

# POST-SANDY PHASE II PLANNING PROJECTS

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Borough of Moonachie, New Jersey

April 20, 2017

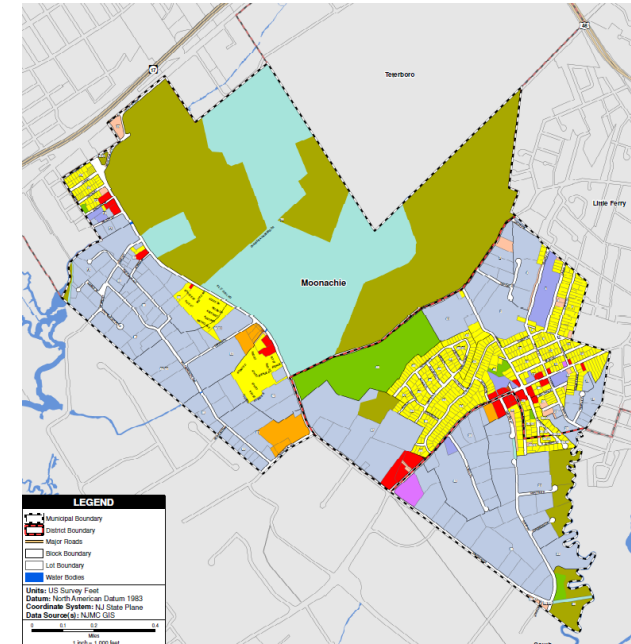
# Projects

- Master Plan Reexamination
- Zoning Ordinances Update
  - Flood Damage Prevention
- Moonachie Avenue Plan Area Neighborhood Plan
- Empire Boulevard Plan Area Neighborhood Plan
- Debris Management Plan
- Online GIS Plan and Strategy
- Design Standards
- Capital Improvement Plan

# Process

- Inventory
  - Data Collection
  - Land Use Survey
  - Mapping
- Site Visits
- Community Input
  - Meetings held in December 2016
  - Over 40 residents, business owners, and property owners participated

PAMS_PIN	BLDG_DESC	LAND_DESC	Zone
0237_54_11	1SF	50X100	R-1
0237_50_10	1SF	69X105 IRR	R-1
0237_55_1	1SF	54X105	R-1



# Master Plan Reexamination

## Purpose

*To revisit the previous Borough Master Plan at least once every 10 years to determine what, if any, changes have occurred or are reasonably predicted to occur that will impact the development and welfare of the community; to align the Master Plan with other relevant planning documents; and to guide development to meet the needs and changes within the community.*

## Statutory Requirements

- a) Identified major problems and objectives relating to land development at the time of the last Reexamination Report (2007);
- b) Determined the extent to which such problems have been reduced or have increased;
- c) Identified changes in assumptions, policies and objectives that formed the basis for the Master Plan and development regulations;
- d) Identified specific changes recommended for the Master Plan or development regulations, if any, or whether a new plan or regulations should be prepared;
- e) Addressed recommendations of the planning board concerning the incorporation of redevelopment plans into the Land Use Element of the Master Plan.

# Master Plan Reexamination

## Community Profiles

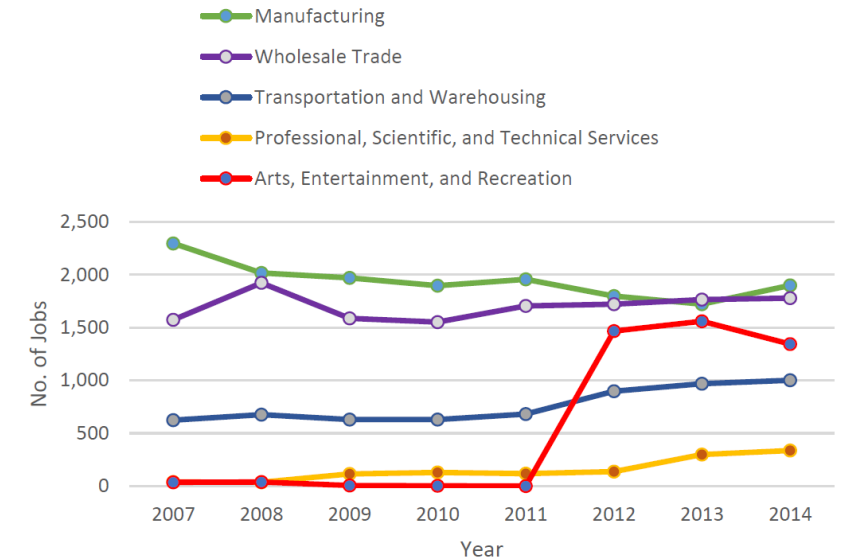
### Demographics

- Borough population is essentially stable – little growth or decline

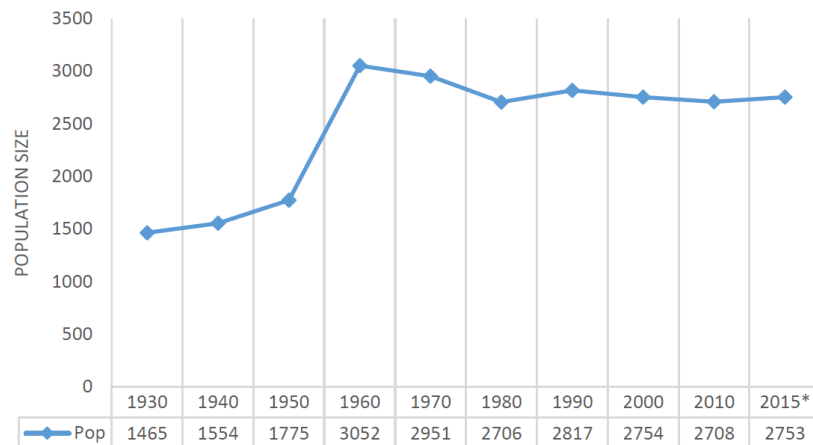
### Business/Economy

- Stable industrial sector, struggling commercial/retail sector
- Tax loss from reduced property assessments post-Sandy

