

EAST MAIN STREET URBAN DESIGN + RESILIENCY PLAN

OCEANPORT, NJ NOVEMBER 2016

Clarke Caton Hintz



EAST MAIN STREET URBAN DESIGN + RESILIENCY PLAN

OCEANPORT BOROUGH, MONMOUTH COUNTY, NEW JERSEY

NOVEMBER 2016

Prepared by: Clarke Caton Hintz

Techa

Michael Sullivan, ASLA, AICP PP License #5153

Elizabeth K. McManus, AICP, LEED AP PP License #5915

Kendra Lelie, PP, AICP PP License #5537

Design Team:

Geoffrey Vaughn, Landscape and Graphic Design

EAST MAIN STREET URBAN DESIGN + RESILIENCY PLAN

ACKNOWLEDGEMENTS

BOROUGH MAYOR/COUNCIL

John F. Coffey II, Mayor Joseph Irace, Council President Stuart Briskey, Councilman Patricia Cooper, Councilwoman Richard Gallo, Councilman Ellynn M Kahle, Councilwoman John A Patti Esq., Councilman

SUBCOMMITTEE

John F. Coffey II, Mayor Patricia Cooper, Borough Council Christopher Widdis, Planning/Zoning Board Chairman Raymond Poerio, Borough Administrator Jeanne Smith, Borough Clerk William White, PE, Borough Engineer

PLANNING/ZONING BOARD

Christopher Widdis, Chairman James Whitson, Vice-Chairman Cullin Wible, Class I - Designee Patricia Cooper, Borough Council Joseph Foster, Environmental Commission Liaison Michael Savarese William Sullivan Robert Kielberg John Kahle Jason Fichter Robert Proto

Contents

1.	Introduction	1
2.	Study Area	7
З.	Urban Design + Resiliency Plans	19
4.	Summary + Next Steps	51



Introduction

Project Description

This Plan identifies urban design and resiliency strategies for the East Main Street area within the Borough of Oceanport. This report seeks to provide recommendations for the revitalization of an area consisting of mostly commercial properties through redevelopment that creates a mixed use neighborhood. Design of the neighborhood seeks to maximize property value and create a village center in a resilient manner that can withstand long-term predictions for flood events exacerbated by anticipated sea level rise. The Study Area is a 7-acre area located along East Main Street, south of the Oceanport Creek, fronting on East Main Street from approximately 700 feet north of Port-Au-Peck Avenue to approximately 900 feet east of Oceanport Avenue.

This Plan analyzes current zoning, land use, environmental conditions, and development potential in the Study Area, and provides the Borough with alternative redevelopment scenarios that may form the basis for new zoning regulations to reduce flood risk, improve resiliency, and create additional opportunities for mixed use development.



Village Center Shopping Center

Funding

The Plan is funded with a \$50,000 grant through the New Jersey Department of Community Affairs Post-Sandy Planning Assistance Grant (PSPAG) Program, which awards noncompetitive grant funding for municipalities affected by Hurricane Sandy to carry out post-Sandy recovery and resilience planning projects. The Borough is eligible for grants through this program because the damage it sustained from Hurricane Sandy reduced total assessed property value across the Borough by 2.8%, more than double the eligibility threshold of 1%. As required for participation in PSPAG, the Borough prepared a Strategic Recovery Planning Report (SRPR) in October 2014, which recommended activities that the Borough should undertake to advance post-Sandy recovery and storm resiliency including the preparation of a neighborhood resiliency plan for the Study Area that addresses how mitigation, resiliency and adaptation strategies can be incorporated in ways that contribute to the character of the area.





BRIDGEWATERS DRIVE COMMERCIAL



POST OFFICE SHOPPING CENTER



VILLAGE CENTER SHOPPING CENTER







Existing Conditions

Land Use and Ownership

The Study Area is located approximately one tenth of a mile north of the Monmouth Park Racetrack and is comprised of 15 separate parcels owned by ten different owners.

The Study Area contains the following lots:

	East Main Street Study Area Parceis					
Parcel ID	Block	Lot	Size (Ac)	Owner	Use	
1	88	34	0.42	Lagrotteria	Landscape Contractor	
2	88	35	2.2	Market on Main LLC	Retail Center	
3	101	1	0.11	Algov	Parking	
4	101	2	0.23	Algov	Post Office	
5	101	3	0.13	Algov	Commercial	
6	101	4	0.13	Algov	Commercial	
7	101	5	0.17	Algov	Parking	
8	101	6	0.26	Brummer	Contractor's Yard	
9	101	7	0.17	Brummer	Contractor's Yard	
10	101	8	0.38	Bridgewaters-KB LLC	Office	
11	101	9	0.08	Ferreira	Parking	
12	121	1.01	1.20	306 Oceanport, LLC % S Malley	Vacant - Old Wharf Inn	
13	121	2	1.09	298 Oceanport, LLC % S Malley	Vacant	
14	121	3.01	0.39	Slattery	Single Family	
15	121	4	0.41	Roberts	Single Family	



STUDY AREA, TAX BLOCKS AND LOTS

Land Use and Ownership

Land uses within the Study Area are predominantly commercial with a few single family homes, vacant parcels and parking lots intermixed. The Market on Main property is the largest parcel and currently contains a commercial shopping center with 11-15 businesses within a 23,000 square foot building. The Post Office is located within a smaller shopping center to the north of the Market on Main property within a 12,600 square foot building that also houses an office, restaurant and retail uses. The remaining lots in Block 101 contain parking lots, a contractor's yard and an office building. There are four lots on the west side of East Main Street, of which two are currently vacant, one contains a residential dwelling and the fourth contains a preschool and residence.

The Study Area is flanked by residential townhomes to the north and a new mixed use development to the south. The properties to the east of the Study Area are primarily composed of single family residential uses. A multi-family senior housing complex is located to the south of the lots in Block 121.

