



Many of the properties owned by Suffolk County within the BOA Study Area are clustered in the downtown area associated with the Court, with the remaining Suffolk County properties scattered throughout the area west of the downtown. West of the downtown area, the Suffolk County owned land consists of large vacant undeveloped parcels on West Main Street near River Road and Forge Road, and other smaller undeveloped parcels scattered along West Main Street.

Within the BOA Study Area, three sewer pump stations are located on Town-owned land. The pump stations are located at the following locations: West Main Street near the intersection with Raynor Avenue, East Main Street near McDermott Avenue, and in the northeast section of the BOA Study Area near the intersection of Hubbard Avenue and East Main Street.

3.2.5 Parks, Recreation and Open Space

There are a significant number of parks and open space areas within the BOA boundary in within the surrounding area. There are two important Town of Riverhead parks located in the downtown area (**Figure 3-11**). Grangebel Park is located west of the bridge at Peconic Avenue and contains numerous attributes including walking and biking paths, a performance stage, seating areas, a former pump house which provides an opportunity for a pop-up shop, and sculptures. There is a fish ladder within the park to connect the tidal and freshwater surface waters. The Peconic Riverfront Park is located just east of Peconic Avenue and extends along the Peconic River. The Peconic Riverfront Park contains a path along the waterfront, dock, benches, gazebos and picnic tables. Within the BOA area, there are also numerous county owned properties which are dedicated open space lands. The majority of these properties are located west of the downtown and scattered along West Main Street. Two Town parks are located on the Peconic River. Weeping Willow Park provides small boat access and another small park known as George Schmelzer Riverfront Park, provides picnic tables and allows enjoyment of views of the river.

In addition to the land dedicated to parks within the BOA boundary area, there are other important parks and recreational resources located nearby. North of the boundary there is Stotzky Memorial Town Park located on Pulaski Street which contains extensive athletic fields and courts and gathering areas. In addition, south of the BOA study and across the Peconic River, there are numerous parks and open space including the Long Island State Pine Barrens Reserve, Peconic Bog County Park, Peconic Hills County Park, Cranberry Bog County Nature Preserve, and the David A. Sarnoff Pine State Barrens Preserve which provide opportunities for hiking and bird watching.

Town of Riverhead
Peconic River/Rt. 25 Corridor



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FIGURE 3-11
Parks & Open Space

Legend

- BOA Boundary
- Town Parks
- County Parks/Open Space
- State Parks
- Open Space

Sources: ESRI WMS; NYNHP;
NYS GIS Clearinghouse;
SC Real Property, 2013

1 inch = 2,000 feet



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Sources: Esri, HERE, DeLorme
(Thailand), TomTom





The parks and open space that exist within the Study Area and in the surrounding area are sufficient to meet the needs of the local population. While there are adequate park facilities within the Study Area, there is a desire to establish a continuous river walk extending from downtown along the Peconic River to the western area of the BOA. In some areas this may be accomplished through easements, however, the depth of many of the existing lots, particularly near the Center Street Bridge, would preclude the addition of a public easement while maintaining privacy for the property owners. However, it is recommended that the vision to achieve a continuous public access along the riverfront be pursued through property acquisition, easements, and design of properties that apply for site plan approval. Where riverfront trail is not feasible, connections should be provided via sidewalks on Route 25.

Throughout the entire Study Area, Route 25 is designated as a connecting bicycle route. Additional connecting bicycle routes are located north of Route 25 and extend past the BOA boundary on Raynor Avenue and Roanoke Avenue. There is an On-Road Bicycle Route, Class 3 with signs located on Ostrander Avenue in the Study Area. At the northeastern BOA boundary border, there is a small segment of an On Road State Bicycle Route, Class 3 with signs on Hubbard Avenue. This is a long bicycle route but only a very small portion falls within the BOA boundary. Recommendations for extended bicycle routes and off road opportunities are identified on **Figure 3-12C**.

It is noted that where County property exists along the south side of West Main Street, a bike path is recommended thru those properties and would require coordination with the County Parks Department. In addition, there may be opportunities for connections along the river or as connecting paths thru private property, where such an amenity would be consistent with the redevelopment of a site.

In the Riverhead BOA Study Area, the majority of bicycle racks are clustered around Peconic Avenue on Main Street in the downtown area. Bicycle racks can be found in the following locations: the intersection of Griffing Avenue and West Main Street, the intersection of 1st Street and Roanoke Avenue, on Main Street between East Avenue and Roanoke Avenue, and two bicycle racks in the parking area south of Main Street near the Peconic Riverfront Park. There is one additional bicycle rack on the northern border of the Study Area at the intersection of Howell Avenue and East Main Street.

3.2.6 Historic Resources and Archaeologically Significant Areas

Historic resources are assets which promote a community's unique identity and set it apart from other locales. While listing on the National Register of Historic Places helps to identify the historic resources in a community, protection is not afforded to these important assets in the absence of a local law. In the Town of Riverhead, Chapter 73, Landmarks Preservation, of the Town Code is intended to provide this regulatory protection. A Landmarks Preservation Commission (LPC) has been created, which evaluates and designates historic districts and landmarks. Once a property or structure is so designated: *"No structure, site, place or building designated as a landmark wholly or partly within the boundaries of an historic district shall be*



constructed, altered, repaired, moved or demolished except in compliance with the requirements set forth in this article. No permit shall issue for the demolition, alteration or improvement of a site, structure or building if it is proposed for designation as a landmark or within a proposed historic district unless said work is consistent with the criteria and procedures set forth herein.”

In contrast, listing on the National Register of Historic Places provides little protection to historic resources. As described on their website, the National Park Service administers the National Register of Historic Places. The Register is the official Federal list of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, engineering, and culture. National Register properties have significance to the history of their community state, or the nation. Nominations for listing historic properties come from State Historic Preservation Officers, from Federal Preservation Officers for properties owned or controlled by the United States Government, and from Tribal Historic Preservation Officers for properties on Tribal lands. Private individuals and organizations, local governments, and American Indian tribes often initiate this process and prepare the necessary documentation. A professional review board in each state considers each property proposed for listing and makes a recommendation on its eligibility. National Register listing places no obligations on private property owners. There are no restrictions on the use, treatment, transfer, or disposition of private property. Listing also does not lead to public acquisition or require public access. Lastly, unlike with a local town landmark designation, a property will not be listed if, for individual properties, the owner objects, or for districts, a majority of property owners object.

This section discusses the areas that are:

- Designated as a local landmark or historic district;
- Listed on the National Register of Historic Places.

The Study Area is host to numerous historic districts and structures, some of which are protected at the local level. **Figure 3-6** on Page 53 illustrates the historic and cultural assets in the area, as well as the historic districts in the BOA Study Area. The largest town designated historic district is the Town Historic District which extends from the intersection of Court Street and West Main Street as the western boundary to the intersection of East Main Street and Riverside Drive as the eastern boundary. The southern boundary of the Town Historic District is the Peconic River and the northern boundary extends beyond the BOA Study Area. Throughout most of the Town Historic District the northern boundary follows the Long Island Rail Road tracks, except for an area that extends north to Pulaski Street in the western section of the District.

The Riverhead Main Street Historic District (11NR06291) is a National Register Historic District that is fully included within the town designated Town Historic District. It includes properties that are in the heart of the downtown from Griffing Avenue in the west to Union Avenue in the east along Main Street. This district contains many buildings used for restaurants and commercial space in the downtown area.

There are a number of National Register listed and eligible properties outside the boundaries of the Main Street National Register Historic District, including:



- United States Post Office - listed (90NR01877)
- Suffolk County Historical Society Building – listed (93NR00501)
- Corwin Terry House – eligible – 540-542 East Main Street
- Downs-Edwards-Tuccio House – eligible – 547 East Main Street
- Second Street firehouse – 24 East Second Street
- Title Guarantee & Trust Co. – eligible – 202 Griffing Ave.
- Suffolk County Cooperative Extension Service – eligible – 246 Griffing Ave.
- Suffolk County Courthouse North Wing, County Clerk Office: 243: Griffing Ave.
- Suffolk County Courthouse, South Wing (Former Treasurer's Office): 235: Griffing Ave.
- Suffolk County Courthouse Complex – eligible - 225-243 Griffing Ave.

To the north and in close proximity to the BOA Study Area boundaries is the Upper Griffing-Roanoke Avenue District which is eligible for listing on the National Register. This district is located in the northwest section of the Town Historic District. Finally, there is a National Register eligible historic district surrounding 2nd Street in the center of the downtown. This District would be located north of the Main Street National Historic District and still primarily within the Town Historic District. It extends beyond and slightly to the north of the BOA Study Area boundary. To assist the LPC in an application to SHPO for the establishment of a national Register district centering on 2nd Street, Hawkins, Webb & Jaeger (an affiliate of NP&V specializing in architecture and design) provided supporting historical documental for the individual buildings and a professional assessment of the contribution that each building plays in the support of the National Register Historic District. A copy of the materials prepared on behalf of the Town are provided in **Appendix C**.

Archaeology studies are frequently prepared during the environmental review of proposed projects. If an archaeological artifact is found and the cultural resource investigation transmitted to the NY State Historic Preservation Office (SHPO), it is identified in the New York State Cultural Resource Information System (CRIS) database. A circle is then drawn at a set radius distance around the artifact, to indicate additional artifacts may be present within proximity to the archeological artifact. According to the maps available for review through the CRIS, three archeologically sensitive areas are located partially within the Riverhead BOA boundary illustrated in the graphic below.