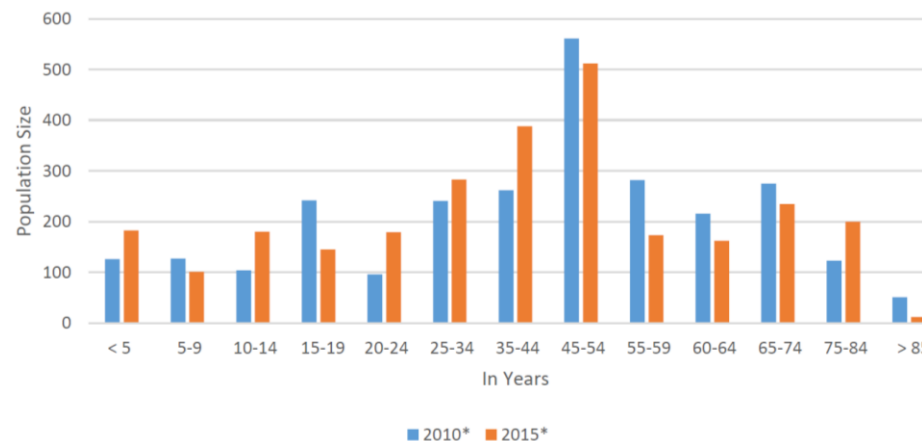
## JOBS BY INDUSTRY SECTOR



## POPULATION GROWTH



## AGE DISTRIBUTION (ACS 5-year Estimates)



Source: U.S. Census Bureau, LEHD Origin-Destination Employment Statistics.

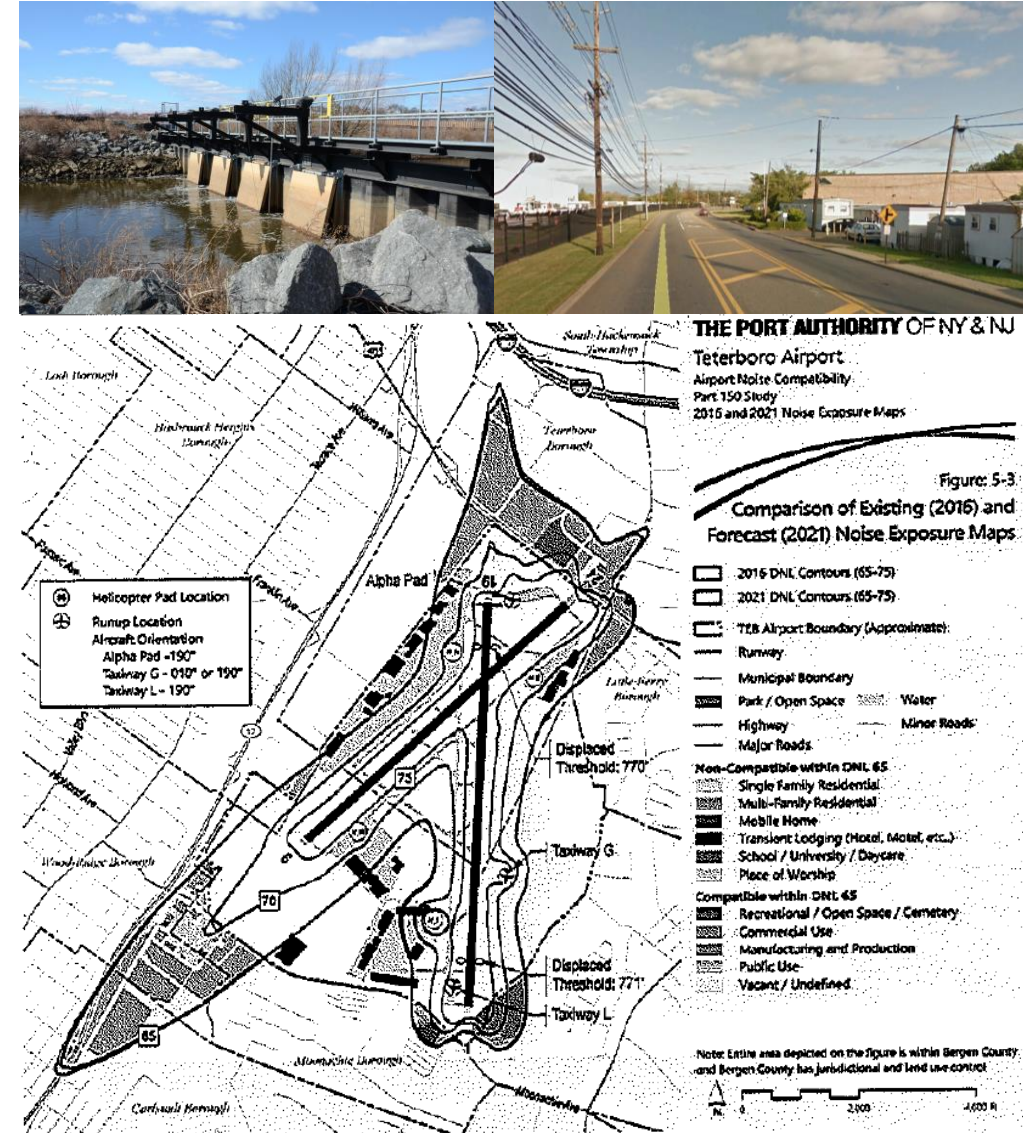
# Master Plan Reexamination

- Infrastructure
  - Improvements for Resiliency
  - Utilities
  - Local Stormwater Management

# Master Plan Reexamination

## External Forces

- Superstorm Sandy (2012) and regular flooding
- Tide gates and Flood Prevention
- Teterboro Airport (Port Authority)
  - Expansion - Increased impervious surface
  - Noise – Avoid inadvertent property devaluation
- Bergen County Utility Authority (BCUA)
- New Jersey Sports and Exposition Authority (NJSEA)
- Rebuild by Design - Meadowlands