Zoning

The majority of the Study Area is zoned Village Commercial (VC), which permits mixed use



development with commercial uses permitted on the first floor, general business uses on the second floor and residential apartments (studio, one and two-bedroom units only) on the second and third floor with the permitted residential density not to exceed 16 units/acre. Block 121, Lots 1.01 and 2 are zoned Residential Multi-Family Waterfront (RMW) with a Village Center Affordable Housing Overlay (VC-AH) zone.

The RMW zoning district permits multi-family dwelling units at a density of 11 units per acre with 20% affordable housing setaside provided the maximum number of residential units does not exceed 20 dwelling units. The VC-AH inclusionary overlay zone permits the same uses permitted in the VC district provided at least 4 affordable housing units are provided with the development.

9

Development Summary

The study area is predominantly occupied by non-residential uses within one and two-story buildings. As indicated in the Development Summary table, there is approximately 54,600 square feet of building area within the Study Area of which approximately 51,000 square feet or (94%) is attributed to non-residential uses. The buildings located on Bridgewaters Drive and East Main Street north of Lake Avenue occupy the most vulnerable lands in the study area, with respect to flood hazard. With the exception of the vacant parcels within Block 121, approximately 65% of the Study Area contains impervious surfaces.

PARCEL ID	USE	BUILDING HEIGHT	BUILDING AREA (SF)	BUILDING/SITE CONDITION	IMPERVIOUS COVERAGE
1	Landscape Con- tractor	1 story	5,600	Construction material is stored beyond property line	83%
2	Shopping Center	1 & 2 story	23,974	Vacancies exist	78%
3	Parking			Adequate condition	100%
4	Post Office	1 story	6,390	Vacancies exist	75%
5	Office	1 story	3,315	Obsolete Design/Layout	75%
6	Retail	1 story	1,952	Obsolete Design/Layout	49%
7	Parking			Adequate condition	100%
8	Office	1 story	831	Construction material is stored on site/no visible stormwater management mechanisms	18%
9	Storage Area	-	-	Construction material is stored on site/no visible stormwater management mechanisms	50%
10	Office	2-story	9,000	Newer Construction	82%
11	Parking	-	-	Adequate Condition	29%
12	Vacant	-	-	Ruins from building exists on site/concrete foundation is present	49%
13	Vacant	-	-	Undeveloped	0%
14	SF Residential Preschool	1 story	1,848	Adequate Condition	65%
15	SF Residential	Two-story	1,692	Adequate Condition	53%
			54,602 Total		65% Average

EAST MAIN STREET STUDY AREA EXISTING DEVELOPMENT SUMMARY

Existing Buildings and Urban Form

As indicated in Development Summary Table, the majority of the non-residential square footage in the Study Area is contained in onestory buildings (77% of the total non-residential area). In addition, many of the sites position the building in the center of the parcel. The building design and site configuration contributes to an inefficient land use design where buildings are configured in such a way on the site that maximizing build-out is not achieved and thereby reducing the ultimate value of the improvements. Based upon conversations with the Twin Rivers Reclamation Water Authority, the sewer system for the Study Area was installed in 1970 which indicates that the buildings are at least 46 years old and given the age of the sewer system, substantial repair and maintenance may be required.

Given the age of buildings within the Study Area, the buildings exhibit physically obsolete characteristics which is one factor that drives an increase in the vacancy rate. The largest building on Block 88, Lot 35 has several storefronts that are vacant. The Study area does not exhibit an urban/community design that expresses smart growth planning principles or resiliency. Excess building area within the Study Area is attributed to the age of the buildings and obsolete design elements which do not represent compact or efficient design because more land is consumed to provide the same services. The architecture of the existing buildings exhibits a tired utilitarian aesthetic, further contributing to an undesirable visual environment and vacancies. In addition, there are limited housing opportunities and choices for those that wish to live in a walkable mixeduse area. Although vacancies exist in the study area records from the borough tax collector indicate that there are no outstanding tax liens on the parcels in the study area

Smart Growth Planning Principles

- Mix of land uses
- Promote compact building design
- Create a range of housing opportunities and choices
- Create walkable neighborhoods
- Foster distinctive, attractive communities with a strong sense of place
- Preserve open space, farmland, natural beauty, and critical environmental areas
- Strengthen and direct development towards existing communities
- Provide a variety of transportation choices
- Make development decisions predictable, fair, and cost effective
- Encourage community and stakeholder collaboration in development decisions

Source: US Environmental Protection Agency



Circulation, Access and Open Space

The Study Area includes East Main Street, Bridgewaters Drive, Lake Avenue and Riverview Avenue. While primary ingress and egress occurs from East Main Street to the majority of the parcels, Riverview Avenue, which dead ends to a parking lot, provides rear access to the shopping center on the Market on Main property, as well as the majority of the residential units located to the east of the Study Area. Several existing non-residential uses have access to Bridgewaters Drive as well. Sidewalks and crosswalks are located along all the streets in the Study Area, providing adequate pedestrian access to the parcels. While there is a pedestrian trail located in Maria Gatta Community Park, a 39-acre open space area containing active and passive recreation opportunities and located at the southeast tip of the Study Area, a pedestrian connection between the Study area and the park does not exist.

A potential transportation challenge that requires additional attention relating to not only the viability of Monmouth Park but also the future success of the Village Center district is the proposed plan for a scenic byway corridor extension. The byway is proposed to be located in an old right-of-way located in the middle of



the western parking lot that currently services Monmouth Park Race Track for overflow parking. As depicted in the Coastal Monmouth Plan adopted by the Monmouth County Planning Board in 2010, the proposed scenic byway corridor has the potential to divert vehicular traffic and people from East Main Street which

Circulation, Access, Open Space Map

is planned as a mixed-use Village Center and creates challenges to the redevelopment of this commercial corridor. However, if the scenic byway road were to come to fruition, the Borough would need to reconsider the goals and objectives relating to the Village Center zoning district and Monmouth Park Redevelopment Plan.