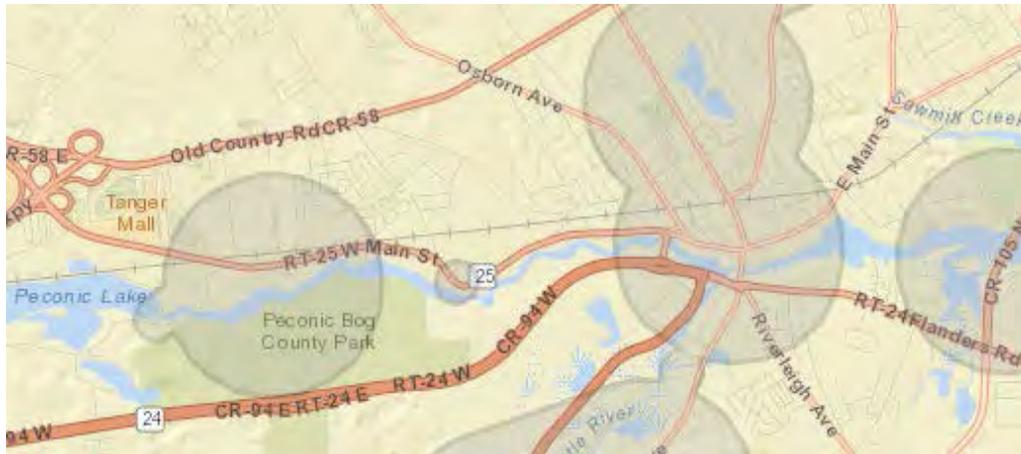


Image of Archeologically Sensitive Areas within the BOA Study Area
Source: New York State Cultural Resource Information System

Properties within the gray areas would be more likely to have cultural resources present on site and applicants for development on sites in these areas may be required to perform a Cultural Resource Investigation. One potentially archeologically sensitive area is located in the downtown area of Riverhead and extends from Marcy Avenue at the west to Howell Avenue to the east. This archeologically sensitive area extends beyond the northern and southern boundaries of the BOA Study Area. Another potentially archeologically sensitive area is located along West Main Street, just east of the intersection at Mill Road. A third potentially archeologically sensitive area is in the western portion of the Study Area on West Main Street. The boundaries for this area include the land just south of Tanger to the west, slightly west of the intersection of Mill Road and West Main Street as the eastern boundary, and it extends beyond the northern and southern BOA boundaries. Lands adjacent to the Peconic River, which would have been a water route inland from the resource rich bays, would have been used by Native Americans. A developer in these areas may be required to have a Phase I Cultural Resource Investigation prepared to identify potential for archeological resources on the property.

The primary goal of a Phase I Cultural Resource Investigation is to identify archaeologically sensitive areas, cultural/sacred areas and standing structures that are at least 50 years old, which may be affected by a project and to locate all prehistoric and historic cultural/archaeological resources that may exist within the proposed project area. The first phase is a reconnaissance study, completed to determine the presence or absence of sensitive cultural resources and includes a Phase IA (Literature Search and Sensitivity Study) and Phase IB (Field Investigation)²¹. If no cultural resources are discovered, no further analysis is required. If resources are discovered, modifications to the proposed project may be made to avoid or minimize potential impacts. If resources are identified that cannot be readily avoided, then additional examination is needed to establish the significance of the resource. In some cases, a survey is not necessary, especially if substantial prior ground disturbance can be documented, as in these cases, the likelihood of identifying significant cultural resources on site would be unlikely.

²¹ More information available at <http://parks.ny.gov/shpo/environmental-review/archeo-survey.aspx>.



3.2.7 Transportation Systems and the TOD Growth Plan

As a component of this BOA Study, a Transit Oriented Development (TOD) Growth Plan was prepared to evaluate existing, and predict future, traffic growth within the Study Area. **Figure 3-12A** provides a map of the transportation systems in the area and illustrates functional classifications²² of roadways (primary, minor arterials and major collectors), speed limits on main roads, traffic signals and the location of the LIRR commuter station in downtown Riverhead. Within the Study Area there are minor arterials (NY SR 25 (Main Street), Riverside Drive, Mill Road, Osborne Avenue, CR 63 (Peconic Avenue) and CR 73 (Roanoke Avenue)) and major collector streets (Forge Road, Kroemer Avenue, Ostrander Avenue and Hubbard Avenue). The remaining roads are classified as local roads.

Although public transportation opportunities exist in the Study Area with the presence of a LIRR Train Station in Riverhead's downtown and Suffolk County Transit bus service provided via multiple routes in the area, the majority of trips into and out of the Study Area are vehicular trips. Recent efforts to improve the roadway environment to encourage pedestrian activity have occurred, including the most recent sidewalk improvement project completed by the NYSDOT, which extended sidewalks from downtown Riverhead to River Road at the western end of the Study Area.

What follows is a summary of the traffic study prepared as part of the TOD Growth Plan for the BOA Study Area and recommendations related to improving traffic flow in the downtown, as well as overview of findings and recommendations regarding parking, bicycle and pedestrian improvements and transit. The Full TOD Growth Plan and Traffic Impact Study are provided under separate cover.

²² According to the NYSDOT website, functional classification is the process by which roads, streets, and highways are grouped into classes according to the character of service they provide. Individual roads and streets do not serve travel independently but as part of a network of roads through which the traffic moves. Functional classification defines the nature of this movement by defining the part that any particular road or street should play in serving the flow of trips through a highway network and the type of access it provides to adjacent properties. Functional classification describes the importance of a particular road or network of roads to the overall system and, therefore, is critical in assigning priorities to projects and establishing the appropriate highway design standards to meet the needs of the traffic served. Functional classification is also used to determine which roads are eligible for project funding under the Surface Transportation Program (STP) administered by the Federal Highway Administration.

There are currently seven functional classifications which are further distinguished as urban and rural yielding fourteen distinct designations. All of the classifications are Federal Aid eligible except three: Urban Local, Rural Minor Collector, and Rural Local (codes 19, 08, and 09, respectively). Federal Aid (STP) may also be used for projects on Rural Minor Collectors (08) although they are not typically considered to be part of the Federal Aid eligible system. The respective classes and codes are shown below (the FHWA codes do not contain the urban/rural distinction).

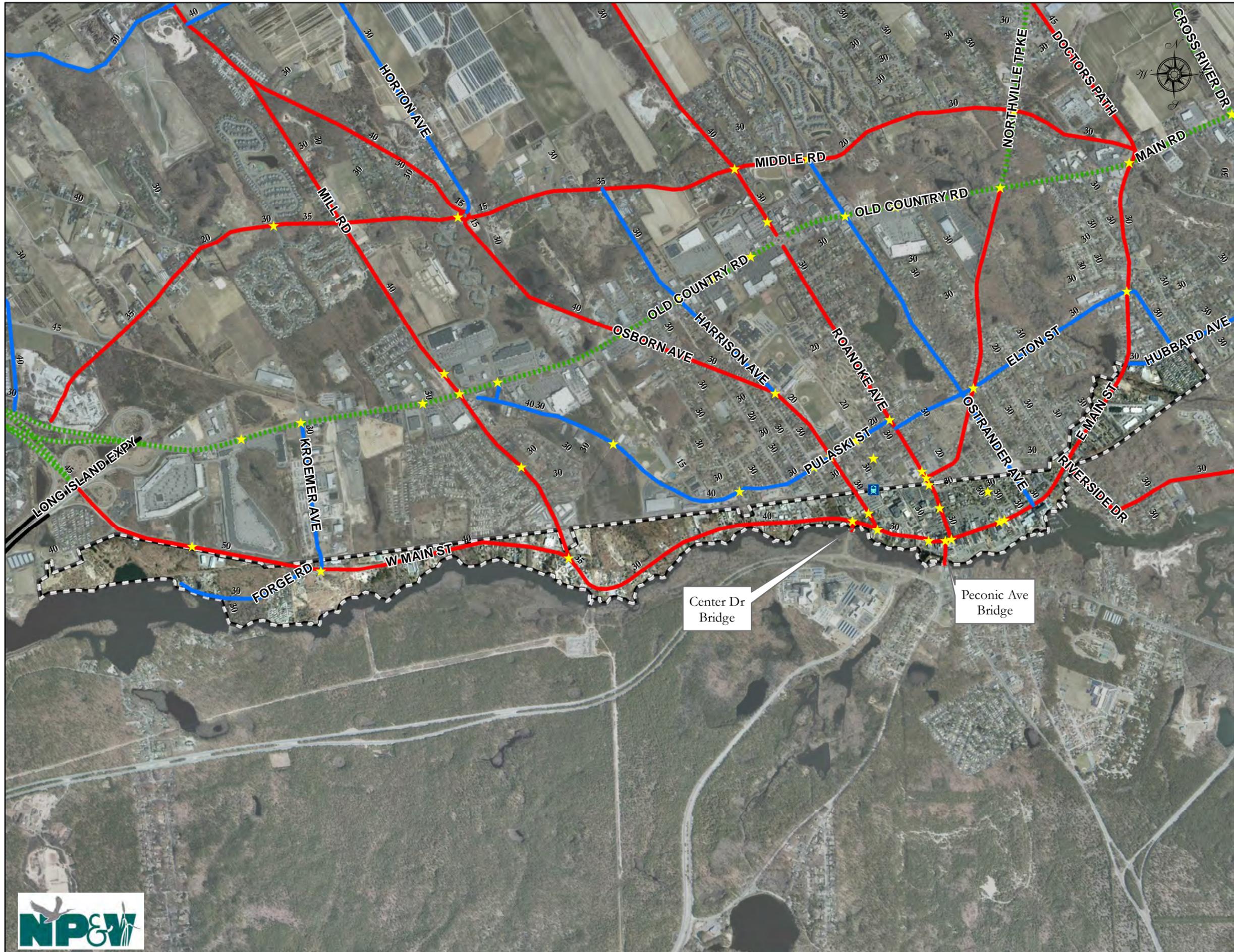
(Source: <https://www.dot.ny.gov/gisapps/functional-class-maps>)

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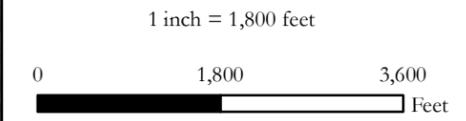
FIGURE 3-12A
Transportation Network



- Legend**
- BOA Boundary
 - Major Roads**
 - Major Collector
 - Interstate
 - Minor Arterial
 - Principal Arterial
 - Traffic Signals
 - Commuter Station

Note: Speed limits, (for example 30) in mile per hour are shown for main roads only.

Sources: ESRI WMS; Suffolk County;
Town of Riverhead;
NYS Orthophotography, 2013





Traffic Flow Plan

The TOD Growth Plan for the Town of Riverhead included a Cumulative Traffic Impact Study to identify any traffic impacts that will be generated by the Base Conditions Scenario and subsequent Alternative Development Scenarios. The Base Condition Scenario traffic volumes were developed using the following factors: assume 80 percent of current vacant spaces within the downtown are occupied, include an increase in traffic due to general population growth, and add traffic from other planned projects.

The planning and revitalization efforts that are ongoing and planned for the Town of Riverhead within the downtown are expected to increase the existing population that inhabit new residences, increase economic activity in the form of additional commercial space, whether retail or restaurant uses, and attract visitors as a result of additional recreational opportunities all of which may in the number of trips within the Study Area. In the absence of adequate capacity, increases in trips could result in congestion, delay, and traffic safety concerns. The Base Scenario was used to analyze signalized and unsignalized intersections in the downtown area to determine the Level of Service (LOS) expected from future development within a revitalized Riverhead.

