populated of the four Brick Township Neighborhood Plan Areas. However, the census data that was used includes some population outside of the immediate neighborhoods due to census boundaries.

Brick Township as a whole has also been losing some population. Each decade since 1950 through 2000 saw between 10,000 and 20,000 people added to the total population. After rapidly increasing in population for half a century, it began to plateau in 2000 at 76,119. Only another couple thousand people were added to the population by 2000, and by the following year the population lost over 3,000 people. The cause of the sudden decrease in population has not been determined. Since then, the population has stabilized and hovers slightly above 75,000 (see Figure 26). The population density of Brick Township in 2000-2005 was estimated to be 2,979 persons per square mile, according to the Township of Brick 2007 Master Plan³, slightly greater than that of Cherry Quay-Bay Harbor

² U.S. Census Bureau, 2010. Block Group 2, Census Tract 7141; Block Group 1 & 4, Census Tract 7142.

³ Township of Brick, Division of Land Use and Planning. "Township of Brick Master Plan". June 6, 2007.

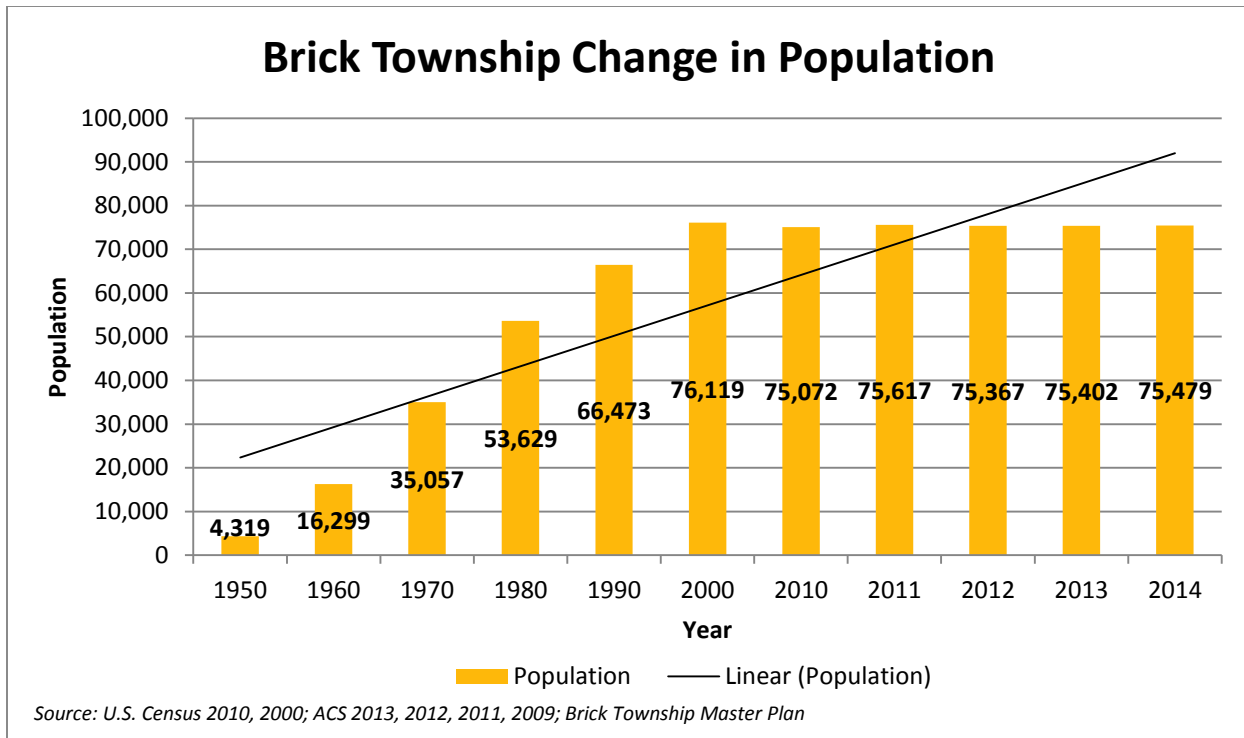


Figure 26: Brick Township, Change in Population 1950-2000

Of the population that lives in the Cherry Quay-Bay Harbor neighborhood, the median age for both sexes was 41 years in 2010 – over 4 years younger than in Shore Acres, 7 years younger than Princeton-Midstreams, and 21 years younger than that of the Barrier Island neighborhood, thereby making it the youngest of the four neighborhoods⁴. The population is fairly equally distributed between ten-year age brackets, although populations between the ages of 60-69 (12.5%), 40-49 (15.3%), and 50-59 (16.1%) are slightly higher respectively. 43.6 percent of the population is under 40 years old, while 56.4 percent is over 40 years old and 25 percent is 60 years or older.

⁴ U.S. Census, 2010. U.S. Census Bureau. Block Group 2, Census Tract 7141; Block Group 1 & 4, Census Tract 7142.

Cherry Quay-Bay Harbor Age Profile

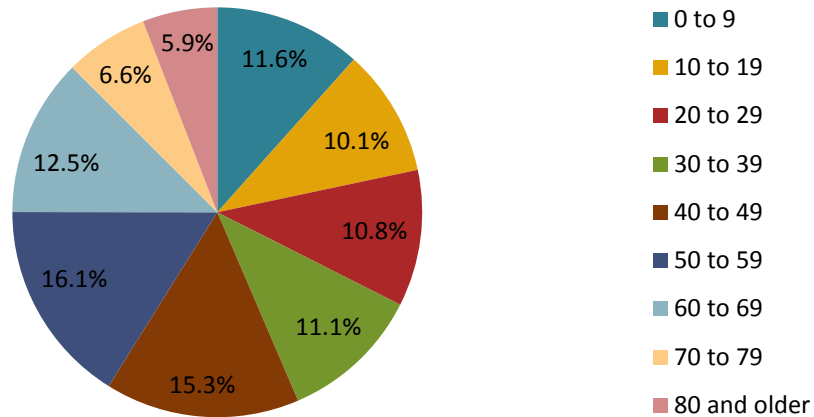


Figure 27: Percentage of Total Neighborhood Population by Age (2010)

Out of the total Cherry Quay-Bay Harbor population in 2010, 2,495 were male (48.0%) and 2,685 were female (52.0%), which is in line with most neighborhoods where females are slightly more prevalent. Additionally, 4,894 people (88.7%) identified as White alone (not Hispanic or Latino/a); whereas 81 people (1.5%) identified as Black or African American; 3 people (0.1%) identified as American Indian and Alaskan; 65 people (1.2%) identified as Asian; and 338 (6.1%) identified as Hispanic or Latino/a (of any origin). Additionally, 74 people (1.3%) are of two or more races and “Other Races” represent 1.1 percent or 63 persons. This data indicates a highly racially homogenous neighborhood population, although it is one of the most diverse of the four Brick Neighborhood Plan Areas.

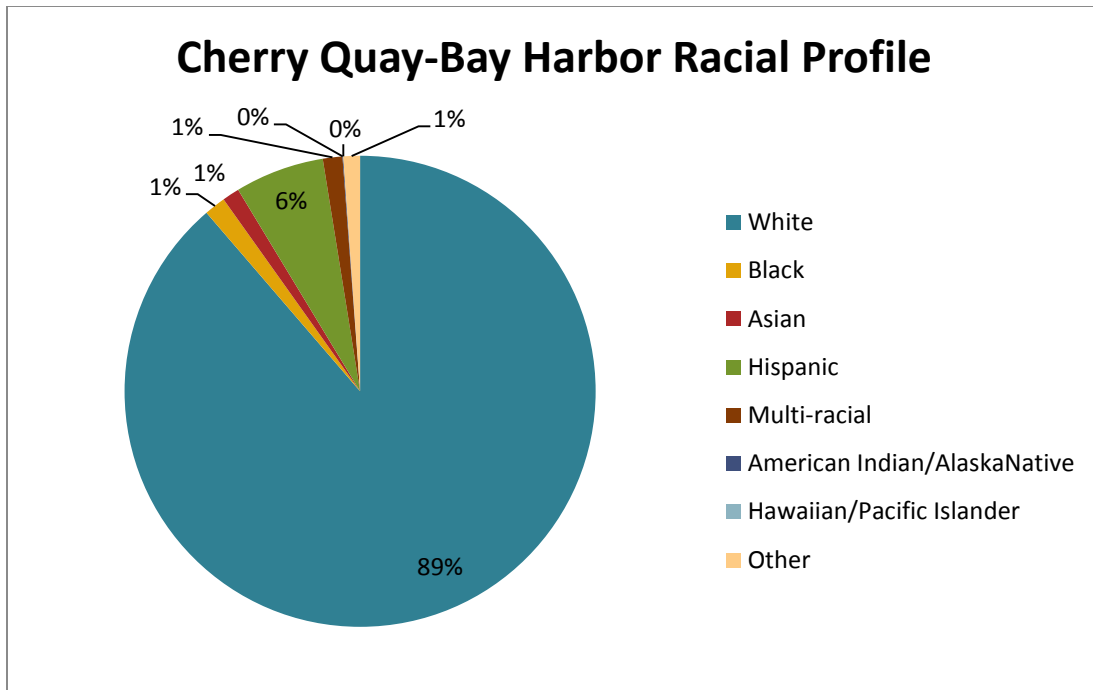


Figure 28: Percentage of Total Neighborhood Population by Race (U.S. Census, 2010)

HOUSING

As of 2010, there were approximately 2,328 housing units in the Cherry Quay-Bay Harbor neighborhood⁵, equating to 1,187.8 units per square mile, including some additional area slightly outside of the neighborhood but within the same Census Block Groups. Of those units, 2,047 (87.9%) were occupied housing units, while 281 (12.1%) were vacant, many of which may have represented units for seasonal or recreation use or rentals. Out of the occupied units, 1,760 (86.0%) were owner-occupied and 287 (14.0%) were renter-occupied. The average household size was 3.05 persons per unit.

The median value of the 1,760 owner-occupied units in Cherry Quay-Bay Harbor rose from \$159,100 (\$218,726.46 adjusted for inflation) in 2000 to \$285,500 in 2014. The greatest increase in value occurred in Tract 7142, Block 1 (Cherry Quay) where the highest valued properties are located, which rose over \$100,000; whereas properties in Mallard Point and Sailor's Quay increased in median value by approximately \$67,000; and Seaview Village, Silverton Pine Terrace, and Bay Harbor Estates increased approximately \$60,000. It is unclear what the median value was before Superstorm Sandy, but overall home values have increase in the past fifteen years.

The average year for homes built in this neighborhood is 1977, or about 38 years of age, although some were built long before or afterward from oldest to newest, Mallard Point averages 1970, Bay Harbor

⁵ U.S. Census 2010, U.S. Census Bureau



Estates averages 1973, Cherry Quay averages 1976, Seaview Village (including Silverton Pine Terrace) averages 1984, and Sailors Quay 1991. Although Silverton Pine Terrace was mostly built after Seaview Village, they were included together in the average year built due to the data that was available. The neighborhood typologies and housing reflect the eras in which they were built, as they become progressively less dense throughout the years and change from grid streets to lagoons to cul-de-sacs.

Table 1: Average Year Built of Structures by Sub-Neighborhood

Sub-Neighborhood	Avg. Year Built
Bay Harbor Estates	1973
Cherry Quay	1976
Silverton Pine Terrace	1985
Mallard Point	1970
Sailor's Quay	1991
Seaview Village	1984
Cherry Quay-Bay Harbor (Total)	1977

IMPACT OF SUPERSTORM SANDY

On October 29, 2012, Superstorm Sandy hit the New Jersey shore. A State of Emergency was declared for the entire State and destruction from the storm was witnessed as far inland as central Pennsylvania. Coastal flooding, wave action, and heavy wind caused the most severe damage at points directly along the coastline, waterways, and where the storm surge inundated the lowest elevations. The storm has had a long lasting effect on the environment, economy, and psyche of the State of New Jersey,

During Superstorm Sandy, Barnegat Bay was breached and opened up to the Atlantic Ocean in several places, allowing water to flow inland, in addition to being high tide and a full moon, which created especially high tide cycles. The excessive amount of water overwhelmed the wetlands, and eventually the bulkheads, roads, storm drains, and properties.

The storm surge from the catastrophic weather event was slightly over 10 feet and, therefore, covered a large portion of the neighborhood. As a neighborhood built on former wetlands, most of the neighborhood is at a very low elevation below the storm surge line.

The majority of the neighborhood is located along the Kettle Creek or one of the tributaries, including streets along coastal lagoons and wetlands, and is extremely vulnerable to major flooding events. Many of the developments are built immediately up to the Creek and lagoons with only the rear yard setbacks from the bulkheads required by the Township zoning ordinance. The removal and impermeable development of the wetlands in the past has drastically reduced natural protective elements and flood control. Fortunately, there remain some small areas of protected wetlands within and surrounding the



neighborhood, which prevent further damage. These, too, continue to be compromised by the generally rising sea level and by ocean breaches to the Barrier Island to the east.

During Superstorm Sandy, Barnegat Bay was breached and opened up to the Atlantic Ocean in several places, including to the south near Ortley Beach and to the northwest in Mantoloking. Cherry Quay-Bay Harbor is slightly more protected from the Bay than other coastal neighborhoods due to its upstream location. However, in addition to the being high tide, full moon, and strong winds, the breaches allowed water to flow further inland, contributing to especially destructive high tide cycles. The excessive amount of water overwhelmed the wetlands, and eventually the bulkheads, roads, storm drains, and properties.

Research found on a blog by “Professor Sak”, a researcher with Rutgers University in partnership with the National Estuarine Research Reserve System (a subgroup of NOAA), provides some insight to the perceived phenomenon of the “reverse surge” from Barnegat Bay. On a June 6, 2013 blog post, data from a weather station in Brick Township that survived and provided data through Sandy was analyzed and described a shift in wind direction that had water rising in the Barnegat Bay through the inlet and driven north by SSE winds from wider areas of the bay to narrower areas during the same period that the ocean surge hit the barrier islands (Figure 29). While the ocean surge did the damage as it swept across to the bay, the funneled wind driven water in the bay swelled up and exacerbated the flooding of bayfront properties on both the barrier island and the mainland, including Cherry Quay-Bay Harbor.⁶



Figure 29: Diagram of Wind Surge on Barnegat Bay (www.professorsak.com)

Map 16 below shows the impact and extent of the storm surge from Superstorm Sandy on the neighborhood and wetlands. Cherry Quay experienced the greatest percentage of inundated properties, whereas Silverton Pine Terrace, which is inland and only abuts Tunes Branch in a small area, was relatively spared.

⁶ Blog entitled “Barrier Islands in Cross Section and How it Plays Out During Storm Surge Events”, posted on June 6, 2013 at <http://professorsak.com>.

[illegible]



Figure 30 below shows a detailed image comparison of the Cherry Quay sub-neighborhood near the Cherry Quay Beach (right of the image) between 2010 (pre-Sandy), November 2012 (post-Sandy), and September 2013. As the easternmost part of the neighborhood closest to Barnegat Bay, this was one of the hardest hit areas of the neighborhood and within Brick Township during Superstorm Sandy. Some homes in the neighborhood were washed away entirely or leveled, and many were gutted as the storm surge ripped through. Massive piles of debris from the storm can be seen on nearly every lot in the center image, taken just a few days afterward. Since the storm, a lot of recovery efforts have occurred, although certain parts of the neighborhood, such as this one, have been slow to recover. In the image from 2013 (right), more homes were demolished than rebuilt and several large empty lots remain. As of 2015, more have been rebuilt, but the process has been daunting.



Figure 30: Cherry Quay Focus Area Comparison – Pre-Sandy 2010 (left) and Post-Sandy 2012 (center), 2013 (right) (Google Earth)



Figure 31: Damaged/Gutted homes (Google Streetview; Site visit – April 24, 2015)

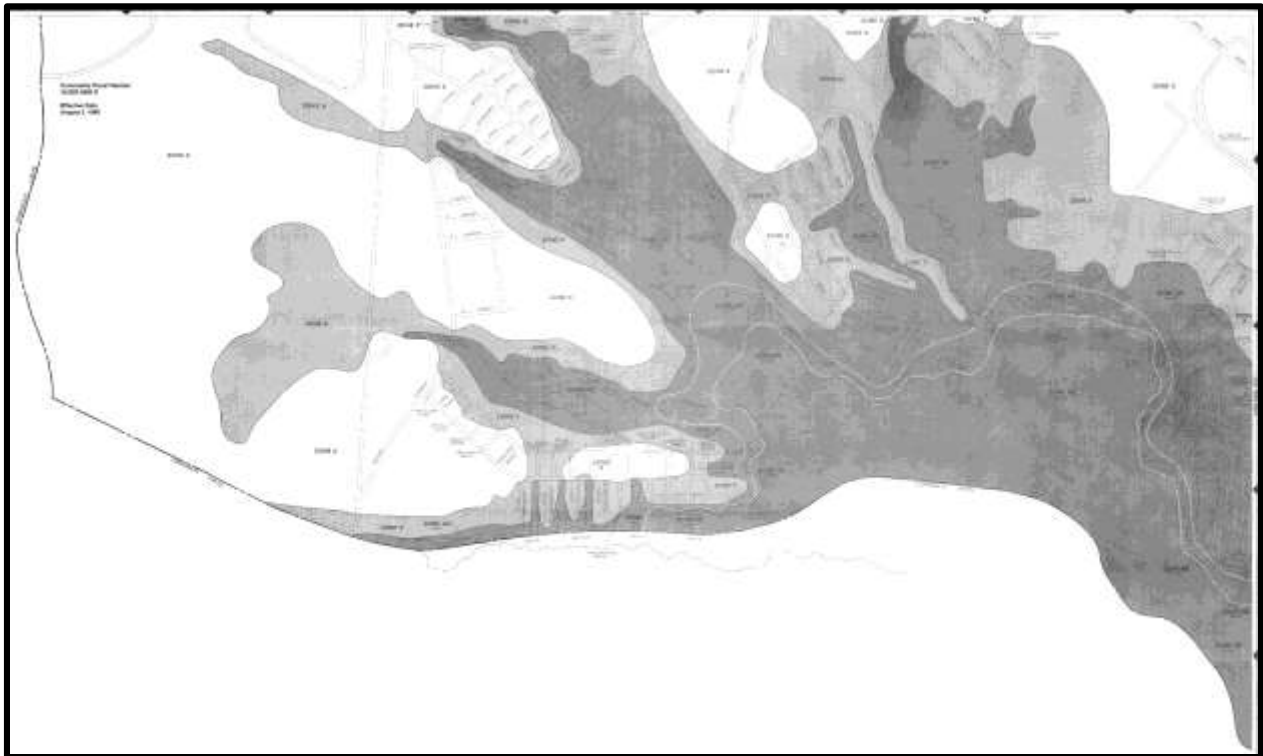
At least 556 properties were substantially damaged in the Cherry Quay-Bay Harbor neighborhood alone through 2015, which accounts for more than 13 percent of the 2010 Cherry Quay-Bay Harbor housing stock. While most, if not all of these properties were damaged by Sandy, this number includes properties damaged through 2015. Substantial damage is defined in the Township Ordinance as “Damage of any origin sustained by a structure whereby the cost of restoring the structure to its condition before damage



would equal or exceed 50% of the market value of the structure before the damage occurred.”⁷ Cherry Quay-Bay Harbor had approximately less than half of the amount of substantially damaged properties as Shore Acres, but close to the same as the Barrier Island. On the other hand, substantially damaged properties accounted for nearly 44 percent of all Barrier Island properties.

The age of structures, or the year in which they were built, also has a strong correlation to the amount of damage that properties were likely to receive. The base flood elevation (BFE) level requirement, which was first implemented in the Township in 1972, allows homes which are elevated to regulation to qualify for flood insurance. Homes that sit on higher ground or that have been elevated, whether by regulation or by personal decision, are naturally less likely to receive as much flood damage as older (mid-twentieth century) homes built before the requirement that tend to be at lower elevations. Additionally, the BFE has been updated several times and generally increased the requirements in 1984, 1992, 1998, 2006, and 2015 respectively.

Map 17: 1998 Cherry Quay-Bay Harbor FEMA BFE Map



In this neighborhood, the average year that all substantially damaged properties were built is 1978, or six years after the first round of BFE requirements. Coincidentally, the average year that all properties within Cherry Quay-Bay Harbor were built was 1977. Mallard Point is the oldest overall, with the average

⁷ Township of Brick, New Jersey. *Chapter 196. Flood Damage Prevention Ordinance*. Thursday, May 28, 2015.



housing stock built in 1970, two years prior to the requirements, while Sailor's Quay has the newest housing stock by average, built in 1992. Although there are some clear exceptions to the relationship between the age of properties and flooding and flood damage is often highly situational, the most significant damage overall has occurred in the oldest waterfront neighborhoods and low-lying lagoon communities, while newer homes and communities built after each pass of the BFE have had less damage overall. As shown in the aerial images in Figure 32 below, the majority of older coastal neighborhoods, such as Mallard Point, experienced more visible damage than newer neighborhoods, such as Sailor's Quay.

The Township's first BFE requirements were only put into place a few years prior to the average year built of all Cherry Quay-Bay Harbor properties and were much less stringent than they are today. Flooding and major storms that affect the low-lying estuarine neighborhoods have also become more frequent over the years.



Figure 32: Storm damage in Mallard Point (average year built: 1970) versus Sailor's Quay (average year built: 1992) (Google Earth, Nov. 3, 2012)

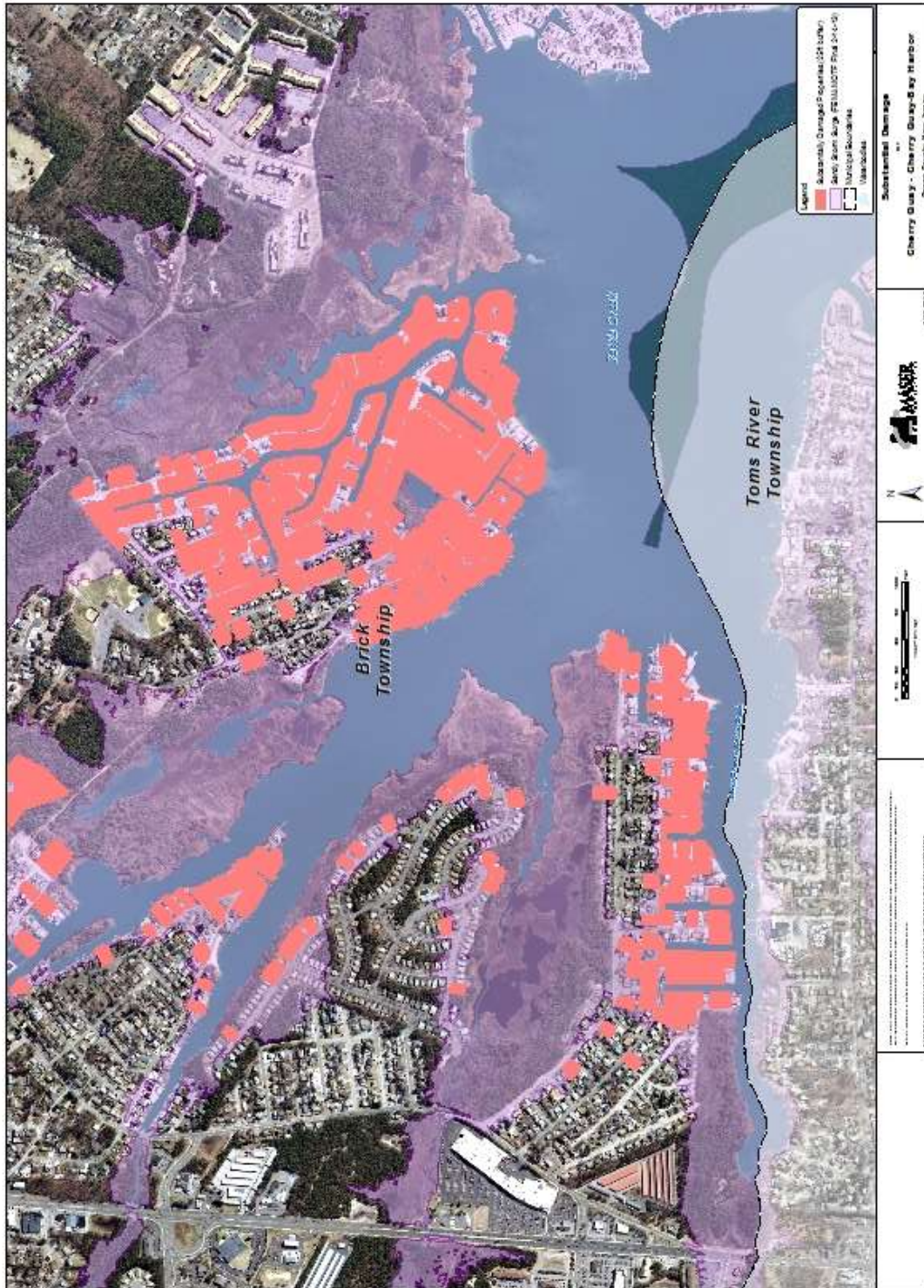
Table 2: Substantially Damaged Properties by Sub-Neighborhood

Sub-Neighborhood	# of Properties Substantially Damaged	Avg. Year Built of Substantially Damaged Properties	Average Year Built of All Properties
Bay Harbor Estates	102	1975	1973
Cherry Quay	388	1979	1976
Silverton Pine Terrace	0	-	1985
Mallard Point	26	1970	1970
Sailor's Quay	13	1993	1992
Seaview Village	27	1983	1984
Cherry Quay-Bay Harbor (Total)	556	1978	1977



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Map 18: Substantially Damaged Properties in Cherry Quay-Bay Harbor





Despite the apparent correlation, substantial damage faced by homes on the Barrier Island was much more circumstantial than the age and elevation of structures. Location (distance from the breach); type of construction; stillwater versus surge; velocity of water; and debris are also significant factors in considering the causes of substantial damage.⁸

Many residents were unable to access their neighborhood for several weeks after Superstorm Sandy and unable to move back into their homes for months, if not years, due to the widespread damage. Some residents are continuing to rebuild their homes in 2016. Although access was not as restricted as it was to the Barrier Island neighborhoods, the destruction was vast along the riverfront and has taken years to cleanup and rebuild back to a somewhat normal condition. Not every coastal property was damaged; however, properties that were slightly more inland and elevated were much more likely to be spared from flooding and wave action.

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 Cherry Quay-Bay Harbor was attributed to storm surge and wind-driven wave action due the large size of Barnegat Bay and Kettle Creek. Superstorm Sandy was also a unique situation in that the Barrier Island was breached between the ocean and the Bay in several locations, including one directly to the northeast of Cherry Quay-Bay Harbor in Mantoloking. With the breach of the ocean and wind-driven Bay water being pushed to the north, Cherry Quay-Bay Harbor was at a juncture that put it at a critical disadvantage. Figure 33 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.