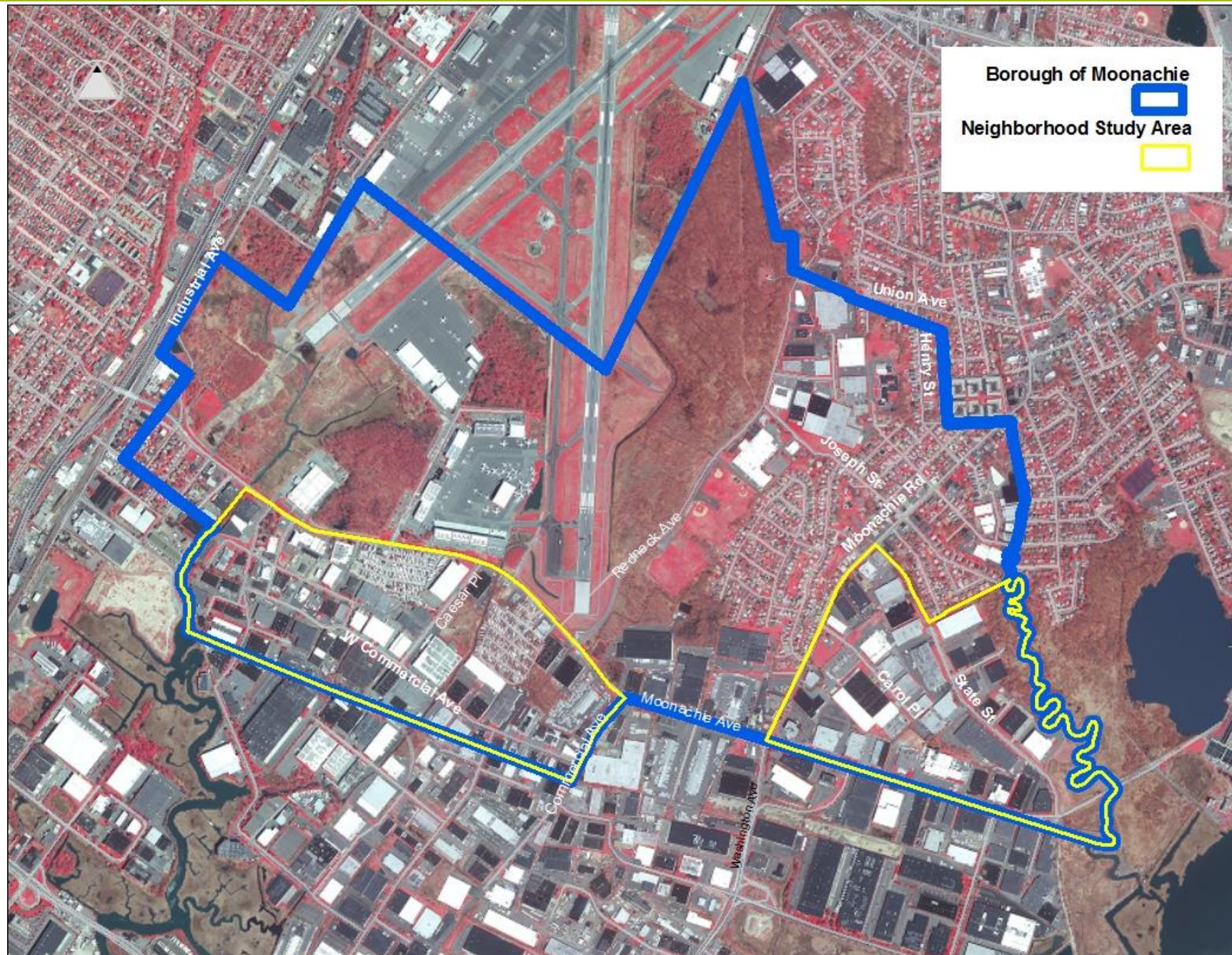


# Master Plan Reexamination

- Recommendations:
  - Analyze financial status or cost/benefit analysis of staying in NJSEA district
  - Adopt and engage in resiliency practices in order to adapt to and mitigate the effects of sea level rise, future storms, and ongoing intermittent flooding
    - Utilize floodproofing and hardening techniques or temporary pumps to protect buildings
    - Use soft green infrastructure for waterfront and to absorb stormwater
  - Adopt other Post-Sandy Phase II projects into the Master Plan Reexamination









# Ordinances Update

## Purpose

*To align regulatory function of the ordinances with the updates and recommendations in the Master Plan Reexamination and other planning documents.*

- Chapter XIX - Flood Damage Prevention Ordinance
- Chapter XXII - Zoning
  - Recommendations for areas of the Borough governed under the NJSEA statutory regulations are provided in the Neighborhood Plans
  - Advancement of resiliency practices
    - State statute that allows homeowners to elevate homes without a variance (up to a certain height)
    - Structures must be elevated 2 feet or more above Base Flood Elevation (BFE)
- Recommendations:
  - Public Recreation and Open Space (PR) Zone
    - Identify existing green/open space parcels
  - Conservation Overlay for open spaces (under public & private ownership)
  - Mixed-Use (MU) Overlay
    - To stimulate local economy and provide variety of housing along Moonachie Road
  - Develop an Impervious Surface Ordinance