Under the Base Scenario, the traffic evaluation concluded that the following intersections would experience delays: West Main Street at Peconic Avenue, East Main Street at Roanoke Avenue, and the Roundabout at Peconic Avenue/CR 94/CR 63/CR 104/NYS 24. In order to address this delay, two different mitigation approaches were developed in order to improve traffic flow. The evaluation of the Base Scenario particularly focused on the need to improve flow at the Peconic Avenue/Roanoke/Main Street intersection, where traffic issues are in part due to the offset geometry, at this intersection. It is important to note that the majority of traffic traveling through this intersection is generally pass through traffic wherein the majority of trips traveling from the south through the intersection are destined for Old Country Road (CR58) to the north of the BOA Study Area. In general, the options offered as mitigation are as follows:

- Mitigation Option 1 involves making Peconic Avenue a one-way road northbound with provision for a southbound emergency lane. Because all non-emergency southbound traffic would need to cross the river at a different location, e.g., the Center Drive bridge, this option requires further analysis at intersections outside the downtown. Most of the current southbound traffic would be directed to the intersection of West Main Street and Court Street/Nugent Street, where another bridge crosses the river. Additional capacity on West Main Street can be accommodated with an additional through lane west of Griffing Avenue. As the intersection of Church Street and West Main Street is at an angle, the NYSDOT would require that geometric improvements be made to ensure this intersection functions well with additional volume.
- Mitigation Option 2 involves realignment of Peconic Avenue and Roanoke Avenue to eliminate the offset intersections of West Main Street at Peconic Avenue and East Main Street at Roanoke Avenue. This mitigation would not require any improvements at the intersection of West Main Street and Court Street and no rerouting of traffic volumes would be required; however, this Mitigation Option would require demolition of the structure opposite the northern terminus of Peconic Avenue and thus would require acquisition of private property for this purpose. The building is the Benjamin Block Building, constructed in 1913, and is a historic building contributing to the Main Street Historic District and the relocation of the structure or demolition would be an unavoidable impact of this option.



The traffic congestion centered on the Peconic/Roanoke and Main Street intersection could be a major obstacle to redevelopment and revitalization of the downtown area. **Section 4.3** provides recommended steps for implementation of the mitigation options.

Pedestrian and Bike Plan

The TOD Growth Plan (September 2015) includes an analysis of the pedestrian and bicycle amenities currently available in the Study Area. The Pedestrian Bike Plan, in conjunction with the Public Transit Plan, may encourage fewer trips by car and create a cohesive walking route that is very desirable in downtown settings. Pedestrian amenities, including marked crosswalks, sidewalks, pedestrian push buttons, and pedestrian signals with countdown timers, are critical to providing a safe means of travel for the walking patrons of downtown Riverhead. These pedestrian amenities support clearly defined and signed walking routes which give pedestrians confidence and a sense of safety. Increasing pedestrian connectivity can enhance the downtown area because patrons walking through the area may be more likely to visit the local restaurants, stores, and other attractions. Although many pedestrian amenities are already located in downtown Riverhead, there are numerous improvements that can be made to encourage and increase pedestrian activity. Sidewalks are provided for the majority of the downtown area; however several of the sidewalks are cracked or broken which creates an uneven walking surface and potential trip and fall hazards. New York State Department of Transportation recently completed a project which repaired and constructed new sidewalks along NYS Route 25. It is recommended that remaining damaged sidewalks be repaired in order to enhance pedestrian mobility and improve aesthetics.

Additional methods for increasing pedestrian activity include providing pedestrian push buttons and pedestrian signals with countdown timers at all signalized intersections. Currently, many older traffic signals are equipped with old-style push buttons and some intersections do not have any pedestrian accommodations. The TOD Growth Plan includes a list of recommendations for increasing pedestrian activity at 15 different locations within the BOA boundary. The recommendations include installing or updating crosswalks, sidewalks, pedestrian push buttons, and pedestrian signals with countdown timers, rapid flashing beacons at some existing pedestrian crossings, widening certain sidewalks, and providing signage and lighting for alleyways. A full list of the recommendations and specific locations can be found in the TOD Growth Plan.

Bicycle routes and amenities are illustrated on **Figure 3-12B**. Currently, the bicycle accommodations in Riverhead are limited. The only downtown location with a striped bicycle lane is the roadway which runs along Peconic Waterfront Park. Adding additional bicycle lanes to the downtown area may require widening roads or eliminating on-street parking which would not be practical or cost-effective. However, the area west of the downtown contains wide shoulders therefore the addition of bicycle lanes should be considered as this could encourage residents in the western portion of the Study Area to use bicycles as a way to travel throughout the area.

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FIGURE 3-12B
Bicycle Routes

Legend

- BOA Boundary
- Bicycle Racks

Key to Bike Route Labels

Bike Routes

- Connecting Routes
- On Road Bicycle Route, Class 3 (on-road signed route)
- On Road State Bicycle Route, Class 3 (on-road signed route)
- On Road State Bicycle Route, with Bicycle Lanes, Class 2 (on road numbered route with striped lane)

Sources: ESRI WMS; Suffolk County;
Town of Riverhead

1 inch = 1,800 feet



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community





There are some roads in the downtown that have small signs yet there is a need for uniform bicycle signage in order to develop a clear and efficient bicycle route. Some signs that contain only text should be upgraded to also include the bicycle symbol to increase awareness of bicycle paths. New development projects create opportunities for providing bicycle accommodations such as bicycle racks and lockers at new apartments, stores, and attractions. Adding secure bike storage should encourage more people to travel via bicycle. Bicycle accommodations should be continuously explored to gradually build up cycling features in the surrounding area which will promote and encourage cycling and hopefully have a positive impact on intersection delay and Level of Service by lowering motor vehicle usage/trips.

NP&V has developed recommendations for augmenting the on-street bicycle routes with bike paths on public property and on private lands where redevelopment could incorporate easements in the future. **Figure 3-12C** provides potential routes to provide additional options for consideration in planning off street bicycle routes/paths.

Public Transit Plan

The TOD Growth Plan (September 2015) outlines existing local bus and train service and describes options for increasing ridership and service. **Figure 3-12D** illustrates the bus routes and stops as well as the railroad right-of-way and station. Increasing public transit ridership levels would have the beneficial effect of reducing vehicular trips, easing roadway congestion, and reducing parking demand. Within Riverhead, public transit is provided primarily by Suffolk County Transit and the Long Island Rail Road and ridership is low. Suffolk County Transit (SCT) operates six bus lines that service locations in and around downtown Riverhead. However, only one bus line operates on Sundays and many lines operate on reduced schedules on Saturdays. Currently, the bus service in the Riverhead downtown is not adequate due to lack of stops, long wait times, and limited schedules, and service should be modified or expanded based on future development of the Study Area. Ideally, bus service should be provided near residential and commercial uses where frequent ridership is anticipated. If the modification or addition of bus route is not feasible, then a local shuttle with frequent stops in the Riverhead downtown may be a suitable alternative. This would reduce the wait time and increase access for people visiting the downtown. Bus service is also provided to/from Manhattan, Melville, Ronkonkoma, Riverhead, and Southampton via 7Bus, a private company offering first class charter service several times a day at a competitive cost. With planning and increased ridership generated by visitors as well as residents, downtown Riverhead could become a destination for which 7Bus could provide direct service.

The Riverhead Long Island Rail Road station is located in downtown Riverhead on the north side of Railroad Street between Osborn Avenue and Griffing Avenue. The train station is also a stop for Suffolk County bus routes. The train schedules and bus schedules are not coordinated. The train station includes bike racks to promote bicycling as a mode of transportation.

While the majority of LIRR utilizes electric trains, the area east of Ronkonkoma including Yaphank, Riverhead and Greenport is served by diesel train. If people are traveling from Riverhead west through Ronkonkoma, they must switch stations at Ronkonkoma to board an electric train. This can increase wait and travel times which dissuades ridership, which is already



low in Riverhead. Another contributing factor to the low ridership in Riverhead is the infrequent train times. The current weekday schedule provides five trains daily for both eastbound and westbound travel while weekend and holiday service is limited to two trains per direction a day. According to the most recent ridership information available from the MTA/LIRR, at the Riverhead station, the overall ridership for an entire day is 52 patrons entering/exiting the trains. The infrequent service, arrival/departure times, and distance from other stations does not appeal to long distance commuters. Also, the even more limited service on the weekends does not promote downtown Riverhead as a day trip destination for possible visitors travelling by train.

Although there is a desire for transit oriented growth in downtown Riverhead, it is unlikely that the MTA will implement additional train service unless the demand for additional train service presents itself. However, as growth of the downtown and surrounding area occurs and a need for increased service is demonstrated, there is the potential to increase train and bus service within the area.

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FIGURE 3-12C
Recommended Expanded
Bicycle Routes

Legend

Bicycle Racks

Bike Routes

- Connecting Routes
- On Road Bicycle Route, Class 3 (on-road signed route)
- On Road State Bicycle Route, Class 3 (on-road signed route)
- On Road State Bicycle Route, with Bicycle Lanes, Class 2 (on road numbered route with striped lane)
- Recommended New Route on Road
- Recommended New Route - needs acquisition or easement