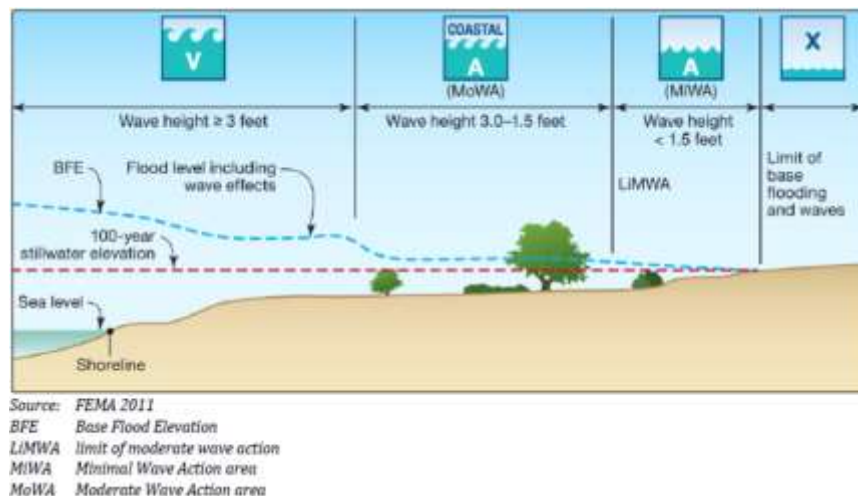


Figure 33: Transect Schematic of Zone V, Coastal A-Zone, and Zone A

⁸ Paxton, Tara B., AICP/PP. "Rebuild or Retreat: The Future of Planning Flood Zones." Spring 2015.



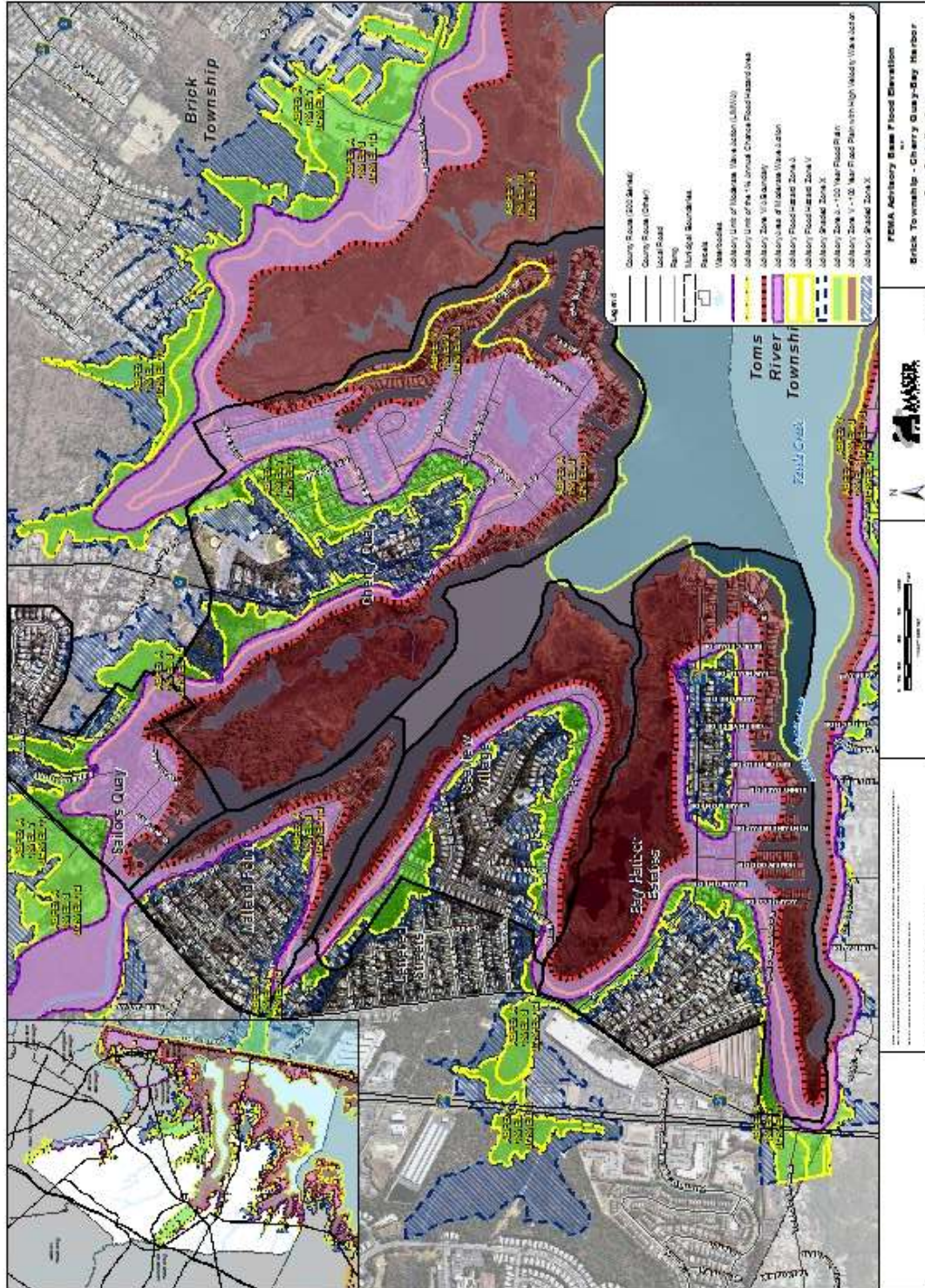
Following the storm, the Federal Emergency Management Agency (FEMA) revised the base flood elevation levels and advisory flood levels to reflect the approximate levels during Superstorm Sandy. The levels that Sandy reached were closer to what had been considered the 500 Year Flood Plain, but is now used as the 100 Year Flood Plain as major storms are predicted to become more frequent. During the storm, water levels rose just over ten feet above sea level. The new Advisory Limit of Moderate Wave Action (LiMWA) line now extends slightly over the 10' elevation mark.

Map 19 below depicts the elevation, 1% Annual Chance Flood Hazard Area, Advisory Zones A, V, and X, and the Limit of Moderate Wave Action (LiMWA) in the Cherry Quay-Bay Harbor area. With the exception of Cherry Quay and Sailor's Quay, the majority of the developed areas of the sub-neighborhoods are located outside of a flood zone, but the zones increase moving southeast toward Kettle Creek. Nearly all of the surrounding wetlands and the southern parts of Cherry Quay, Bay Harbor, and Mallard Point are located within the Advisory Area of Moderate Wave Action and Advisory Zone V – 100 Year Flood Plain with High Velocity Wave Action, most vulnerable zone. This is the same zone assigned to the ocean side of the Barrier Island. Advisory Zone A – 100 Year Flood Plain and Advisory Shaded Zone X are the least likely flood zones, which are the most inland zones. Although they have changed over the years, these are the most recent zones from FEMA in 2015.



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Map 19: Preliminary FEMA flood levels post-Superstorm Sandy





NEIGHBORHOOD PHYSICAL CHARACTERISTICS

Cherry Quay-Bay Harbor is characterized by its location at the head of Kettle Creek where various tributaries combine to form four unique peninsulas. Each peninsula defines one or two unique sub-neighborhood, with a variety of wetlands, forest, man-made lagoons, parks, marinas, and street grids.

Originally built primarily on wetlands and coastal forest, Cherry Quay-Bay Harbor is low-lying and mostly within ten feet of sea level. The remaining wetlands that surround and permeate the neighborhood are protected and create a natural buffer between the communities and the water. These wetlands not only divide the sub-neighborhoods into more exclusive and well-defined pockets with individual characteristics, but they also provide valuable open space, natural breeding grounds for local fauna, and help to absorb floodwater.

As a result of the geography and the pattern of exclusive private suburban developments, the neighborhood was structured in a very individualistic way. Due to a lack of joint or comprehensive planning efforts, Cherry Quay-Bay Harbor is primarily designed for access by individual automobiles, although the many rivers and lagoons also permit boat access to some of the private residences. Boats, however, are not a primary means of transportation for residents to reach a destination, despite the fact that many homeowners also have boats.

CONNECTIVITY AND MOBILITY

In Chery Quay, the arrangement of the lagoon neighborhoods has resulted in most streets to be oriented specifically toward those who live on the street – often entirely residential; long and winding, ending in cul-de-sacs or without outlet; without sidewalks or public transportation; and with a very low speed limit. Sailor's Quay is a private enclave with slow private roads without outlet that end in cul-de-sacs, but do have sidewalks. Seaview Village is built on publicly accessible roads with sidewalks, but with limited access roads without outlet. However, there are no public or commercial amenities to which people can walk. Bay Harbor Estates and Mallard Point, on the other hand, have a more pedestrian-friendly street grid and public parks. Silverton Pine Terrace, built early in the twentieth century, has a street grid, but which was never completed and is disconnected from Seaview Village by a conservation easement.

Residents tend to enjoy the private nature of the neighborhood, while the restriction on thru traffic and speed in creates a safer environment in some areas. However, long dead-end streets, especially those separated by flood-prone wetlands and that are far-removed from emergency evacuation routes, such as Royal Drive, are a particular safety hazard to residents. Hooper Avenue and Cherry Quay Road are the only intra-neighborhood evacuation spurs, whereas Brick Boulevard to the west is an evacuation spur and Drum Point Road to the north is an evacuation route (see Figure 34). The lack of connected sidewalks also discourages walking and impacts the safety of pedestrians.

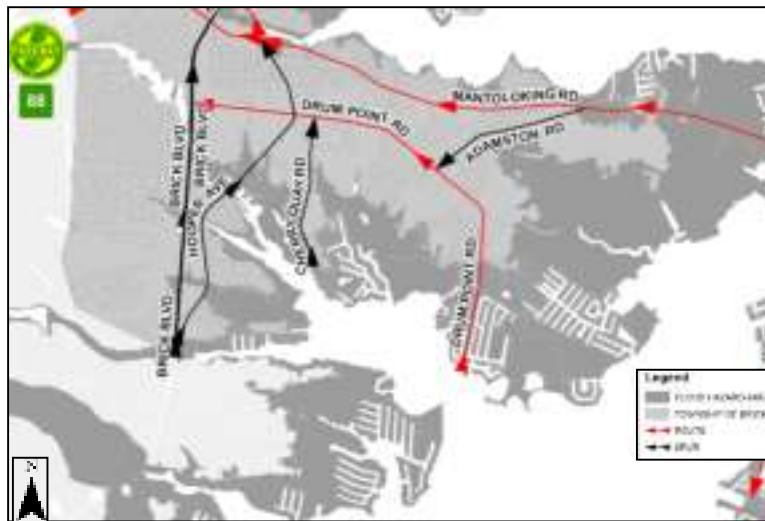


Figure 34: Township Coastal Evacuation Routes identified (Brick Township Master Plan Update & Green Element, 2014)

In addition to limited pedestrian amenities, there are no designated bicycle facilities and public transportation options are often far distances and inconvenient for most people. Unlike the other three Neighborhood Plan Areas, however, Cherry Quay-Bay Harbor is more accessible to public transportation options in the vicinity.

Limited transportation options further restrict access to the neighborhood and any public lands therein, particularly for those residents who may be disabled, elderly, youth, or who do not own a vehicle. While sidewalks and bike paths or shared lanes are not necessarily conducive for getting everyone to every destination, they do provide a considerably safer alternative for pedestrians and cyclists to move around locally, rather than on the shoulder of a road. Similarly, public transportation offers a way for people to move around regionally to major destinations, regardless of ability.

Connectivity and accessibility are therefore major issues of concern. Some additional public amenities and design options may improve safety and the overall experience for residents on their own street and throughout the neighborhood. The following sub-sections provide more in-depth inventory and analysis of existing infrastructural conditions in Cherry Quay-Bay Harbor.

WALKABILITY

The existing pedestrian infrastructure, including sidewalks and crosswalks, was inventoried throughout the neighborhood. The infrastructure that was identified was then mapped and detailed, as shown below.





The existing sidewalks are located in the following areas, as shown on Map 20 above:

1. South side of Cherry Quay Rd. between 210 and 214 Cherry Quay Rd.;
2. West side of Drake Rd. between 234 and 236 Drake Rd.;
3. East side of Drake Rd. at 239 Drake Rd.;
4. South side of Mandarin Rd. between Drake Rd. and just north of Kettle Creek Dr.;
5. North side of Mandarin Rd. between Drake Rd. and just north of Kettle Creek Dr.;
6. Southeast side of Hooper Ave. from Pleasant Dr. south to the north side of the boat basin;
7. Southeast side of Hooper Ave. from Pleasant Dr. to Sailors Quay Dr.;
8. Southeast side of Hooper Ave. from Sailors Quay Dr. north one lot;
9. South side of Pleasant Dr. between Hooper Ave. and Claudia Rd.;
10. North side of Pleasant Dr. between Hooper Ave. and S. Pier;
11. Both sides of S Pier, entire street;
12. Both sides of W Pier, entire street;
13. Sailors Quay Dr. (entry road); entire street;
14. S. Sailors Quay Dr., entire street excluding cul-de-sac bulb;
15. North side of N. Sailors Quay Dr. from Sailors Quay Dr. up to and including loop of road;
16. South side of N. Sailors Quay Dr. from one parcel east of N Pier to up to and including loop of road;
17. West side of N Pier from N. Sailors Quay Dr. south to eastward bend in road;
18. South side of N Pier from bulb of cul-de-sac west to northward bend in road;
19. North side of N Pier from northwest of cul-de-sac along residential frontages;
20. North side of Bay Harbor Blvd. from Bimini Rd. east to mid-block between Lawndale Dr. and Blue Cedar Dr.;
21. South side of Queen Ann Rd. between Sunnydale Dr. (E) and Sunnydale Dr. (W);
22. East side of Sunnydale Dr. between Queen Ann Rd. south to 11 Sunnydale Dr.;
23. Both sides of Shay Ln., entire street;
24. Northeast side of Aida Way between Aida Way and Marilyn Dr.;
25. South side of Marilyn Dr., entire street;
26. North side of Marilyn Dr. between 173 Marilyn Dr. and Aida Way;
27. Southwest side of Aida Way between Marilyn Dr. and Aida Way;
28. Southwest side of Van Cortlandt Dr. between Hooper Ave. and Marilyn Dr.;
29. South side of Hooper Ave. from Van Cortlandt Dr. south one lot;
30. East side of Hooper Ave. south from A St. to the Long Causeway Branch;
31. East side of Hooper Ave. south from C St. for one lot;
32. East side of Hooper Ave. north from C St. for approximately 20 feet;
33. South side of A St. between Hooper Ave. and Mariner Ave.;
34. North side of A St. between Hooper Ave. and Mariner Ave., excluding the paper street extension of Bass Rd.;



35. South side of B St. from 115 B St. eastward to the dead end, excluding the paper street extension of Bass Rd.;
36. North side of B St. from 102 B St. eastward to the dead end;
37. Both sides of C St. from Hooper Ave. eastward to the dead end;
38. South side of D St. from Hooper Ave. eastward to the dead end;
39. North side of D St. from Hooper Ave. eastward to the dead end, excluding the paper street extension of Bass Rd.;
40. Both sides of C St. between Hooper Ave. and Seaview Ave.;
41. Both sides of Seaview Ave., entire street;
42. Both sides of Nautilus Dr., entire street;
43. Both sides of Jetty Ct., entire street;
44. Both sides of Palm Ave., entire street;
45. Both sides of Reef Pl., entire street;
46. Both sides of Compass Ave., entire street;
47. Both sides of Whitecap Way, entire street;
48. Both sides of Mariner Ave., from Seaview Ave. south to the cul-de-sac but excluding the bulb and last residential parcel.

A few good examples of pedestrian infrastructure do exist throughout the neighborhood. However, despite some improvements to the existing infrastructure, there are no consistent design standards for streetscape treatments and pedestrian sidewalks throughout the Cherry Quay-Bay Harbor neighborhood. Although there are more sidewalks in Cherry Quay-Bay Harbor than many other neighborhoods, only a few disparate segments of sidewalk exist and many are somewhat scattered, substandard, and inconsistent. The extent of sidewalks varies greatly between the sub-neighborhoods. Some examples are shown below:



Figure 35: One example of an existing sidewalk treatment, Seaview Village (Google Streetview)



Figure 36: Improved pedestrian crosswalks and lights at intersection of A Street & Hooper Avenue, Seaview Village; however, detail (right) shows non-ADA compliant ramps and sidewalks (Google Streetview)



Figure 37: Left: A crosswalk on Hooper Ave. between Bay Harbor and back of shopping plaza with no sidewalk on one side and no ramp on the other; Right: Crosswalk without sidewalks at major intersection, Hooper Ave. & Beaverson Blvd. (Google Streetview)



Figure 38: Sidewalks provided are often too narrow, overgrown, and end at poor locations without crosswalks (left: Hooper Avenue/Seaview Village); or have utilities in the right-of-way (right: Hooper Avenue, Bay Harbor) (Google Streetview)



Figure 39: Examples of busy streets/intersections near amenities or commercial areas without sidewalks (left: Bay Way, Bay Harbor; right: Hooper Avenue, Bay Harbor) (Google Streetview)

As displayed above, substandard and inconsistent sidewalks include those which are attached to the curb (5-7' wide); sidewalks with a curb strip; no sidewalk at all; no curbing at all; stone without edging; lack of handicap accessible ramps; have utilities or fire hydrants in the right-of-way; or are overgrown and in general state of disrepair; et cetera. There is a need for a standardization of sidewalk and curb treatments that can be modified to fit various applications. For example, the neighborhood could feature one sidewalk pattern with variations for the smaller and broader crossing streets.



Figure 40: Person walking in shoulder of road, Hooper Avenue (Google Streetview)



Figure 41: Children walking in the road, Cherry Quay (Google Streetview)

People are often seen walking and running in the streets and some sidewalks are too narrow or inaccessible for handicapped people. Children also use the streets to play, which may be hazardous without proper traffic calming. While slower neighborhood streets would ideally be shared with cyclists and pedestrians, sidewalks provide respite for pedestrians when there is oncoming traffic.

Existing sidewalks cover nearly the entirety of the sub-neighborhoods of Seaview Village and Sailor's Quay, which are the newest privately developed sub-neighborhoods, as well as few streets in Bay Harbor,



as shown on Map 20. Due to the geography of the peninsular sub-neighborhoods and the lagoons, the existing sidewalk networks do not easily connect to other sub-neighborhoods without first extending along Hooper Avenue – the primary road access. However, the sub-neighborhoods are within a reasonable distance of one another and very close to commercial and recreational amenities that pedestrian infrastructure is not only ideal and convenient, but should be warranted as a priority concern for access and safety.

In addition to a lack of adequate sidewalks in the neighborhood, there are no crosswalks connecting roads for safe pedestrian crossing or traffic signals anywhere within Cherry Quay-Bay Harbor, with the exception of a few on Hooper Avenue. However, many of these are not connected to sidewalks.

Along Hooper Avenue, which is the main access and busiest and fastest road in the neighborhood, there are twenty (20) streets that meet Hooper Avenue and two (2) crossroads. Along Cherry Quay Road/Bark Road, which is a major neighborhood road in Cherry Quay, there are thirteen (13) streets that meet Cherry Quay Road and five (5) crossroads. The intersections with Hooper Avenue and Brick Boulevard, Old Hooper Avenue, and Beaverson Boulevard have the most vehicular traffic and are the most hazardous to cross, although any road intersection without a crosswalk can be dangerous.

While the speed limit throughout Cherry Quay-Bay Harbor is 40 miles per hour or less, the major thoroughfares have consistent and fast traffic due to the proximity of major retail centers and destinations, particularly during the summer months. Additionally, Hooper Avenue does not have much traffic calming and is a long, winding road, which reduces visibility for pedestrians and drivers. Most sub-neighborhoods have slower, local traffic with posted speeds around 25 miles per hour (see Table 3).

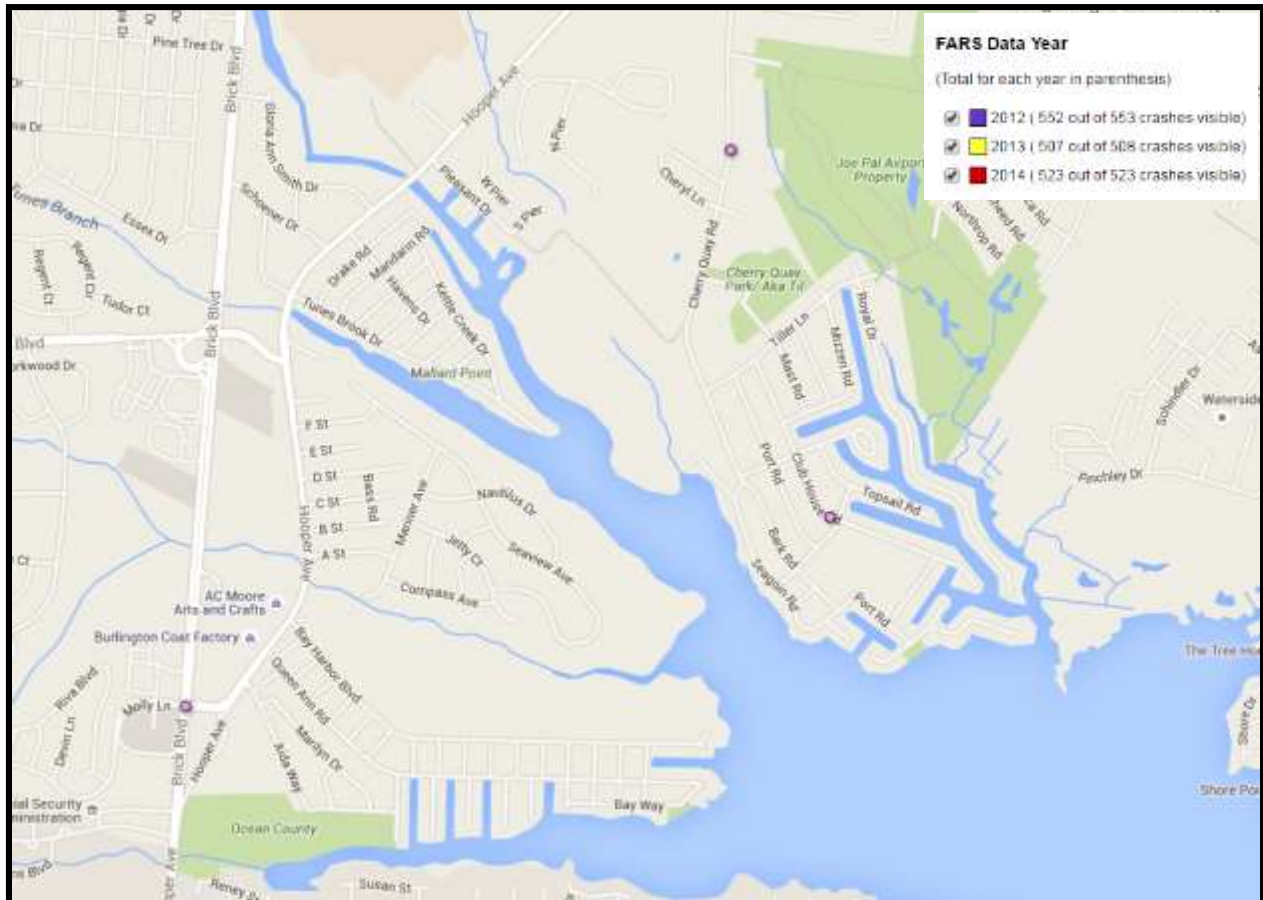
With few crosswalks and sidewalks, only one streetlight, and regular traffic throughout the neighborhood, accidents will continue to be a threat. There have been four recorded fatalities due to accidents between vehicles or vehicles and pedestrians in Cherry Quay-Bay Harbor between 2012 and 2014, according to data from the National Highway Traffic Safety Administration (NHTSA)⁹. This includes one on Club House Road in Cherry Quay, one on Cherry Quay Road in Cherry Quay, and one on Molly Lane/Old Hooper Avenue, Bay Harbor.

⁹ "Location of Fatal Crashes – New Jersey" Map. National Highway Traffic Safety Administration. 2014.
http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/STSI/34_NJ/2014/New%20Jersey_Map_1_GIS_DATA_2014.HTM



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Map 21: Fatalities in Cherry Quay-Bay Harbor, 2012-2014 (National Highway Traffic Safety Administration, March 2016)



BIKEABILITY

There are no existing connections to bicycle paths or lanes in Cherry Quay-Bay Harbor. However, a recreational bicycle path is planned through the 273-acre Joe Pal Airport Property to the northeast between Cherry Quay and Shore Acres. Although there is already a walking trail, this path will greatly improve bikeability and accessibility to public open space in the region.

The Township has applied for funding through the State to allow for the expansion of the bike path on the property an additional 1.08 miles and connect the path near Hooper Avenue to Cherry Quay Road. The path would also allow cyclists to connect through Angela Hibbard Park on Drum Point Road in Shore Acres to the main trail. An expanded trail would be funded through the New Jersey Bikeways grant, which the Township Council used to fund the Baywood – Seawood Harbor path in 2013. The long-term



goal for the Township is to eventually expand the trail to the Mantoloking Bridge for improved bicycle access to the Barrier Island beaches.¹⁰

Despite not having any defined bicycle paths, lanes or designated shared lanes, the neighborhood streets, with the exception of Hooper Avenue, have speed limits that are slow enough to be considered “Bicycle-Friendly” routes by the State of New Jersey Department of Transportation (NJDOT) for shared roads without bicycle facilities, which is less than 35 miles per hour. However, streets that are greater than 25 miles per hour are not considered bicycle-friendly by U.S. Green Building Council LEED-ND standards. Hooper Avenue, at 40 miles per hour, would require a separate lane or path for bicycles, while all other streets are 25 miles per hour or less.