Environmental Characteristics



Flood Hazard Area Map

Flood Hazard Areas and Sea Level Rise

More than half of the Study Area is within the AE Special Flood Hazard Area and has a base flood elevation (BFE) of 7 feet⁽¹⁾. BFE is defined as the elevation to which floodwater is anticipated to rise during a base flood (aka a 100-year flood). A 100-year flood is named for a flood the severity of which has a 1% chance of being achieved any given year, or is likely to happen at least once every 100 years. A 100-year flood plain (aka, the Special Flood Hazard Area) refers to the area of land that is expected to be inundated with water during the base flood. The other half of the Study Area contains elevations ranging from 8 feet to 10 feet moving from north to south on Block 88.

BFE is not measured from the ground of each lot, rather it is measured from an elevation standard called NAVD88 (North American Vertical Datum of 1988), which is more easily expressed as "sea level" as of 1988. The datum

¹ NJ Flood Mapper http://njfloodmapper.org/) Produced in collaboration with the NOAA Coastal Services Center (CSC) through a partnership with the Jacques Cousteau National Estuarine Research Reserve (JCNERR) and the Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA), Rutgers University

provides a standard sea level elevation (0 ft) across the globe, but it should be understood that sea level is not constant at all locations nor at all times due to factors including geology and gravity. Sea level near Oceanport may in reality be higher or lower than sea level anywhere else on the planet. The easiest way to understand the implications of a 7-foot base flood elevation is to assume that in a base flood scenario, flood waters will reach heights of 7 feet above some globally equalized sea level.

The National Flood Insurance Program (NFIP) requires that the lowest floor of any new or reconstructed building to be elevated at or above an area's BFE. The Borough requires new buildings and unaltered existing structures within the Flood Hazard Area to be elevated a minimum of two feet above the BFE.

Sea Level Rise

The National Oceanic and Atmospheric Administration collaborated with scientists, FEMA, the Army Corps of Engineers, United States Global Change Research Program, and White House Council on Environmental Quality to produce maps of four scenarios of sea-level rise by 2050 and 2100 using FEMA's special flood hazard data. These four scenarios are categorized as Lowest, Intermediate-Low, Intermediate-High and Highest and each is expressed as an increase in the sea levels.

SEA LEVEL RISE SCENARIOS						
SCENARIO	SCENARIO BASIS	SEA LEVEL RISE	CHANGE IN BFE			
Lowest	Historic rates of observed sea level change	2050: +0.3 ft. 2100: +0.7 ft.	2050: +1.0 ft. 2100: +1.0 ft.			
Intermediate-Low	Projected ocean warming	2050: +0.7 ft. 2100: +1.6 ft.	2050: +1.0 ft. 2100: +1.5 ft.			
Intermediate-High	Projected ocean warming and recent ice sheet loss	2050: +1.3 ft. 2100: +3.9 ft.	2050: +1.5 ft. 2100: +4.5 ft.			
Highest	Ocean warming and the maxi- mum plausible contribution of ice sheet loss and glacial melting	2050: +2.0 ft. 2100: +6.6 ft.	2050: +2.5 ft. 2100: +7.0 ft.			

The scenarios are global estimates that do not account for municipal or region specific ocean dynamics or vertical land movement.

The best case scenario ("Lowest") anticipates that sea levels will rise by 0.3 feet by 2050 and 0.7 feet by 2100, while the worst case scenario ("Highest") anticipates that sea levels will rise by 2 feet by 2050 and 6.6 feet by 2100⁽²⁾.

Sea-level rise increases the frequency, duration, and severity of flooding. The Study Area's low-elevation makes it susceptible to flood water inundation not only during today's rain events, but also under projected sea-level rise scenarios.

If no new protective measures are put in place, the Intermediate-High Scenario, which projects sea levels increasing by 1.3 feet by 2050 and 3.9 feet by 2100, would result in increased susceptibility to flood inundation in parts of the Study Area. NJFloodmapper.com, a tool designed by NOAA and Jacques Cousteau National Estuarine Research Reserve, generates maps that illustrate the extent of flooding that would occur based on sea level rise models ranging from 1 to 6 feet.

² NOAA, FEMA, USACE, USGCRP, and CEQ. Scenarios from Global Sea Level Rise Scenarios for the United States National Climate Assessment. Published: December 6, 2012. Maps available at: http://geoplatform.maps.arcgis.com/ home/item.html?id=2960f1e066544582ae0f0d988ccb3d27 NJ Flood Mapper http://njfloodmapper.org/) Produced in collaboration with the NOAA Coastal Services Center (CSC) through a partnership with the Jacques Cousteau National Estuarine Research Reserve (JCNERR) and the Grant F. Walton Center for Remote Sensing and Spatial Analysis (CRSSA), Rutgers University

Flood Hazard Areas and Predicted Sea Level Rise Scenarios



Flood Hazard Area









Predicted 2100 Sea Level Rise

Predicted Change in Special Flood Hazard Area



FEMA 2013 Advisory BFE



The tool is valuable for understanding the potential effects of sea level rise on local flooding, though the models on which it is based do not account for certain factors such as existing stormwater infrastructure and are only as accurate as the underlying data. Under the intermediate-high scenario in 2050, 70% of the Study Area would be vulnerable to flooding from the Oceanport Creek. At 2100, sea level rise would cause inundation of the entire Study Area.

As sea levels rise, so will the base flood elevation in any area with a tidally influenced water body. The Oceanport Creek, because of its physical connection to the Shrewsbury River through Raritan Bay, is tidally influenced. Enhancing local and regional flood mitigation measures could reduce the impacts of sealevel rise. As inditcated, the existing buildings in the Study Area are made up of one-story structures with first floor elevations that are at or below the required height of 2-feet above base flood elevation, which is in place to protect the building structure and interior improvements from flooding events. Additionally, flood barriers such as flood gates or walls are not being utilized currently to help protect the Study Area buildings from flooding impacts. As such, the Study Area buildings are poorly positioned to resist and recover from current flooding events and could experience catastrophic damage given the predicted sea level rise which ranges



Wetlands and Buffer Areas

from 0.3 feet (2050 lowest scenario prediction) to 7.0 feet (2100 highest scenario prediction). Given the Borough's history of flooding, and the flood risks that the Study Area might face in the coming decades, it is imperative that redevelopment of the area include design elements and infrastructure to minimize the risks and impacts of flooding.