Sources: ESRI WMS; Suffolk County;
Town of Riverhead

1 inch = 1,800 feet



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

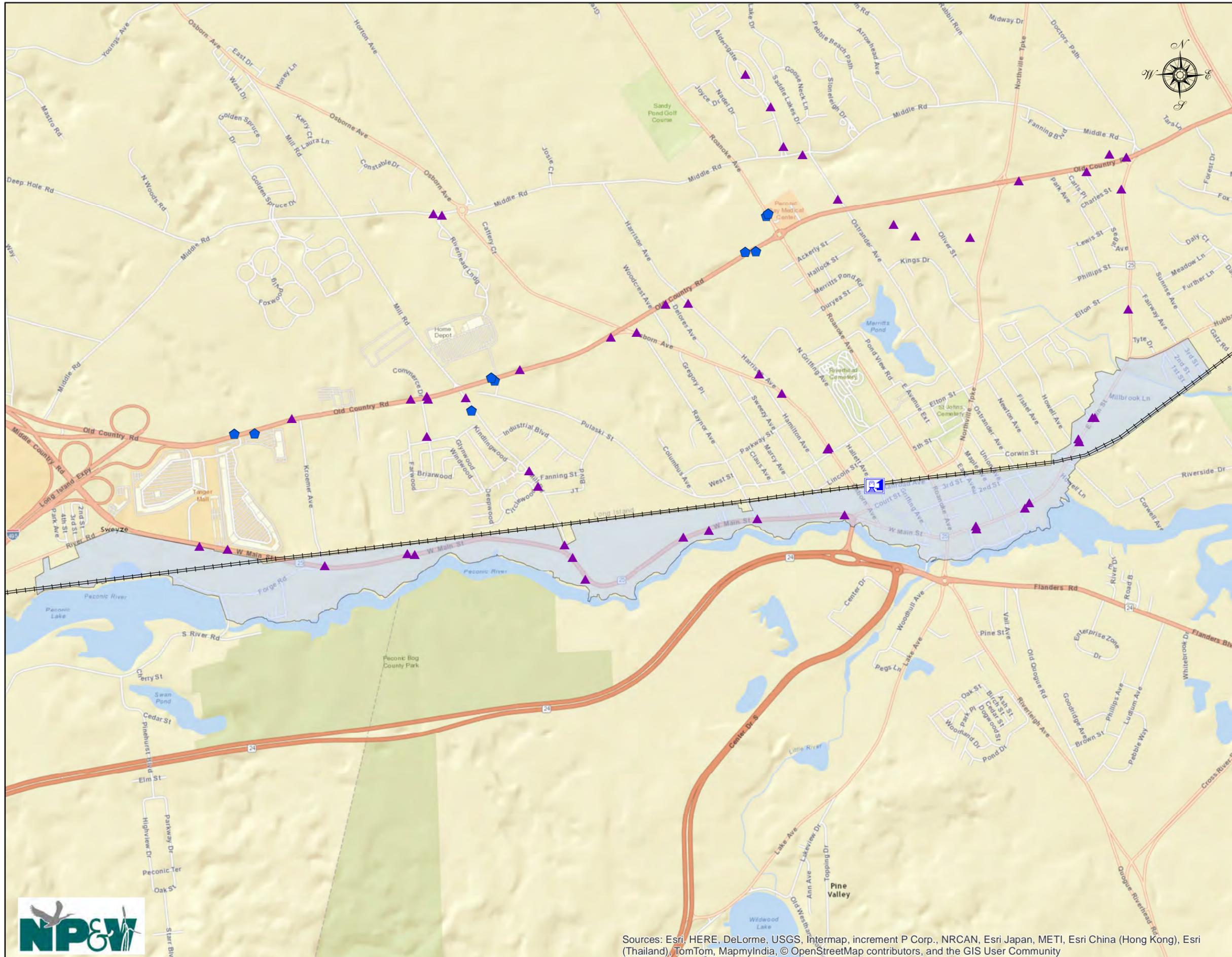


Town of Riverhead
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NYS BOA Step II
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FIGURE 3-12D
Bus and Rail Service



Legend

-  BOA Boundary
-  Commuter Station
- Suffolk County Transit Bus**
 -  Stop
 -  Shelter
 -  Railroad

Sources: ESRI WMS; Suffolk County;
Town of Riverhead

1 inch = 1,800 feet



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community





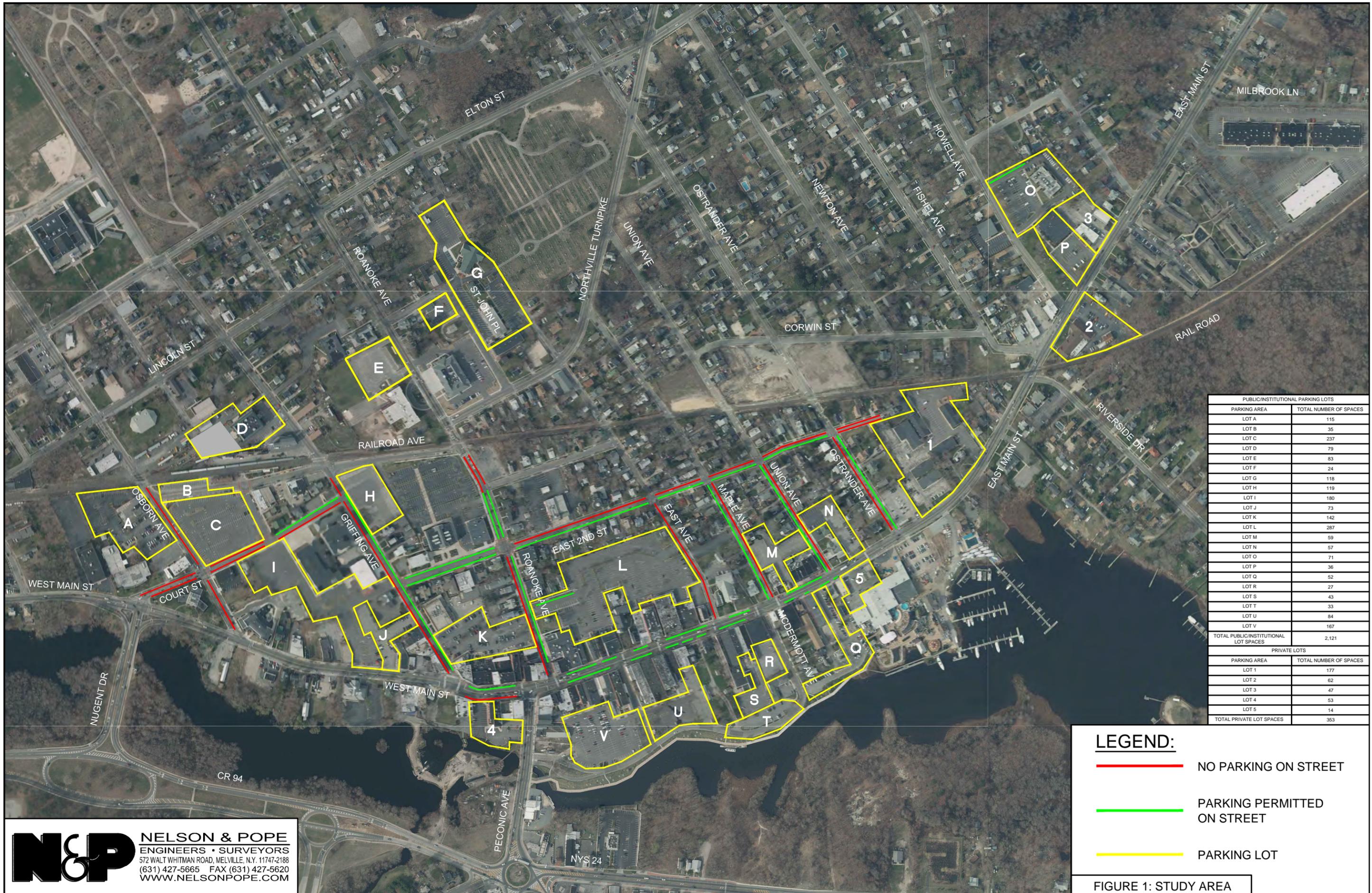
Parking Plan

As part of the Downtown Riverhead TOD Growth Plan, a parking utilization study was conducted to create an inventory of the parking supply and parking restrictions in the downtown area and understand utilization. The study identified the peak parking periods, peak occupancy by location, average parking duration, and turnover by location in order to determine how redevelopment could affect the parking supply. The study included an analysis of 22 public/institutional and five private parking areas and eight roadways where on-street parking is permitted. The current supply of parking in downtown Riverhead based upon the study consists of 2,121 public/institutional spaces, 353 private spaces, and 236 on-street spaces.

The map on the following page provides an overview of the parking available in downtown Riverhead. Out of the 2,710 parking spaces analyzed, the weekday peak occupancy was 1,290 spaces (48 percent) and the weekend peak occupancy was 516 spaces (19 percent). After reviewing field data and analyzing the parking accumulation, average duration, and turnover results, it was determined that under current conditions, only a few parking areas are highly utilized during the weekdays, mostly lots used by the Suffolk County Courts, Riverhead Town Hall, and Police Department. The majority of parking areas are highly underutilized on Saturdays.

From the review of the parking utilization study data, it appears that downtown Riverhead has adequate parking to support existing conditions. However, as empty buildings begin to fill and new development occurs (as envisioned under a future redevelopment scenario described in **Appendix I**), it was determined that an additional 1,197 parking spaces would be required to support additional demand²³. The TOD Growth Plan includes improvement measures that could be considered to improve parking for the current and future conditions once redevelopment of the downtown occurs and parking demand increases. In order to provide an additional 1,197 spaces, the construction of at least one parking garage in the downtown, one which could feasibly be located in the parking lot on the north side of East Main Street between Roanoke Avenue and East Avenue. Additionally, in order for motorists to take full advantage of the provided parking, efficient signage must be utilized and the Plan recommends the updating of all parking signs within the downtown and including signage for spaces with time restrictions. Other improvements include installing asphalt pavement and formal parking space striping to provide a more uniform walking and parking surface, attempting to limit on-street parking along West/East Main Street to short durations to allow motorists that are passing through to utilize the downtown establishments, and encouraging employees to park in municipal or private lots rather than utilize on-street parking. Parking shuttles or public valets can also be considered to encourage better utilization of parking and promote connectivity of off-street parking facilities.

²³ This estimate provided for Alternative Development Scenario 2, which has a higher density of development than Scenario 3.



PUBLIC/INSTITUTIONAL PARKING LOTS	
PARKING AREA	TOTAL NUMBER OF SPACES
LOT A	115
LOT B	35
LOT C	237
LOT D	79
LOT E	83
LOT F	24
LOT G	118
LOT H	119
LOT I	180
LOT J	73
LOT K	142
LOT L	287
LOT M	59
LOT N	57
LOT O	71
LOT P	36
LOT Q	52
LOT R	27
LOT S	43
LOT T	33
LOT U	84
LOT V	167
TOTAL PUBLIC/INSTITUTIONAL LOT SPACES	2,121
PRIVATE LOTS	
PARKING AREA	TOTAL NUMBER OF SPACES
LOT 1	177
LOT 2	62
LOT 3	47
LOT 4	53
LOT 5	14
TOTAL PRIVATE LOT SPACES	353

- LEGEND:**
- NO PARKING ON STREET
 - PARKING PERMITTED ON STREET
 - PARKING LOT

FIGURE 1: STUDY AREA

N&P NELSON & POPE
 ENGINEERS • SURVEYORS
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3.2.8 Infrastructure

The Study Area is well served by existing infrastructure, including water, sewer, gas and electricity.

Water

The Town of Riverhead and the Riverhead Water District have demonstrated a strong commitment to providing high-quality drinking water and fire flow protection for its residents. The Town of Riverhead Comprehensive Plan, November 2003, included suggestions to ensure that the reliable, high-quality supply of drinking water is preserved in Riverhead. Specific suggestions include expanding the Riverhead Water District, continuing to monitor water quality, creating buffers around public wells to reduce negative impacts on well systems or groundwater, and properly building and siting wells to avoid negative impacts from nearby development.

As is shown in **Figure 3-13A**, almost the entire BOA Boundary is within the Riverhead Water District, except for two manufactured homes off of Forge Road served by private suppliers.