Table 3: Speed Limits on Cherry Quay-Bay Harbor Roads

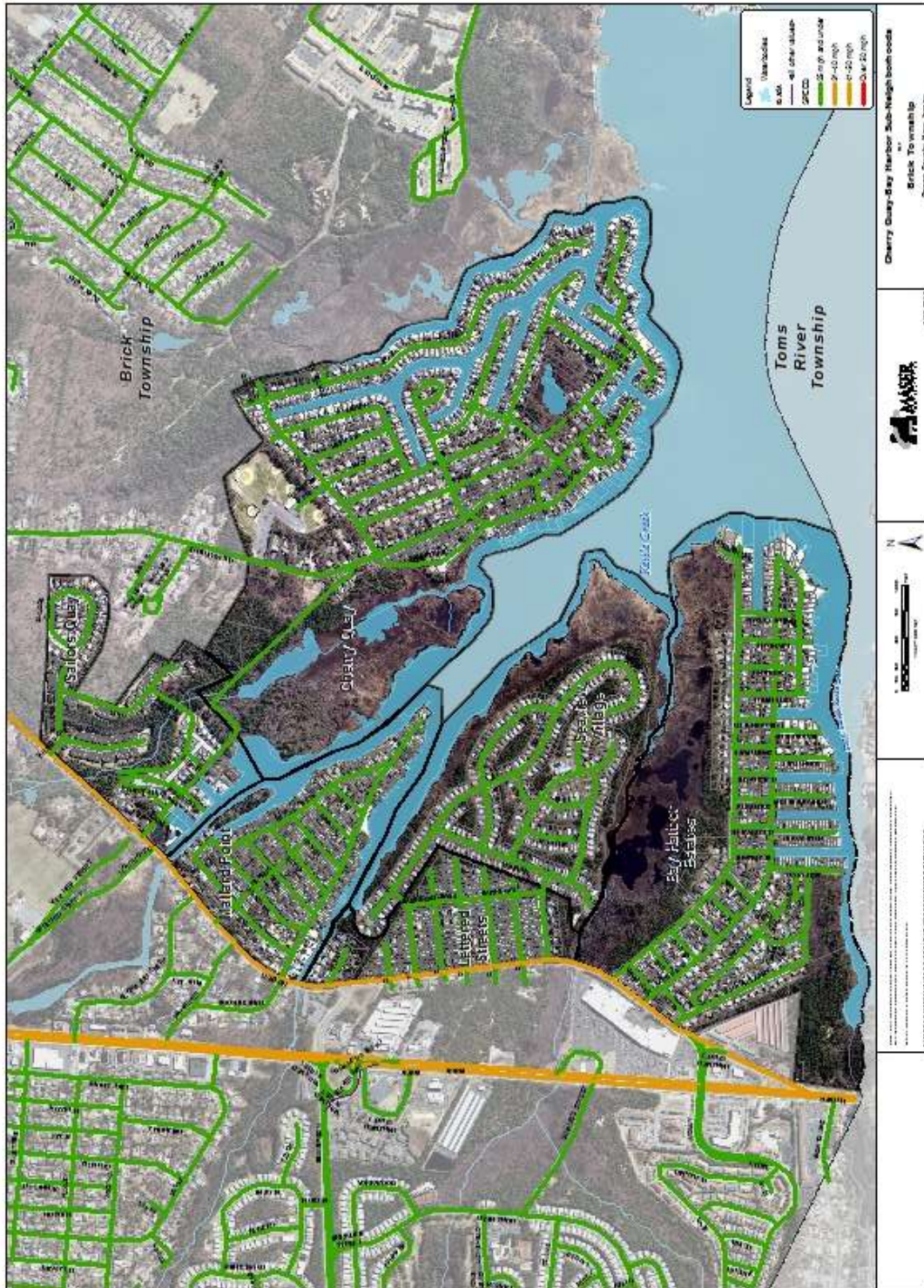
Cherry Quay-Bay Harbor Sub-Neighborhood	Road	MPH
Bay Harbor		
	Hooper Avenue	40
	Bay Harbor Boulevard (between Hooper and Blue Cedar Dr.)	25
	Blue Cedar Drive	25
Cherry Quay		
	Cherry Quay Road	25
	Bark Road	25
	Seagoin Road (between Bark and Port Roads)	25
	Port Road	25
	Cross Trees Road	25
	Club House Road (between Cross Trees Road and Tiller Lane)	25
	Tiller Lane	25
Mallard Point		
	Hooper Avenue	40
	Tunes Brook Road	25
	Havens Road	N/A
	Kettle Creek Drive	N/A
Sailor’s Quay		
	Hooper Avenue	40
	Pleasant Drive	25
	Sailors Quay Drive	N/A
Seaview Village		
	Hooper Avenue	40
	A Street	25
	F Street	25
	Mariner Avenue	25

¹⁰ Nee, Daniel. “Brick Hopes to Expand Airport Tract Bike Path.” Brick Shorebeat. October 15, 2015. <http://brick.shorebeat.com/2015/10/brick-hopes-to-expand-airport-tract-bike-path/>



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Map 22: Neighborhood roads with posted speed limits





Cyclists are often seen biking against oncoming vehicular traffic on both sides of the roads, including children riding throughout the neighborhood in large groups extending into the roadway, or on the sidewalks where they exist. Narrow shoulders and obstacles, such as garbage bins and gravel extending into the street, also create hazardous conditions for cyclists. If there are cyclists on both sides of the road or if they are riding in the wrong direction, as shown in the image in Figure 42, this can create confusion amongst drivers and create a dangerous situation for cyclists and pedestrians, regardless of the speed limit. In addition to separate lanes or designated shared lanes, appropriate bicycle signage and education can reduce confusion and the potential for injurious accidents.



Figure 42: Bicyclist riding on the wrong side of the road on Hooper Avenue (Google Streetview)

Although the shoulders of the roads in Cherry Quay-Bay Harbor that have a speed limit 35 miles per hour are likely too narrow in most places to support separate bicycle lanes, designated shared lanes should be explored, as well as sidewalks in the right-of-way. At minimum, the use of signage to direct cyclists to safer routes could be implemented on Township and County Roads and both signage and shoulder markings added to the shoulders to some of the thru streets.



Figure 43: Narrow shoulders on curved roads and obstacles, Cherry Quay Road (Google Streetview)

SIGNAGE

Signage in Cherry-Quay is neither prevalent nor consistent. The only signage includes monument signs for some neighborhood subdivisions, as well as public parks and some conservation areas, and general road signage, such as posted speed limits. There is no consistent theme in the existing neighborhood signage logos or fonts, although there is often a blend of blue, white, and yellow coloring. Signs also tend to be wooden structures roughly 3-6 feet in height with some landscaping around the base. Signs must be compliant with Article XXXVI of Chapter 245 in the Township Ordinance.

Signage includes, but may not be limited to that which is found at the following locations:

1. A sign for Edmund H. Hibbard Park, which is now known as Cherry Quay Park, is located at the southerly side of the entrance to the park along the east side of Cherry Quay Road in north Cherry Quay. The brown wooden sign states the name of the park in white font, as the name of the Township Mayor and Municipal Council on attached, but individual white plaques. The sign is held up by two wooden posts approximately six feet high and three feet back from the road and is oriented northwest toward southbound traffic on Cherry Quay Road; however, most of the text is very small for moving traffic. This sign is typical of many parks in the Township. Next to the park sign is a white sign about three and a half feet in height that says “Welcome to Brick Little League” in yellow and white bubble letters.



Figure 44: Monument Sign for Edmund H. Hibbard Park/Cherry Quay Park, Cherry Quay Road (Google Streetview)



Figure 45: Sign location on Cherry Quay Road, Cherry Quay (Google Maps)

2. Sailor’s Quay has two identical monument signs at the entrance to the neighborhood on Hooper Avenue at the north and south side of Sailor’s Quay Road. The signs are blue with bold white letters stating the name of the subdivision and with a water-themed emblem placed on a stone monument surrounded by landscaped gardens. The signs are oriented north and south, respectively, and located approximately twenty feet east of Hooper Avenue. Although they are



fairly large, they are not easily visible to oncoming traffic and are somewhat hidden behind foliage until one reaches Sailor’s Quay Road.



Figure 46: Monument sign on south side of Sailor’s Quay Road (Google Streetview)



Figure 47: Location of south monument sign (Google Maps)

3. Seaview Village has three different monument signs located near the entrances to the Association areas. One is located on the north side of A Street east of the Bass Road paper street and one on the south side, both oriented west toward eastbound traffic. A second sign is located on the northeast side of Seaview Avenue at the intersection of F Street oriented toward eastbound traffic on F Street. The Association does not have any signs along Hooper Avenue, which is the only means of ingress. The two monument signs at A Street is approximately two to three feet tall with a light blue sign and white bubble letters held between two brick columns in a small landscaped area. The third sign is approximately three-and-a-half or four feet tall with light blue with blue script and white bubble letters that say “Welcome to Seaview Village” between two white wooden posts. The sign area is not landscaped, but rather overgrown.



Figure 48: Monument sign at north side of A Street (Google Streetview)



Figure 49: Locations of Seaview Village monument signs on A Street (Google Maps)



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Figure 50: Seaview Village welcome sign at F Street (Google Streetview)



Figure 51: Location of Seaview Village welcome sign at F Street (Google Maps)

4. A small, blue, illegible and overgrown sign is located along Bay Harbor Boulevard in Bay Harbor Estates with an image of a pedestrian,



Figure 52: Overgrown sign in Bay Harbor, Bay Harbor Boulevard (Google Streetview)

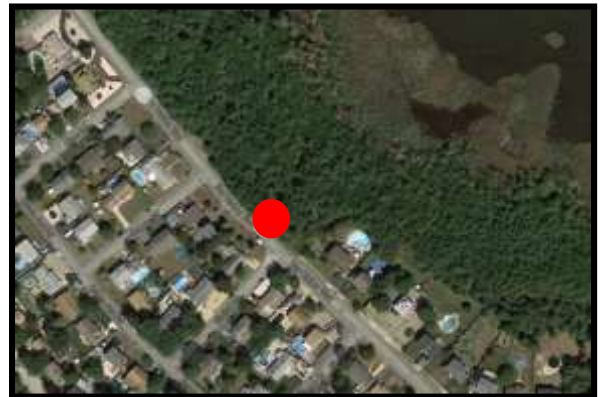


Figure 53: Location of sign on Bay Harbor Boulevard, Bay Harbor Estates (Google Maps)

5. Cherry Quay has a number of signs that are located on the west side of Cherry Quay Road at Tiller Lane oriented to the north toward southbound traffic. These signs are descriptive for members, such as "Newsletter on CherryQuay.org" or "Annual Beach Picnic." There is one sign that is planted, while the others are more temporary thin metal poles.



Figure 54: Cherry Quay signs located at the intersection of Cherry Quay Road and Tiller Lane (Google Streetview)

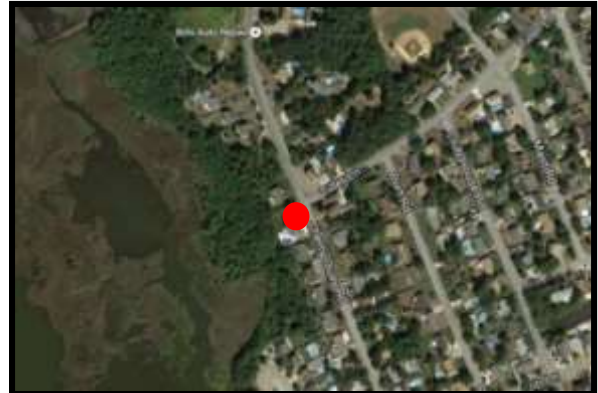


Figure 55: Sign location at Cherry Quay Road, Cherry Quay (Google Maps)

6. There are three (3) signs located around Mallard Point Park in Mallard Point. From west to east, they include: "Neighborhood Watch"; "Mallard Point Public Park"; and "Private Property for Mallard Point Ramp Members Only – No overnight docking permitted". The first two are Township signs, which are roughly the size of legal paper, with blue lettering on a white background, posted on a thin metal post. The third is posted on private property, partially overgrown, and has red lettering on a large white board posted on two wood posts. Although the Mallard Point Park sign is clear, it is inconsistent with the other public park signage in the Township and resembles more of a street sign than a proper monument or entrance sign. The Neighborhood Watch sign is mostly illegible, although the watch symbol stands out and is practical, but should be placed closer to the entrance of the neighborhood.



Figure 56: Neighborhood Watch sign (Google Streetview)



Figure 57: Mallard Point Public Park sign (Google Streetview)



Figure 58: Mallard Point private boat ramp sign (Google Streetview)



Figure 59: Locations of the three Mallard Point Park signs (Google Maps)

COMMERCIAL SIGNAGE

In addition to regular neighborhood signs identifying subdivisions, associations, and parks, all commercial properties are permitted to have signs, such that they comply with Article XXXVI of Chapter 245. Although there are no commercial properties immediately within Cherry Quay-Bay Harbor, there are a few on Hooper Avenue that border the neighborhood and are therefore included due to their immediate proximity and effect on the neighborhood character. While there is limited signage, some of it is inconsistent, poorly sited, and inappropriately sized. Below are a few examples of different types of signs throughout the neighborhood.

The Sailor's Quay Marina, while a commercial property, is part of the private residential neighborhood of Sailor's Quay. There is a mix of "No Trespassing" and "Slip Rentals" signage at the entrances on small white signs on metal poles approximately four feet tall.



Figure 60: Signs located at the entrance to Sailor's Quay Marina, Hooper Avenue (Google Streetview)



Figure 61: Location of Sailor's Quay Marina, Hooper Avenue, Sailor's Quay (Google Maps)



The entrance and monument signage at TD Bank on Hooper Avenue across from Doe Court (Silverton Pine Terrace sub-neighborhood) is well-designed, landscaped, and appropriately sized for the surrounding residential neighborhood and pedestrian-scale. The signs are generally visible from the road; however, the entrance sign is hidden behind the guardrail and the business hours on the monument sign are hidden by hedges. These types of signs, the sizes, and locations are appropriate, but the Township should consider an alternate configuration, such as lowering guardrails or placing entrance signs on the center islands (see left side of image in Figure 62) and requiring landscaping, but reducing the height limit of hedges.



Figure 62: Monument & Entrance signage at TD Bank, Hooper Avenue (Google Streetview)



Figure 63: Location of signage at TD Bank, Hooper Avenue (Google Maps)

The entrance sign and banner signs at the shopping plaza across from Bay Harbor Estates are subtle, tasteful, and understated without overwhelming the streetscape. On the other hand, the entrance sign is not highly visible for oncoming traffic.



Figure 64: Stop & Shop entrance sign on west side of Hooper Avenue, Bay Harbor (Google Streetview)



Figure 65: Banner signage in shopping plaza, west side of Hooper Avenue, Bay Harbor (Google Streetview)



Figure 66: Location of shopping plaza signage along west side of Hooper Avenue, Bay Harbor (Google Maps)

The monument sign for the Mini U-Storage facility is located at the southern end of the neighborhood near Bay Harbor Estates along Hooper Avenue. The blue sign is approximately twenty feet tall. The sign is set back from the road approximately thirty feet, but is highly visible from a distance due to its height. While the height is exorbitant for a non-highway road, the sightline is more appropriate than some of the smaller neighborhood signage. Near the border of Toms River Township, this signage is some of the first that travelers see while entering northbound into Brick Township into Cherry Quay-Bay Harbor. The signage in this area should, therefore, be more representative of the neighborhood.



Figure 67: Mini U-Storage monument sign (Google Streetview)



Figure 68: Location of Mini U-Storage sign (Google Maps)

Sandwich board signs and other posted advertising signs, while not very common in this neighborhood, are permitted by the Township; however, they can appear cluttered and overused in some places. These types of signs should only be for temporary advertisement, but in several cases they appear to be used as additional space for information not included on the primary signs, such as “outdoor dining” for a restaurant or “slips available” for marinas. Some are inappropriately placed in the center of a sidewalk and held up with concrete blocks, such as that shown in the center image of Figure 69.



Figure 69: Sandwich board signs along streets

DESTINATIONS IN CHERRY QUAY-BAY HARBOR

PUBLIC SERVICES

There are no public services within the defined boundaries of Cherry Quay-Bay Harbor. However, as Map 24 shows below, several Brick Township schools, fire stations, ambulances, police stations, libraries, government offices, and other services are located nearby to the north and west of the neighborhood. Many public services are located to the southwest along Brick Boulevard and Drum Point Road within a one mile radius.

Relative to the neighborhood location within Brick Township, most public services are within close proximity. However, due to the very long single-lane main roads and the large internal neighborhood street grids, the time it takes between some parts of the neighborhood and public or emergency services can be quite long.

PUBLIC UTILITIES

Although not publicly owned, Jersey Central Power & Light Company has a facility at 1961 Hooper Avenue on Block 378.45, Lot 2.



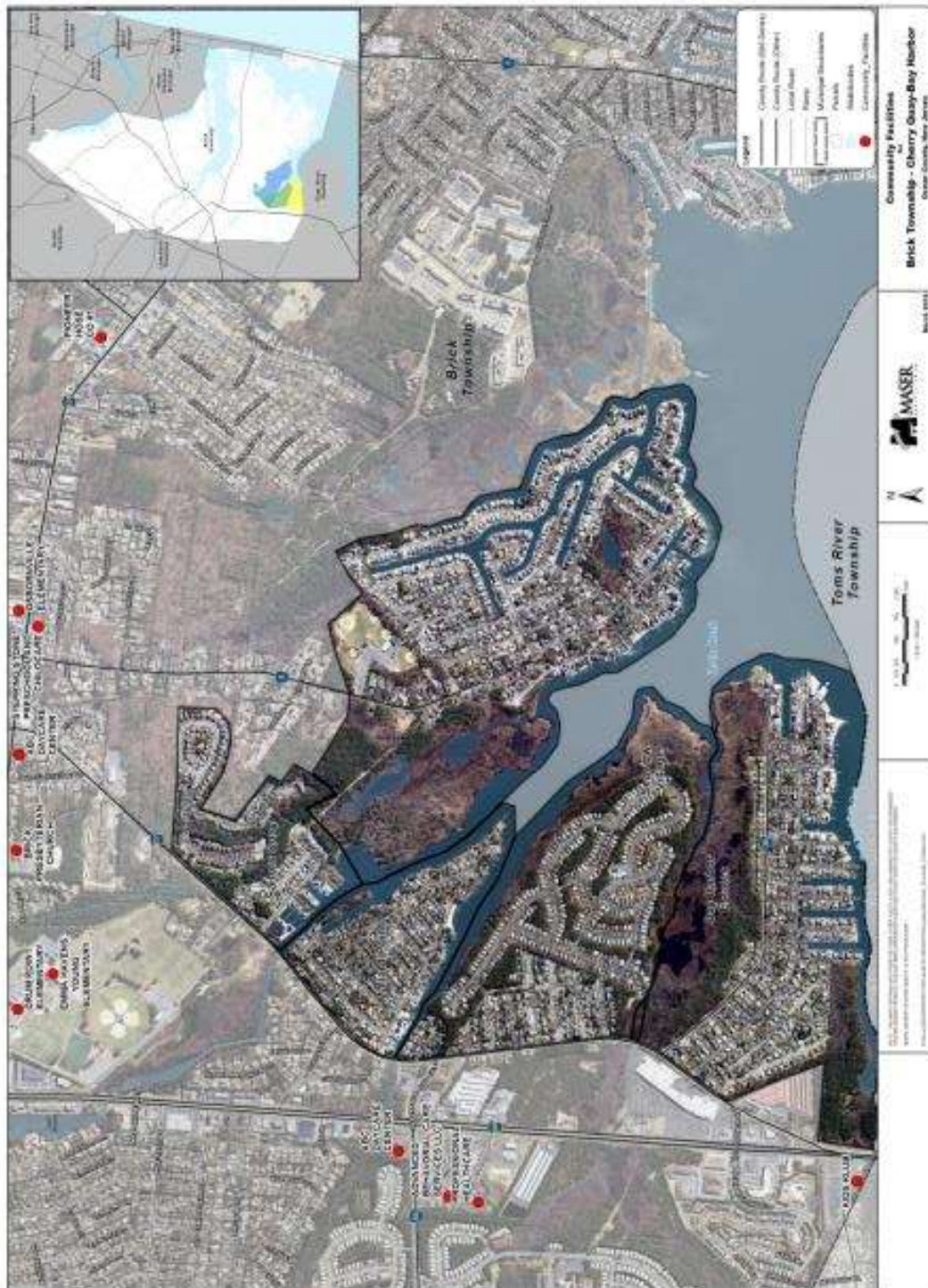
Figure 70: Location of Jersey Cen. Power & Light Co. property

[illegible]



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Map 24: Community Facilities in the vicinity of Cherry Quay-Bay Harbor





NEIGHBORHOOD PARKS, RECREATION, AND PUBLIC SPACE

Despite being a small neighborhood, both public and private recreational and park amenities, as well as conservation/open space, are fairly abundant within and around Cherry Quay-Bay Harbor. Although private and association-owned recreational amenities, such as beaches, pools, and marinas, are additional resources for many people, this Plan focuses on the public realm.

There are a number of publicly-owned parks with planned active and/or passive recreational facilities and public amenities, as well as several parks and open spaces that contain mostly trails and natural land cover. Public parks and open spaces in the neighborhood include beaches, playgrounds, sports fields and courts, trails, and waterfront access. Table 4 below provides a list of amenities at various recreational facilities throughout the Township, with Cherry-Quay parks highlighted in yellow.

Table 4: Brick Township Recreational Facilities (Cherry Quay facilities highlighted)

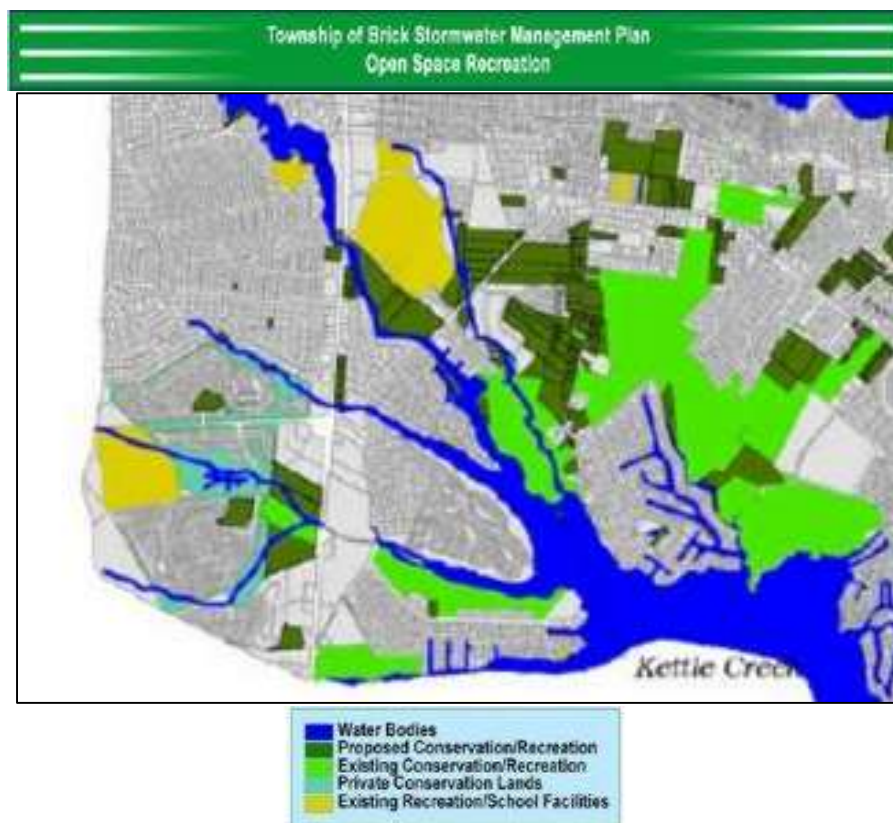
 BRICK TOWNSHIP RECREATIONAL FACILITIES FACILITY NAME - STREET LOCATION		Concession	Soccer Fields	Swimming	Basketball	Baseball/Softball	Drinking Water	Tennis Courts	Playground	Fishing	Crabbing	Picnic Tables	Rest Rooms	Volleyball	Bocce	Horseshoe Pit	Walking Trail
Airport Trail - Drum Point Road / Cherry Quay Road																	
Bay Harbor Beach - Bay Harbor Blvd.																	
Bernard J. Cooke Memorial Park - 44 Burnt Tavern Road																	
Joe Boland Field - 2000 Lanes Mill Road																	
Brick Beach I - 310 Route 35 North																	
Brick Beach II - 354 Route 35 North																	
Brick Beach III - 440 Route 35 North																	
Brick Township Municipal Building - 401 Chambers Bridge Rd																	
Cedar Bridge Manor Park - 73 & 77 Cedar Bridge Manor Drive																	
Colorado Avenue Park - 501 Colorado Avenue																	
Drum Point Sports Complex - 41 & 43 Drum Point Road																	
Angela Hibbard Park - 600 Drum Point Road																	
Edmund Hibbard Park - 56 Tiller Lane																	
Frede Drive Park - 119 Frede Drive																	
Lake Riviera Park - 371 North Lakeshore Drive																	
Mallard Point Park - 41 Tunesbrook Drive																	
Arrowhead Park - 161 Village Way																	
Pinewood Acres Complex - 1351 Route 88 West																	
Sawmill Trail - Burnt Tavern Road																	
Veterans Memorial Complex - Hendrickson Avenue																	
Hank Waltonowski Park - Ashwood Road																	
VFW Park - 154 Dutchess Lane																	
Windward Beach Park - 265 Princeton Avenue																	
Midstreams Elementary School Playground - Midstreams Rd.																	
Emma Havens Young School Playground - Drum Point Rd.																	
Traders Cove Marina and Park - 40 Mantoloking Road																	
Bayside Park - 427 Route 35 South																	



The parks are somewhat equidistant in their distribution, although not every neighborhood has a park or public space. The greatest quantity and largest open spaces are found in the northeast of the neighborhood by Cherry Quay, as well as Drum Point School, which is slightly outside of the neighborhood. Mallard Point and Bay Harbor Estates both have public beaches, as well. All of the properties are listed on the State of New Jersey Department of Environmental Protection Green Acres Program ROSI Database.