# Ordinances Update

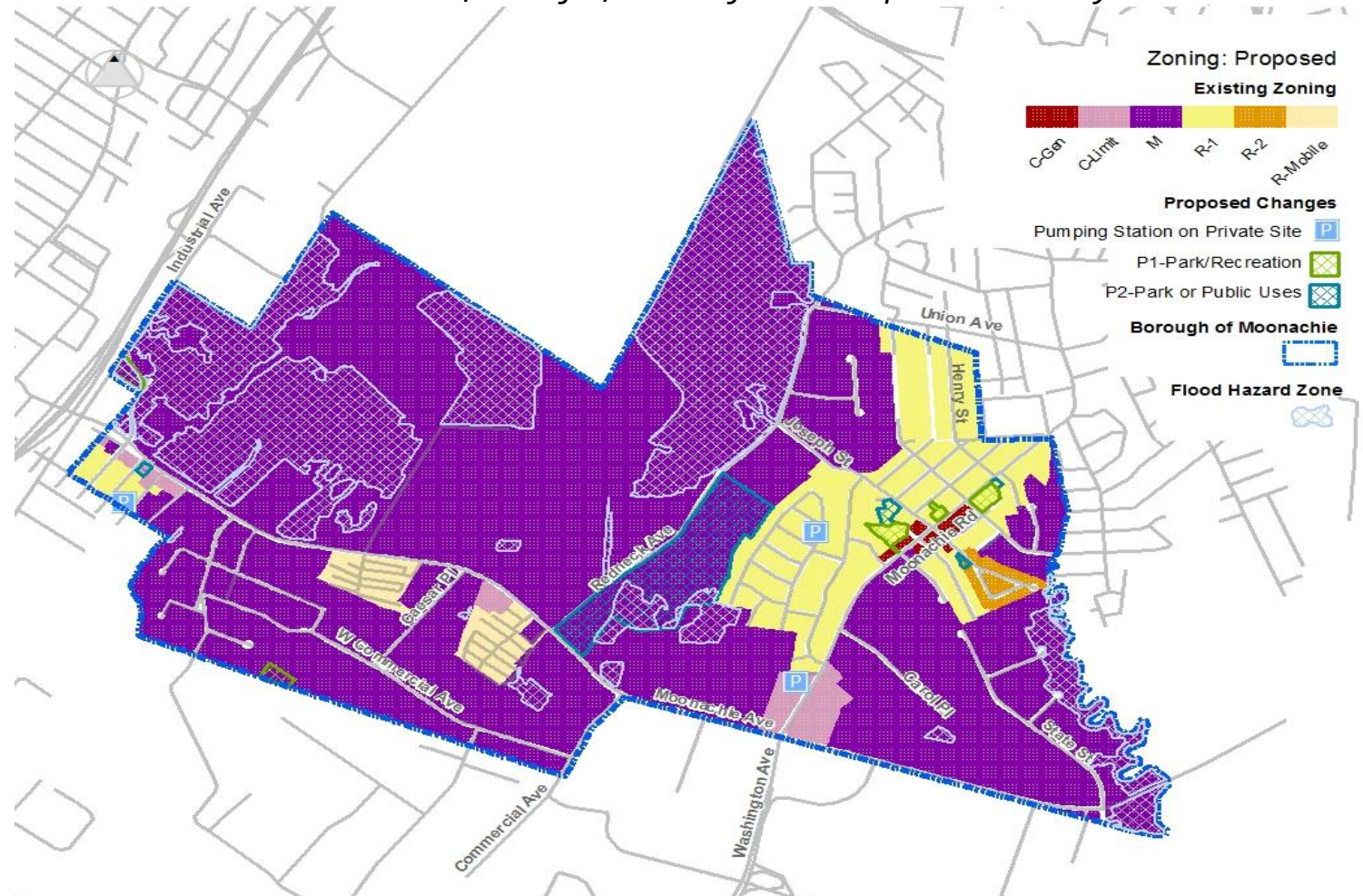
## PR Public Recreational and Open Space Zone

*It is the intent to make clear that lands are so zoned as to make their use, transfer, or sale for development unlikely.*

### 1. Permitted uses.

- a) Public uses.
- b) Public parks.
- c) Public open space.
- d) Schools.
- e) Senior citizen centers.
- f) Civic center.
- g) Municipal complex (admin, court, and police).
- h) Libraries.
- i) Public recreation facilities.

### Conservation Overlay



# Neighborhood Plans

## Purpose

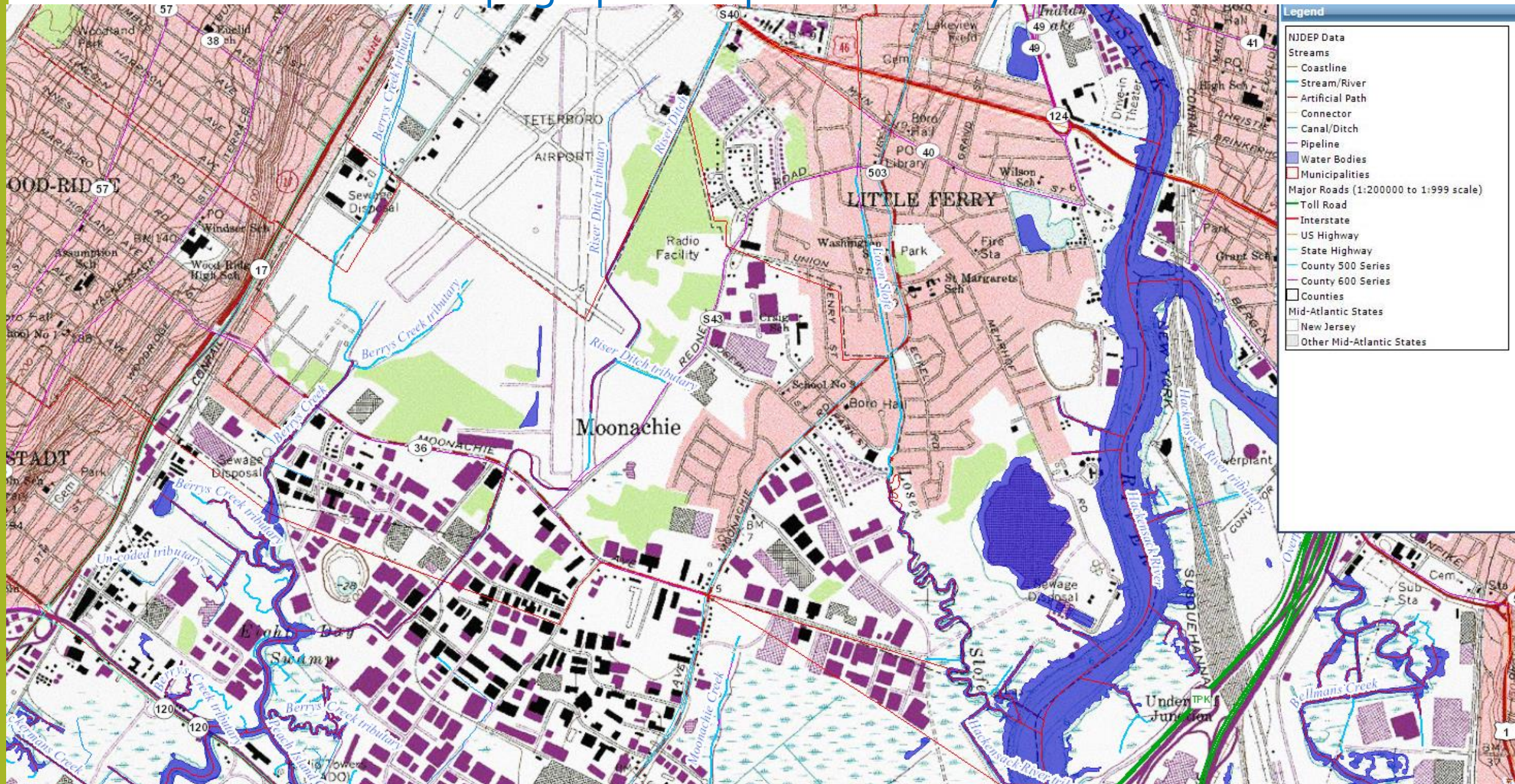
*To provide localized analysis and recommendations for neighborhoods heavily impacted by Superstorm Sandy in order to recover more resiliently to protect the welfare of the population and infrastructure against future flooding and storms.*