The water mains located along Route 25 in the BOA Study Area range in diameter from 6 to 12 inches. The water mains begin in the western section of the BOA Study Area at the intersection of Route 25 and Forge Road with a 12 inch diameter. The 12 inch diameter remains until there is a short segment of 8 inch diameter water mains at the intersection of Route 25 and Mill Road. Following the 8 inch segment is the 12 inch diameter until Winters Lane. Along Route 25 between Winters Lane and Raynor Avenue there is a short segment of 6" diameter water mains. From Raynor Avenue to Maple Avenue there is a long stretch of 10" water mains. From Maple Avenue until Route 25 crosses the Long Island Rail Road train tracks at Corwin Street, the water main diameter is 8". After Corwin Street on Route 25, there is a 6" diameter water main until the eastern BOA boundary. Currently there are 1,526 fire hydrants located within the Riverhead Water District and over 70 fire hydrants are located within the BOA Study Area.

The water meets all federal and state drinking standards and it does not have the saltwater intrusion problems found in other parts of Long Island. The water supply from aquifers is sufficient to allow for continued growth. However, according to the 2003 Comprehensive Plan, the water district was planning on constructing additional water storage facilities and supply wells to handle the large water supply. Due to the large water supply, existing water mains and wells, and the ability to expand the water district facilities, water availability and access is not considered a constraint to development.

Town of Riverhead
Peconic River/Rt. 25 Corridor



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FIGURE 3-13 A
Infrastructure Map:
Water District

Legend

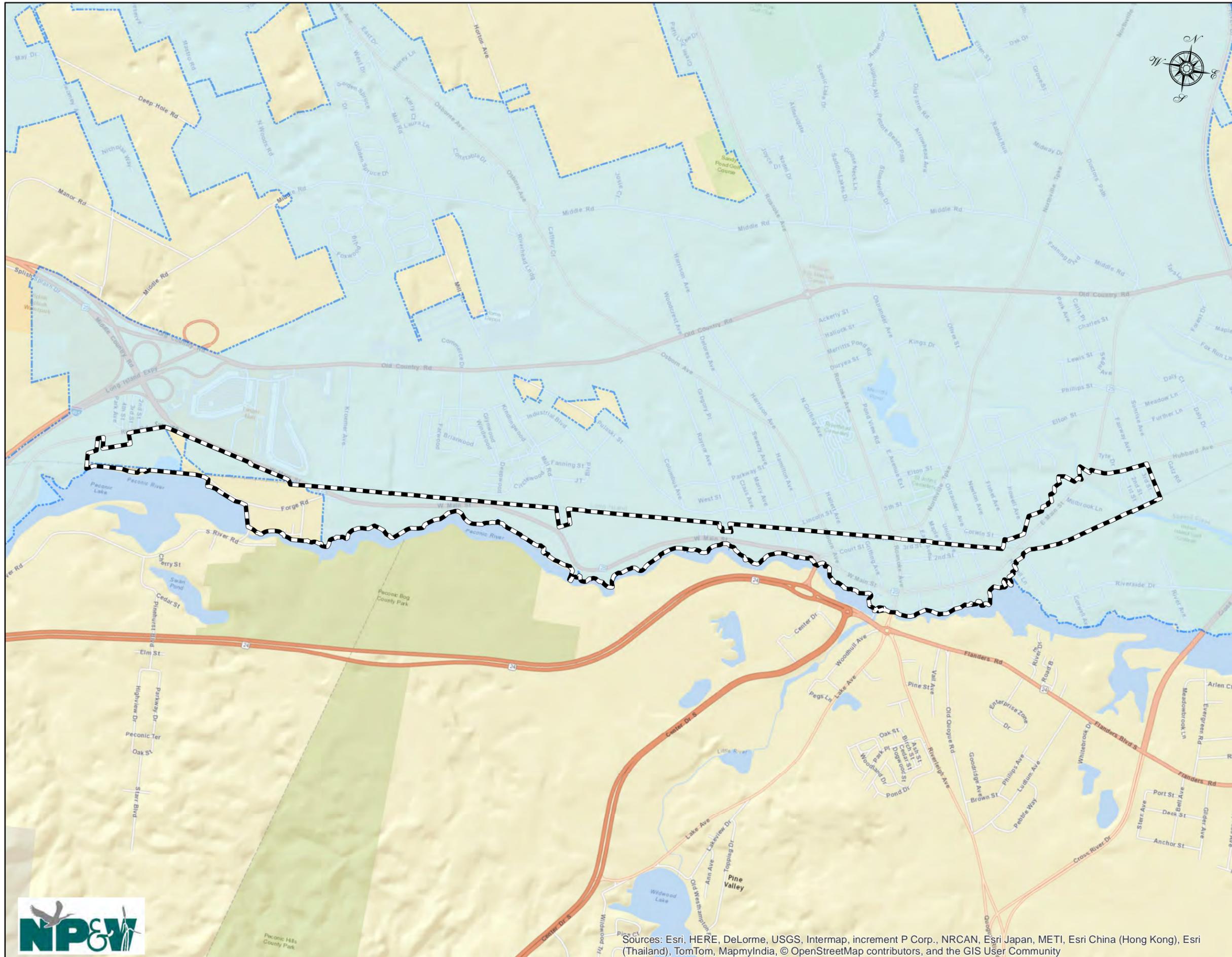
- BOA Boundary
- Water District Boundary

Sources: ESRI WMS; Riverhead
Water District

1 inch = 2,000 feet



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community





Sewage Treatment²⁴

The Town of Riverhead Sewer District serves a portion of the BOA Study Area (see map at right and provided as **Figure 3-13B**) including the downtown and a portion of West Main Street. Outside the Study Area, it includes the majority of the Route 58 business corridor. The Sewage Treatment Plant (STP) is located at the north end of River Road and there are twelve (12) pump stations and approximately 25 miles of sewer mains that transport sewage to the plant. The STP provides tertiary treatment for nitrates and has a surface water discharge to the Peconic River located at the end of River Avenue.



The STP plant's permitted capacity is 1.2 million gallons per day (gpd) plus 100,000 gpd for the scavenger plant. The Riverhead Scavenger Waste Plant provides a disposal point for 100,000 gpd (for disposal by cesspool services)²⁵. The STP also treats waste from pump-out boats on the Peconic River in downtown Riverhead (May thru September) and in East Creek in Jamesport at the NYS boat ramp (year-round service) that are town-owned and a service offered free to boaters. All property owners within the district pay sewer district taxes and there is a usage fee that is based upon water usage, since there are no individual meters for effluent flow²⁶. Residential properties are charged the usage fee on a per gallon rate up to 100,000 gallons per year. The current flow at the STP is approximately 900,000 gpd, including 30,000 to 40,000 gpd of scavenger flow.

The Riverhead STP was built in 1937 as a primary treatment plant with chlorination for disinfection. It was upgraded to a secondary treatment in the 1950s with the installation of trickling filters. It was upgraded most recently in 2000 at a cost of \$8.5 million to meet the DEC standards at that time, which included the installation of sequencing batch reactors (SBRs) and the use of ultraviolet light for disinfection. Additional upgrades are required to be consistent with the nitrogen TMDL²⁷ for the Peconic Estuary. The Town of Riverhead has made an application to the DEC²⁸ to meet the TMDL limits for total nitrogen, which will also allow an increase in the effluent flow capacity from 1.3 million gpd to 1.5 million gpd (including scavenger flow).

²⁴ Input for this section is based upon interviews held with Sewer District Commissioner Michael Reichel.

²⁵ The Town of Riverhead also owns the Riverhead Scavenger Waste plant. The scavenger waste plant treats waste from private and commercial septic systems or cesspools. Septic waste from the five East End towns and Eastern Brookhaven is transported to the plant by private haulers. The current dump fee is \$.092 per gallon or \$92.00 per thousand gallons (Source: Town of Riverhead Website).

²⁶ See §87 (Sewer Rents) of Town Code

²⁷ TMDL: Total Maximum Daily Load

²⁸ DEC Application ID: 1-4730-00039/00001

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FIGURE 3-13 B
Infrastructure Map:
Sewer District

Legend

-  BOA Boundary
-  Riverhead Sewer District Boundary

Sources: ESRI WMS; Suffolk County
Department of Health Services

1 inch = 2,000 feet



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community





The Town of Riverhead has received a grant for \$8.1 million from Suffolk County for upgrades to the plant which are federally mandated. However, the projected cost of the upgrades will be approximately \$24 million and thus additional grant funding or low interest loans will be required to pay for the remainder of the project which is now about half complete.

One of the benefits of the upgrade will be the ability to utilize gray water for irrigation of the golf course which is adjacent to the sewer district property on River Avenue. This would have the benefit of diverting flow during the warmer months when nitrogen loading has the greatest impact on the Peconic Estuary. The golf course presently has an irrigation well which uses approximately 350,000 gpd seasonally. Once the nitrogen content of the effluent is less than 10 mg/L, gray water can be diverted from the effluent discharged to surface water of the Peconic River to trickling filter tanks for irrigation of the golf course. It is noted that the well water is high in iron content and results in discoloration of buildings and plants on the golf course, so the use of gray water will eliminate this situation. The gray water can also be utilized in the STP process for lime mixing (15,000 gpd), cleaning of the filter press (40,000 gpd) and other water used for wash down and the band screen. At present, water for these processes is potable water from the Riverhead water district and thus, this has the added benefits of reducing use of drinking water for maintenance and decreased costs to the district.

Several years ago, the Sewer District purchased a parcel on McDermott Avenue in the downtown (tax lot number 129-4-8) that is currently developed with a single family house (temporarily being used by a rowing club for storage). There is a small pump station on an adjacent property (lot 129-4-11).

Any expansions of the sewer district require approval of both the Town and NYSDEC. Recent expansions within the area include the provision of wastewater treatment to the Indigo Hotel which included providing sewage treatment for a portion of the Tanger Outlet Center. It is noted that all of Tanger II and the easternmost building of Tanger I were already previously sewered (as was the center directly east of Tanger II which contains Pottery Barn, Williams Sonoma and Office Max). This area is directly to the north of the BOA Study Area at the western end. While the Indigo Hotel property is located within the Sewer District, it was only recently connected to the district. To accomplish this connection, the hotel needed to obtain the connection through the Tanger I property and Tanger needed to grant an easement (as this was the only feasible connection route). As part of the agreement, Hotel Indigo agreed to pay for the connections for the northern and western buildings of Tanger I.