In addition to public parks and facilities, the Open Space Recreation map from the Township Master Plan also shows several existing and proposed conservation/recreations lots for future planning, which are further expanded upon in the following section. The following public parks and open spaces serve an important function and are valuable assets to the neighborhood:

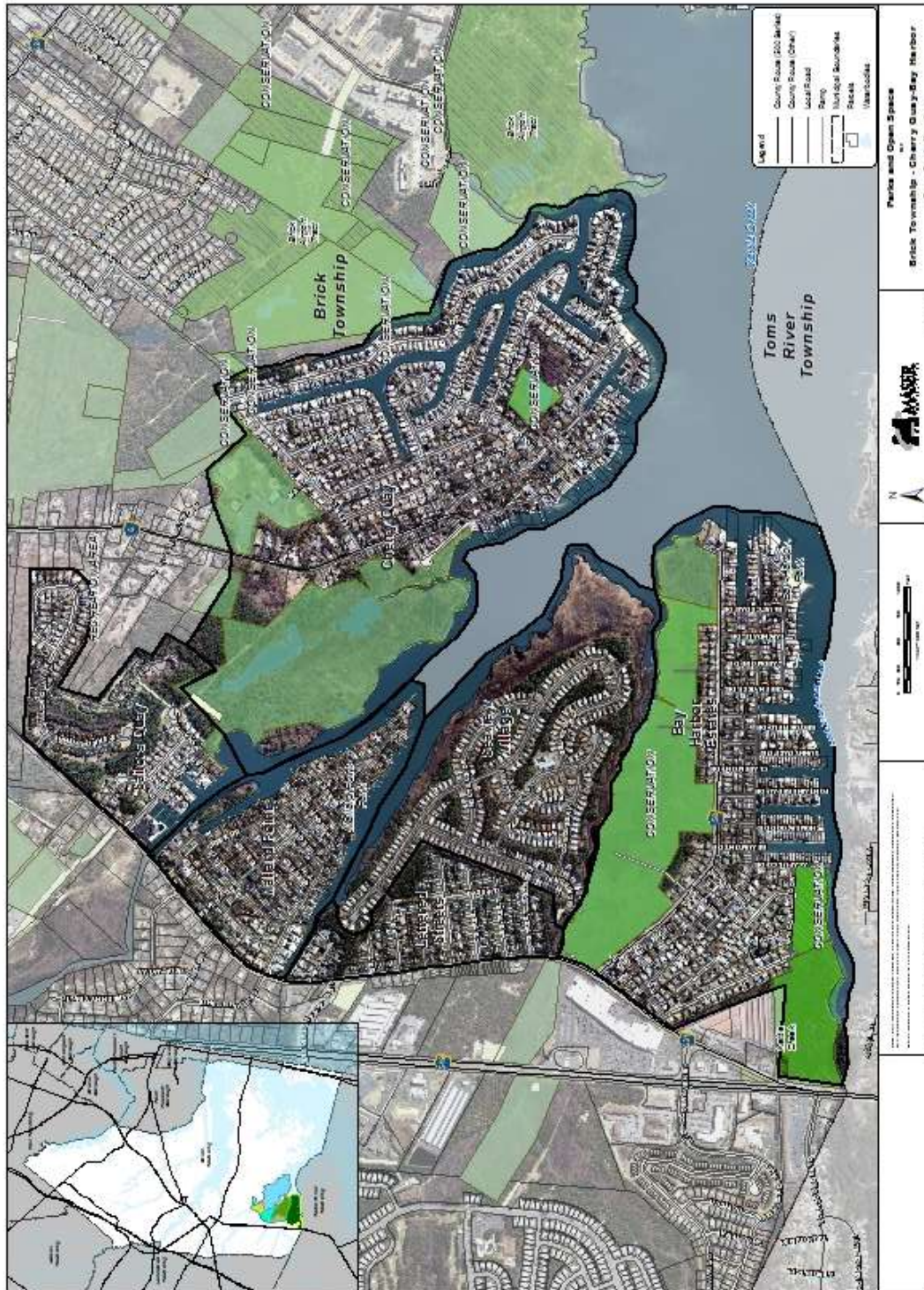
Map 25: Open Space and Recreation Map of Cherry Quay-Bay Harbor (Brick Township Master Plan, 2007)





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Map 26: Open Space and Parks Map





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BAY HARBOR PARK

Bay Harbor Park is a public park and beach located along Bay Way in the southeastern part of Bay Harbor Estates. Bay Harbor Park suffered significant damage in the wake of Superstorm Sandy and was thereafter reconstructed in 2015.



Figure 71: Bay Harbor Park (Daniel Nee, Oct. 8, 2015)



Figure 72: Another view of Bay Harbor Park (Google Streetview)

The completed project includes the installation of 200 linear feet of vinyl bulkhead, 2,000 cubic yards of sand, and 300 cubic yards of stone revetment along with a stone dust pedestrian walk, picnic table and park benches. The project improves the separation of the off-street gravel parking lot and pedestrian area with wood guard rail. In addition, the park supports fishing, crabbing, a kayak/stand up paddleboard launch, a playground, swing set, and a beach. No swimming is permitted at the beach; however, it can be used for launching non-motorized watercraft.



Figure 73: Aerial view of Bay Harbor (Google Maps)

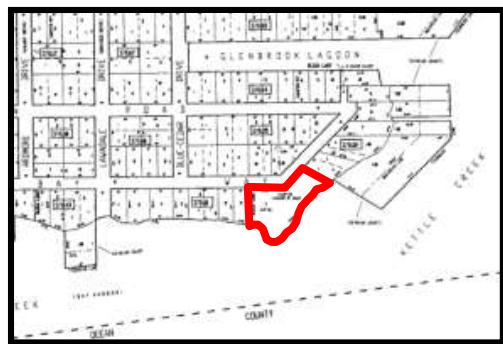


Figure 74: Tax Map view of Bay Harbor Park

CHERRY QUAY PARK/EDMUND H. HIBBARD PARK

Cherry Quay Park, also known as Edmund H. Hibbard Park, is located between Cherry Quay Road and Tiller Lane at 56 Tiller Lane in Cherry Quay. The park is the largest in the Cherry Quay-Bay Harbor



neighborhood with 15.73 acres and includes six baseball/softball fields, playground, benches, a walking path, about 347 parking spaces, and a restroom/concession building.



Figure 75: Aerial image of the existing Cherry Quay Park (pre-reconstruction) (Google Maps)



Figure 76: Entrance of Cherry Quay Park on Cherry Quay Road (Google Streetview)



Figure 77: Tax Map of Cherry Quay Park/Brick Township property (outlined in red)

DRUM POINT/EMMA HAVENS YOUNG SPORTS COMPLEX

Drum Point Sports Complex is located on the Brick Township property shared with Drum Point Elementary School and Emma Havens Young Elementary School on Block 548, Lot 21 at 41 & 43 Drum Point Road. The park is also accessible via Brick Boulevard and shares facilities with the Board of Education and the public. The complex is not located within the Cherry Quay-Bay Harbor neighborhood; however, it is immediately northwest of Sailor's Quay.



Figure 78: Entrance to Drum Point Sports Complex from Brick Boulevard (Google Streetview)

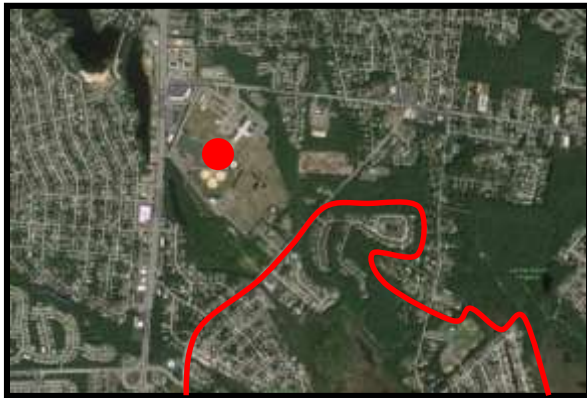


Figure 79: Aerial Map of Sports Complex (red dot) in relation to neighborhood (red outline) (Google Maps)



Figure 80: Tax Map of Brick Township properties with sports complex and schools (outlined in red)

Drum Point Sports Complex supports both active and passive recreation with four baseball fields, one football field, five soccer fields, several “flex” fields, picnic tables, a number of buildings with facilities such as restrooms. The two schools also have several playgrounds, fields, and basketball courts. There are also six parking lots between the Sports Complex and the schools.

LAKE RIVIERA PARK AND SWIM CLUB

Lake Riviera Park is not within the Cherry Quay-Bay Harbor boundary; however, it is located nearby to the northwest of Drum Point Middle School. The park is undergoing reconstruction and will include two playgrounds, a basketball court, and a walking trail. Currently, Lake Riviera includes about 40 parking spaces, a gazebo, and one playground. This park is not significant for the purpose of this Neighborhood Plan.

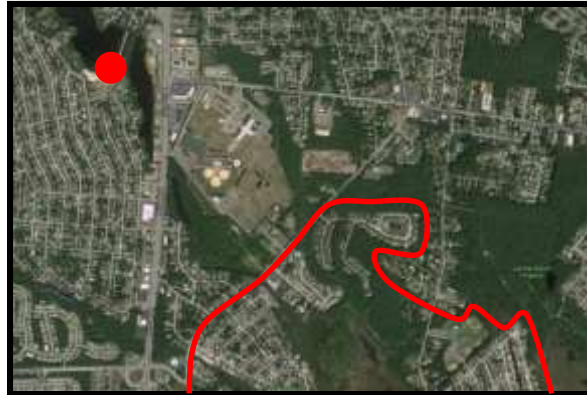


Figure 81: Location of Lake Riviera (red point) in relation to Cherry Quay-Bay Harbor (red outline)

MALLARD POINT PARK

Mallard Point Park is located at 41 Tunes Brook Drive on Block 356, Lot 551.01 along Tunes Branch. The park has a mix of passive and active recreation with amenities such as a beach, picnic tables, playground, swings, benches, boat ramp, volleyball net, dock, and on-street parking. Although the park is mostly sand cover, there is some marsh vegetation on the eastern end, as well as trees. Immediately to the east, adjacent to the park, is the Mallard Point Beach Club, which provides private access and a boat launch into Tunes Branch.



Figure 82: Mallard Point Park playground and beach with private boat ramp to the left (Google Streetview)



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Figure 83: Aerial image of Mallard Point Park (Google Maps)



Figure 84: Township Tax Map of Mallard Point Park

In addition to providing public access and recreational opportunities, the remaining natural and permeable areas within the park along the waterfront also serve to absorb water during storm surge and high flood levels and prevents nearby areas from flooding as drastically than if it were developed. This capability for flood storage could be further expanded.

OPEN SPACE & PRESERVATION/CONSERVATION AREAS

Cherry Quay-Bay Harbor also contains some conservation lands and wetlands, which are protected, as shown in Map 25 and Map 26 above.

There are many Township-owned properties that are listed as conservation lands or wetlands, but are not properly marked or posted on the property, nor provide public access amenities. Limiting foot traffic in certain sensitive natural areas may be necessary, but signs should be posted to notify the public. On the other hand, providing public access in existing and proposed conservation areas increases the incentive to retain the land as conservation/recreation space, as well as encourages public and environmental health, and increases opportunities to teach the public about the impact of development on the ecosystem. Preserved/Conservation lands include: Bay Harbor Conservation Area

The “Bay Harbor Conservation Area” is conservation land located between Bay Harbor Boulevard and Long Causeway Branch of the Kettle Creek on the northern edge of Bay Harbor. The area occupies Block 378, Lots 4.01 and 4.02, and is tax exempted, owned by the Township of Brick. The two lots total approximately 57 acres of land in the R-7.5 zone and is adjacent to dense single-family homes on the southern side.



Figure 85: Bay Harbor Conservation Area seen from Bay Harbor Boulevard and Blue Cedar Drive (Google Streetview)

There is no identified public access into the conservation area, which provides a mix of coastal forest, tidal wetlands, and riverine shoreline. There is a pedestrian sign in the conservation area along Bay Harbor Boulevard; however, it has been overgrown and is illegible. A sidewalk runs along the southern edge of the property, but terminates near Blue Cedar Drive where the marsh abuts the road.



Figure 86: Aerial Map of Bay Harbor Conservation Area (red outline) (Google Maps)

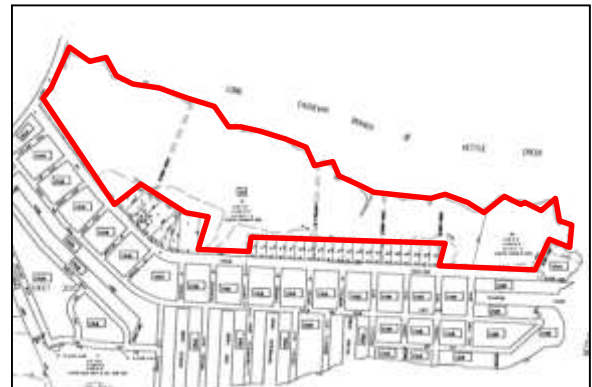


Figure 87: Tax Map of Bay Harbor Conservation Area

CHERRY QUAY POND

The Cherry Quay Pond is a catch/drainage basin located in the center of Cherry Quay and divided between public and private ownership. The Township-owned conservation property is located on Block 324.09, Lot 21 on Port Road and is a conservation area (highlighted in green in Figure 89 and Figure 90).



Figure 88: View of path to Cherry Quay Pond from Club House Road (Site visit, April 2015)

The only public access to the conservation area is from a small right-of-way street off of Club House Road to the northeast. There is a short path from the road to the water, as shown in Figure 88 above. However, the tax maps show a paper street that extends Port Road between Boom Lane and the pond, although adjacent property owners appear to have partially restricted access, whether by deed or misappropriation.

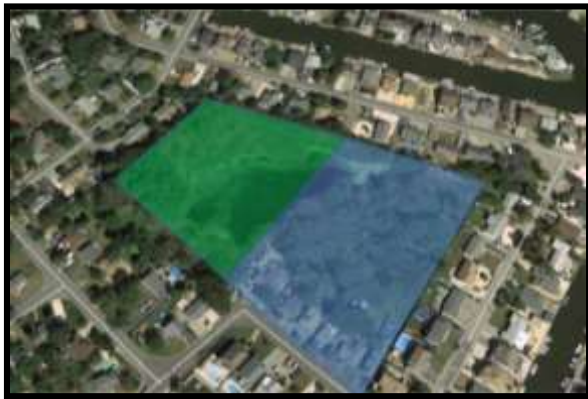


Figure 89: Birdseye view of Cherry Quay Pond (Township property highlighted in green)



Figure 90: Tax map of Cherry Quay Pond (Township property highlighted in green)

The basin is surrounded on all sides by development (as shown in the historical analysis in previous sections and detailed in later sections) and lacks the necessary outfall pipes to allow for proper drainage of the pond. The surrounding neighborhood has regularly had problems with the overflow of the pond during heavy rains and high tides. The Cherry Quay neighborhood was inundated during Superstorm Sandy and the pond overflowed and was filled with debris. The Township intends to clean out the pond and install appropriate flood management infrastructure if funding becomes available.

EDWIN B. FORSYTHE NATIONAL WILDLIFE REFUGE

The Forsythe Wildlife Refuge comprises most of the wetlands along the northeast and west sides of the Cherry Quay sub-neighborhood. The wetlands separate Cherry Quay from Sailor's Quay and Shore Acres. These are valuable natural lands of national significance and the park extends over much of the eastern portion of Brick Township and Barnegat Bay.



Figure 91: Part of Forsythe Wildlife Refuge wetlands as seen from Holly Ave., Mandalay Park (Google Streetview)



Figure 92: Aerial map of Forsythe conservation area in Cherry Quay (outlined in red)

JOE PAL/BRICK AIRPORT TRACT

The Joe Pal Airport Tract contains 273 acres of undeveloped open space, owned by the Township of Brick. The expansive property contains trails for walking, hiking, running, and biking and connects the neighborhoods of Cherry Quay and Shore Acres (Waterside Gardens). Although it is not within the neighborhood borders, the property directly abuts the sub-neighborhood of Cherry Quay. The official trailheads are located at 419 Drum Point Road (Block 321, Lots 4 and 4.02) at the western border of Baywood and along Cherry Quay Road to the west.



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Figure 93: Entrance to Joe Pal property on Cherry Quay Road (Google Streetview)



Figure 94: Joe Pal Airport Tract (outlined in red) with trailhead (yellow star)

Associated directory signage is located at each entrance, as well as on-site parking in a gravel lot with handicap parking, trash cans, and picnic tables at the Drum Point Road entrance. The Township intends to extend the bicycle path on the property between the two neighborhoods.

OCEAN COUNTY NATURAL LAND TRUST



Figure 95: Natural Land Trust area seen from end of Acapulco Drive (Google Streetview)



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Figure 96: Aerial map of Natural Land Trust area (Google Maps)

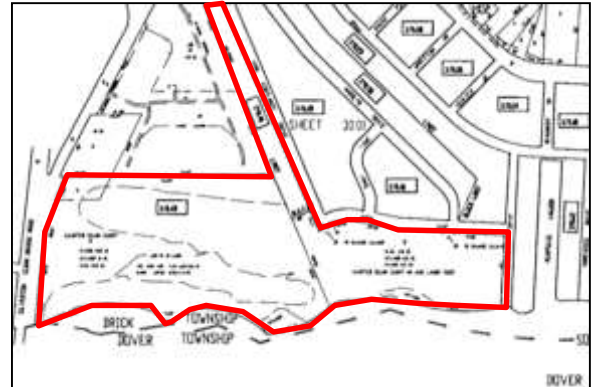


Figure 97: Tax Map of Natural Land Trust area

OTHER NEIGHBORHOOD DESTINATIONS

Other than the public parks and conservation/preservation spaces already listed above, there are only a few other destinations within the boundaries of the Cherry Quay-Bay Harbor neighborhood, which include private facilities. However, there are several destinations in the immediate vicinity, primarily of private commercial nature, but also professional and institutional destinations. These include grocery stores, gas stations, national banks, offices, churches, and big box retail stores, among other regional destinations.

Most of the businesses are highway or general commercial serving a large regional community. Marinas occupy a unique category bordering recreational and commercial and are most often private. The following neighborhood destinations around Cherry Quay-Bay Harbor are listed by their location.

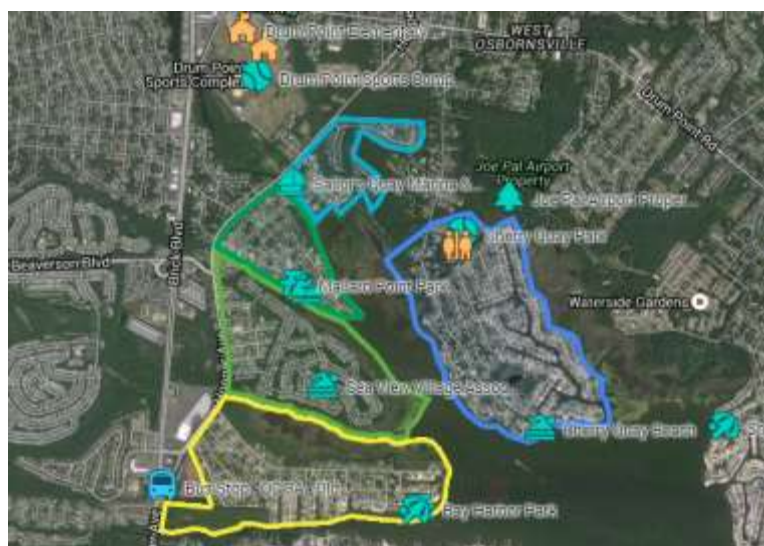


Figure 98: Neighborhood Destinations by Sub-Neighborhood

SAILOR'S QUAY

SAILOR'S QUAY MARINA & POOL

Sailor's Quay Marina is a private marina, offering boat slips, a clubhouse, an outdoor pool, and a large parking lot. It is located in Sailor's Quay at the southwest corner of Hooper Avenue and Pleasant Drive.



Figure 99: Entrance to Sailor's Quay Marina from Hooper Avenue (Google Streetview)



Figure 100: Location of Sailor's Quay Marina (Google Maps)

SEAVIEW VILLAGE

SEAVIEW VILLAGE ASSOCIATION

Seaview Village Association includes a private association clubhouse at the corner of Jetty Court and Seaview Avenue in Seaview Village. The clubhouse includes active and passive recreation with a swimming pool, picnic tables, bocce or shuffleboard, community center, and approximately 44 off-street parking spaces.



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Figure 101: Entrance of Seaview Village Association clubhouse, Jetty Court (Google Streetview)



Figure 102: Location of Seaview Village Association clubhouse (Google Maps)

CHERRY QUAY

CHERRY QUAY BEACH

Cherry Quay Beach is a private beach in the Cherry Quay sub-neighborhood, owned and maintained by the Cherry Quay Community Association. It is located on Block 324.08, Lot 10, along Captains Drive. The beach allows passive and active recreation, with such amenities as a swing set, playground, picnic tables, beach access, shelter, possible small craft launch, and minor vegetation.



Figure 103: Entrance to Cherry Quay Beach on Captains Ct., Cherry Quay (Google Streetview)

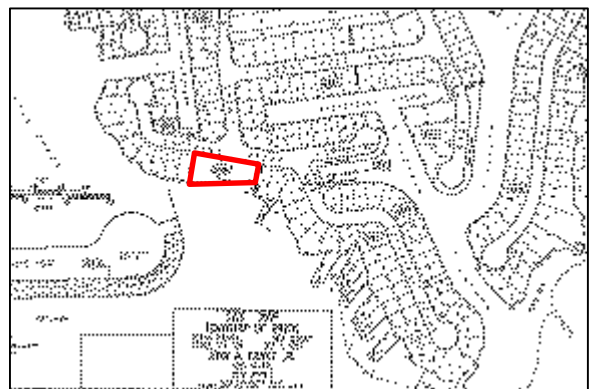


Figure 104: Township Tax Map with Cherry Quay Beach

NEARBY DESTINATIONS



THE TOWNSHIP OF **BRICK, NJ**

SHOPPING CENTER

Across Bay Harbor Estates between Hooper Avenue and Brick Boulevard is a large shopping center with a Stop & Shop grocery store, M&T Bank, Burlington Coat Factory, Aaron's, PNC Bank, Baby Depot, AC Moore Arts and Crafts, et cetera. There is also a bus shelter in the front of the plaza on Brick Boulevard where the Ocean County 3A Bus also stops. This is the closest shopping area and public transportation for the entire neighborhood.

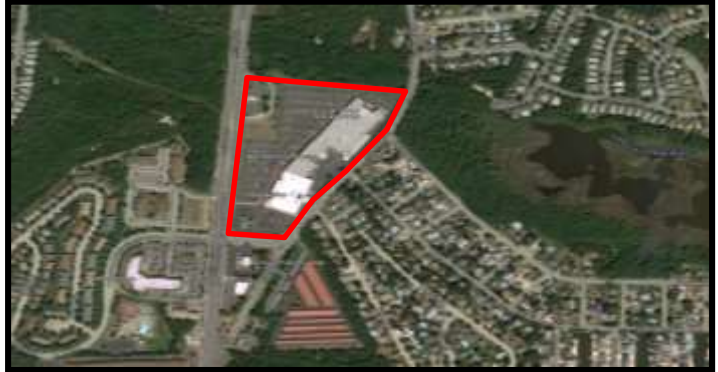


Figure 107: Aerial map of shopping center (outlined in red) (Google Maps)



Figure 106: Front view of the shopping center on Brick Boulevard (Google Streetview)



Figure 105: Rear view of the shopping center, Hooper Avenue (Google Streetview)

DRUM POINT ELEMENTARY SCHOOL/EMMA HAVENS YOUNG ELEMENTARY SCHOOL



Figure 108: Drum Point Elementary School located at 41 & 43 Drum Point Road in Brick Township. The school is marked with a yellow star and the Cherry Quay-Bay Harbor neighborhood shown in red (Google Maps)



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LAKE RIVIERA MIDDLE SCHOOL



Figure 109: Lake Riviera Middle School located at 171 Beaverson Boulevard in Brick Township. The school is marked with a yellow star and the Cherry Quay-Bay Harbor neighborhood shown in red (Google Maps)

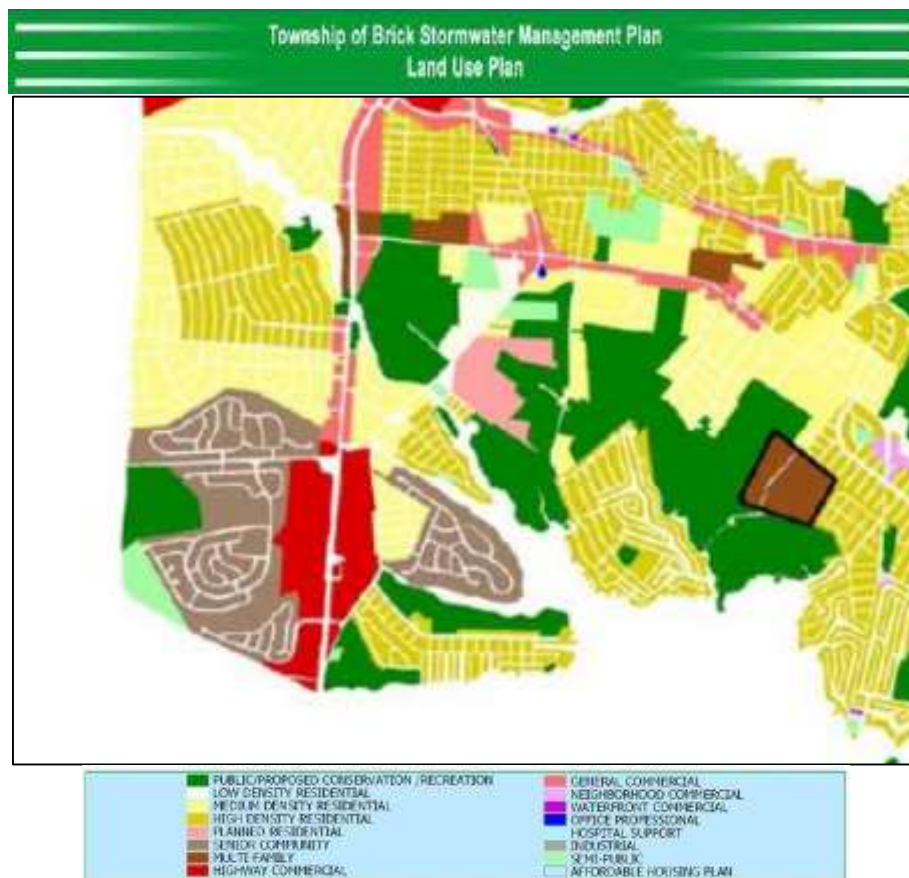


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ZONING ANALYSIS

The majority of the neighborhood falls within a High Density Residential area or Public/Proposed Conservation/Recreation areas. However, the developed part of Waterside Gardens is Multi-Family, and there are a few small areas with Semi-Public parcels, Waterfront Commercial, and Neighborhood Commercial properties, as shown in the Township Land Use Plan on Map 27 below.