#	Issues	Moonachie Avenue Plan Area	Empire Boulevard Plan Area
1	Proximity to flood-prone waterways	X	X
2	Low-lying/unelevated buildings	X	X
3	High percentage impervious surface and lack of bio-retentive stormwater management	X	X
4	Lack of open space/recreation areas	X	X
5	Inconsistent/poor pedestrian & public transportation infrastructure	X	X
6	Unresponsive & unappealing buildings and streetscape	X	X
7	Vulnerable population & affordable housing	X	
8	Incompatible Uses - Mix of mobile home parks and industrial	X	
9	Aging, ineffective, or unprotected Infrastructure	X	X



# Topographic Map & Waterways

Borough of Moonachie





# Issue #1 – Proximity to flood-prone waterways



## Recommendations & Opportunities

- Significant waterways include: Berry's Creek, Losen Slote Creek, East Riser Ditch, Ryder Ditch
- Create planted buffers around open ditches and creeks
- Encourage greater building and impervious surface setbacks from waterways and low elevations
- Promote open space and recreation around waterways and reduce impervious surfaces



## Issue #2 – Low-lying & Unelevated Buildings



### Recommendations & Opportunities

- Low-lying properties should have improved drainage systems or pumps
- Residential buildings should be elevated two feet or more above the BFE and prohibit living spaces on ground floor of elevated buildings
- Encourage proper and safe elevation techniques for homes
- For industrial buildings or others that cannot be practicably elevated, dry or wet floodproofing methods or temporary flood protection barriers should be utilized
- Discourage grading of individual industrial properties that negatively impacts neighboring properties



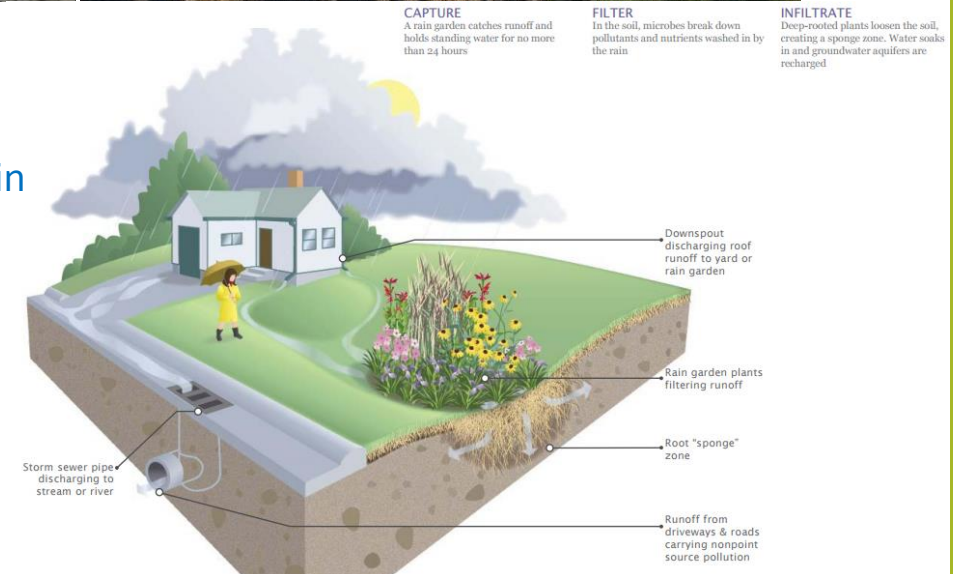


# Issue #3 - High percentage impervious surface and lack of bio-retentive stormwater management



## Recommendations & Opportunities

- Encourage permeable pavement and reduced parking lot size
- Utilize built or natural depressions to collect stormwater, such as bioswales and rain gardens with native flood-tolerant species in parking lots, setbacks, buffers, and curb bulb outs in streets
- Encourage green rooftops to absorb rainwater
- Create vegetated buffers along creek beds
- Consolidate undersized industrial properties for increased density & open space
- Utilize floodproofing, hardening, and pumps for major and increased flood events



## Issue #4 – Lack of open space/recreation areas



### Recommendations & Opportunities

- Borough wants the support of Meadowlands/NJSEA in protecting properties as open spaces and stormwater retention
- Identify key properties to combine recreation opportunities with stormwater retention/permeability
- Transfer of Development Rights (TDR) program to allow property owners to develop more densely in return for preserving open space on properties
- Consolidation of undersized industrial properties and/or cross access easements to allow greater density in proportion to increased open space
- Create Flood Hazard Overlay or Conservation Overlay for open space under public or private ownership
- Repurpose abandoned or unutilized lots and railroad tracks for open space and stormwater management



# Issue #5 – Inconsistent Pedestrian & Public Transportation Infrastructure & Connectivity

*Borough of Moonachie*



## Recommendations & Opportunities

- Continue sidewalks where they do not currently exist along commercial, industrial, and residential areas
- Add crosswalks at intersections, particularly near residential and commercial zones
- Install bus shelters that are accessible with sidewalks, crosswalks, and a covered platform area
- Create pedestrian and bicycle pathways through open spaces and between residential areas (i.e. between two mobile home parks)

# Issue #6 – Unresponsive buildings and streetscape



## Recommendations & Opportunities

- Encourage appealing facades and fenestration
- Bring buildings closer to the street
- Landscaping, street trees, & bioretention in setbacks
- Encourage setbacks and buffers between industrial and other land uses