Along West Main Street, the district currently extends approximately 325 feet west of Raynor Avenue, and the sewer mains extend another ± 275 feet west of the district line. There are numerous properties west of this boundary which would benefit from sewage treatment and treatment would have a beneficial impact to the water quality of the Peconic River. However, there are difficulties involved in extending the district farther to the west along West Main Street and options would need to be evaluated through the preparation of a feasibility study (to evaluate options and provide a cost/benefit analysis). The challenges for sewerage in this area are the topography which gradually decreases between the pump station on the south side of West Main Street and Mill Road and high ground water. One solution could be the installation of a low pressure system which is less expensive initially, but requires that each property owner install



individual storage tanks/pump systems that connect to the sewer main. These systems are several thousand dollars and would need to be replaced periodically and thus, property owners decide not to connect to the district (while all property owners within a district pay the district tax, only those properties that are connected pay the usage fees - and unless a condition of site plan approval for new construction or expansion, connection is optional). It is expected that there will be resistance on the part of property owners to expand the district. Since the extension of the sewer district will have an environmental benefit, it is important that the majority of land owners connect - and thus it would need to be inexpensive for landowners - since the current cost of 'treatment' is limited to the fees for pumping out individual sanitary systems which is not mandated and thus only occurs when problems occur. Therefore, it is recommended that the feasibility study also evaluate costs for individual property owners and based upon input from property owners and case studies, identify a 'threshold cost' so that expected level of participation in the district can be projected. This would factor into the decision-making, since a certain level of participation is required to achieve sufficient benefit to warrant the extension.

There are several properties within the Study Area that have been identified as high priorities for connection to the sewer district (or provision of treatment using an alternative method). These properties have been identified as likely contributors of high nitrogen loads to the Peconic River (due to a number of factors such as density of development, year constructed, proximity to the river, and high groundwater).

Of particular interest is the mobile home park on Forge Road which consists of approximately 32 mobile homes on approximately 7.3 acres in an area where depth to groundwater ranges from less than one foot to two feet. This mobile home park is directly adjacent to the Peconic River and having been established prior to the adoption of Suffolk County Sanitary Code Article VI in 1981, it is expected that substandard disposal systems service the dwellings (e.g., lack of solid septic tank for solids removal, inadequate capacity, inadequate depth to groundwater).



Since the depth to groundwater is less than three feet for the entire property, it is expected that the nitrification process is hampered resulting in less loss of gaseous nitrogen, and greater leaching of nitrogen to groundwater than would occur with a conventional system constructed to current standards and with at least 2-3 feet separation between



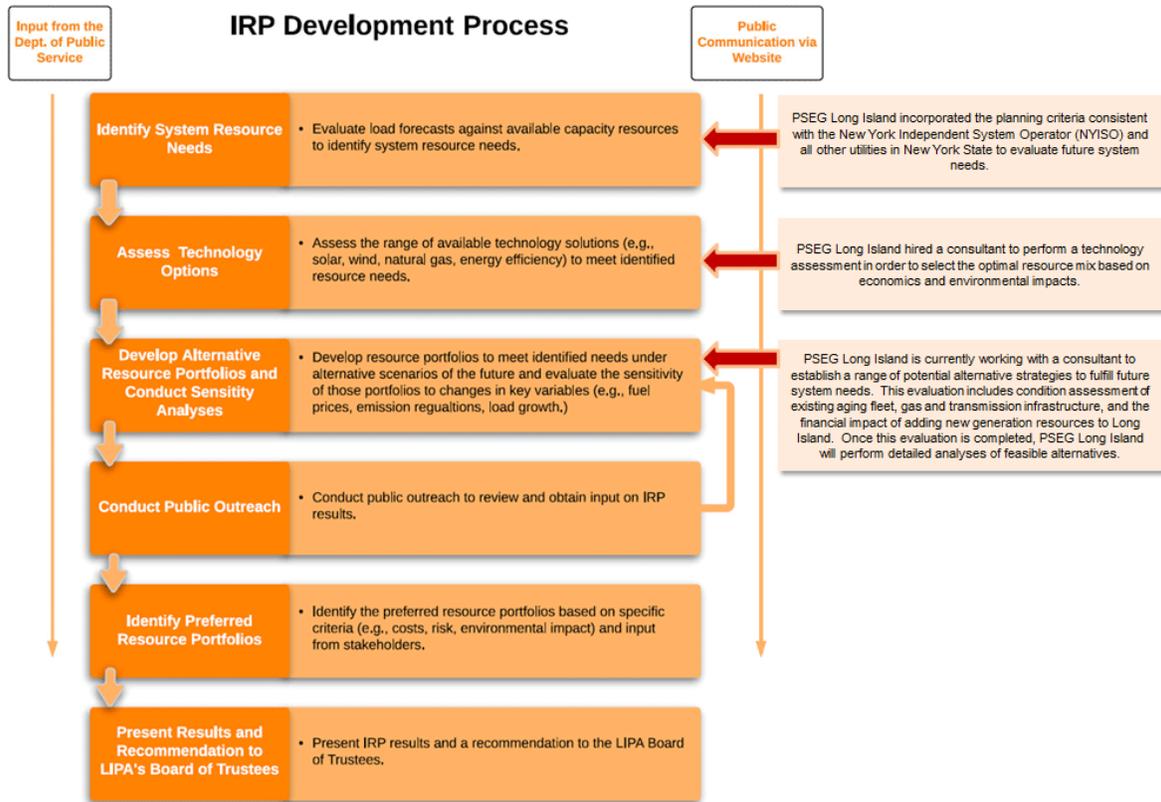


the bottom of the leaching pool and groundwater. This would result in less nitrogen removal and high concentrations of nitrogen in groundwater in close proximity to the Peconic River. In order to quantify this, the SONIR model was used to estimate the nitrogen load and concentration under current conditions, as compared with the load and concentration if wastewater treatment were provided. The model was adjusted to increase the gaseous nitrogen loss from the sanitary system from the typical 50 percent removal, to only 25 percent removal, or 75 percent leaching. This simulates the high groundwater, substandard sanitary system condition noted above. See **Appendix F** for the SONIR Model results and information regarding NP&V's mass balance model.

Based upon the results of the SONIR model, the current condition would result in a nitrogen load of 910.20 pounds per year (lbs/year), of which 822.49 lbs/year is due to sanitary system nitrogen. Using mass-balance analysis techniques, the predicted concentration of nitrogen in recharge is 20.34 mg/l for the existing development. Assuming that wastewater treatment is provided, the nitrogen load would decrease to 285.11 lbs/year, of which 197.40 lbs/year is due to sanitary system nitrogen. Using the same mass-balance analysis, the predicted concentration of nitrogen in recharge (if this wastewater were discharged on the site) would be 6.37 mg/l which. It is noted that the wastewater discharge may be at a remote location from the Study Area which would remove the nitrogen load completely from the site. If an existing permitted STP is used, the facility would be required to meet its discharge and flow limitations. Ultimately, removal of the sanitary nitrogen source from the Forge Road mobile home site along this segment of the Peconic River would be expected to be beneficial to river water quality. Based upon discussions with the Sewer District Commissioner, connection to this site could be achieved via force main along Kroemer Avenue with effluent pumped by gravity feed to a location on NY SR 25. A feasibility study would be required to understand the design issues and costs. In conclusion, if sewerage were provided for this mobile home site, there would be a substantial decrease in nitrogen load and concentration of nitrogen in which would be expected to support water quality improvements due to existing excessive nitrogen loading.

Electricity and Natural Gas.

The Long Island Power Authority (LIPA) is the public entity that owns and manages the electricity grid that is now operated and managed by PSEG Long Island, the electricity service provider for the Study Area, and most of Long Island. PSEG Long Island is currently developing an Integrated Resource Plan (IRP), which is a plan for meeting a utility's future electric load forecast with additions and innovations on both the supply and demand sides. As part of this effort, all of LIPA's current power resources will be examined and a variety of potential future improvements considered to meet Long Island's growing need for power. The graphic below describes the development process of an IRP and the current status.



Source: <https://www.psegliny.com/page.cfm/AboutUs/CurrentInitiatives/IRP> (graphic downloaded July 2015)

Gas distribution is provided by National Grid. Natural gas is available on Main Street in Riverhead; it is noted that while National Grid does not commit to providing natural gas until an application is submitted, as a general rule and assuming available capacity, National Grid will install at no charge, 100 feet of new main in the roadway and up to 100 feet into a property for an extension request.

Stormwater

To reduce the water quality impacts caused by storm sewer system discharges, the USEPA and the NYSDEC have adopted stormwater management regulations that require operators of municipal separate storm sewer systems (MS4s)²⁹ to implement comprehensive programs that are designed to reduce and prevent the flow of pollutants to surface waters from storm sewers. The Town of Riverhead is a regulated MS4 and has been implementing a multi-faceted stormwater program for over ten years. It is noted that while the management of stormwater has been an aspect of public works since the beginning of civilization, the focus on stormwater runoff as a topic of national concern with respect to water quality is relatively recent - specifically, the small MS4 regulations were not adopted until 1999 and these did not come into effect in 2003.

²⁹ A Municipal Separate Storm Sewer System (or MS4) is a conveyance or system of conveyances that is owned by a state, city, town, village, or other public entity that discharges to “waters of the United States” and designed or used to collect or convey stormwater (including storm drains, pipes, ditches, etc.). Stormwater runoff is commonly conveyed via MS4s into local waterbodies.



Stormwater has the potential to convey a variety of contaminants, such as excess fertilizer, pet waste, sediment, toxic substances, and debris, untreated to the Peconic River and can contribute to water quality issues and have serious impacts on fish and wildlife. Polluted runoff increases with development and impervious surfaces, which impede infiltration of rain water into the soil. In developed areas, constructed storm sewer systems (pipes, ditches, drains, swales, outfalls) convey stormwater to recharge areas and surface waters in order to prevent flooding and unsafe travel conditions. In the Study Area, stormwater is managed with a network of catch basins, leaching catch basins, connecting pipes, and outfall pipes (see **Figure 3-13C**). There are no recharge basins within the Study Area and thus the majority of runoff is either directly recharged in catch basins with overflow to the Peconic River/Estuary. As a member of the Peconic Intermunicipal Protection Committee the Town of Riverhead will improve the effectiveness and efficiency of its stormwater management efforts. Its initiatives include public education and engagement programs, municipal facility pollution prevention measures, attention to illegal connections and dumping, storm sewer system retrofits, local laws, oversight of construction activity and erosion controls, and policies to reduce the ongoing impacts of development on water quality.

The Riverhead BOA program presents excellent opportunities to advance Peconic water quality protection goals through the implementation of green infrastructure practices. Re-development designs that include rain gardens, vegetated swales, pervious pavements, green roofs, and buffers can greatly reduce the pollutants that reach the Peconic River via runoff.