Map 27: Land Use Plan for Cherry Quay-Bay Harbor



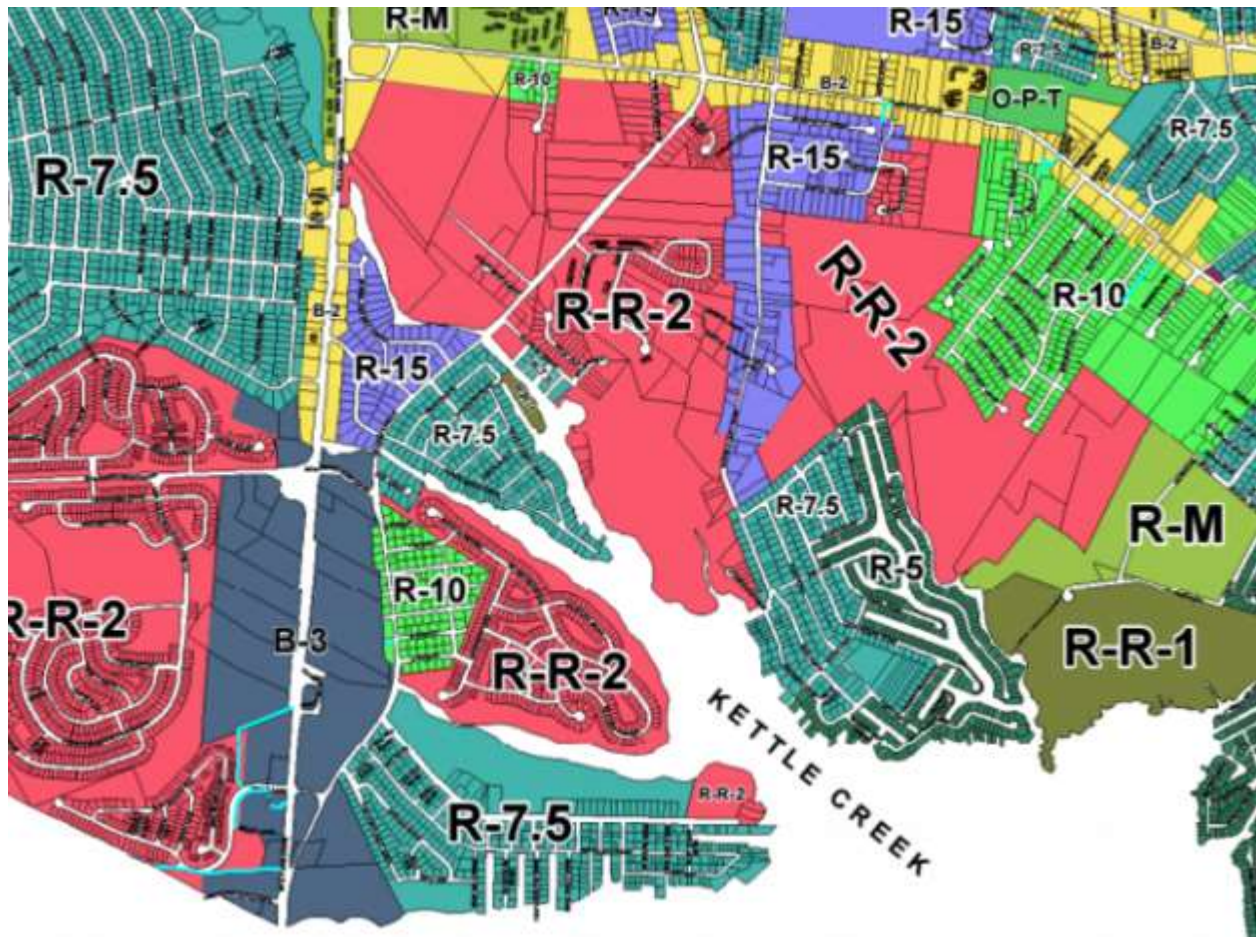
The Township Zoning Map breaks down the land uses further to better define what types of uses are permitted in each area. As shown on Map 28, there are six different zones in the Cherry Quay-Bay Harbor neighborhood – three of which constitute “High Density Residential”. These zones are divided in a similar way to the distinct sub-neighborhoods, following nearly the same boundaries.

The R-5 and R-7.5 Residential Zones cover much of the developed area of the neighborhood and includes the majority of Baywood, Cherry Quay-Bay Harbor, and Seawood Harbor. The other zones include R-10 (Single-Family Residential Zone), R-M (Multifamily Residential Zone), R-R-1 (Rural Residential Zone), and B-1 (Neighborhood Business Zone) and are all described further in this section, referring to Chapter 245:



Land Use in the Township Code. R-5, R-7.5, and R-10 have the same permitted uses. This Neighborhood Plan focuses on design standards and some suggested alterations to the uses and zoning map of the neighborhood.

Map 28: Cherry Quay-Bay Harbor Zoning Map



B-2 (GENERAL BUSINESS ZONE)

The following are permitted uses in the B-2 Zone (per Section 245-214):

- A. The retail sale of goods, as listed in the ordinance.
- B. Personal services establishments, as listed in the ordinance.
- C. Shops of a plumber, electrician, carpenter, printer, painter or similar tradesman.
- D. Boat sales and showrooms not in conjunction with a marina, provided that the standards and conditions in the ordinance are complied with.
- E. Adult day-care centers.



- F. Studios for such activities as aerobics, fitness and personal training, domestic animal training, martial arts, dance, music and art; health and fitness facilities; and indoor batting cages and indoor basketball courts shall be considered permitted uses and not conditional uses subject to the requirements of § 245-286.



Figure 110: Typical B-2 General Commercial development
(Google Streetview/Maps)

the requirements of § 245-286 are met.

- C. Automobile sales and/or rental facilities listed as a conditional use pursuant to § 245-289.
D. Places of assembly, parish houses, convents and cemeteries.
E. Scattered-site affordable housing units.

G. Municipal buildings, volunteer first-aid buildings and firehouses.

H. Public libraries.

I. Taxicab and limousine services.

J. The aforesaid permitted uses may be located in attached structures using common facilities which may be planned, developed and managed as a unit and in an enclosed building or buildings and utilizing such common facilities as customer parking areas, pedestrian walkways, truck loading and unloading space and utilities and sanitary facilities.

Permitted accessory uses shall be accessory uses as defined in Part 1 of this chapter.

The following uses are defined as conditional uses and may be permitted subject to the requirements as set forth in Article XXXII, § 245-279 et seq.:

A. Utility installations, provided that the requirements of Article XXXII are met.

B. Commercial recreation, provided that

Table 5: Schedule of Area, Yard and Building Requirements for Zone B-2 (from Township of Brick §245 Attachment 5)

Zone			B-2
Minimum Lot Size	Interior Lots	Area (sf)	20,000
		Width (ft)	125
		Depth (ft)	125



	Corner Lots	Area (sf)	20,000
		Width (ft)	125
		Depth (ft)	125
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	50
		Side Yard, Each (ft)	10
		Aggregate Side (ft)	-
		Rear Yard (ft)	50
	Accessory	Side Yard (ft)	10
		Rear Yard (ft)	50
Maximum Lot Coverage by Building			30%*
Maximum Building Height		Stories	2
		Eaves (ft)	-
		Feet	35
		Ridge (ft)	38.5
Minimum Floor/Building Area (square feet) 2 stories/1 story			2,000
Maximum Allowable Impervious Coverage			65%

*The maximum lot coverage shall refer only to that percentage of an affected lot which is suitable for building.

B-3 (HIGHWAY DEVELOPMENT ZONE)

The following are permitted uses in the B-3 Zone (per Section 245-224):

- A. Commercial and office complex uses, such as:
 1. Retail stores, shops and markets, provided it meet the requirements in the ordinance.
 2. Personal service establishments, such as barber and beauty shops, tailoring and dressmaking shops and dry-cleaning and laundry collection shops, provided that no more than 1/3 of the floor space is utilized for processing and self-service laundries, provided that public sewerage facilities are available, and appliance repair shops.
 3. Business and professional offices, banks and fiduciary institutions.



Figure 111: Typical B-3 Highway Commercial development (Google Streetview/Maps)



4. Restaurants and lunchrooms, bars and other eating and drinking establishments.
 5. (Reserved)
 6. Studios for such activities as aerobics, fitness and personal training, domestic animal training, martial arts, dance, music and art, health and fitness facilities, and indoor batting cages and indoor basketball courts shall be considered permitted uses and not conditional uses subject to the requirements of § 245-286.
 7. Telephone exchanges and offices, telegraph and express offices and other public utility installations.
 8. Commercial parking lots for private passenger vehicles.
 9. Private schools conducted for profit but excluding public schools or private schools not conducted for profit.
 10. Mortuaries.
 11. Distribution centers. The sale of goods in bulk or wholesale quantities may be conducted in conjunction with retail operations in the B-3 Zone, provided that it meets the requirements in the ordinance.
 12. Taxicab and limousine services.
- B. (Reserved)
 - C. Municipal parks, playgrounds and other municipal buildings and uses as are deemed appropriate and necessary by the Township Council.
 - D. Boat sales and showrooms not in conjunction with a marina may be permitted, provided that they comply with the standards and conditions in the ordinance.
 - E. (Reserved)
 - F. Long- and short-term care medical facilities.
 - G. Municipal buildings, volunteer first-aid buildings and firehouses.
 - H. Public libraries.

Permitted accessory uses shall be accessory uses as defined in Part 1 of this chapter.

The following uses are defined as conditional uses and may be permitted subject to the requirements as set forth in Article XXXII, § 245-279 et seq.:

- A. Utility installations, provided that the requirements of Article XXXII are met.
- B. Gasoline filling stations, gasoline service stations, general auto repair and convenience stores, but excluding body repair, and provided that the requirements of Article XXXII, § 245-284 are met.
- C. Automobile sales and/or rental facilities, provided that the conditions of § 245-289 are met.
- D. Hotels, provided that the conditions of Article XXXII, § 245-288, are met.
- E. Shopping centers, provided the conditions of Article XXXII are met.
- F. (Reserved)
- G. Commercial recreation, provided that the requirements of § 245-286 are met.
- H. Mini-warehouses, provided that the conditions of Article XXXII are met.



Table 6: Schedule of Area, Yard and Building Requirements for Zone B-3 (from Township of Brick §245 Attachment 5)

Zone			B-3
Minimum Lot Size	Interior Lots	Area (sf)	2 acres
		Width (ft)	200
		Depth (ft)	200
	Corner Lots	Area (sf)	2 acres
		Width (ft)	200
		Depth (ft)	200
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	75
		Side Yard, Each (ft)	30
		Aggregate Side (ft)	-
		Rear Yard (ft)	50
	Accessory	Side Yard (ft)	20
		Rear Yard (ft)	50
Maximum Lot Coverage by Building			25%*
Maximum Building Height		Stories	-
		Eaves (ft)	-
		Feet	35
		Ridge (ft)	38.5
Minimum Floor/Building Area (square feet) 2 stories/1 story			2,000
Maximum Allowable Impervious Coverage			65%

*The maximum lot coverage shall refer only to that percentage of an affected lot which is suitable for building.

R-5 & R-7.5 (SINGLE-FAMILY RESIDENTIAL ZONES)

Permitted uses in the R-5 and R-7.5 zones are the same as those zoned for the R-20 Residential zone (§245-112). The permitted uses are as follows:

- One-family dwellings
- Municipal parks, playgrounds, and other municipal buildings and uses as are deemed appropriate and established by the Township Council. The minimum land area shall not be less than 1/2 acre.
- Other public buildings of a governmental or cultural nature.
- Volunteer first aid buildings and firehouses.
- Public libraries.

The following are permitted as accessory uses (as per R-20 zone):



- A. Private garage space for the storage of motor vehicles.
- B. Accessory uses as defined in Part 1 of this chapter

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- A. Scattered-site single-family detached affordable housing units
- B. Public schools and private schools which are not conducted as a business
- C. Places of assembly, parish houses, convents and cemeteries
- D. Creation of beach cottage community conditional use for structural alteration or rebuilding of these residential buildings only on the following properties; Block 25, Lot 4, Block 26, Lot 4, and Block 36, Lots 12, 13, 24, and 28.



Figure 112: Left - Typical R-5 development, Cherry Quay; Right – Typical R-7.5 development, Bay Harbor (Google Maps/Streetview)

The bulk standards for both zones are very similar because they are high density, although the minimums for the R-5 zone are slightly less than those in the R-7.5 zone. The biggest difference is seen in the lot size, where it is 5,000 square feet in R-5, whereas it is 7,500 square feet in the R-7.5 zone. Additionally, the minimum width is 50 feet for R-5 and 75 feet for R-7.5 and the minimum depth is 75 feet for R-5 and 90 feet for R-7.5. The percent lot coverage is slightly more for the R-5 zone than the R-7.5 zone, but the maximum building heights are the same for both zones.



The present bulk standards for the R-5 and R-7.5 Zones are outlined in Table 7 below:

Table 7: Schedule of Area, Yard and Building Requirements for Zones R-5 & R-7.5 (from Township of Brick §245 Attachment 5)

Zone			R-5	R-7.5
Minimum Lot Size	Interior Lots	Area (sf)	5,000	7,500
		Width (ft)	50	75
		Depth (ft)	75	90
	Corner Lots	Area (sf)	6,000	9,000
		Width (ft)	50	75
		Depth (ft)	75	90
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	20	25
		Side Yard, Each (ft)	5	6
		Aggregate Side (ft)	12	15
		Rear Yard (ft)	15	15
	Accessory	Side Yard (ft)	5	5
		Rear Yard (ft)	5	5
Maximum Lot Coverage by Building			35%	30%
Maximum Building Height		Stories	-	-
		Eaves (ft)	26	26
		Feet	35	35
		Ridge (ft)	38.5	38.5

R-10 (SINGLE-FAMILY RESIDENTIAL ZONE)

Permitted uses in the R-10 zone are the same as those zoned for the R-20 Residential zone (§245-112). The permitted uses are as follows:

- One-family dwellings
- Municipal parks, playgrounds, and other municipal buildings and uses as are deemed appropriate and established by the Township Council. The minimum land area shall not be less than 1/2 acre.
- Other public buildings of a governmental or cultural nature.
- Volunteer first aid buildings and firehouses.
- Public libraries.

The following are permitted as accessory uses (as per R-20 zone):



Figure 113: Typical R-10 Development, Seaview Village (Google Maps/Streetview)



- C. Private garage space for the storage of motor vehicles.
- D. Accessory uses as defined in Part 1 of this chapter

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- A. Scattered-site single-family detached affordable housing units.
- B. Public schools and private schools which are not conducted as a business shall be permitted as a conditional use, subject to the conditions and procedures in § 245-298.2.
- C. Places of assembly, parish houses, convents and cemeteries.

Table 8: Schedule of Area, Yard and Building Requirements for Zone R-10 (from Township of Brick §245 Attachment 5)

Zone			R-10
Minimum Lot Size	Interior Lots	Area (sf)	10,000
		Width (ft)	90
		Depth (ft)	100
	Corner Lots	Area (sf)	10,500
		Width (ft)	100
		Depth (ft)	100
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	30
		Side Yard, Each (ft)	6
		Aggregate Side (ft)	20
		Rear Yard (ft)	20
	Accessory	Side Yard (ft)	5
		Rear Yard (ft)	5
Maximum Lot Coverage by Building			30%
Maximum Building Height		Stories	-
		Eaves (ft)	26
		Feet	35
		Ridge (ft)	38.5

R-15 (SINGLE-FAMILY RESIDENTIAL ZONE)

Permitted uses in the R-15 zone are the same as those zoned for the R-20 Residential zone (§245-112). The permitted uses are as follows:

- F. One-family dwellings
- G. Municipal parks, playgrounds, and other municipal buildings and uses as are deemed appropriate and established by the Township Council. The minimum land area shall not be less than 1/2 acre.
- H. Other public buildings of a governmental or cultural nature.
- I. Volunteer first aid buildings and firehouses.
- J. Public libraries.

The following are permitted as accessory uses (as per R-20 zone):



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- E. Private garage space for the storage of motor vehicles.
- F. Accessory uses as defined in Part 1 of this chapter

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- D. Places of assembly, parish houses, convents and cemeteries.
- E. Public schools and private schools which are not conducted as a business shall be permitted as a conditional use, subject to the conditions and procedures in § 245-298.2.

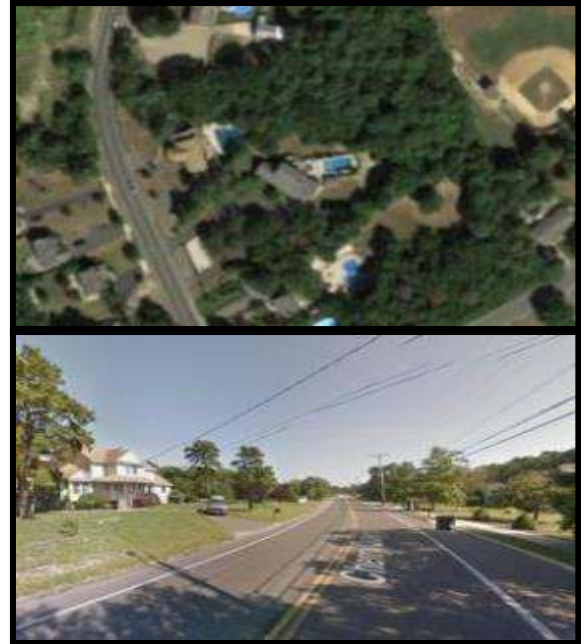


Figure 114: Typical R-15 Development, Cherry Quay
(Google Maps/Streetview)

Table 9: Schedule of Area, Yard and Building Requirements for Zone R-15 (from Township of Brick §245 Attachment 5)

Zone			R-15
Minimum Lot Size	Interior Lots	Area (sf)	15,000
		Width (ft)	100
		Depth (ft)	115
	Corner Lots	Area (sf)	17,250
		Width (ft)	100
		Depth (ft)	115
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	35
		Side Yard, Each (ft)	12
		Aggregate Side (ft)	-
		Rear Yard (ft)	35
	Accessory	Side Yard (ft)	10
		Rear Yard (ft)	10
Maximum Lot Coverage by Building			25%
Maximum Building Height		Stories	-
		Eaves (ft)	26
		Feet	35
		Ridge (ft)	38.5



R-R-1 (RURAL RESIDENTIAL ZONE)

The following are permitted uses in the R-R-1 Zone:

- A. Customary and conventional farming operations.
- B. One-family dwellings.
- C. Public and accredited private schools and institutions which may be conducted as a business.
- D. Municipal parks, playgrounds and other such municipally owned buildings and uses as are deemed appropriate and necessary by the Township Council of the Township of Brick.
- E. Municipal buildings, volunteer first aid buildings and firehouses.
- F. Public libraries.

The following are permitted as accessory uses:

- A. Customary farm buildings for the storage of products or equipment or for the processing of farm products and which are located on the same parcel as the principal use.
- B. Accessory uses as defined in Part 1 of this chapter of the Code of the Township of Brick.

Conditional uses are permitted subject to the requirements set forth in the Township ordinance and include:

- A. Public utility installation.
- B. Public and quasi-public philanthropic and charitable uses.
- C. Quasi-public buildings and recreation areas.
- D. Golf courses.
- E. Places of assembly, parish houses, convents and cemeteries.

Table 10: Schedule of Area, Yard and Building Requirements for Zone R-R-1 (from Township of Brick §245 Attachment 5)

Zone			R-R-1
Minimum Lot Size	Interior Lots	Area (sf)	40,000
		Width (ft)	150
		Depth (ft)	150
	Corner Lots	Area (sf)	40,000
		Width (ft)	150
		Depth (ft)	150
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	50
		Side Yard, Each (ft)	50
		Aggregate Side (ft)	-
		Rear Yard (ft)	50
	Accessory	Side Yard (ft)	25
		Rear Yard (ft)	25



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Maximum Lot Coverage by Building		25%
Maximum Building Height	Stories	-
	Eaves (ft)	26
	Feet	-
	Ridge (ft)	-

R-R-2 (RURAL RESIDENTIAL ADULT COMMUNITY ZONE)

The following are permitted uses in the R-R-2 Zone:

- A. All uses permitted in the R-R-1 Zone.
- B. Planned residential retirement communities.
- C. Planned residential communities.

All accessory uses in the R-R-2 Zone are permitted accessory uses.

The following uses may be permitted by the Planning Board subject to the conditions and procedures as specified for each use in **Article XXXII, §245-279** et seq.:

- A. Public utility installation.
- B. Public and quasi-public philanthropic and charitable uses.
- C. Quasi-public buildings and recreation areas.
- D. Golf courses.
- E. Single-family residential at 1.5 dwelling units per buildable acre.
- F. Single-family residential with open space.
- G. Places of assembly, parish houses, convents and cemeteries.



Figure 115: Typical R-R-2 Residential neighborhood, Sailor's Quay (Google Maps/Streetview)



Table 11: Schedule of Area, Yard and Building Requirements for Zone R-R-2/PRRC (from PRRC Zoning Schedule in Township of Brick §245-90)

Zone			R-R-2/PRRC			
			Single	Duplexes	Triplexes	Quads
Minimum Lot Size	Interior Lots	Area (sf)	5,000	4,000	4,000	4,000
		Frontage (ft)	50	30	30	30
	Corner Lots	Area (sf)	7,000	6,000	6,000	6,000
		Frontage (ft)	70	55	55	55
Minimum Required Yard Depth	Principal Building	Front Yard (ft)	25	25	25	25
		Side Yard, Each (ft)	6	6	6	6
		Rear Yard (ft)	20	20	20	20
		Rear Setback for Elevated Deck (ft)	10	10	10	10
		Rear Setback for Sunroom when the Rear Yard borders Common Open Space Area	10	10	10	10
		Rear Yard (ft)(with porch/patio/steps)	15	15	15	15
		Distance between buildings (ft)	12	12	12	12
		Minimum Lot Depth (ft)	100	100	100	100
Maximum Lot Coverage per Unit			35	35	35	35
Maximum Building Height		Feet	20	20	20	20
Minimum Floor Area (Sq. Ft. per Unit)		1 bedroom	800	800	800	800
		2 bedroom	960	960	960	960
Min. Number Off-Street Parking Spaces Required per Unit			2	4	6	8
Min. Number Off-Street Parking Spaces Required per Unit			2	4	6	8

ZONING ISSUES

Despite the above standards, lots vary in size and coverage, in particular for Zones R-5 and R-7.5. This is especially true in the older neighborhoods, which may have been established before the current zoning. Undersized lots (either in width or depth) cannot meet the setback requirements of the ordinance. These issues will only be exacerbated when a homeowner tries to raise their home to avoid the Post-Sandy flood insurance premiums.

When dealing with raising a home to meet the established Base Flood Elevations (“BFEs”), residents typically run into issues with building height, coverage and setbacks. Most towns affected by Sandy amended their zoning standards for height to allow homes to be elevated without height variances. However, on undersized lots the tendency was for applications for relief from yard requirements, mainly because the new construction was a larger home than what was on the lot pre-Sandy.

In Toms River Township, the governing body responded to the trend of over-building by adopting an ordinance that established a maximum “Floor Area Ratio” for single family homes, which linked the maximum size of the home to the size of the lot and elevated any variance relief to that under NJSA 40:55D-70-d, thereby requiring five affirmative votes of the Board rather than a simple majority. Since that ordinance amendment the trend has reportedly subsided. While the lots in Cherry Quay-Bay Harbor are generally larger than those found on the Barrier Island, there are isolated examples of overbuilding which suggest that a similar approach to regulating FAR might be appropriate.

The size of new homes has not yet become a major issue in Cherry Quay-Bay Harbor as much as in other neighborhoods, but there are already a few cases and it may pose a problem further into the future as more homes are rebuilt. Although not everyone perceives the size of new homes in the neighborhood as a Township issue, many residents and Township officials have criticized that overbuilding is changing the character of the neighborhoods and is out of scale with existing homes. In many locations, newly constructed homes are twice the height of older homes and are often much larger in bulk area. Examples of conflicting residential developments in Cherry Quay-Bay Harbor are shown below in Figure 116.



Figure 116: Examples of large-scale and raised new construction homes next to smaller original homes in Cherry Quay-Bay Harbor (Google Streetview)



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Another issue that confronts property owners when elevating or reconstructing their homes is the conventional regulations regarding “yards” when the entrances to the homes are a story or more above grade, requiring additional stairs in mostly confined yard areas. Most zoning ordinances define a “yard” as a required open space on a lot between a lot line and building or structure, which is unoccupied and unobstructed from grade to sky. There are a variety of stairway designs to transition from the finished grade of an elevated or reconstructed house to the entrance doors, which are often more than 10 feet above the ground. It would require about 17 steps to cover a rise of 10 feet based on the diagram in Figure 117, which would require about 14 feet of run. Straight run of steps to the front door would then frequently require front yard variance relief in an R-5 or R-7.5 zone.

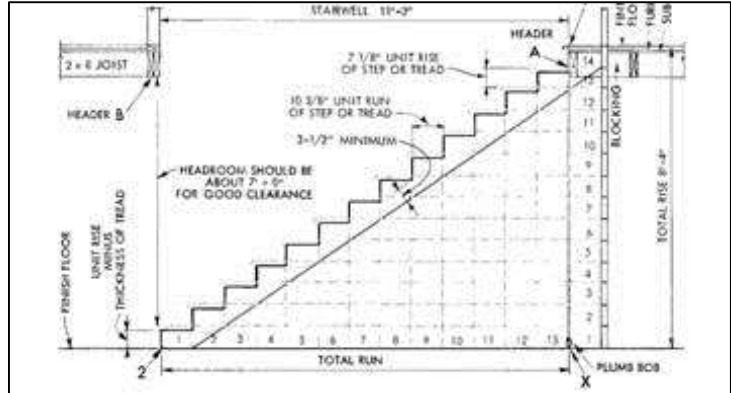


Figure 117: Typical riser and tread dimensions to cover a height of 8.33 feet

Breaking up the run of entry stairways to elevated homes with one or more landings provides for a more attractive transition, but also requires more space, which often forces stairways into required yards and generates applications for variance relief to the Zoning Board of Adjustment.

To facilitate such landings, the Township amended its zoning regulations in §245-Part 2: Article XXXVIII “Supplemental Land Use and Zoning Regulations in Special Flood Hazard Areas”. The purpose of which is to recognize limitations associated with federal and state construction and reconstruction requirements in special flood hazard areas, and encourage the restoration and reconstruction of existing neighborhoods within the Township of Brick in compliance with Chapter 196, special flood hazard areas, and the Uniform Construction Code. §245-330.4 “Permitted Yard Encroachments” permits:

- A. An access staircase and entry stoop, not to exceed 100 square feet in area, may project no further than 10 feet into a required front yard setback area. The previously referenced entry stoop may be covered or uncovered.
- B. An access staircase and entry stoop, not to exceed 50 square feet in area, may project no further than five feet into a required rear yard setback area. The previously referenced entry stoop may be covered or uncovered.
- C. An access staircase and entry stoop shall maintain a one-foot minimum side yard setback, provided that unobstructed access to the rear of the building is provided on a minimum of one side of the building.
- D. Elevated platforms for mechanical devices serving a building shall maintain a one-foot minimum side yard setback, provided that unobstructed access to the rear of the building is provided on a minimum of one side of the building.