Wetlands

Although the Study Area is largely built out, the presence of wetlands to the west and south of Block 121 and east of Block 101 poses development constraints due to the required 50foot wetland buffer. Development of Block 121 is limited by the wetland buffer which accounts for approximately 25% of the block area. The wetland buffer also limits development on Block 101 but to a much lesser extent, accounting for about 10% of the block area.

Buffer Areas

Development in the Study Area is limited by transition areas / buffers that are required by NJ DEP CAFRA (Coastal Area Facility Regulation Act) Coastal Zone Management Rules. N.J.A.C. 7:7-9.26 requires a minimum 150-foot riparian zone, extending from the mean high water line at the top of bank of the Oceanport Creek, in which development is limited. The purpose of these requirements is primarily to prevent disruption of riparian vegetation and the effects of human activity on water quality. Approximately 80% of Block 121, Lot 1.01 is constrained by the required riparian buffer and when the wetlands buffer is considered, this lot has a developable land area of approximately 10%.

Threatened and Endangered Species

According to the NJDEP Landscape Project, the entirety of Block 121, Lot 2 is depicted as Rank 1: Habitat Specific Requirements. Rank 1 is assigned to patches that meet habitat-specific suitability requirements such as minimum size criteria for endangered, threatened or special concern wildlife species, but that do not contain any documented occurrences of such species. While Habitat patches that have no documented



June 7, 2016 Open House: Public Participation

occurrence of a species, the area may not have been systematically surveyed and as such may require further study for conducting a species surveys. The adjacent wetlands, which is not included in the Study Area, do show Rankings of 3 and 4 indicating the occurrence of State threatened and endangered species in those depicted locations. If further study of the area indicate the actual presence of threatened and endagered species NJDEP may require appropriate buffers that may implact the study area.

Community Input

The Borough held an open house meeting on June 7, 2016 as part of the public participation to address the master plan, the East Main Street area and the Monmouth Park Racetrack Redevelopment Plan. The purpose of the open house was to provide a brief overview of the projects and gain public input on land uses, resiliency measures and issues and challenges relating to the East Main Street area. Participants were able to provide verbal and written comments. The Community Input Exhibit captures the community's input on these topics. In addition, a comment form was posted on the Borough website for a period of several months to allow other community members to provide comments via the Borough website. A sub-committee inlcuding representatives from the Governing Body, Planning Board, Borough Mangagement and Professionals was intimately involved in the vetting of public comments and in the reveiw and decision making process associated with the development of the concept plan alternatives.

Community input indicated that the following uses were desired on East Main Street:

- Restaurants and Bars
- Coffee and Ice Cream Shops
- Personal Services Dry Cleaner, Hair Salon, Copy/Mail Center
- Pocket Parks



Community Input Exhibit

Participants would also like to see resliency measures incorporated into the building and site design such as providing elevated buildings and berms. Mixed-uses within 3-story buildings was supported by the majority of the participants. Redevelopment of the East Main Street Area is not without its challenges. Input from the community indicated the following issues related to the East Main Street Area:

- Existing high commercial vacancy rates
- Lack of personal services and medical services
- Need for public space
- Aesthetic improvement of buildings
- Safe pedestrian and bicycle routes
- Need for independent businesses in lieu of franchises.



Resiliency + Redevelopment

In this section, alternative concepts for redevelopment are explored and are compared to the existing zoning/conditions and the interim strategies. Whereas the existing conditions scenario incorporates no flood mitigation techniques, and represents underutilized and inefficient site and building layout which is lacking in smart growth planning principles, the alternative scenarios envisions a new Village Center district that integrates flood hazard mitigation into its fundamental public and private infrastructure, including open spaces, streets and the buildings. Creation of these alternative scenarios was guided by twelve design principles conceived to integrate mechanisms into future land uses that would promote quality of life, protection from flood hazards, and sufficient value to achieve the objectives.

Design Principles

In order to examine potential redevelopment/ zoning strategies that would allow for adaptation to increasing sea level and flood characteristics, it is helpful to establish a series of basic design and planning principles to serve as a guide. The following principles provide a general framework for the development of alternative adaptation scenarios that are contained herein. These represent a combination of local policy interests, practical approaches to existing conditions in the Study Area, best urban design practices and recommended hazard mitigation approaches. These principles should be considered as a starting point for adaptive approaches to the Study Area, but may be augmented as plans, ordinances and redevelopment proposals are considered to implement the options described herein.

DESIGN PRINCIPLES

- Provide a redevelopment framework for the East Main Street Study Area that will serve as the basis for a renewal of the Village Center neighborhood;
- 2. Ensure that the elements of urban design, such as streets, open space, parks and buildings, are planned in a manner that is integrated the overall fabric of Oceanport;
- Integrate elements of resiliency to minimize flood impacts and to permit redevelopment, land use and activity to invigorate the Village Center;
- 4. Integrate green infrastructure elements, within the land and within buildings and other structures, that store, delay and reduce stormwater runoff and that increase recharge of stormwater;

- 5. Create walkable, human-friendly streets, public spaces and neighborhoods;
- Limit impacts to the adjacent natural resource assets including, but not limited to wetlands, wetland buffers and riparian buffers with the Urban Design layout;
- Maximize the economic value of redevelopment by capitalizing on its proximity to the Oceanport Creek and Monmouth Park Racetrack through the establishment of strong physical, spatial and visual relationships to these assets;
- Maximize public access to Maria Gatta Park from the Study Area and the larger surrounding area through new open spaces and pedestrian networks that enhances connections, creates access and integrates the park into the Study Area as an amenity;
- 9. Create walkable, human-friendly streets, public spaces and neighborhoods;
- Adapt individual redevelopment proposals to reflect the patterns of property ownership, but also to encourage consolidation of efforts in order to promote more comprehensive planning of the Study Area;
- Be considerate of the existing adjacent residences in the layout and design of the proposed buildings; and
- 12. Integrate affordable housing into the Study Area which is consistent with the Mount Laurel doctrine in accordance with the Borough's Housing Element and Fair Share Plan.