# Issue #7 – Vulnerable Population & Affordable Housing



## Recommendations & Opportunities

- Mobile home parks in Moonachie Avenue Plan Area provide affordable housing
- Residential lots and structures in flood zones should be graded and elevated and have protection against creek flooding (including living shorelines or ecological revetments)
- Encourage greater setback between residential structures and creeks
- Encourage rain gardens or other landscaping for stormwater retention in and around mobile home parks
- Make improvements for accessibility to and between residential areas

## Issue #8 – Incompatible Uses



### Recommendations & Opportunities

- Work with the Port Authority to manage noise pollution from airport
- Vegetated buffers between incompatible uses
- Encourage greater setbacks between mobile home parks, industrial uses, and major roadways
- Discourage industrial uses next to existing residential



# Issue #9 – Aging, Ineffective, or Unprotected Infrastructure



## Recommendations & Opportunities

- Investigate stormwater piping & advance improvements
- Harden, elevate, or floodproof utilities and pumps
- Prevent clogging of drains from debris & garbage



# Debris Management Plan

## Purpose

*Identify and guide steps to be taken in case of storm, flood, or other emergency, critically for the Borough where most properties are flood prone, based on NJDEP Debris Management Planning Toolkit.*

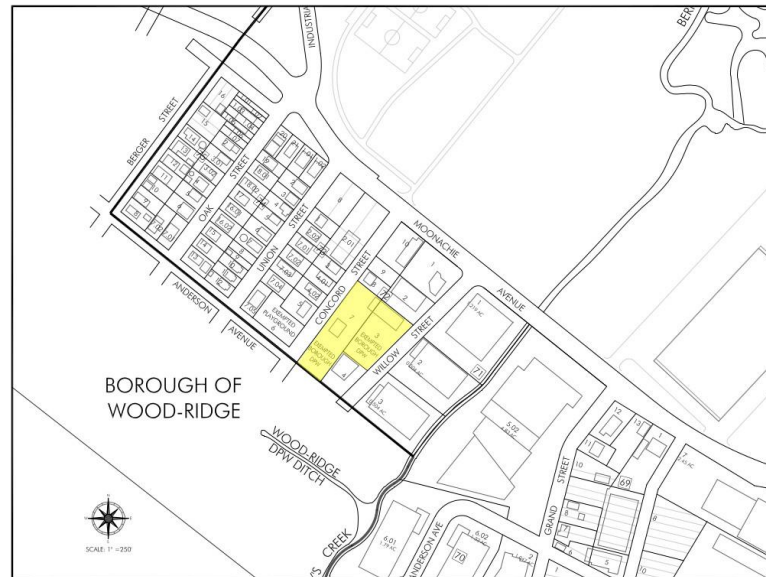
- Facilitate emergency access for first responders
- Comply with FEMA eligibility requirements for eventual reimbursement and monitor debris removal activities
- Coordinate support from county and State agencies to reopen road networks.
- Active disaster plans and implement debris removal activities
- Avoid/reduce risk of health and environmental hazards from unmanaged stockpiles of debris and run off assess debris.
- Direct separation of debris to reduce waste and maximize recycling.
- Increase public awareness and readiness.



# Debris Management Plan

## TDMAs

*Example of a non-flood event Temporary Debris Management Area (TDMA)*







# SPEED UP YOUR CLEANUP

Guide for New Jersey Residents to expedite storm debris cleanup and recovery



## Storm Debris Cleanup Instructions

1. Put debris piles only in the right of way (the area between the sidewalk and street).
2. Separate debris as directed by your town.
3. Don't pile debris near fire hydrants, mailboxes, utility poles, meters, or storm drains.
4. Keep debris off sidewalks and out of the street.
5. Separate normal household trash for regular collection.
6. Share debris piles with neighbors.
7. For more information contact your town or go to: [www.nj.gov/dep/](http://www.nj.gov/dep/)



### Food Waste & Contaminated Recycling\*

- Spoiled Food
- Wet/Moldy Paper & Cardboard

### Vegetative Waste\*

- Trees
- Branches
- Stumps

### Demolition Debris & Bulky Items\*

- Carpet
- Lumber
- Building Materials
- Furniture
- Drywall
- Barbeque Grills (without the tank)
- Lawn Care Tools
- Motors drained of oil & gas

### Appliances (White Goods)\*

- Refrigerators and Freezers (with all food removed and doors removed or secured)
- Washers/Dryers
- Air Conditioners
- Stoves
- Hot Water Heaters

### Electronics (E-Waste)\*

- TVs
- Computers
- Monitors

### Household Hazardous Waste\*

- Oil Based Paints
- Lawn Chemicals
- Pesticides
- Rechargeable Batteries
- Propane Tanks
- Unbroken Fluorescent Lights

New Jersey Department of Environmental Protection

\* Not all towns will collect these items. Check with your town for collection details.