- E. The permitted yard encroachments noted in this section are applicable to all existing and proposed buildings on any parcel of land that is designated to be in a special flood hazard area.

Additional consideration for dealing with transitioning to elevated entrances similar to the provisions made in the current ordinance for handicapped ramps could help to simplify the recovery process for property owners.

The ordinance also provides requirements for “Façade Treatments for Enclosed Spaces” (§245-330.5), as follows:

- A. A building façade with an enclosed ground level must be treated to conceal the block face.
- B. Ground level areas that are below the base flood elevation, enclosed or exposed, are uninhabitable spaces.
- C. An exposed façade area shall be screened from public view. A minimum of 30% of an exposed façade area shall be screened with landscaping, siding, venire, faux window treatments, doors, etc., to visually break up the solid wall.

These changes in the ordinance could work to help homeowners who are trying to raise their home. However, the Design Standards section of this Plan offers additional bulk standard recommendations for consideration by the Township as well as design guidelines.



RECOMMENDATIONS

The initial assessment for the Neighborhood Plan involved site visits of the area with local representatives, gathering feedback from residents, and an analysis of the information from investigations, census data, and historic documents assembled by Township Planners and consultants. From this baseline information, the following ideas emerged:

CONNECTIVITY, MOBILITY, AND STREETSCAPES

As demonstrated in previous sections of this Plan, there is a major lack of public pedestrian infrastructure within and between the sub-neighborhoods of Cherry Quay-Bay Harbor, as well as any connectivity to other neighborhoods in the region. Although there has clearly been some effort with private developers (i.e. Waterside Gardens) and newer developments to implement sidewalks, they are few and far between and often found in subpar condition.

The Township has recently demonstrated a commitment to apply for grant funding to improve circulation for increased bicycle access throughout Brick. The bicycle path along St. Lawrence Boulevard between Baywood and Seawood Harbor has been completed and is one small step towards better connectivity. However, overall this has been slow to manifest and bicycle infrastructure and circulation is still at a minimum throughout the neighborhood and the Township.

Additionally, intra- and inter-neighborhood public transportation options are non-existent. There are several public bus routes which run along major corridors, such as Brick Boulevard, but do not reach the majority of populations in isolated, but dense neighborhoods, such as Cherry Quay-Bay Harbor.

Based upon the analysis of existing conditions the following could be further investigated:

1. The Township should continue to pursue grants for pedestrian and bicycle safety and mobility through all sources, particularly the New Jersey State Department of Transportation (NJDOT) and federal grants.
2. The Township should coordinate pedestrian and bicycle mobility enhancements with improvements made by the County of Ocean on County roads. Opportunities include:
 - a. Enhancing berms along the road with street trees where space permits;
 - b. Extending or connecting existing sidewalks to serve all high traffic areas;
 - c. Coordinating bicycle routes along streets that improve safety and connectivity for bicyclists;
 - d. Adding additional crosswalks to facilitate pedestrian crossing, with priority for pedestrians, and particularly in areas not currently served by crosswalks or traffic lights, that have heavy seasonal traffic, and that have desirable amenities (i.e. public parks, marinas, beaches, restaurants, etc.).



3. Observe pedestrian and cyclist treatments in neighboring towns where mobility is a focus in order to get a better idea of the potential to implement such treatments in this neighborhood. Explore the potential for traffic calming methods to improve roadway safety and increase pedestrian and cyclist mobility options. As a largely residential and recreational neighborhood, it is important that the roadways serve these uses. A traffic and speed study should be conducted, with a focus on Drum Point Road as the primary connector road and access to public space.
4. Develop a comprehensive network of sidewalks and crosswalks throughout the neighborhood that connect and, particularly, that allow safe and efficient pedestrian traffic along Drum Point Road and to major points of interest.
5. Map 29 shows possible sidewalk connections in red that should be priority areas when new sidewalks are installed, with general indication to sides of the street, although a study should be conducted to determine proper location. In the process of making sidewalk and crosswalk recommendations, consideration was given to: the probable traffic level of vehicles and pedestrians; existing sidewalks and crosswalks for potential extensions; difficult intersections; creating the shortest distance between points and fewest road crossings; focusing growth in areas least compromised by the effects of climate change; and moving pedestrians to various points of interest, which are also indicated on the map. Maps 26 through 29 show the neighborhoods in detail.
6. Crosswalks should be placed at minimum at east to west crossings on Hooper Avenue for roads of primary access to sub-neighborhoods, and other major roads and connections between neighborhoods, parks, and destinations, and at least every half-mile (see Map 29 through Map 33 above).





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Map 30: Detail of Cherry Quay sub-neighborhood map with existing (white) and recommended (red) sidewalks, and recommended crosswalks (black), pedestrian bridge (green)



Map 31: Detail of Sailor's Quay and Mallard Point sub-neighborhoods with existing (white) and recommended (red) sidewalks, and recommended crosswalks (black)





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Map 32: Detail of Seaview Village sub-neighborhood with existing (white) and recommended (red) sidewalks and recommended crosswalks (black)



Map 33: Detail of Bay Harbor Estates sub-neighborhood with existing (white) and recommended (red) sidewalks, and recommended crosswalks (black)



7. A pedestrian bridge could be a unique and practical way to connect various parts of the neighborhood, such as Cherry Quay, where long dead-end streets inhibit pedestrian movement and accessibility.



Figure 119: Recommended sidewalks (red) & potential place for pedestrian bridge (green) in Cherry Quay



Figure 118: Example of a pedestrian bridge in a residential neighborhood (Credit: Amatullah Guyot <http://www.welikela.com/top-10-los-angeles-bridges-to-photograph/>)

8. Designate “Bicycle Friendly” routes within the Cherry Quay-Bay Harbor neighborhood and continue to build a network of bicycle lanes, shared lanes, and paths between the various neighborhoods and from the Bay to the beaches and to major destinations. Many of the primary and secondary roads in Cherry Quay-Bay Harbor are slow and wide enough to accommodate sidewalks and/or shared bicycle lanes.
9. We envision a much larger, comprehensive network of bicycle lanes and paths throughout the Township and County in the future that might develop to look similar to that which is pictured in Map 35 below. However, a further study must be conducted to determine precisely the needs and design of a bicycle network. These recommendations have been made based on mapping of existing bicycle lanes, most heavily trafficked roads, destinations, and Master Plan goals.

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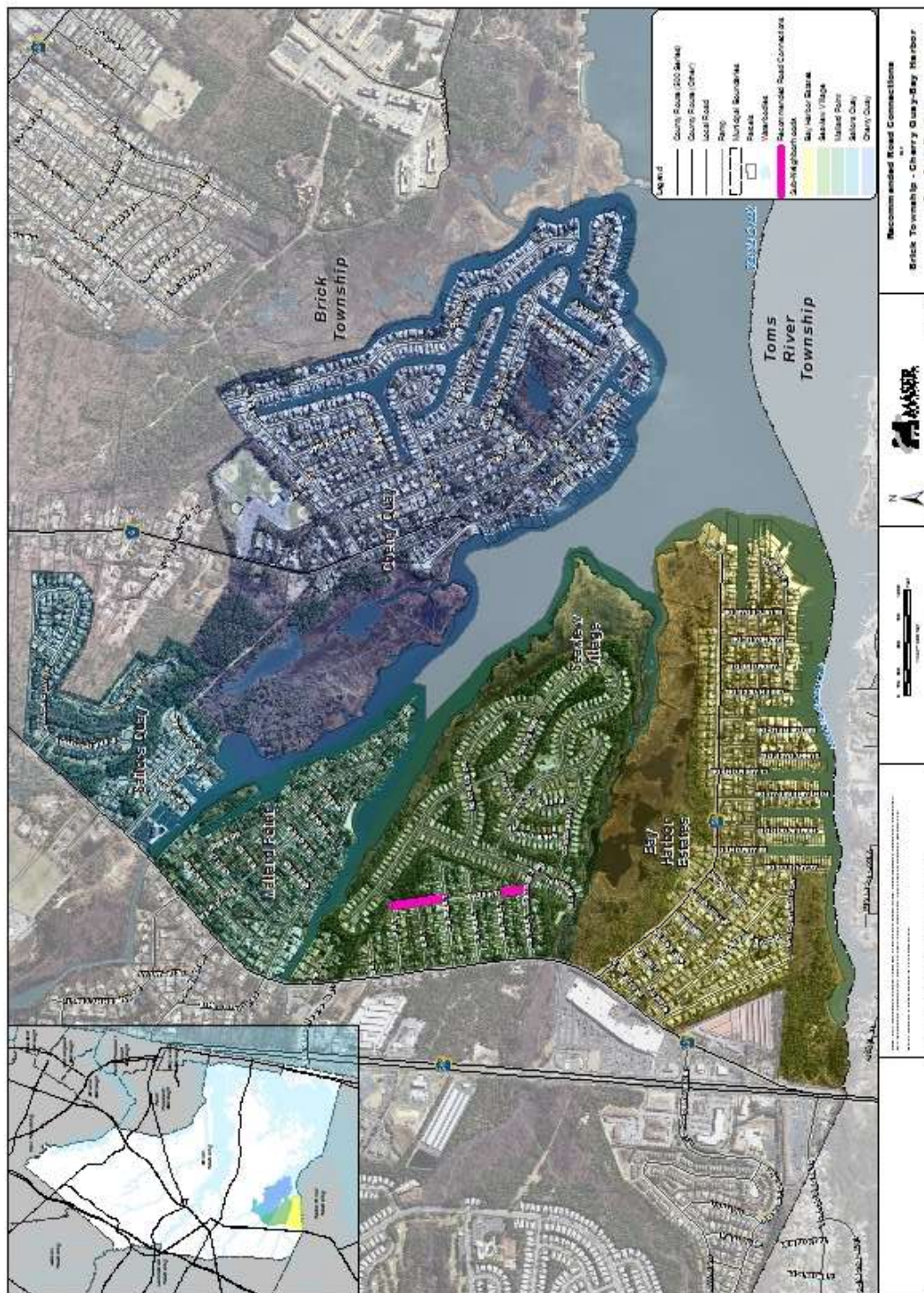


10. At minimum, a Circulation Plan with a wayfinding system should be further developed and implemented for bicyclists and pedestrians and educational outreach targeted toward children to reduce the risk of accidents.
11. Explore the possibility of extending a bus line closer to Cherry Quay-Bay Harbor near Cherry Quay Road. In coordination with Ocean County Department of Transportation (Ocean Ride), a neighborhood bus stop could be executed. According to the 2010-2014 U.S. Census ACS data, 33.2% of 25 to 44 year-olds and 41.8% of 45 to 54 year-old workers in Brick Township use public transportation. This is an important demographic of workers to cater to due to the size of the population, although younger populations should be encouraged to use public transportation and curb individual automobile use, as well.
12. Sidewalk and curb treatments should be standardized with one pattern for the entire neighborhood, whether a Township standard or unique for the neighborhood, that can be modified to fit various applications. For example, slight variations could be used for smaller and broader crossing streets.
13. Where feasible, raise the street levels in areas that are most prone to flooding and especially those that serve as coastal evacuation routes for sub-neighborhoods, including:
 - a. Bay Harbor – Bay Harbor Boulevard; Bay Way; Queen Ann Road (between Hemlock Drive & Bay Way); Blue Cedar Drive; Brookfield Drive; Sunnydale Drive; Fontainebleau Drive; Homewood Drive; Acapulco Drive; Van Cortland Drive;
 - b. Cherry Quay – Captain’s Drive; Royal Drive; Clubhouse Road; Topsail Road; Port Road; Bark Road; Seagoin Road; Boom Lane; Cross Trees Road; Mizzen Road; Tiller Lane (between Royal Drive & Clubhouse Road);
 - c. Mallard Point – Tunes Brook Road; Kettle Creek Drive (between Tunes Brook Road & Heron Road);
 - d. Sailor’s Quay – Pleasant Drive; West Pier; South Pier; Claudia Road;
 - e. Seaview Village – Seaview Avenue (between Nautilus Drive & cul-de-sac; Jetty Court & Nautilus Drive); Compass Avenue.
14. Upgrade storm drains along streets to allow more efficient outflow of flood water without “reverse flooding” (water entering through storm drains), to allow emergency access/evacuation.
 - a. Some parts of the neighborhood are often cut off from major roads and emergency services during high tide events.
15. Explore the possibility of (re)connecting the street grid between the two sections of Seaview Village, if the opportunity arises. Alternatively, consider public right-of-ways for pedestrian paths between the streets. This will allow a higher density of development without adverse effect on traffic on the two thru-streets, and will increase accessibility to various parts of the neighborhood.



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Map 36: Possible street connections (pink lines)





SIGNAGE

IDENTIFICATION SIGNAGE

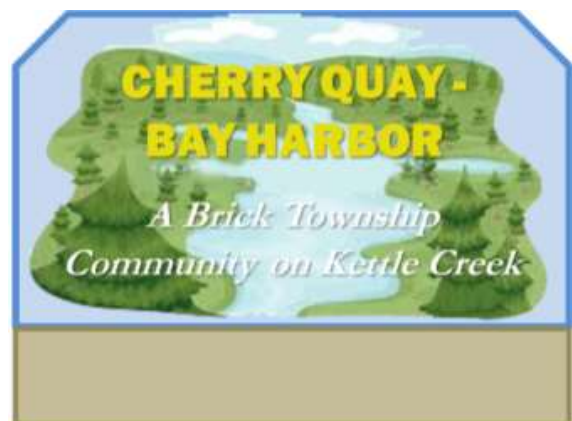
Overall, the Cherry Quay-Bay Harbor neighborhood has an identity as a relaxed year-round and summer waterfront community surrounded with access to nature of the Barnegat Bay and wetlands. Unlike some other neighborhoods in the Township, it is relatively easy to see the distinctions when one is in Cherry Quay-Bay Harbor versus other neighborhoods in Brick Township. The sub-neighborhoods are separated physically by various types of divisions, such as wetlands and main traffic corridors, and each has their own monument sign at a minimum of one location.

However, Cherry Quay-Bay Harbor as a whole (including all sub-neighborhoods) does not have an identity that is recognizable as a brand. The individual signage for the separate sub-neighborhoods simultaneously identify their location, but also create misperception about the connectivity of the neighborhood and whether one has left Cherry Quay-Bay Harbor altogether.

Despite the physical divisions, lack of connectivity, and a handful of signage for the sub-neighborhoods, they are still mostly indistinguishable from one another in built form. This can be viewed as an advantage which can be exploited to make the neighborhood appear more cohesive, if an effort is made to coordinate the overall branding and signage in the neighborhood. This Neighborhood Plan recommends that there be some consistency in the identification message.

A common design theme and graphics for signage should be chosen that also reflects the local character of the neighborhood. A blend of existing Township and neighborhood color schemes, along with the consistent use of a font type and a recognizable, uniform name, discreetly shows relationships and hierarchy among places. As two of the most prominent and familiar sub-neighborhoods in this Plan area, "Cherry Quay-Bay Harbor" could continue to be used to refer to the entirety of the neighborhood. This name identifies the neighborhood by some of its most important attributes, equating to waterfront access, and is unique, although could be more succinct.

To the right is a graphic example of unified branding message for new identification and gateway signage, blending typical colors found in Brick Township and within Cherry Quay-Bay Harbor. Additional signage could be altered slightly for each sub-neighborhood.



WAYFINDING SIGNAGE

Wayfinding signage was also identified as a way to navigate to different sub-neighborhoods, businesses, parks, and other destinations, which currently proves to be challenging. One of the challenges is the successive dead-end streets in the lagoon communities. A system of pedestrian-scale wayfinding signage should be coordinated with the gateway signage referenced above in order to reinforce the cohesiveness of the community, as well as to help residents, visitors, and customers find existing and future services, especially during the summer tourism season. Wayfinding signage could also be coordinated on Township-wide level. An example of such a system is shown below in Figure 120.

The following points of interest should be linked by wayfinding signage:

- Sub-Neighborhoods
- Parks
- Beaches
- Business Districts
- Marinas
- Trail Heads
- Other Brick Neighborhoods



Figure 120: (Left) Wayfinding signage is used in downtown Toms River to direct motorists to primary destinations. (Right) A system of wayfinding in Nantucket, MA (June 2015) using plaques purchased by businesses mounted into slots on a standard that matches the antique style of the pedestrian lighting on Main Street and points in the direction of the business.

Signage that clearly identifies destinations should be provided in visible and convenient areas throughout the neighborhood at a distance and orientation which is readable for both pedestrians and vehicles from the road. These would preferably be located at major intersections, crossroads, and destinations. Finally, a color or theme-coded system relating each to a subcategory of places allows for quick and easy dissemination of place descriptors and directions. For example:



- Yellow for sub-neighborhoods
- Green for parks/open space
- Blue for water-related uses
- Red for businesses
- Brown for government/municipal services and buildings

Finally, informational signage could be provided for the neighborhood, landmarks, natural conservation areas, and parks with various facts about local history, important dates, names, ecology, and contact information.

ZONING RECOMMENDATIONS

Upon consideration of the existing zoning throughout the neighborhood, along with the physical challenges currently faced by the community and future predictions of storms and sea level rise, the following recommendations have been made to maintain and improve the built quality of the neighborhood:

BULK RECOMMENDATIONS

After reviewing the bulk standards, this Neighborhood Plan recommends the following be considered by the Township for the Cherry Quay-Bay Harbor neighborhood:

FLEXIBLE FRONT YARD SETBACKS

Homes are presently required to have a 20 foot front yard and 15 foot rear yard in the R-5 zone, while the R-7.5 zone requires a 25 foot front yard and 15 foot rear yard. However, lot depth varies within the two neighborhood zones, with some well over 200 feet in depth and others as small as 50 feet. Lot depths in Seaview Village and Cherry Quay seem to be more consistent at 100 feet. Therefore, the shallow lots that were present in the Shore Acres and Barrier Island neighborhoods do not appear to be an issue in Cherry Quay and Bay Harbor. The other sub-neighborhoods in Cherry Quay-Bay Harbor should be evaluated for undersized lots to confirm conformity with the front and rear yard requirements of the R-5 and R-7.5 zones. Where properties do not meet required yards, which is typically a pre-existing condition, the homes on those lots generally exceed building/lot coverage standards as well. Coupled with the need to elevate homes and add exterior staircases for entrances, the required yard depths can pose significant limitations on density, although the Township has made significant strides towards rectifying this issue.

If other sub-neighborhoods in Cherry Quay-Bay Harbor have areas with shallow lots, the Township could consider amending the front yard setback to reduce the minimum requirement for the front yard from 20

feet to the prevailing front setback but maintaining a minimum of two feet, to provide homeowners more flexibility.



Figure 121: Seaview Village Sub-neighborhood, showing consistency of prevailing lot depths.



Figure 122: Cherry Quay aerial with tax map overlaid shows more variation in lot widths but general consistency in lot depths.

FLEXIBLE SIDE YARD SETBACKS

Lot widths vary greatly within Cherry Quay-Bay Harbor, with the smallest lots in the Cherry Quay sub-neighborhood, which is the oldest and densest of the sub-neighborhoods. There are a number of lots, especially vacant or substantially damaged lots, that do not meet the lot width requirements. Presently, the code requires one yard to be 5 feet wide and with the combined yards not less than 12 feet in the R-5 zone. In the R-7.5 zone, one side yard is required to be at least 6 feet and have combined side yards of at least 15 feet. A lot that is 40 feet in width would be restricted to a home that is only 28 feet wide in the R-5 zone and 25 feet wide in the R-7.5 zone, which is not practical or desired in today's residential designs.

Two short-term options are presented for the Township's consideration. The first is reducing the side yard setbacks for lots with a width less than 40 feet. A sliding scale could be provided to offer homeowners looking to rebuild with variance-free options. Lots between 31 and 39.9 feet (in width) could be permitted side yard setbacks of 4 feet each, for a total of 8 feet. Lots between 20 and 30.9 feet, if any, could be permitted a side yard setback of 0 and 3 feet, for a total of 3 feet.

The second option for the Township's consideration is a development concept called "zero-lot line". A zero-lot line home essentially places the home on one side yard line, allowing for a generous side yard on the other side that functions as the home's outdoor space in conjunction with the rear yard. On lots narrower than 40 feet, the zero-lot line concept provides one useable side yard instead of two unutilized side yards. As shown in Figure 123, the homes are located along one property line. This alternative would provide more flexibility to owners of undersized lots (less than 40 feet wide) and produce usable side yards instead of useless slivers.

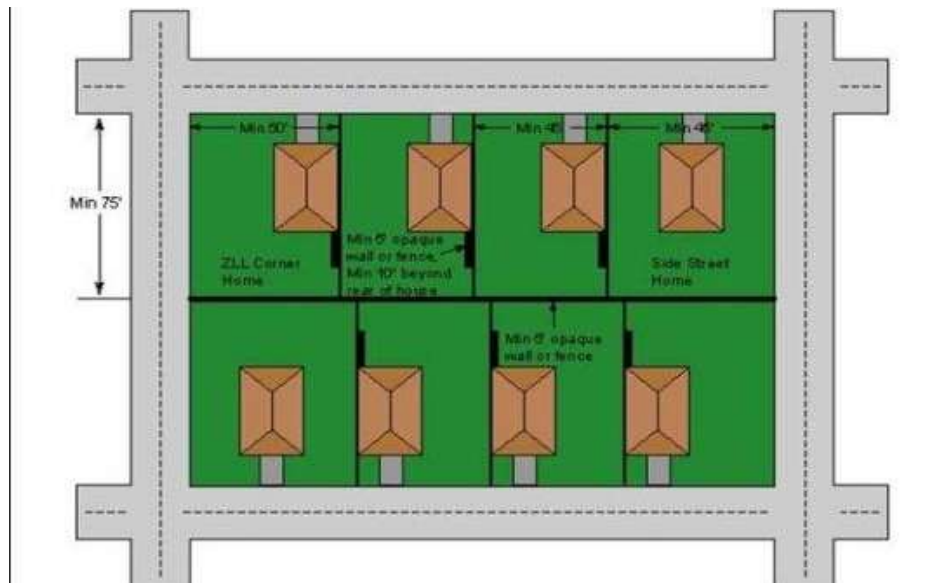


Figure 123: Illustration of Zero-Lot Line Homes



For both zones, the potential amendments to the side yard parameters could include:

Table 12: Amendments to Side Yard Setbacks

Lot Width (ft)	One Side Yard (ft)	Combined Side Yards (Both) (ft)
20 – 30.9 feet	0 and 5	5
31 – 39.9 feet	0 and 8	8
40 – 49.9 feet	0 and 12	12
50 – 50.9 feet	0 and 16	16

Lots that are 60 feet and greater in width could maintain the existing side yard setback requirements with two yards, so that larger homes do not overpower adjacent smaller lots.

FLEXIBLE PRINCIPAL BUILDING COVERAGE

There are some lots within the neighborhood, particularly in Cherry Quay-Bay Harbor, which, when applying the 35% maximum principal building coverage to the lot, significantly restricts the footprint of the home. Within typical lagoon neighborhoods, undersized lots contain homes that cover much more than 35% of the lot area.

If these conditions are found upon closer examination of the Cherry Quay-Bay Harbor Neighborhood, or if the Zoning Board of Adjustment experiences repetitive applications for variance relief during the reconstruction of Sandy-damaged homes, the Township may want to consider allowing lots under a certain size (perhaps lots less than 3,000 square feet) to have a larger maximum principal building coverage, for example, 50% or 55%. This would allow a lot that is 30 feet by 50 feet to construct a home that has a first floor with 750 or 825 square feet. As was indicated earlier, the lot patterns in Cherry Quay and Bay Harbor seem to be more consistent than we have seen in Shore Acres and the Barrier Island and these adjustments may not be as relevant for this Neighborhood Plan. However, most likely the adjustments would be amendments to the R-5 and R-7.5 lot requirements and would apply in all four of the neighborhoods where these zones are found.

However, as with the other three Neighborhood Plans, we have seen examples where many homes that occupy larger lots or double lots have been reconstructed much larger than the homes they replaced and sometimes have a principal building coverage greater than 35% or even greater than 50%. This kind of overbuilding on lots that already meet the zoning requirements should be restricted to prevent unwanted growth and reduce impervious surfaces.

In addition to some of the strides that have already been taken to assist homeowners who are rebuilding, the Township has identified the need to update and amend its Land Use and Development Regulations to address many of these issues and is currently developing recommendations for zoning amendments as one of its Phase II Post Sandy Recovery Planning projects.



ZONING MAP CHANGES

It is recommended that the Township investigate the potential for changes to existing zoning areas, as shown on the Zoning Map 27 (see Map 37 for comparison). While the R-5 zone involves more undersized lots, consideration of whether a substantial number of them are undeveloped could lead to a possible downzoning to R-7.5 bulk standards or greater to prevent overbuilding and to allow larger yards that will help to reduce impervious surfaces and create greater area for water retention. Lots will be slightly larger (7,500 square feet rather than 5,000 square feet) and reduce the number of properties impacted by flooding. Many of the properties already occupy more than one lot. Several lots in the R-5 zone, particularly ones that were substantially damaged in the Cherry Quay sub-neighborhood, are undersized in width, but meet the depth requirements; however, double lots, if encouraged, would easily meet the R-7.5 bulk requirements. Much of the Cherry Quay neighborhood is already zoned as R-7.5 Residential and, therefore, a change from R-5 to R-7.5 in some areas would not explicitly alter the character of the neighborhood, except by providing slightly more space. This approach might trigger applications for lot area variances, but we think its exploration has merit.

To compensate for a possible downzoning of coastal properties, lots in the R-7.5 zone of Cherry Quay that are further inland, nearest to Cherry Quay Park, could be considered for an upzoning to the R-5 zone. This would allow for slightly smaller lots and density in an area that is closer to public amenities, not as vulnerable to flooding, and is near other R-5 lots.

Finally, areas around catch basins and undeveloped wetlands, such as the one behind Mandalay Road and Arctic Ocean Drive, should be considered for downzoning to the Rural Residential (R-R-1) Zone in order to allow for more absorption of flood water in the basin without affecting private properties and to provide additional public open space with access to the water.





FUTURE NEIGHBORHOOD GROWTH

Consistent with the recommended zoning map changes, bulk recommendations, and predicted impacts of flooding, all future neighborhood growth should be concentrated accordingly.

The R-5, R-7.5, and R-M zones will continue to have the densest residential properties; however, growth should be emphasized in areas of higher elevation away from the coastline to the northwest of Cherry Quay-Bay Harbor. Higher density growth should be encouraged particularly in areas with a primary traffic corridor with a street grid, areas around parks, and areas surrounding commercial zones. This density should promote better accessibility to services and recreation, while removing the largest populations from areas that may sustain the most environmental damage. Similarly, lower density development and conservation areas that can better absorb floodwater should be encouraged along the Barnegat Bay and Kettle Creek coastal areas.