Approaches to Resiliency through Redevelopment

It is difficult to consider adaptation strategies on an individual lot or tract basis when the approaches evolving at the State and regional levels rely, largely, on comprehensive regional strategies to combat sea level rise and flood hazards. For example, the Shrewsbury River, which is a tidal estuary with wide bay-like waterways protected by the Sandy Hook peninsula and nearby barrier beaches, experiences frequent flooding due to high water from storms producing high tides and storm surge flooding developed land areas along the Shrewsbury River and its tributaries. Long lasting storms such as northeasters prevent the drainage of floodwaters to Raritan Bay and Sandy Hook Bay, exacerbating the flooding event.

While a Feasibility Study undertaken by the Army Corps of Engineers and the New Jersey Department of Environmental Protection, concluded that a structural solution (flood wall) to the region's flooding impacts was cost prohibitive, non-structural alternatives are being reevaluated in light of damages sustained during Supertorm Sandy.

While a regional solution to the overall flooding impact is essential to mitigate future flooding events, the following scenarios do not extend beyond the limits of the Study Area and, thus, speak only to the lands within in terms of adaptation. Therefore, although the concepts expressed herein represent approaches to addressing the particular area in Oceanport, the efficacy of any adaptive or resilient elements may be dependent on the implementation of measures (e.g. structural and non-structural) well beyond the Study Area. That said, the scenarios described represent the preferred approach in the Study Area and may be integrated within larger, regional strategies. Three adaptation scenarios are examined:

Retention of Existing Zoning: Existing development is obsolete and inefficient; no redevelopment or district-wide adaptive strategies are proposed; however, redevelopment may occur in a manner consistent with current zoning.

Alternative Scenario A: Includes redevelopment of the Study Area to include mixed uses with building heights ranging from 2 to 3-stories.

Alternative Scenario B: Includes redevelopment of the Study Area to include multi-family residential uses only. Adaptation Scenarios A and B, both, incorporate structure elevation for the residential uses and flood barrier methods such as flood gates as a protective element in terms of adaptation and flood protection.

It is important to recognize that the scenarios described here are illustrated in a minimalistic, conceptual manner, such that the extent and scale of the ideas can be understood and that they may be codified through a redevelopment plan pursuant to the Local Redevelopment Housing Law (*NJSA 40:12A et seq.*) as necessary. They are not intended to represent actual architectural or site plans. Furthermore, the scale of these options is representative of a proposition regarding the maximum practical build-out of the Study Area in order to maximize value while achieving the identified project design principles.

Actual redevelopment within the Study Area may be determined to be more appropriate at, either, a lower or higher scale/density. Such a change in the scale of the actual development would be consistent with the recommendations herein, provided that the design principles are maintained. The basic elements of design are represented by the scenarios and the preferred plan.

Existing Development and Potential for Adaptation

The Study Area is predominantly occupied by non-residential uses which account for approximately 95% of the study area. These non-residential uses consist of 7 buildings with 51,000 square feet of area. The majority of the buildings are one story with approximately 23% (11,000 square feet) of the building area on a second floor. Approximately, 43% of the nonresidential buildings occupy the most vulnerable lands because they are located in the flood hazard area.

The existing non-residential development is inefficient and obsolete and existing zoning has not spurred new construction in more than a decade within the Study Area. There are no existing measures in place to facilitate resistance or adaptation to predicted sea level rise and increased flood hazards. Given the

existing conditions and limited development potential, an increase in value for the Study Area is unlikely and therefore reduces the ability for the existing development or potential development to fund infrastructure to mitigate impacts from flood hazards. Therefore, zoning incentives such as decreased/shared parking requirements and density bonuses may be effective as long-term approaches to spur development and increase values in the Study Area. However, the existing development can incorporate site-specific mitigation/adaptation measures may be implemented, such as flood protection structures. These measures may be implemented by the private sector (i.e. property owners) or the public sector provided that funding exists and that property owners are engaged to participate.





Flood Protection Concepts

Study Area: Tracts



Interim Solutions

This section considers those retrofit strategies for the existing buildings and site that can be implemented in order to reduce the public health and safety concerns of flood events. Such concerns include water damage to buildings and properties, as well as the safety risk to occupants during a flood. Additionally, building damage during flood events can later lead to health and safety concerns in the event of mold formation and structural damage to the building. Interim strategies may be useful given that redevelopment of the site is likely years away and the site's ultimate redevelopment timeline must account for not only the planning and engineering of the new site design, but also demolition of the existing improvements, and construction. Accordingly, the interim strategies

Dry Flood Proofing

for retrofitting the existing buildings to resist the infiltration of flood waters may be considered by the property owner.

There are a number of strategies that may be appropriate for this site to resist the infiltration of flood water. Given the size and design of the existing buildings, not all strategies for existing buildings are applicable. Example strategies not considered for this site include berming or elevating land and streets due to the lack of land to accommodate the necessary grading.

Dry Flood proofing

This strategy involves installation of a physical barrier, such as a wall or shield, along buildings, utilities or site elements to prevent the intrusion



Dry Flood Proofing

of water. It is essentially, a formal and installed alternative to sandbagging. It may also include pumping out any water that enters the building or other site element. This strategy is common for existing buildings in that it requires no changes to a site design and is less disruptive to the building design than other strategies. Typical designs include installation of a flood gate or wall along openings (doors) that creates a water tight seal when closed and latched. Alternatively, a flood gate or wall may surround multiple buildings, preventing water from infiltrating the building and surrounding land. This strategy protects against not only flood water but also objects that may be floating in the water. It also allows for all existing building areas to be occupied and conditioned, despite being at or



Dry Flood Proofing

below the flood elevation. Prior to installation, the building's structural capacity to resist the water loads must be analyzed to confirm it can support the strategy.