Rev. 05/08/2015

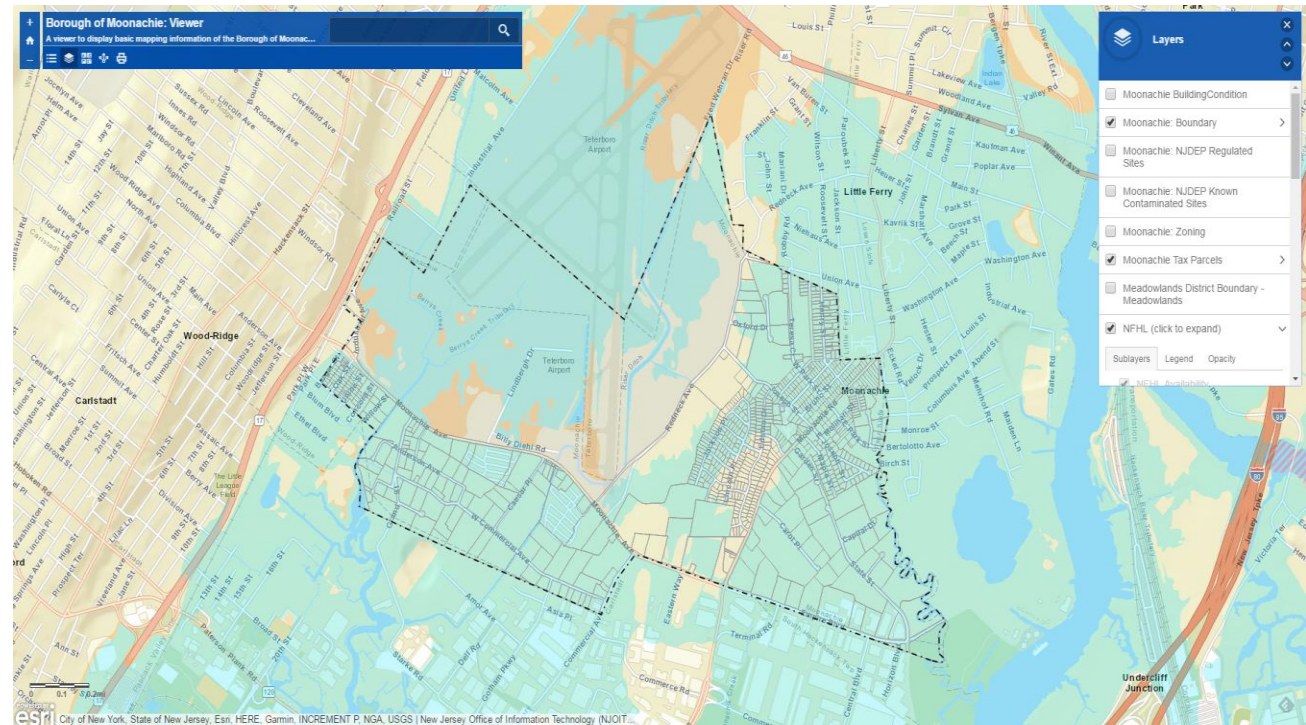


# Online GIS Plan and Strategy

## Purpose

*Geographic Information System (GIS) allows users to overlay a variety of datasets on a map for visual representation.*

- Available layers:
  - Tax parcels
  - Topography (contours, spot elevations)
  - Zoning, Property Class
  - Administrative and political boundaries
  - Community facilities (schools, fire stations)
  - Aerial photography
  - Municipal infrastructure (pump stations, sewer systems)
  - Transportation network (roads, public transportation)
  - Hydrology (stream, watershed boundaries)
- Available functionality:
  - Search/located property by address
  - Link to property tax assessment by block and lot
  - Identify zoning and BFE for your property

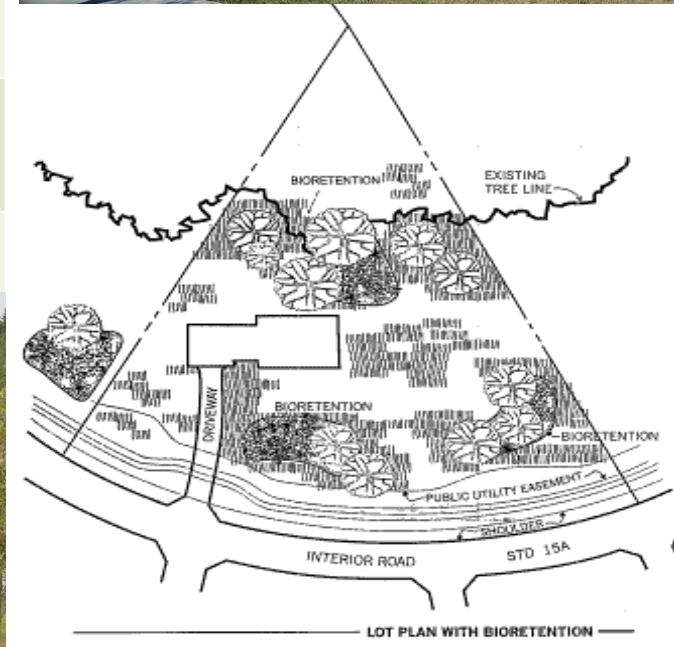


# Design Standards

## Purpose

*To guide the appearance of streetscape, buildings, and landscapes to align with community character.*

#	Issues	Recommendations
1	Hydrology/Impervious Surfaces	Bioswales, rain gardens, green roofs; encourage better drainage systems or pumps for low-lying properties
2	Site Planning	Increase setbacks from waterways for industrial buildings; from major roads for mobile home parks; Mixed-use structures
3	Open Spaces	Preserve open spaces for stormwater retention and encourage public use/recreation
4	Streetscape & Accessibility	Extend sidewalks, crosswalks; add street trees, plantings (for bioretention), and pedestrian amenities along sidewalks
5	Elevated Buildings	Elevate buildings 2+ feet above BFE; Encourage appropriate access configuration, materials and landscaping at base of buildings to reinforce neighborhood character and appearance
6	Facades & Entrances	Encourage interesting entrances and façade treatments along street frontage

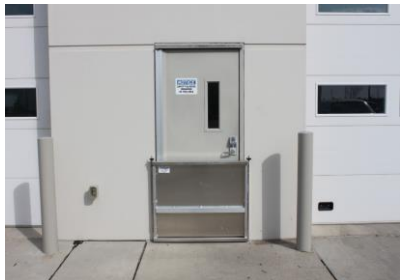




# Design Standards

## Elevating, Floodproofing & Hardening of Structures

### Flood Barriers



### Residential Elevation

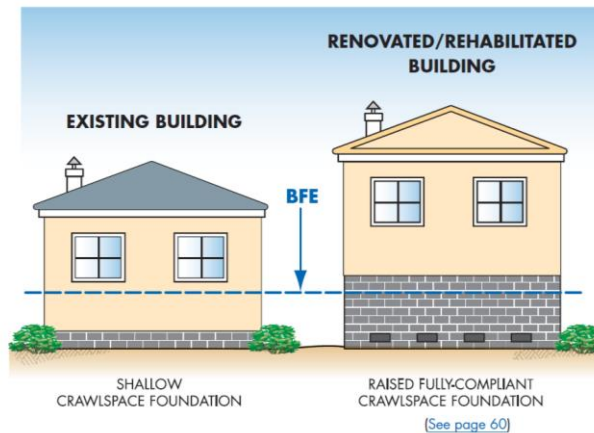


Mid-century home, slab-on-grade, prior to elevation, Harvey. Source: Roubion Inc. ([www.roubionshoring.com](http://www.roubionshoring.com))



Mid-century home, slab-on-grade, post-elevation, Harvey. Source: Roubion Inc. ([www.roubionshoring.com](http://www.roubionshoring.com))

### Substantial Improvement: Renovation Only



### Important Information

Floodplain buildings can be improved, renovated, rehabilitated or altered, but special rules apply.