Commercial properties that are not marine-related should be emphasized in the higher density inland areas to better serve the larger population. Currently, businesses occupying B-1 zoned lots in Cherry Quay-Bay Harbor generally do not comply with the permitted uses of that zone. Additional neighborhood commercial businesses that fall within the permitted uses should be encouraged in the B-1 Zones to make the community more inclusive and mixed-use.

DESIGN GUIDELINES

Providing greater resiliency against flooding, storm damage, and demographic shifts in the future greatly depends on the development and design guidelines and planning practices that occur during the post-Sandy recovery process. In particular, the elevation of existing residential buildings as a result of recovery grant programs, as well as the elevation of new construction based on compliance with Flood Damage Prevention, will be significant factors. The following design guidelines are intended to integrate elevated buildings with existing non-elevated residences to soften the visual impact on the neighborhood. Additionally, there are numerous opportunities to introduce new landscaping and street treatments in certain areas that permit more pervious surfaces and stormwater management.

ELEVATION OF BUILDINGS

The raising of residential homes is usually accomplished by either the use pilings or by increasing the height of foundations and crawl spaces by adding courses of masonry block. To the extent that property owners determine to increase the elevation of the lowest habitable floor to the “Design Base Flood Elevation” in the Flood Damage Prevention Ordinance (usually the “Advisory” or “Preliminary” Base Flood Elevation plus freeboard), the height difference between the grade and the first floor can be considerable, causing a design challenge to access the elevated building. Many residents are choosing to upgrade and raise their homes, although there is somewhat of a consensus that new homes are too large for the neighborhood and that the height makes getting inside difficult for emergency purposes and for

elderly or disabled persons. However, residents were not as accepting of having the designs of their homes regulated.



Figure 124: Examples of raised homes

Depending on the size of the lot and the density of the building pattern in the neighborhood, the solutions to the challenge of providing access varies from a straight run of stairs to a progression of porches or landings (see Figure 125).



Figure 125: Illustrations of various ways to design access to elevated first living floors of residential buildings, some which frame the piles and others that partially or completely "skirt" or wrap the piles for garage/storage space or use raised foundations.

As stated in the 2015 Hazard Mitigation Plan Element:

"Identifying strategies to support additional home elevations is a key opportunity for improved safety and resilience. However new home elevations also come with additional potential risks that must be planned for



and addressed. Ensuring that spaces below elevated homes are used only as storage or garages, and not livable space, is essential to protecting public safety. If illegally converted into bedrooms or living space, these low areas become extremely dangerous during flood events. Newly elevated homes can also sometimes negatively impact the views and other aesthetic considerations for neighboring properties. Design and regulatory measures are currently in place and other controls are being explored that can help maximize the flood safety benefits of home elevations while finding creative solutions that reduce any negative impacts for neighboring properties.”¹¹

Additionally, elevated buildings can pose a hindrance and hazard for disabled and elderly persons, as well as emergency services attempting to access persons in the house. For most physically impaired persons, the design guidelines and height requirements limit access almost entirely. Elevators from the ground floor to the first elevated floor, in addition to stairs, are ideal, although restrictive for many due to the high cost. Ramps are also ideal, but generally impractical for most houses that are being lifted to the maximum height, due to the space that they require, where most lots are quite small. However, for outdoor stairways it is recommended that they are not a straight run, but, rather, provide landings and, preferably, with turns in the stairway to allow for resting spots.

The desirability of requiring such design standards as concealing exposed piles with framing or skirting, avoiding straight run stairs without a landing every so many steps will need to be balanced with the eligible costs of elevating homes covered under the various disaster relief programs so that they do not become a financial burden on property owners. If such aesthetic improvements are not covered by insurance or relief funding, the Township would need to seek other grant assistance to supplement the costs.

LANDSCAPING

Another approach to softening the visual impact of newly elevated buildings is to mask the exposed areas around the piles with landscaping. However, the present conditions caused by the elevation of housing and smaller setbacks will require that the installed landscaping not only be able to survive within the seashore environment, but may need to be compact and columnar in nature when used with narrow lot configurations. This may restrict the plant palette that can be used.

It is also recommended that local plant species and xeriscaping techniques (landscaping that reduces or eliminates the need for supplemental water) be used to reduce water and fertilizer needs. Plant beds should be tolerant to the wind, sea salt, water, and overall variable conditions of the Barnegat Bay and estuaries, while also being able to aid in absorption of additional rain or flood waters.

The following are some selections that may work well, but any planting directly in line of prevailing winds will struggle.

¹¹ *Hazard Mitigation Plan Element (Draft)*. Page 27. Township of Brick. Prepared by TetraTech & Maser Consulting, P.A. November, 2015.



Table 13: Plant Species for Waterfront Neighborhoods

Plant Type	Species
Small Trees	Red Maple (<i>Acer Rubrum</i>)
	Allegheny service-berry (<i>Amelanchier laevis</i>)
	Pawpaw (<i>Asimina triloba</i>)
	Black Cherry (<i>Prunus serotina</i>)
	American mountain ash (<i>Sorbus americana</i>)
Large Shrubs	Indigo bush (<i>Amorpha fruticosa</i>)
	Coastal sweet pepperbush (<i>Clethra alnifolia</i>)
	Bigleaf Hydrangea (<i>Hydrangea macrophylla</i>)
	Northern bayberry (<i>Morella pensylvanica</i>)
	Beach Plum (<i>Prunus maritima</i>)
Evergreens (for screening)	Atlantic White Cedar (<i>Chamaecyparis thyoides</i>)
	American Holly (<i>Ilex opaca</i>)
	Eastern Red Cedar (<i>Juniperus virginiana</i>)
Perennials (for decorative filler planting)	Yarrow (<i>Achillea</i>)
	Coreopsis
	Daylily (<i>Hemerocallis</i>)
	Lavender (<i>Lavandula</i>)
	Foxglove (<i>Digitalis</i>)
	Summer Phlox (<i>Phlox paniculata</i>)
Ornamental Grasses (for filler and accent)	Stoncrop (<i>Sedum spurium</i>)
	Fescue Grass (<i>Festuca</i>)
	Panicum (Switch Grass)
	Pennisetum (Fountain Grass)

GENERAL APPEARANCE FROM STREET

Within the residential blocks, every effort should be made to provide designs for the newly elevated homes that will work within the context of the existing lot lines and setbacks to enhance the overall character of the neighborhood. A number of visual ideas are provided below to act as representative examples of what can be done. There have been some examples constructed within the neighborhood as part of the Sandy recovery which embody these ideas.



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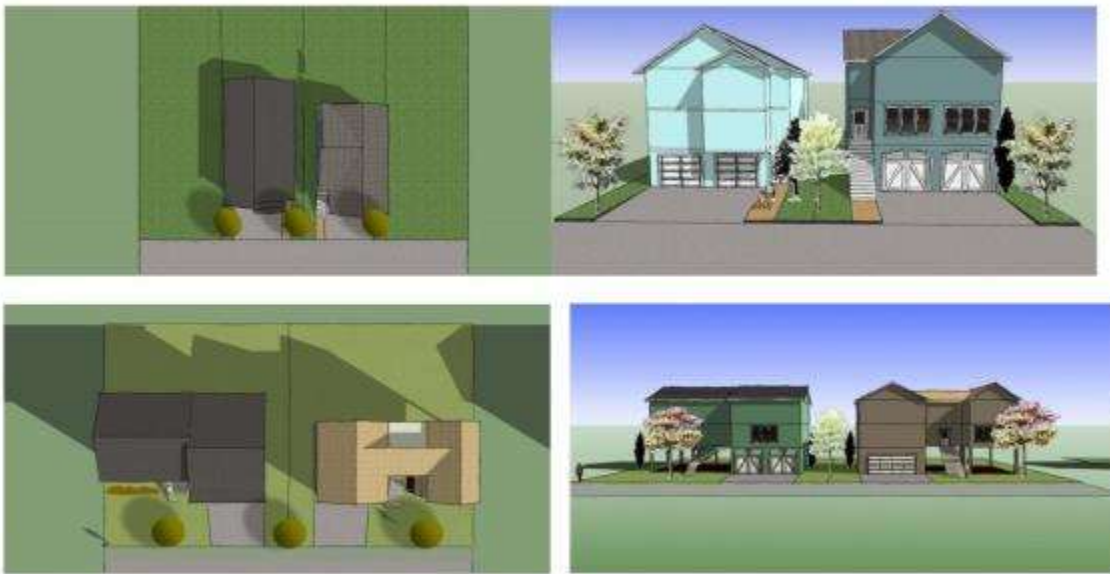


Figure 126: Upper set of illustrations shows potential streetscape treatment of narrow and deep lots using trees with vase shaped or columnar habit, while lower pair shows wider lots with street trees of spreading habit in larger spaces and narrower habit in more confined spaces between houses. Homes are shown as representative for the size of lots as elevated for flood resiliency.

Residents worry that properties on small lots will look overcrowded and unappealing. Simultaneously, many small homes on small lots are directly adjacent to new homes nearly three times their size. The Township should look at various models that work well in other municipalities and provide guidelines that are appropriate for each neighborhood. Allowing for some variations in the designs for proper entrances and yard space, but maintaining some setbacks and some of the current bulk standards should prevent overcrowding while providing the necessary space to adapt to new regulations.

PUBLIC SPACES & STREETSCAPE DESIGN

The plant materials recommended above can also be used in plantings within public spaces such as road medians, tree lawns (the space between the curb and sidewalk or between the sidewalk and a parking lot or front property line), passive park spaces, and similar spaces that are identified as often being overgrown with weeds and unsightly in appearance.

Bioswales are a good design option that can be used in public spaces, especially along streets to function similarly to a rain garden, which absorb water from heavy rains and flooding, while also removing pollution and silt from surface runoff water, providing a buffer from the street, and enhancing the streetscape visually. Bioswales are built with gently sloping sides that are concave toward an area of drainage and gravel and the slopes are vegetated with flood-tolerant plants.



Figure 127: Example of a streetside bioswale (www.kwalliance.org)

The use of the softer palette of plantings such as ornamental grasses and perennials, combined with the use of stone groundcover can help to enhance the coastal theme for these spaces in the sub-neighborhoods and could be relatively easily maintained by individual neighborhood associations or the Township. Private properties could also be encouraged to use similar groundcover, rather than traditional grass lawns. The images that follow are representations of various designs using these plant materials.



Figure 128: Grasses and perennials used with gravel to provide color and definition to public spaces



Figure 129: Grasses and groundcovers can be used to soften roadside spaces and add visual interest to the public spaces such as medians



Figure 130: Where space permits, perennials and ornamental grasses can be combined with conventional shade trees and shrubs to enhance commercial streetscapes

ABANDONED BUILDINGS AND EMPTY LOTS

Following Superstorm Sandy, many property owners who endured major damage to their homes and/or could not afford the pursuant repairs and insurance were forced to leave their properties behind or have been unable to make improvements. Several years later, there are some properties with homes that remain abandoned, have not been demolished and continue to deteriorate, or that sit empty and have not been rebuilt. These properties rest in a state of limbo because the property owners will not or cannot take responsibility and the Township has not established the necessary conduits for acquiring or selling such properties nor holding the owners accountable. Below are some recommendations for properties and buildings that have remained abandoned or in disrepair for a long period of time, in response to concerns raised by residents.

1. Many homes sit abandoned, such as the properties shown below. The Township needs to be more aggressive in taking action and holding property owners accountable.
2. The Township should look into the possibility of acquiring properties when they cannot hold property owners accountable or when property owners are unable to rebuild. Certain properties, particularly repetitive losses, should be strategically held for water retention areas, doubling as public open space, while others that are less strategic could be resold.



Figure 131: Examples of vacant or abandoned buildings in Cherry Quay-Bay Harbor (Google Streetview)



3. The Township could consider downzoning strategic properties where multiple vacancies exist and encourage development of double lots to decrease density and provide more permeable coverage in flood-prone areas, while recovering some of the tax base.
4. The Township should encourage landscaping and public use for any strategic lots that cannot be built upon or improved by the property owner for any reason and that cannot reasonably be sold or acquired by the Township or County.



Figure 132: Examples of vacant lots in Cherry Quay-Bay Harbor (Google Streetview)

PUBLIC PARKS, OPEN SPACE, AND CONSERVATION LANDS

All parks, open spaces, and conservation lands within the neighborhood should be considered for their dual role as wetlands to manage stormwater and to provide public amenities and recreation opportunities.

To the extent possible, pervious surfaces and vegetation or plant beds should be used to allow for the absorption of stormwater or flooding. The neighborhood was built on former wetlands between four different tributaries at the head of Kettle Creek. Without adequate elevation and building and road height, the neighborhood is very prone to flooding. Asphalt and concrete should be avoided where pervious pavers, gravel, or grass could be used.



The Township should work with the various neighborhood associations to act on opportunities to provide new open public spaces or areas for stormwater management within the neighborhood. If properties are abandoned or deeded to the Township, such lots could be restored to a more natural state or active or passive recreation facilities could be installed for the public to use. If located on the riverfront, the property should include new wetlands, whereas if it is inland, it should include flood-tolerant gardens and bioswales. Such facilities should permit and encourage users from various sub-neighborhoods. Where open space is not practical, other public services could be placed.

It is recommended that the Township develop a comprehensive connectivity plan for sidewalks, crosswalks, and bicycle lanes in the neighborhood, while strategizing how to best move people to various destinations around the island, including public parks and opens spaces. A connectivity plan should serve the neighborhood at its time of peak population and use, which is during the summer.

RECOMMENDED PARKS AND OPEN SPACE

There are a few Township- or County-owned parcels of land in Cherry Quay-Bay Harbor that currently do not have any designated use or improvements, but may have conservation status and provide optimal opportunity for both additional public open space and for water retention.

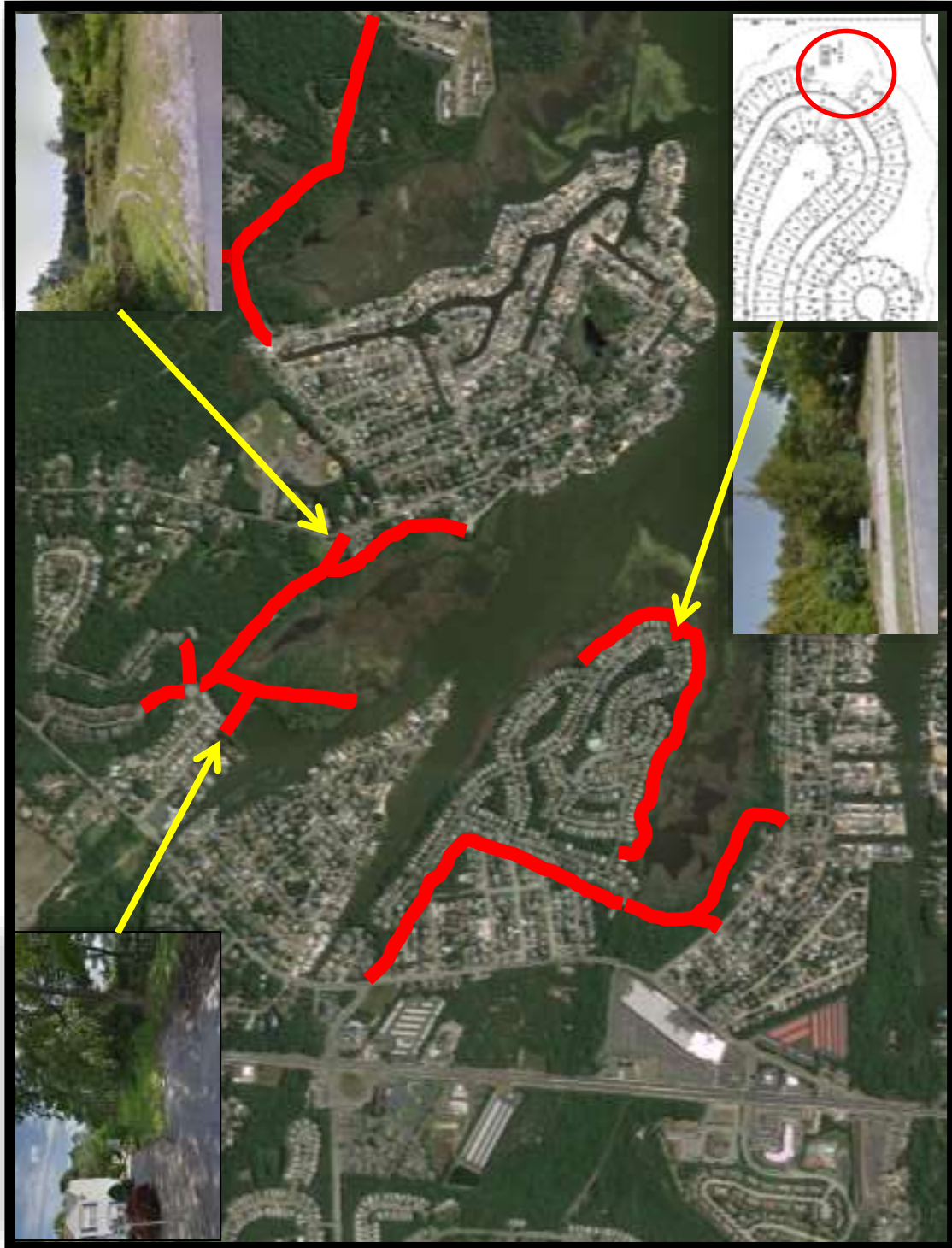
TRAILS

As a way to improve the connectivity of the neighborhood, as well as provide additional recreational opportunities and access to the water, the Township could explore the creation and maintenance of trail systems throughout the sub-neighborhoods that run through central or intermediary open spaces. A conceptual trail map with associated streetview images of potential trailheads is provided below.



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Map 38: Conceptual open space trail map throughout Cherry Quay-Bay Harbor Neighborhood





STREET-ENDS, BULKHEADS, AND RIGHT-OF-WAYS

Street-ends, particularly those with water views and near open space, can provide important public open space, whether for active use or for visual enjoyment. The Township should consider a study or evaluation of such spaces in a Municipal Public Access Plan, which links people to bodies of water. In addition to recreation and viewsheds of water, street-ends may provide opportunities to increase or restore wetland habitats by the removal of hard structures and adding soft, natural structures that also help to absorb water.

Bulkheads, like jetties and other manmade barriers, can often exacerbate erosion and push floodwater elsewhere rather than absorb the water. Living shorelines, on the other hand, which include natural wetlands, are a better long-term alternative to impermeable barriers that allows the land and water to coexist while averting major damage during flooding events. Living shorelines use gentle slopes with sediment, sand, and small rocks, anchored by native coastal vegetation.



Figure 133: Example of “Living Shoreline” (Courtesy: Virginia Institute of Marine Science, College of William & Mary, 2016)

The Township could study strategic areas for removal of bulkheads that are not directly protecting improved properties in strategic locations and replace them with a natural living shoreline with native vegetation. This should be attempted where it does not interfere with neighboring properties, boat traffic, or boat launching.



Figure 134: Coastal Shoreline Profile & Living Shorelines Treatments/ © Burke Environmental Associates



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Figure 136: Various shoreline-stabilization methods are shown, ranging from “green” living shorelines to hardened structures shown in gray (Image: NOAA)

Small lots, street-ends, and lands adjacent to bulkheads that are insufficient to build upon and, especially those already owned by the Township, provide an exceptional opportunity to add living shorelines and/or passive public recreational space. The examples below show various parcels throughout Cherry Quay-Bay Harbor that are owned by Brick Township or where private owners could permit the Township to acquire and maintain for flood prevention. Some of these areas could be planted with marsh grasses or landscaped with benches for sitting or fishing, if there is adequate space.



Figure 135: Images of street-ends in Cherry Quay that experienced heavy damage to bulkheads (left) and with right-of-ways/public access with natural shoreline (right) (Google Streetview)



Figure 137: Views of street-ends at Hooper Ave. & N. Kettle Creek (left) & Hooper Ave. & Tunes Brook (right) (Google Streetview)

Right-of-way areas along the sides of streets abutting wetlands, lagoons, or the Bay, should also be preserved for public use and enjoyment, as well as protection against flooding in the roads. Raised sidewalks, bike paths, or other types of trails with permeable materials along the road will allow or maintain vistas, public access to recreation, and buffers between the wetlands and the existing road.



ECOSYSTEM RESTORATION

Over the years, most of the natural ecosystem of the Cherry Quay-Bay Harbor neighborhood has been replaced by dense development, including once compact wetlands cleared for boat traffic and housing. Restoring these ecosystems, particularly wetlands, has become increasingly important as habitat loss increases from development, diversity of species is reduced, and storms and sea level rise threaten to flood neighborhoods. The provision of new open spaces and conservation lands can help reduce the cost of flooded properties, while also improving water quality, providing nursery grounds, and enhancing quality of life. The inclusion of residents can foster a sense of environmental and community stewardship to advance this mission.

CHERRY QUAY POND

One area that needs to be drastically improved is the catch basin in Cherry Quay, also known as the Cherry Quay Pond. As described earlier in the Plan, as the neighborhood developed rapidly around it in the mid-1960s and '70s, there was nowhere for the water in the wetlands to drain, except into the streets, and it was not practical, nor legal, to fill.

The catch basin in Cherry Quay regularly overflows during heavy rains, seasonal storms, as well as during major hurricanes, such as Sandy. The basin is one of the major contributing factors to the amount of substantial damage to the surrounding properties, which otherwise, are more inland than the much of the rest of the sub-neighborhood. After the storm, the basin was filled with debris that has remained.

According to reports, there are some pipes in the basin that redirect water into the lagoons; however, it is unclear if that is true and whether they are back-filled. The Township submitted, but was initially denied, a project proposal to the National Fish and Wildlife Foundation Hurricane Sandy Coastal Resiliency Competitive Grants Program for “Cherry Quay Pond Restoration and Flood Control”. According to the proposal:



Figure 138: (Top) Photo of Cherry Quay Pond at regular level behind homes; (Below) Aerial image of the pond (Google Maps)



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"The proposed project is located in the Township of Brick, Ocean County, New Jersey in a residential area known as Cherry Quay. The project site is an herbaceous, coniferous shrub scrub wetland and pond situated between four residential streets. The pond is isolated from other surface water sources, however is hydraulically connected to the Kettle Creek and Barnegat Bay during high tide events and significant storm events when the water table rises quickly and causes flooding. The pond is situated in the Kettle Creek sub-watershed and the Barnegat Bay Watershed.



Figure 139: Township-owned half of catch basin to the north on Block 324.09, Lot 28

The community that will most significantly benefit from this project include the thirty-two (32) residences directly bordering the pond and approximately five hundred residential homes adjacent to this area who are frequently impacted from flooding. In addition, the vegetative, fish and wildlife habitat will benefit from the project due to the restoration and stabilization of the pond and associated wetland community...

The specific objectives for this project include:

- *Reduction of residential flooding*
- *Wetland habitat restoration through native planting*
- *Debris and silt removal*
- *Design and construct a positive storm water outlet to handle 100 yr storm events*
- *Public outreach and education to reduce non-point source pollution and flooding impacts"*

Not only will a drainage system allow water to be quickly removed and reduce the risk of flooding to nearby residences, but the removal of excess siltation and pollution will allow water quality to improve so that the natural ecosystem may re-stabilize. The Township plans to involve a local youth volunteer group to help create publicity around the restoration projects to increase visibility and understanding for the public to the risk of habitat degradation, flooding, sea level rise, and coastal storms.



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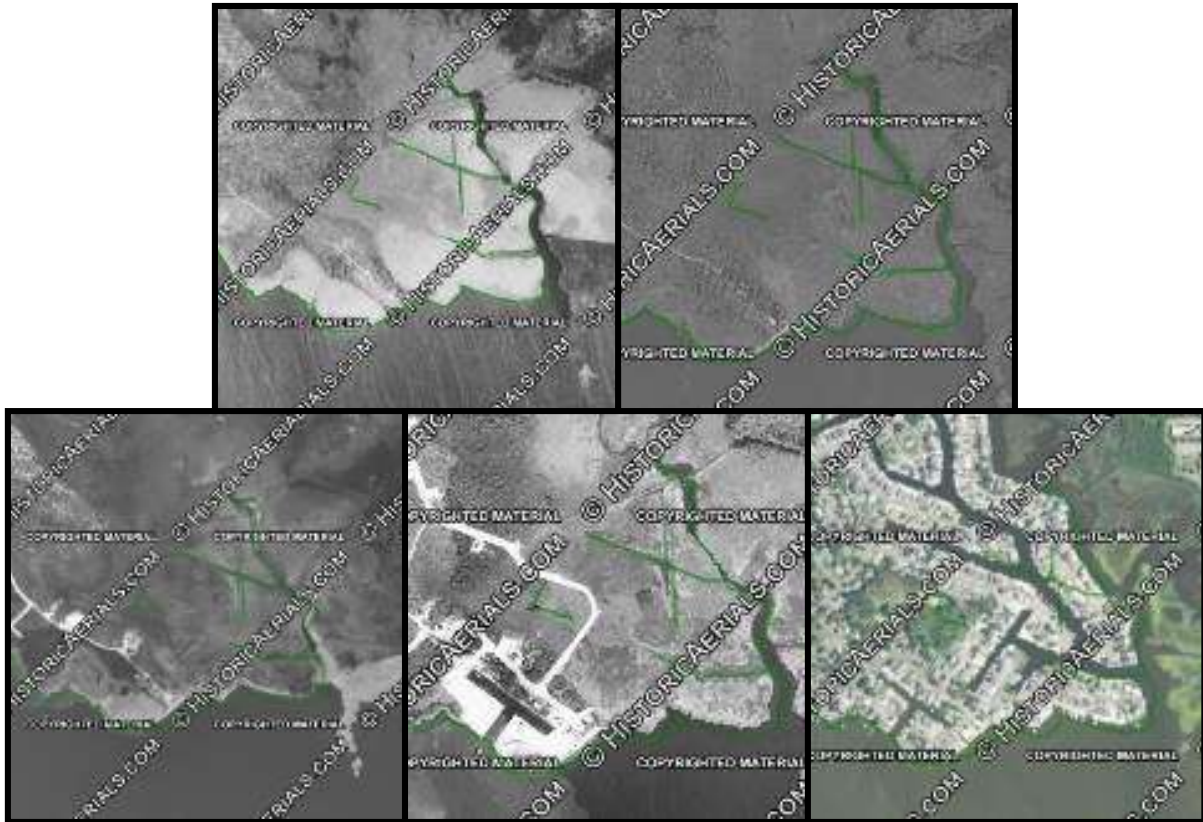


Figure 140: Aerial photographs of catch basin site from 1931, 1940, 1953, 1956, & 2013 with natural flow of water following green lines (www.historicaerials.com)

The anticipated outcomes involve a variety of measurable parameters including:

- Improved water quality
- Repair of severely impacted wetland habitat
- Ecosystem stabilization
- Reduced flooding in surrounding residential area
- Increased understanding of surrounding community of flood control measures and habitat impacts of the same
- Increased public involvement in resiliency projects and understanding of growing risk of associated threats

The following actions are needed in order to provide future flood protection to the adjacent homeowners and to prevent flooding during the 100-yr, 24-hr storm event. The Township is seeking mitigation funding to: 1. Remove debris and siltation from the pond washed in by Super Storm Sandy, 2. Design and construct a positive outlet structure to drain the pond. An outlet structure will be constructed to maintain a consistent water surface elevation range. Overflow will be conveyed through the existing



drainage system within the residential streets and outfall into the Barnegat Bay through an existing drainage outfall. 3. A path of overflow for overland flood relief will also be provided for when the pond elevation reaches a flood stage that cannot be conveyed hydraulically through the existing drainage system. This strategy is appropriate for addressing the flooding and habitat impacts through the stabilization of the elevation of the pond through providing a positive outlet for storm water to escape. The project design is a common flood control measure created to provide a positive escape for accumulating storm water in a depressed landscape.