Wet Flood proofing

This strategy involves allowing water to flow through and around structures. Specifically, flood vents are installed along the foundation of a building to allow water to both enter and exit during a flood. It may also include pumping out any water that cannot exit the building through the vents. This strategy is appropriate where crawl spaces, parking, or other non-habitable space is located along the ground, or where the ground floor has substantial headroom such that the ground floor can be raised to accommodate the wet flood proofing. Similar to dry flood proofing, prior to installation, the structural capacity of the building must be analyzed to determine if it can support the vents and water flow. This strategy typically has the least impact on the appearance of buildings and site. Due to the configuration of the residential units having the presence of habitable space on the first floor, this strategy would not be applicable.

Protect Building Systems

Regardless of any flood proofing strategy, building systems, including mechanical, electrical, HVAC, plumbing, and fire protection systems, should be protected from flood events. Lack of protection for these systems can result in short circuits – which can result in fire - and unusable equipment, both of which can increase safety concerns during a flood and can result in increased emergency housing needs. Building systems should be relocated out of the flood area or placed in a flood proof enclosure. Typically, building systems are relocated to attic or roof space, lifted out of the flood area, or surrounded by flood prevention measures similar to those used in dry flood proofing a building.



Wet Flood Proofing



Wet Flood Proofing



Elevated Utilities

Mixed-Use: Overall Plan



Urban Design + Resiliency: Mixed-Use

Building Height/Density Distribution

Scenario A envisions the creation of a mixeduse Village Center of substantial value. It provides resilient structures that include 90 to 133 multi-family residential dwellings located on the second and third floors and townhouse units and approximately 25,600 square feet of non-residential uses (retail, personal services, restaurants, etc) on the first floor serving the local neighborhood, while integrating infrastructure and improvements to adapt to future sea level rise and flood events. These elements are intended to protect persons and property and, it is assumed, that the value created through re-zoning and redevelopment can create the basis to fund such improvements.

The 2-story buildings would be located along the Study Area's eastern side, adjacent to the existing residences, progressing to the 3-story buildings toward East Main Street and Bridgewaters Drive. Three (3) redevelopment tracts are illustrated for the purposes of this study, but the number of tracts may be varied based on practicalities of implementation.

Street Network/Pedestrian Connections

The primary thoroughfares are East Main Street and Bridgewaters Drive. The remaining streets

are local access streets and drives. Riverview Avenue's extension running west from the current location to East Main Street will create and complete the street block that defines Tract 3. All streets within the Study Area will include shade trees and the integration of stormwater recharge elements. Access to Maria Gatta Park is provided through a new pedestrian walk connecting Riverview Avenue and the adjacent private parcel which contains sidewalks to the open space. All streets will have pedestrian walks and on-street parking.

Open Space

The primary open space is a small park located at the intersection of East Main Street and Lake Avenue within the Study Area which gives the neighborhood and Borough a public gathering place. This space is where the community can come together for special events and gatherings or where neighbors meet to discuss the goingson of the day. The Village Center pocket park also provides an adequate buffer between the activity of East Main Street and the existing residential neighborhood.

Planted terraces and rooftops incorporated into the buildings are envisioned as a means to provide more immediate open space for residents within the study area, but will also function in terms of storing or delaying stormwater to provide opportunities for recharge.

Stormwater

Nearly 63% of the Study Area is currently impervious: buildings and pavement. Scenario A integrates additional pervious surface at the ground level and includes "green roofs" within the structures as an additional means of storing and delaying or recharging stormwater runoff. Open space and streets will integrate "green infrastructure" as appropriate to facilitate storage and recharge of stormwater.

Redevelopment Scenario Assumptions and Constraints

- Apartments range in size between 1,000 and 1,200 square feet
- On-site parking ratio ranges between 1.8 to 2.1 parking spaces per unit
- Off-street parking is a shared parking concept which services non-residential uses during the day and provides overflow residential parking during the evening
- Affordable housing is provided at a ratio of 15-20% and meet UHAC rules in accordance with NJAC 5:80-26.1 relating to affordability controls, bedroom and income distribution



Stormwater and infiltration at Open Space Precedent

Tract 1: Plan

Development Tract 1 includes a zoned inclusionary affordable housing development which is limited to 20 residential units of which 4 are affordable to low and moderate income families within a four-story building. This zoning is required pursuant to the Borough's court-approved affordable housing plan. Twentyseven plinth parking spaces (parking located under the structure on the ground floor of Building A) are provided for the residential units. Building B contains approximately 3,600 sf of commercial area on the ground floor of a two-story building and nine residential units (3 on the ground floor and 6 on the first floor). Thirteen parking spaces are provided for the mixed use located to the rear of the building.

Resiliency measures include elevating the first habitable floor of the building two feet above the special flood hazard area as predicted for the 2050 sea level rise at the highest level. Flood barriers would be provided for all door openings at the ground floor level and the building would be constructed of material that is resilient to flooding. Green infrastructure mechanisms such as bio-infiltration in the open space to the west of Building A and pervious pavement are proposed as mechanisms to reduce the quantity of stormwater entering the structured stormwater management system.



	COMMERCIAL	UNITS	PARKING
BLDG. A	o SF	20	26
BLDG. B	3,600 SF	9	14
TOTAL	3,600 SF	29	40

Development Summary

MIXED-USE

Tract 1: Site + Building + Resiliency Elements





Site + Resilient Elements

Ground Floor Uses





Top Floor Uses

Clarke Caton Hintz 31

Tract 2: Plan

Development Tract 2 is mostly residential containing 8 townhomes in Building D and 6 multi-family apartment units in Building C with approximately 5,300 non-residential area on the ground floor of the mixed-use corner structure. Two on-site parking spaces are provided for each townhouse unit. There are 43 additional parking spaces provided in the rear alleyway that can accommodate guests of the residential units or patrons for the commercial space in Building C.