Check with your local permit office before you begin. It will be easier to do it right the first time.

The cost to correct previously cited violations of State or local health, sanitary, or safety codes to provide safe living conditions can be excluded from the cost of renovations.

Alteration of a registered historic structure is allowed, by variance, as long as it will continue to meet the criteria for listing as a historic structure.

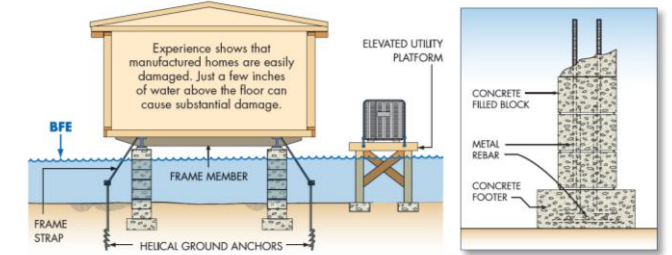
### Utilities



Elevating utilities and mechanical equipment above the DFE prevents damage from Floodwaters and allows for quicker recovery

### Mobile/Manufactured Homes

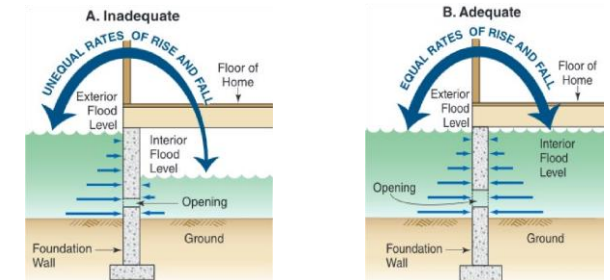
#### Manufactured Homes Require Special Attention



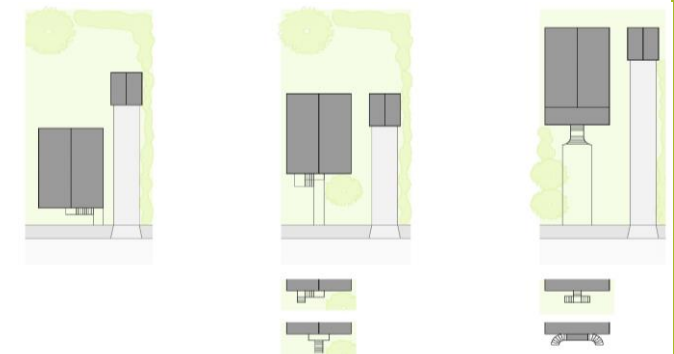
Manufactured homes must be anchored to resist flotation, collapse, and lateral movement by being tied down in accordance with your community's ordinance or the manufacturer's installation specifications for SFHAs. See guidance and some pre-engineered designs in FEMA P-85, *Protecting Manufactured Homes from Floods and Other Hazards*.

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NEW JERSEY QUICK GUIDE



### Site Planning



# Capital Improvement Plan

Category	Description
Municipal Facilities	<ul style="list-style-type: none"><li>• Police</li><li>• Court</li><li>• Administration</li><li>• Department of Public Works</li><li>• Civic/Senior Center</li><li>• Robert L. Craig Elementary School (building &amp; site)</li><li>• Firehouse building</li></ul>
Pump Stations	<ul style="list-style-type: none"><li>• Concord Street</li><li>• Moonachie Avenue</li><li>• Burger King</li><li>• Moonachie Road</li><li>• Lincoln Street</li></ul>
Parks & Recreation	<ul style="list-style-type: none"><li>• Joseph Street Park</li><li>• East Joseph Street Park</li><li>• Concord Street Park</li><li>• Municipal Fields &amp; Field House at Redneck Road</li></ul>
Infrastructure	<ul style="list-style-type: none"><li>• Storm &amp; Sanitary Sewerage</li><li>• Utilities</li><li>• Roads</li></ul>
Not-for-Profits (operating independently)	<ul style="list-style-type: none"><li>• Fire Department</li><li>• First Aid &amp; Rescue Squad</li></ul>



# Summary

- The Borough recognizes the increasing pressure to balance community and economic development with protection against rising sea levels, increased flood events, and future storms.
- Resiliency measures and practices are incorporated into each plan, as well as increased dissemination of information to the public.
- The Borough should address and coordinate with the most at-risk populations to find ways to best maintain health, safety, and affordable housing.
- Stormwater, road, and other infrastructure is in critical and increasing need of development, repair, or replacement.
- By adopting these plans, the Borough agrees to the importance of advancing the associated recommendations.

# Image Sources:

- "Low-Impact Development Design Strategies: An Integrated Design Approach." Prince George's County, Maryland. Department of Environmental Resources, Programs and Planning Division. June 1999.
- WaterGate. MegaSecur. <http://megasecur.com/flood-protection/>
- "Pierson Park Bioretention Areas and Vegetated Swales." Department of Environmental Conservation. New York State. <http://www.dec.ny.gov/lands/100871.html>
- "Mobile Home Park Design." Home Design and Style. [http://design-net.biz/homedesign/mobile\\_home\\_park\\_design.html](http://design-net.biz/homedesign/mobile_home_park_design.html)
- "Rain Garden Manual of New Jersey." Rutgers University. New Jersey Agricultural Experiment Station. Water Resources Program. [http://www.water.rutgers.edu/Rain\\_Gardens/RGWebsite/RainGardenManualofNJ.html](http://www.water.rutgers.edu/Rain_Gardens/RGWebsite/RainGardenManualofNJ.html)
- "OR 213 Redland Road Crossing Update." Greenworks, PC. July 15, 2015. <http://greenworkspc.com/category/streetscape/>
- "Queens Trench Drain Work Eliminates Pooling Water At A Loading Dock." Joseph L. Balkin, Inc. <http://www.balkanplumbing.com/specialty-queens-sewer-trench-drain-work/>