Using historic images and knowledge of the direction of the natural water flow, location of substantially damaged properties, and the existing lagoon system, we can make the following recommendations, which are visualized on Figure 141.

1. The Township should explore the engineering of placing outflow pipes from the catch basin to the lagoons with a bevel for one-direction flow. Based on the elevation of the land, natural streams, and location of the existing lagoons, it is likely that these should be directed where the red arrows indicate in the diagram below;
2. To reinforce the system and ensure that surrounding properties are not flooded regularly from the catch basin, the area around the south-southeast of the basin should be elevated to prevent water from overflowing in that direction, as indicated in yellow on the diagram;
3. Given that the Township only owns one-half of the catch basin on Block 324.09 (Township-owned Lot 28), and that the majority of infrastructure will likely go in the southern end, the Township should explore arrangements to acquire the land only on which the flooded basin sits, which could include granting certain variances for height, or a land swap.



Figure 141: Diagram showing the problem catch basin in Cherry Quay; Blue arrows indicate direction of storm surge through the lagoons; green area showing outline of wetlands/catch basin; transparent blue area showing outline of pond at regular level; transparent purple area showing overflowing pond; red areas showing possible direction of easiest outflow piping; and transparent yellow areas spots that should be elevated.

WETLANDS

Based on a review of the early historic aerial photographs of the neighborhood, the wetlands and marshes surrounding the neighborhood were much more extensive than they are today. Correspondingly, the areas which lost the most wetlands since 1931 seem to have experienced the greatest storm surge and some of the most damage during Superstorm Sandy. Where there are existing wetlands, in most cases the storm surge inundated a majority of the wetlands without extending much farther inland. This is a testament to the importance of the ability of wetlands to absorb water. The map below shows this point by overlaying the wetlands line from 1931 with the Sandy Storm Surge Map.

For this reason, it is recommended that the Township explore opportunities to enhance, restore, or, in most cases, recreate wetlands in areas where they have previously existed and where wetlands deterioration has been most pronounced in order to combat the level of storm surge that was experienced during Superstorm Sandy. The National Resource Conservation Service, through the United



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State Department of Agriculture, has some informational resources and practice standards for restoring and creating degraded wetlands.

Map 40: Map with Approximate 1931 Wetlands Line Overlaid on Sandy Storm Surge and Wetlands Map

(dark green line = 1931 line; purple = Sandy storm surge; light green = existing wetlands; turquoise = existing wetlands inundated by storm surge; black line = neighborhood boundary)



The existing wetlands that already surround the sub-neighborhoods in Kettle Creek present a good opportunity for enhancing or restoring wetlands because they offer a somewhat stable environment for new marshes to begin growing and are also critical for preventing even more extensive damage in the neighborhoods behind them. The lagoons should be maintained as much as possible, while extending the size of the wetlands further into the river. This process may not be practical along some of the more heavily trafficked channels due to higher erosion rates, heavy boat traffic, and dense development along the waterfront. Below, outlined in red, are some areas that may be worth exploring for restoration.





FUTURE STORM AND DISASTER PREPAREDNESS

After speaking with several representatives and residents and from public feedback, there was a theme of there being a lack of proper communication channels throughout all stages of Superstorm Sandy's destruction – before, during, and in the wake of the storm. In addition to a well-designed built environment that can mitigate the effects of storms and provide physical connections for people, powered and effective communication services are critical to disaster preparedness and relief. Many times, a lack of or poor communication can lead to even more serious and costly consequences than the storm itself.

In addition to measures found in the Hazard Mitigation Plan Element, we recommend that the Township continue to take measures to inform all residents of potential storms and disasters that may affect them, as well to inform them of what steps to take beforehand, and what to do during emergencies. This will require some, if not all, of the following steps:

1. Maintain a database of resident and property owner contact information for reverse emergency warnings. Provide a means for all, including visitors to the extent possible, to give their contact information voluntarily in order to stay informed.
2. Coordinate with all neighborhood and condominium associations, as well as fire, police, and ambulatory services, to establish and inform residents of the best safety practices, evacuation routes, and emergency care and lodging centers.
3. Obtain funding for backup generators and improvements for all communication outlets in case of disaster to prevent power failures.
4. Ensure that neighborhoods are not cut off and that there are central emergency locations that are well-stocked with supplies for all residents, preferably within less than a half-mile.

The Township should also find ways in which to coordinate efforts with adjacent communities, including Toms River Township and Mantoloking Borough, in order to provide essential services and aid to those in need during disasters. Preparedness Plans and strategies for protecting properties and utilities could also be shared among municipalities.



SUSTAINABLE RECOVERY: LEADERSHIP IN ENERGY & ENVIRONMENTAL DESIGN

Leadership in Energy and Environmental Design (“LEED”) is a recognized green building certification rating system. LEED provides third-party verification that a new or renovated building was designed and built using strategies and materials to lower a building’s carbon footprint. LEED was developed by the U.S. Green Building Council and is a “voluntary rating system that encourages buildings to do better, but does not add significant cost”.¹² LEED has five rating systems for multiple project types that want to achieve LEED certification. The rating systems are:

- Building Design and Construction
- Interior Design and Construction
- Buildings Operations and Maintenance
- Neighborhood Development
- Homes

Within each rating systems there are eight main credit categories:

- Location and transportation
- Sustainable sites
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation
- Regional priority

LEED “provides building owners and operators with a framework for identifying and implementing practical and measurable green building design, construction, operations and maintenance solutions”.¹³ Furthermore, LEED has been constantly improving its manuals and guidelines to keep up with technology and trends. Presently, there are four levels of LEED certification – certified, silver, gold and platinum.

This Neighborhood Plan focuses on two of the rating systems that could apply – LEED for Homes (LEED-Homes) and LEED for Neighborhood Development (LEED-ND).

LEED FOR HOMES

LEED for Homes is the certification program for single-family home design and construction. LEED-designed homes provide clean indoor air and use less energy and water, which translates to lower utility bills. Homeowners looking to rehabilitate or redevelop their damaged home can use the LEED for Homes

¹² <http://www.usgbc.org/articles/leed-facts>

¹³ <http://www.usgbc.org/articles/about-leed>



credit system to make smart choices when it comes to water efficiency, energy usage, material selection, air quality and even rainwater management. LEED for Homes is an excellent resource for homeowners, even if they are not seeking LEED Certification.

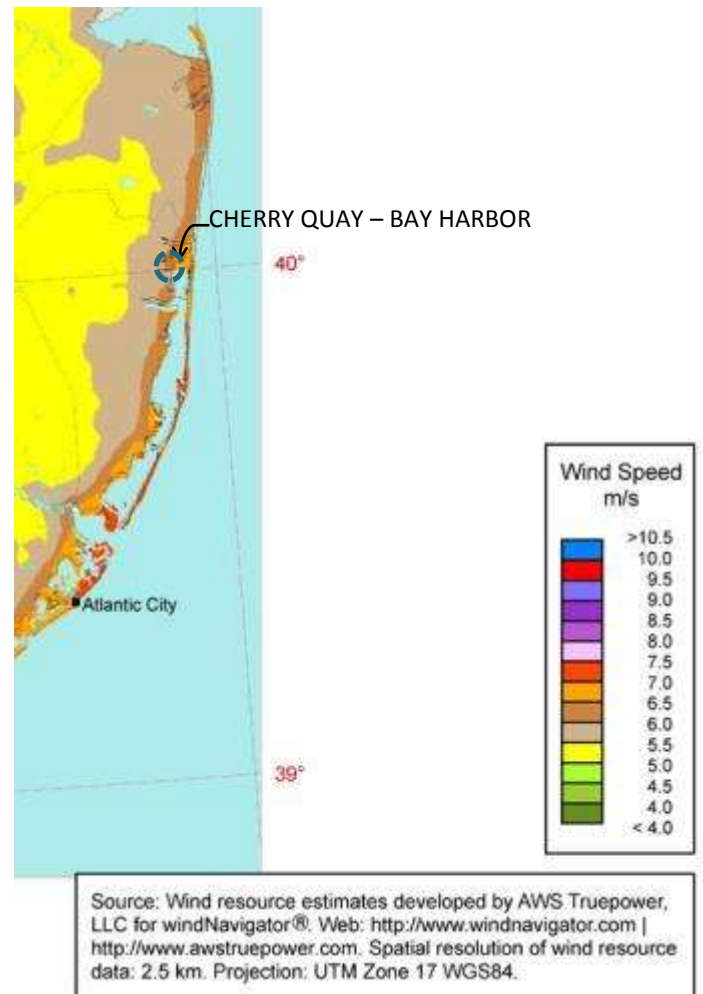
Credits that are worth noting, and that which could be utilized by the residents of the Brick Beach Neighborhood during rehabilitation and new home construction include:

- Rainwater management
 - Certain sections flood after a hard rain storm, let alone a hurricane. Reducing rainwater runoff is imperative.
 - LEED for Homes recommends the following actions to manage rainwater:
 - Planting areas with native or adapted plant material (e.g. trees shrubs)
 - Installing a vegetated roof
 - Using permeable paving
 - Installing permanent infiltration or collection features (e.g., vegetated swale, rain garden, rainwater cistern or rain barrels to capture roof runoff)
- Low-emitting materials
 - The intent of this LEED credit is to reduce concentrations of chemical contaminants that can impact air quality.
 - The requirement includes the use of low volatile organic compound (“VOC”) paints, floor materials and insulation.
- Quality views
 - Part of the appeal of the Brick Beach Neighborhood is that it is surrounded by waterfront views of both Barnegat Bay and the Atlantic Ocean. The purpose of this LEED credit is to give building occupants a connection to the natural outdoor environment providing quality views.
 - The requirement is to achieve a direct line of sight to the outdoors with glazing (e.g. windows and doors) for 75% of the regularly occupied floor area of the home.
- Green power and carbon offsets
 - LEED for Homes encourages homeowner to reduce their greenhouse gas emissions through the use of grid-source, renewable energy technologies.
 - In order to qualify for the credits, a homeowner must engage in a contract for a minimum of five years, which provides between 50% and 100% of the home’s energy from green power or renewable energy certificates.
- Renewable energy production



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- In order to offset the rising costs of homeownership, this LEED credit relies on the sun to power homes. Cherry Quay and Bay Harbor are well situated for both solar and wind systems, as the nature of the sea air and high wind levels limits large vegetation in what is largely a grassland (salt marsh/wetlands) ecosystem. Streets are generally oriented so that the main streets (Queen Ann Road & Bay Harbor Road) run east and west (Bay Harbor) so that the side facades of lots fronting the side streets face south. In Cherry Quay, the long portions of the blocks face southwest or southeast, which also enables the wide portions of lots to have optimal solar orientation. Optimal solar orientation for temperate climate zones is 17.5 degrees east of due south.¹⁴ LEED-ND Credit 10 under Green Infrastructure and Building (GIB C-10) provides for credit when the long side of the street block is 15 degrees or less east or west of due south, or if the long axis of 75% or more of the buildings are 15 degrees or less east or west of due south. The Cherry Quay and Bay Harbor street grids would provide opportunities for optimizing passive solar exposure on new or rehabilitated homes.
- Areas with annual average wind speeds around 6.5 meters per second and greater at an 80-m height are generally considered to have a wind resource suitable for wind development. The Wind Speed Map indicates that the neighborhood is between 6.5 and 7.0 meters per second.
- This credit is offered to homeowners if they meet the parameters for solar energy.
- Indoor water use reduction
 - The intent of this LEED credit is to reduce indoor water consumption.
 - Homeowners can receive up to six points for this line item depending on how much they reduce their water usage.



¹⁴ Design With Climate, by Victor Olgyay, Princeton University Press, 1973, page 61.



- Daylight
 - Daylighting is important in connecting building occupants to the outdoors, reinforcing circadian rhythms and reducing the use of electrical lighting.
 - The requirement is to achieve at least 55% daylighting for the regularly occupied floor area of the home.
- Outdoor water use reduction
 - The intent of this LEED credit is to reduce outdoor water consumption.
 - Homeowners receive credit if they reduce exterior irrigation between 50% and 100% by installing plants that require no irrigation (e.g. native species) or an efficient irrigation system with a water sense feature.

LEED FOR NEIGHBORHOOD DEVELOPMENT

LEED for Neighborhood Development or LEED-ND is a certification system for a neighborhood-scale project, such as the entire Brick Beach area. LEED-ND incorporates the principles of smart growth, urbanism and green building into a system for neighborhood design, which can be applied to entire neighborhoods, portions of neighborhoods or multiple neighborhoods.

There are five credit categories for LEED-ND:

1. Smart location and linkage
2. Neighborhood pattern and design
3. Green infrastructure and buildings
4. Innovation and design process
5. Regional priority credit



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LEED v4 for Neighborhood Development Plan				Project Name:		
Project Checklist				Date:		
Yes	T	No		Yes	T	No
Smart Location & Linkage 28				Green Infrastructure & Buildings 31		
☐	☐	☐	Prereq: Smart Location	☐	☐	Prereq: Certified Green Building
☐	☐	☐	Prereq: Protected Species and Ecological Corridors	☐	☐	Prereq: Minimum Building Energy Performance
☐	☐	☐	Prereq: Wetland and Water Body Conservation	☐	☐	Prereq: Indoor Water Use Reduction
☐	☐	☐	Prereq: Agricultural Land Conservation	☐	☐	Prereq: Construction Activity Pollution Prevention
☐	☐	☐	Prereq: Floodplain Avoidance	☐	☐	Prereq: Certified Green Buildings
☐	☐	☐	Prereq: Preferred Locations	☐	☐	Prereq: Optimize Building Energy Performance
☐	☐	☐	Prereq: Brownfields Remediation	☐	☐	Prereq: Indoor Water Use Reduction
☐	☐	☐	Prereq: Access to Quality Transit	☐	☐	Prereq: Outdoor Water Use Reduction
☐	☐	☐	Prereq: Bicycle Facilities	☐	☐	Prereq: Building Reuse
☐	☐	☐	Prereq: Housing and Jobs Proximity	☐	☐	Prereq: Historic Resource Preservation and Adaptive Reuse
☐	☐	☐	Prereq: Steep Slope Protection	☐	☐	Prereq: Minimized Site Disturbance
☐	☐	☐	Prereq: Site Design for Habitat or Wetland and Water Body Conservation	☐	☐	Prereq: Resource Management
☐	☐	☐	Prereq: Restoration of Habitat or Wetlands and Water Bodies	☐	☐	Prereq: Small Island Restoration
☐	☐	☐	Prereq: Long-Term Conservation Management of Habitat or Wetlands and Water Bodies	☐	☐	Prereq: Solar Orientation
☐	☐	☐		☐	☐	Prereq: Renewable Energy Production
☐	☐	☐	Neighborhood Pattern & Design 41	☐	☐	Prereq: District Heating and Cooling
☐	☐	☐	Prereq: Walkable Streets	☐	☐	Prereq: Infrastructure Energy Efficiency
☐	☐	☐	Prereq: Compact Development	☐	☐	Prereq: Wastewater Management
☐	☐	☐	Prereq: Connected and Open Community	☐	☐	Prereq: Recycled and Reused Infrastructure
☐	☐	☐	Prereq: Walkable Streets	☐	☐	Prereq: Solid Waste Management
☐	☐	☐	Prereq: Compact Development	☐	☐	Prereq: Light Pollution Reduction
☐	☐	☐	Prereq: Mixed-Use Neighborhoods	☐	☐	
☐	☐	☐	Prereq: Housing Types and Affordability	☐	☐	Innovation & Design Process 6
☐	☐	☐	Prereq: Reduced Parking Footprint	☐	☐	Prereq: Innovation
☐	☐	☐	Prereq: Connected and Open Community	☐	☐	Prereq: LEED® Accredited Professional
☐	☐	☐	Prereq: Transit Facilities	☐	☐	
☐	☐	☐	Prereq: Transportation Demand Management	☐	☐	Regional Priority Credits 4
☐	☐	☐	Prereq: Access to Civic & Public Space	☐	☐	Prereq: Regional Priority Credit: Region Defined
☐	☐	☐	Prereq: Access to Recreation Facilities	☐	☐	Prereq: Regional Priority Credit: Region Defined
☐	☐	☐	Prereq: Visibility and Universal Design	☐	☐	Prereq: Regional Priority Credit: Region Defined
☐	☐	☐	Prereq: Community Outreach and Involvement	☐	☐	Prereq: Regional Priority Credit: Region Defined
☐	☐	☐	Prereq: Local Food Production	☐	☐	
☐	☐	☐	Prereq: Tree-Lined and Shaded Streetscapes	☐	☐	PROJECT TOTALS (Certification estimates) 110
☐	☐	☐	Prereq: Neighborhood Schools	☐	☐	Certified: 40-49 points, Silver: 50-59 points, Gold: 60-79 points, Platinum: 80+ points

Figure 142: LEED-ND Checklist Chart

Within the five categories there are a total of 12 prerequisites that are required to gain certification. Cherry Quay-Bay Harbor potentially meets some of these requirements, but would likely need to improve in several areas, such as “smart location and linkage”, mixed-use neighborhoods, connected and open community, transportation, renewable energy production, and a central business area. The neighborhood already has conservation areas, bicycle facilities, and compact development, among other items.

Cherry Quay-Bay Harbor is almost entirely residential in land use and contains housing types of several densities and types. However, there are also some business uses along Drum Point Road and marinas within the lagoons, although they are generally not essential services to residents or visitors, but which could be expanded upon.

Public transit serves Cherry Quay-Bay Harbor marginally in the way of County bus service, but is not extensive nor does it enter the neighborhood. Due to the amount of the waterfront in the neighborhood, there is ample potential for water-based/ferry transportation to provide public access across the Bay connecting to the Brick beaches and for bus service to be extended along Hooper Avenue to provide an additional bus stop near Mallard Point, or along Cherry Quay Road into Cherry Quay. The Township should focus on ways to make the neighborhood more “compact”, “connected”, and “complete”. Bicycle access is already being extended through various grants that the Township receives, but could be a priority for this neighborhood.



These sustainability principles can also be combined with efforts to make the neighborhood more resilient to storm and flood events in the future by elevating buildings and selected streets, as well as investigating longer term solutions to flood mitigation through the use of stormwater management practices. Using the adjacent salt marshes as a potential for managed wetlands for stormwater management is consistent with LEED-ND.

In addition to the overall consistency with LEED-ND, homeowners can also advance the principles of LEED-ND by:

- Improving home energy performance by 5% for new homes or 3% for major building renovations.
- Reduce indoor water usage by 20% with water efficient toilets, faucets and showerheads.
- Reduce outdoor water use through the installation of native plants or smart irrigation systems.
- Reduce rainwater runoff.
- Design and orient new homes for maximum solar orientation.
- Utilize solar power, such as solar panels.

For more information on LEED-ND, go to <http://www.usgbc.org/articles/getting-started-nd>.

SEA LEVEL RISE AND THE FUTURE OF INFRASTRUCTURE

SEA LEVEL RISE

This Neighborhood Plan for Cherry Quay and Bay Harbor has been developed to deal with the immediate recovery needs of the neighborhood, as well as to anticipate measures for improving the resiliency of existing and future development to future storm events. However, it is important to recognize that the evidence for the phenomenon of sea level rise is compelling and that Superstorm Sandy may have been a precursor of more frequent and possibly more severe storm events to come in the future, which coupled with a rising sea level could threaten a repeat of the flooding that occurred during Sandy.



Figure 143: Graphic from www.coast.noaa.gov showing the increase in flood risk due to sea level rise.

The map above estimates the portion of Cherry Quay and Bay Harbor that would be flooded by a 1% storm event based on seal level rise of 2 ft.

Given the above, we believe the emphasis of this Neighborhood Plan on taking actions to elevate buildings, especially residential buildings, and to protect major community facilities and utilities (where applicable) would be consistent with a shorter range strategy, while elevating roads and improving stormwater management facilities would be consistent with a mid-range strategy. The key to protecting all of the mainland neighborhoods of Brick Township, as well as the Barrier Island, will be the



coordination of beach dune construction and beach replenishment by the Army Corps of Engineers as soon as possible. This was a major concern of property owners and echoed by residents on both sides of Barnegat Bay during the neighborhood outreach in 2015.



ACTION PLAN

There are a number of relatively low cost actions that can be undertaken through a partnership between the neighborhood associations, private owners, Brick Township, and Ocean County and coordinated with the State of New Jersey Department of Transportation and Department of Environmental Protection and FEMA. The identified actions are also prioritized into high, moderate, and low. The Township should plan to address all high priority projects first, followed by those that are lowest cost and easiest to implement. They are summarized in the table below.

Table 14: Cherry Quay/Bay Harbor Neighborhood Plan – Action Plan

	Project	Responsible Entity	Begin	Estimated Cost			Priority		
				Low	Mod	High	Low	Mod	High
1.	Gateway Signage	Neighborhood associations & Township	Immediate to 1 year	X			X		
2.	Landscape Treatments, including water retention areas and pond in Cherry Quay	Neighborhood associations with cooperation from Township & County	Immediate to 1 year	X				X	
3.	Update Zoning Map & Regulations	Township Zoning Board	Within 1 year	X				X	
4.	Develop and implement an Impervious Surface Ordinance	Township Planning Board	Within 1 year	X			X		
5.	Wayfinding Signage	Township, NJDOT Grant	Within 2 years	X				X	
6.	Elevate roads for emergency access and evacuation	Brick Township and FEMA with cooperation from Ocean County & NJDOT	Within 2 years			X			
7.	Strategy and implementation to clean and drain catch basin in Cherry Quay	Brick Township, NJDEP, FEMA	Within 2 years			X			X
8.	Elevate residential buildings and utility buildings impacted by predicted flooding	Brick Township, FEMA	Within 2 years			X			X
9.	Strategic Plan for acquisition or sale of abandoned properties	Township, State of NJ	Within 2 years	X					X
10.	Conduct study to place a bus stop near Cherry Quay	Township & Ocean County DOT	Within 2 years	X			X		
11.	Conversion of identified strategic abandoned properties to natural & public space and water retention areas	Township, NJDEP, FEMA	Within 3 years		X			X	
12.	Extension of sidewalk network & pedestrian improvements, including crosswalks	Township & NJDOT Grant	Within 3 years			X		X	



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13.	Bike Path network (Lane markings and/or signage on Township roads.	Township & NJDOT Grant	Within 3 years			X		X	
14.	Expand/Enhance public space and public access opportunities through the development of a Municipal Public Access Plan	Township & NJDEP	Within 5 years		X			X	
15.	Capital Improvements to stormwater management infrastructure	Township, FEMA Grants	Within 5 years			X			X



APPENDIX I

NOTES FROM THE CHERRY QUAY-BAY HARBOR PUBLIC MEETING – JUNE 16, 2015

The observations and ideas summarized above were discussed with the Township professional staff and members of Cherry Quay-Bay Harbor in a public meeting at Drum Point Elementary School on June 16, 2015. The following synthesized comments were brought up during the meeting by the Township professionals and the public:

- “Raise the road along the bike path (Shake Road aka Mandalay) into Seawood Harbor section – that road always floods, hard to get in and out of our development.”
- “Catch basins are needed at Rochester Drive flood.”
- Other general comments:
 - Barrier Island is the problem with all of the major flooding in Cherry Quay-Bay Harbor/Cherry Quay – Barrier Island needs to be fixed first.
 - Cherry Quay-Bay Harbor is a nice neighborhood, but known to flood – usually 6 inches in the street, not 6 feet. That was because of the Barrier Island breach during Sandy. The Bay hardly floods the houses – it’s the water that comes up through the storm drains.
 - Storm drains used to have bevels so water would go out drains and not back in through them – not there anymore.
 - Houses sitting empty for years – damaged badly and moldy – health and safety hazard to the whole neighborhood. Need to do something about it at some point soon, whether it’s the owner or the Township (in Cherry Quay-Bay Harbor).



APPENDIX II – NOTES FROM THE SHORE ACRES PUBLIC MEETING – MARCH 30, 2016

The observations and ideas summarized above were discussed with the Township professional staff and members of Shore Acres in a public meeting at the Brick Township Town Hall on March 30, 2016 or received by email following the meeting. The following comments were brought up during the meeting by the public and have been synthesized or paraphrased:

Comment 1: Grading and elevation is affecting flooding on streets. Need improved drainage systems and raised roads.

Comment 2: A range of costs should be laid out for Action Plan items.

Comment 3: There has been a decrease in property values. Anything that will increase values should be addressed, such as aesthetics, vacant and abandoned properties, et cetera.

Comment 4: The Barrier Island should be the top priority.

Comment 5: Flooding from the meadows. Need more concrete ideas.

Comment 6: Bulkheads are interrupting the natural flow and gain of wetlands.

Comment 7: Costs and risks will continue to increase. This will only prevent smaller, regular flooding.

Comment 8: Managed wetlands – not enough sediment in Barnegat Bay to sustain existing wetlands.

Comment 9: The manager of the Seaview Village Homeowners Association requested an enlarged version of Map #17, which proposed roadway and sidewalk extensions to Seaview Village from the single family neighborhood along B, C, and D Streets.

Response: A map was provided along with an explanation of the recommendations as being for the purposes of unifying the neighborhood and providing safer pedestrian access from the peninsula neighborhoods to the services on Hooper Avenue; However, the street connections between Seaview Village and the Lettered Streets (Silverton Pine Terrace) were removed due to a conservation easement.