Resiliency measures include elevating the first habitable floor of the building two feet above the special flood hazard area as predicted for the 2050 sea level rise at the highest level. Flood barriers would be provided for all door openings at the ground floor level and the building would be constructed of material that is resilient to flooding. Green infrastructure mechanisms such as bio-infiltration in the village green park area and pervious pavement are proposed as mechanisms to reduce the quantity of stormwater entering the structured stormwater management system.

	COMMERCIAL	UNITS	PARKING
BLDG. C	5,300 SF	6	43
BLDG. D	o SF	8	16
TOTAL	5,300 SF	14	66

Development Summary



Concept Plan

MIXED-USE

Tract 2: Site + Building + Resiliency Elements



Tract 3: Plan

Development Tract 3 includes mixed-use buildings providing approximately 13,200 sf of commercial uses on the first floor facing East Main Street and 67-85 multi-family residential units on the second and third floors of the building with plinth (parking under the building on the ground floor) parking. Five townhouse units are located in Building H with access to a pedestrian walk that creates a connection to Maria Gatta Park.

Resiliency measures include elevating the first habitable floor of the building two feet above the special flood hazard area as predicted for the 2050 sea level rise at the highest level. Flood barriers would be provided for all door openings at the ground floor level and the building would be constructed of material that is resilient to flooding. Green infrastructure mechanisms such as bio-infiltration in the street medians and parking areas, rooftop gardens and pervious pavement are proposed as mechanisms to reduce the quantity of stormwater entering the structured stormwater management system.

	COMMERCIAL	UNITS	PARKING
BLDG. E	3,600 SF	11 - 25	31
BLDG. G	6,000 SF	18 - 32	59
BLDG. G	3,600 SF	15 - 28	32
BLDG. H	o SF	5	10
TOTAL	13,200 SF	49 - 90	132



Concept Plan

Development Summary

MIXED-USE

Tract 3: Site + Building + Resiliency Elements



MIXED-USE

Tract 3: Site + Building + Resiliency Elements





Mixed-use Building Precedents





Intensive Green Roof Precedents





Green Roof/Patio

Townhouses



Top Floor Uses

Townhouses

Multi-Family Apartments

Green Roof/Patio

37

Multi-family Residential: Overall Plan



The multi-family residential option envisions the creation of a residential neighborhood providing resilient structures including 113 to 146 multifamily residential dwellings located in apartment flats and townhouse units which includes integrating infrastructure and improvements to adapt to future sea level rise and flood events. A new residential neighborhood will be a vibrant community that has direct pedestrian access to Maria Gatta Park, nearby shops and restaurants and the waterfront. These elements are intended to protect persons and property and, it is assumed, that the value created through re-zoning and redevelopment can create the basis to fund such improvements.

PARKING					
ON-STREET	OFF-STREET				
62	166				
238 TOTAL SPACES					

Tract 1: Plan

Development Tract 1 includes a zoned inclusionary affordable housing development which is limited to 20 residential units of which 4 are affordable to low and moderate income families within a four-story building. This zoning is required pursuant to the Borough's courtapproved affordable housing plan. Twenty-seven plinth parking spaces (parking located under the structure on the ground floor of Building A) are provided for the residential units. Building B contains 4 townhouse units with parking on the individual lots as well as 14 parking spaces for overflow parking needs located to the rear of the development tract.

	COMMERCIAL	UNITS	PARKING
BLDG. A	o SF	20	26
BLDG. B	o SF	4	22
TOTAL	o SF	24	48

Development Summary



Concept Plan

Tract 1: Site + Building + Resiliency Elements





Site + Resilient Elements

Ground Floor Uses



First + Second Floor Uses



Tract 2: Plan

Development Tract 2 contains 10 townhomes in Building C. Two on-site parking spaces are provided for each townhouse unit. There are 50 additional parking spaces provided in the rear alleyway that can accommodate guests of the residential units.

	COMMERCIAL	UNITS	PARKING
BLDG. C	o SF	10	70
TOTAL	o SF	10	70

Development Summary



Concept Plan

MULTI-FAMILY RESIDENTIAL

Tract 2: Site + Building + Resiliency Elements



Tract 3: Plan

Development Tract 3 includes three buildings providing 79-112 multi-family residential units on all levels with plinth (parking under the building on the ground floor) parking. The second floor roof provides an opportunity to create rooftop gardens that would provide a place of outdoor lounging for the residences and aid in reducing stormwater runoff emanating from the building surfaces.

	COMMERCIAL	UNITS	PARKING
BLDG. D	o SF	17 - 28	31
BLDG. E	o SF	24 - 35	59
BLDG. F	o SF	38 - 49	58
TOTAL	o SF	79 - 112	148

Development Summary



Concept Plan

MULTI-FAMILY RESIDENTIAL

Tract 3: Site + Building + Resiliency Elements



MULTI-FAMILY RESIDENTIAL

Tract 3: Site + Building + Resiliency Elements







Ground Floor Uses

Multi-Family Apartments

3-Story Reside



First Floor Uses

Multi-Family Apartments

Green Roof/Patio



Top Floor Uses

Multi-Family Apartments Green Roof/Patio

Overall Preferred Plan



The Preferred Plan is a combination of the Mixed Use Option and the Multi-Family Residential Option. Mixed uses are envisioned in Development Tract 3 only with commercial uses on the first floor and multi-family residential units on the second and third floors while limiting the uses in Development Tracts 1 and 2 to only residential uses including multi-family and townhouse units.

Development Tract 1 includes the required inclusionary affordable housing development which is limited to 20 residential units of which 4 are affordable to low and moderate income families within a four-story building. Twentyseven plinth parking spaces (parking located under the structure on the ground floor of Building A) are provided for the residential units. Building B contains 4 townhouse units with parking on the individual lots as well as 14 parking spaces for overflow parking needs located to the rear of the development tract.