The entire BOA Study Area was reviewed for potential “Green Infrastructure” opportunities. Emphasis was conducted on publicly owned parcels of land; however, some private properties that that could provide a significant positive impact in reducing pollutants were considered. Recommendations for green infrastructure were assessed by the ability of a property to have a high attenuation of pollutants primarily by observing how the runoff generated on-site was directed towards existing stormwater structures. The topography, amount of impervious surfaces and potential for direct drainage to the Peconic River were the main assessment criterion. The locations that have highest potential to attenuate pollutants are further developed in Section 4.2.2 with preliminary pollutant reduction analysis provided.

The benefits of installing these recommended green infrastructure practices that capture the water quality volume^[1] of water from storm events will provide the ability to significantly reduce all direct pollutant discharges to the Peconic River. Pathogens, heavy metals, and hydrocarbons can be nearly entirely attenuated in the bio-retention basins, swales and tree trenches prior to entering either the Peconic River or groundwater. Nutrients in stormwater will be utilized by plants, preventing direct discharge to the Peconic River and thereby significantly reducing the nitrogen loading to groundwater and eventually the Peconic River.

Other benefits associated with the installation of green infrastructure is a reduction of water volume within the stormwater system which can locally ease some flooding in key locations as well as direct that water into the groundwater for recharge.

Town of Riverhead
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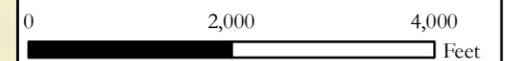
FIGURE 3-13 C
Infrastructure Map:
Stormwater

Legend

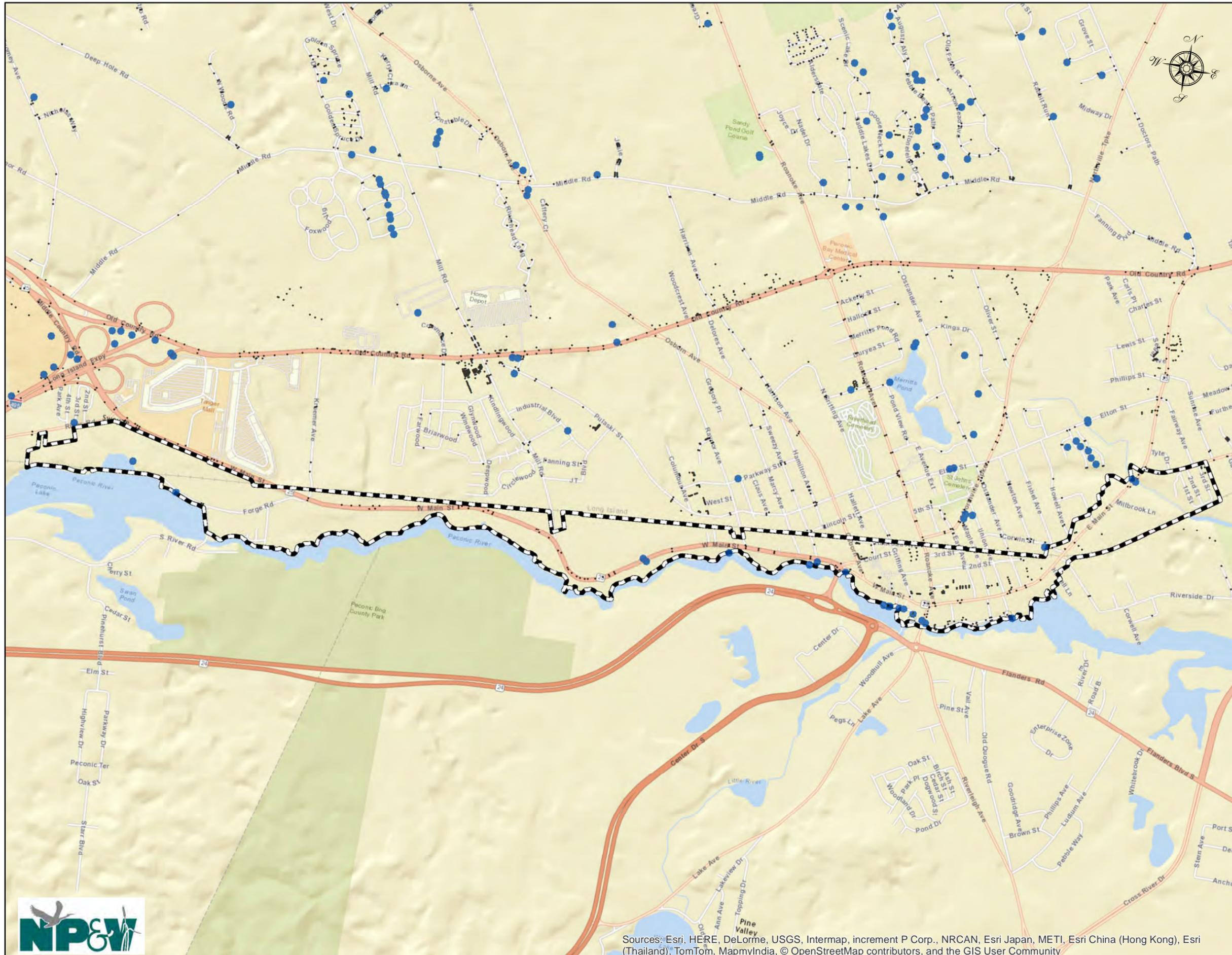
-  BOA Boundary
- Drainage Structures**
-  Catch Basin/Leaching Pools
-  Drainage Inlet
-  Outfall

Sources: ESRI WMS; Riverhead
GIS Data

1 inch = 1,800 feet



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community





3.2.9 Natural Resources and Environmental Features

Natural resources and open space can provide a benefit to redevelopment of BOA sites as these spaces are attractive to residents, businesses and tourists. The following identifies natural resources and dedicated open space within the Study Area. Dedicated open space may include properties which remain in an undeveloped state, as well as properties which have been improved for parkland and waterfront access.

The BOA Study Area contains numerous publicly owned parcels (**Figure 3-10**), some of which are considered preserved open space, and a few are accessible for passive recreation. Weeping Willow Park, Grangebél Park, Riverfront Park, and the Peconic River Canoe Launch are available for active use. Publicly owned parcels located in the eastern portion of the Study Area primarily consist of parking areas and other public amenities; no public undeveloped land is located within the east portion of the Study Area. The western portion of the Study Area contains three Town owned (± 9.8 acres total) and ten County owned (± 57.4 acres total) vacant undeveloped parcels. It is noted that the westernmost County owned parcel within the Study Area is the site of a former duck farm.

Sensitive Species

The New York Natural Heritage Program (NYNHP) provides an inventory of significant natural communities, and this resource was consulted to determine proximate communities to the Study Area. The NYHNP identifies no significant natural communities within the Study Area³⁰.

The NYNHP was contacted directly to inquire into specific known occurrences of rare, threatened or endangered species or communities within the Study Area. The information provided by the NYNHP can be found in **Appendix G**. The NYNHP identified four rare, threatened or endangered animals, four significant natural communities and seven current records of rare, threatened or endangered plants in or within the vicinity of the Study Area. Four historical records of rare, threatened or endangered animals were identified while 30 different historical records of rare, threatened or endangered plants were identified.

Article 11 of the NYS Environmental Conservation Law (ECL) provides protection for rare, threatened and endangered species. As the NYNHP identified the potential presence of several such species in the vicinity of the Study Area, it will be necessary to survey individual sites prior to development/redevelopment to determine the presence or absence of the identified species, should appropriate habitat on the individual site be present. It is noted that if any of the endangered or threatened animals listed in the NYNHP letter are identified on or within the vicinity of the site, a NYSDEC Article 11 permit may be required prior to the commencement of any activities. Alternatively, redevelopment plans may need to be altered to protect habitat associated with a protected species.

If a rare, threatened or endangered species is present, redevelopment at a site may be limited as Article 11 is designed to protect populations of these species. Activities requiring an Article 11 permit may include construction noise, clearing of land, installation of infrastructure,

³⁰ It is noted that several significant natural communities south of the Study Area, south of the Peconic River. A small significant natural community (identified as Coastal Plain Pond Shore) is located north of the Study Area.



construction of new structures, and other alterations of species habitat. The presence of these species may limit redevelopment as certain species have strict requirements for habitat preservation (such as the eastern Tiger Salamander), and site plans would need to consider the species habitat needs.

Groundwater

Figure 3-14 depicts regional groundwater elevations. Groundwater decreases in elevation travelling from west to east. Groundwater elevations in the western portion of the Study Area are approximately 20 feet above sea level (asl) while the elevation decreases to 10 feet asl in the eastern portion of the Study Area. It is noted that the topographic elevation within the Study Area ranges from 0 to approximately 40 feet asl, indicating that there are areas with shallow depth to groundwater (i.e., less than 8 feet). These areas are depicted in **Figure 3-15**.

The majority of the Study Area is located within the 0-2 year groundwater contributing area identified in the Suffolk County Comprehensive Water Resources Management Plan. This means that water entering the ground either from precipitation or input through sanitary systems will take between 0 and 2 years to reach the surface waters of the Peconic River.

Article 6 of Suffolk County Sanitary Code (SCSC), enacted in 1980, limits density of development based upon sanitary flow for un-sewered areas. The western portion of the Study Area is located within Groundwater Management Zone III which limits sanitary flow to 300 gallons per day per 40,000 SF. The eastern portion of the Study Area is located within Groundwater Management Zone IV, which limits sanitary flow to 600 gallons per day per 40,000 SF. Article 6 of the SCSC is designed to protect groundwater by limiting inputs to the aquifer from sanitary systems. As a result, a set of design standards were generated to ensure that sanitary systems are designed to minimize inputs of pollutants to groundwater. The design standards mainly provide constraints to the installation of basements and sanitary systems within the Study Area as the majority of the Study Area is situated in areas with shallow depth to groundwater as a two foot separation distance from the bottom of a sanitary structure to groundwater is required. Areas with shallow depth to groundwater may face obstacles during development if a sanitary system cannot be designed that fits the Suffolk County Department of Health Services Design Criteria. This restriction would need to be reviewed on a case by case basis during the development/redevelopment process.

Properties developed prior to 1981 may have sanitary systems that are not in compliance with current design standards, and as a result may be significant contributors of pollution to the Peconic River (the mobile home park located on Forge Road which has greater density than permitted, is located within an area with shallow depth to groundwater, and is not connected to the sewer system, for example). NP&V has used spatial analysis to identify areas where the depth to groundwater is less than eight feet, which may be used to identify properties whose sanitary systems are potentially not functioning properly due to a lack of a minimum of two feet of separation distance from the bottom of the system to groundwater. Such areas are depicted in **Figure 3-15**. These areas are ideal for providing sewer infrastructure as any sanitary system located in such an area will not provide the same level of pollutant removal as that of sanitary wastewater treated at a sewage treatment plant.