Development Tract 2 contains 10 townhouse units with two off-street parking spaces designated for each unit. Additional on and off-street parking spaces are provided within Development Tract 2 which can serve as overflow parking for the residential units and also service visitors to the Village Center district.



Townhouse Precedent



3-Story Mixed-use Precedent



Podium Bldg. with parking at ground level Precedent



3-Story Residential recedent



3-Story Mixed-use Precedent



3-Story Mixed-use Precedent

Resiliency + Green Infrastructure Precedents



Green Infrastructure Concepts





Summary

This study has presented strategies for enhancing the flood resilience of the Study Area through redevelopment options that focus on a new urban design to revitalize the Village Center district. The preferred vision is a permanent solution for reducing flood hazards and represents the Borough's vision for a revitalized, mixed-use neighborhood that provides, not only diverse housing and business opportunities, but enhanced infrastructure and open space.

Urban Design

The urban design options create a foundation for revisions to the zoning regulations or a redevelopment plan pursuant to the Local Redevelopment and Housing Law (N.J.S.A. 40:12A-1 et seq.) What can be seen is that the existing development capacity is limited based on the inefficient and obsolete site layouts and buildings. These alternatives strive to maximize development capacity in an effort to create sufficient value, such that the recommended green infrastructure and flood mitigation techniques can be incorporated into the overall redevelopment of the Study Area through private capital. Absent resilient redevelopment of the Study Area, a continued pattern of repetitive flood losses, along with threats to public health and safety, can be expected.

Resilience

Redevelopment of the Study Area would provide for renewed land uses that are better adapted to predicted increases in sea level rise and flood events. Through compact footprints, higher building heights, public open spaces and the incorporation of infrastructure to promote flood hazard protection and stormwater storage and recharge, the preferred development option sets the stage for long-term occupation of the Village Center. The interim strategies are presented for consideration in the short term. Such short term considerations are necessary since redevelopment may be years away due to the magnitude of the site and its redevelopment challenges (infrastructure, grading and demolition).

Next Steps

Furthermore, the redevelopment of the Study Area represents the potential for a substantial increase in value, providing a potential private source to fund the infrastructure to protect future residents, rather than relying on the public. The ultimate success of the Village Center redevelopment efforts would be furthered with the inclusion of the existing residential dwellings located on eastern portion of the Study Area. Many of these dwellings are located in the Flood Hazard Area and the inclusion of the area into a future redevelopment scenario would provide a comprehensive prospect for a cohesive Village Center neighborhood.

Oceanport should employ the legislative and planning tools at its disposal to create the foundation for development similar to what is proposed in the preferred resilient redevelopment option. For example, the Borough may update its local land use regulations to create the foundation for increased mixed-use density, flood mitigation infrastructure, and improved urban design. The Borough may also employ the mechanisms allowed through the New Jersey Local Redevelopment and Housing Law (N.J.S.A. 40:12A-1 et seq.) to facilitate and accelerate the transformation of the Study Area and the recommended expansion of the Study Area. Additionally, the Borough should keep property owners informed and engaged in order to explore and maximize redevelopment options.



Potential Future Redevelopment Expansion

Appendix

RESOLUTION OF THE PLANNING BOARD OF THE BOROUGH OF OCEANPORT, MONMOUTH COUNTY, NEW JERSEY, ADOPTING THE E. MAIN STREET URBAN DESIGN AND RESLIENCY PLAN AS AN APPENDIX TO THE MASTER PLAN

WHEREAS, the Borough of Oceanport, County of Monmouth, State of New Jersey, applied for funds from the NJ Department of Community Affair's Post Sandy Planning Assistance Grant Program in order to conduct a resiliency and design study of a 7 acres area located along East Main Street, south of the Oceanport Creek approximately 700 feet north of Port Au Peck Avenue and approximately 900 feet east of Oceanport Avenue; and

WHEREAS, the Borough of Oceanport was awarded \$50,000 through the NJ Department of Community Affair's Post Sandy Planning Assistance Grant Program for preparation of the study; and

WHEREAS, the Borough of Oceanport commissioned Clarke Caton Hintz to prepare a resiliency and design study for the specified area; and

WHEREAS, upon proper notice pursuant to N.J.S.A. 40:55D-13 provided on November 10, 2016 the Planning Board held a public hearing on the proposed Appendix to the Master Plan; and

WHEREAS, the Planning Board has determined that the East Main Street Urban Design and Resiliency Study are consistent with N.J.S.A. 40:55D-28 and that the recommendations in the study will advance the Borough's land use, community development, flood mitigation, resilience and adaptation efforts;

NOW THEREFORE BE IT RESOLVED that the Planning Board of the Borough of Oceanport, County of Monmouth, State of New Jersey, hereby adopts the East Main Street Urban Design and Resiliency Plan as an Appendix to the Master Plan.

Offered by:	Whitsor	2	Seconded I	oy: <u>Counc</u>	ilwoman Co	<u>o</u> pes
ROLL CALL	YEŞ	NO	ABSTAIN	ABSENT	INELIGIBLE	
Widdis	()	()	()	()	()	
Whitson	(1)	() /	()	()	()	
Wible	()	())	()	()	()	
Cooper	(.)	()	()	()	()	
Foster	(1)	()	()	()	()	
Kleiberg	(4)	()	()	()	()	
Sullivan	()	()	()	()	()	
Kahle	()	()	()	(4)	()	
Savarese	()	()	()	(\mathcal{F})	()	
Fichter (Alt. 1)	()	()	()	(\mathcal{Q})	()	
Proto (Alt. 2)	()	(\mathbf{v})	()	()	()	

I hereby certify that the foregoing Resolution memorializes an action adopted by the Planning Board of the Borough of Oceanport at its meeting of November 22, 2016.

Jeanne Smith, Secretary