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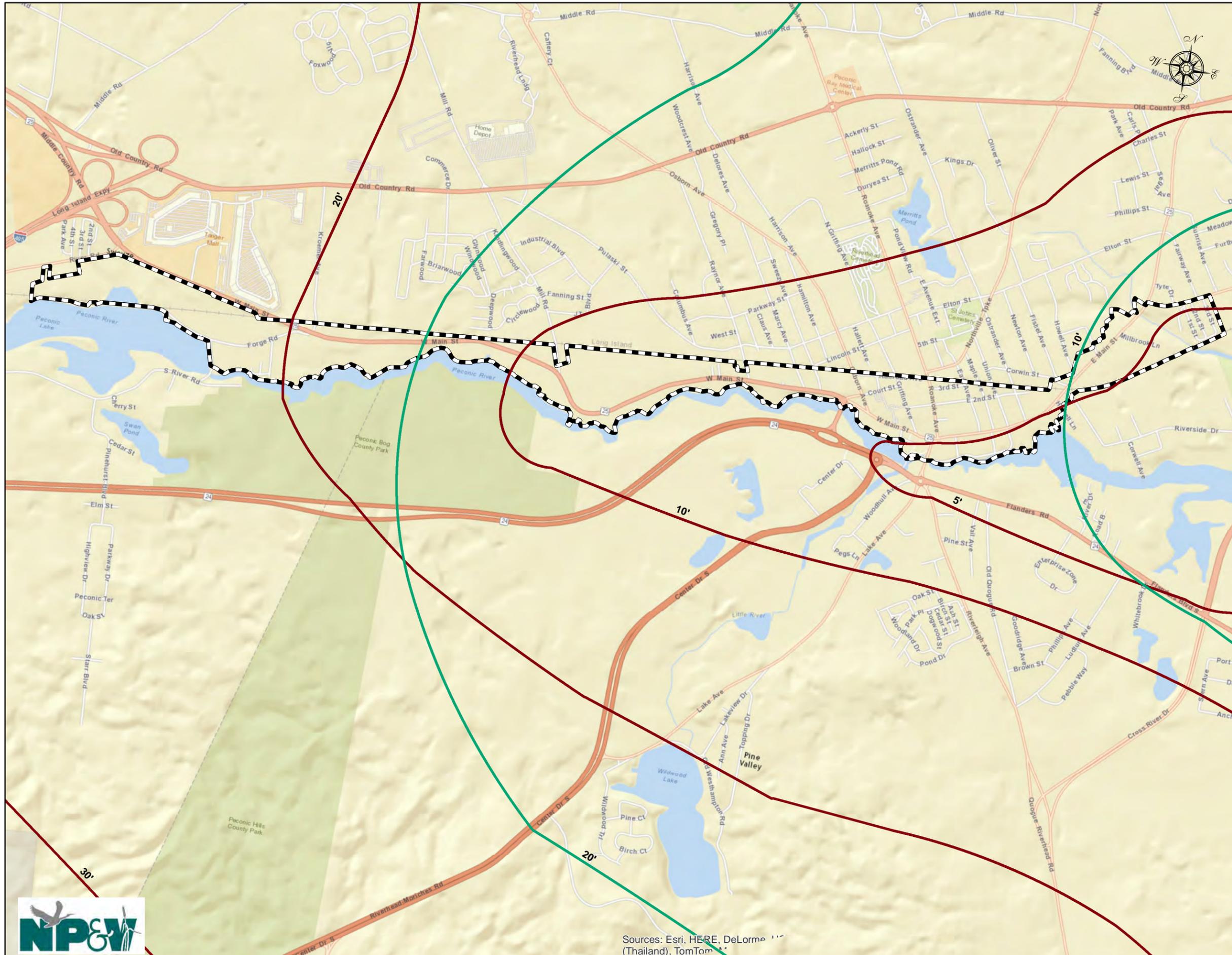


NYS BOA Step II
Nomination

FIGURE 3-14
Groundwater
Elevations

Legend

-  BOA Boundary
-  Magothy Aquifer Contours
-  Upper Glacial Water Table Contours



Sources: ESRI WMS; USGS Water
Resource Investigations Report,
2010

1 inch = 1,800 feet



Sources: Esri, HERE, DeLorme
(Thailand), TomTom



Town of Riverhead
Peconic River/Rt. 25 Corridor



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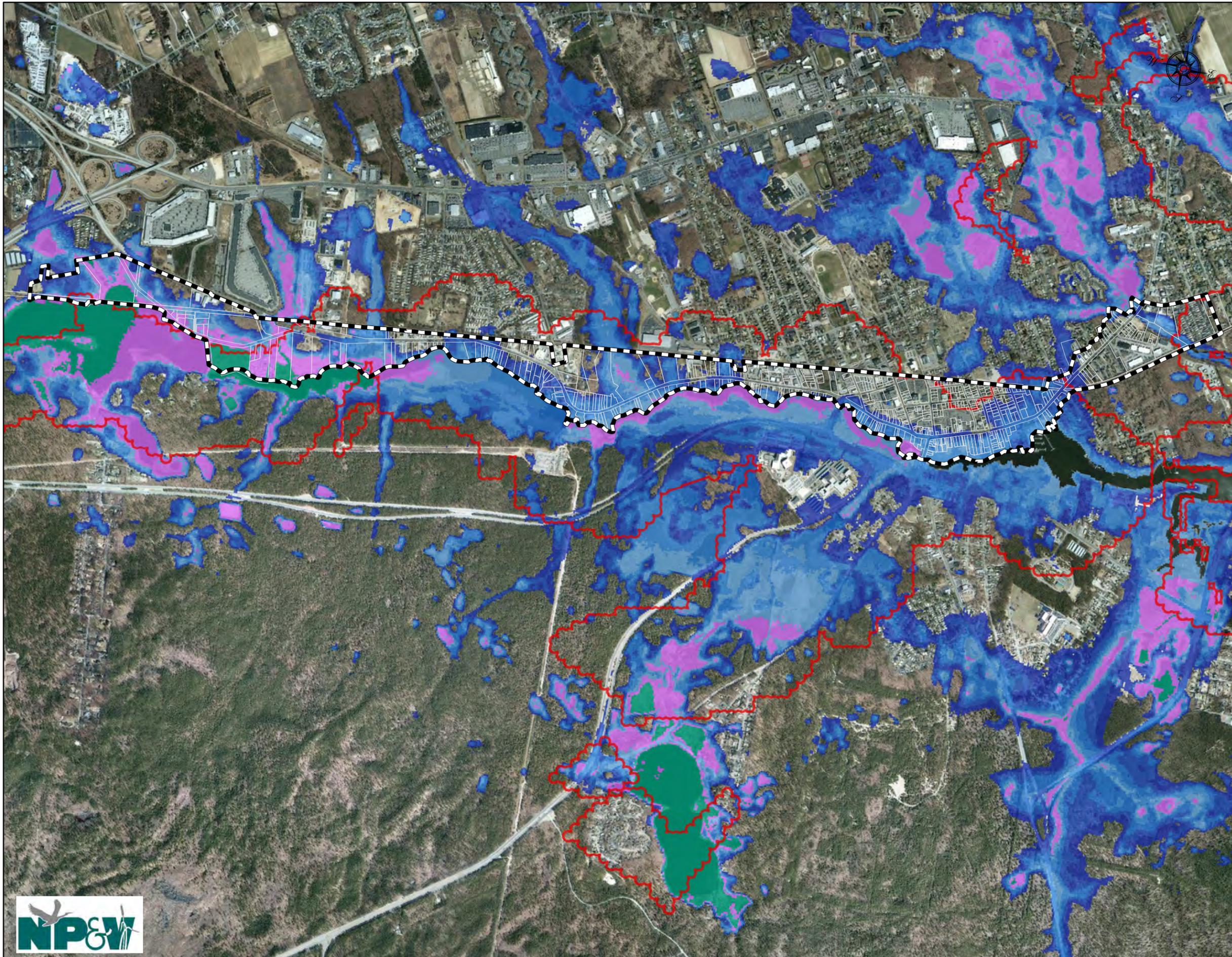
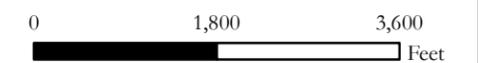
FIGURE 3-15
Depth to
Groundwater

Legend

-  BOA Boundary
-  Parcels
-  0-2 Year Groundwater Contributing Area
- Depth to Water Table (feet)
-  Surface Water and Wetlands
-  Under Water or No Depth to Groundwater
-  0.01 - 2
-  2.1 - 4
-  4.1 - 6
-  6.1 - 8
-  8.1 - 10
-  >10

Sources: Suffolk County;
NYS GIS; NYSDEC; USGS

1 inch = 1,800 feet





While sewers serve some of the area (see **Figure 3-12B**), many uses that have a significant contribution of sanitary wastewater to the aquifer (such as the mobile home park - as discussed in **Section 3.2.8**) are not served by sewers. As a result, expansion of the existing sewer infrastructure or the creation of community systems that serve targeted areas would be beneficial to water quality and reduction of nitrogen and pathogen input to the Peconic River.

Surface Waters

Surface waters within the Study Area include four streams tributary to the Peconic River and the Peconic River itself. The NYSDEC assigns classification standards to indicate the best usage of an identified waterbody. The Peconic River and all tributary streams are classified as “C” waters until it passes under Peconic Avenue, where the stream becomes classified as “SC” waters. Definitions for water classifications are as follows:

- C waters - freshwaters identified as “Suitable for fish, shellfish and wildlife propagation and survival. Also, for primary and secondary contact recreation, although other factors may limit the use for these purposes,”
- SC waters - marine waters identified as “Suitable for fish, shellfish and wildlife propagation and survival. Also, suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.”

Shellfish closures exist in the area of the Peconic Estuary east of Peconic Avenue. This area, designated as part of the Flanders Bay shellfish area, is permanently closed due to high levels of fecal coliform detected in the water.

The Peconic Estuary and portions of the Peconic River are identified on the New York State 303(d) list as impaired due to high levels of nitrogen and high levels of pathogens. Data reviewed from Suffolk County sampling stations indicates pathogen levels regularly exceed NYS water quality thresholds. Under the most stringent thresholds (those for shellfish) fecal coliforms are not to exceed 14 MPN/100 ml³¹ and the geometric mean of all samples is not to exceed 49 MPN/100 ml. Similarly, total coliforms should not exceed 70 MPN/100 ml for a single sample and 10 percent of the samples may not exceed 330 MPN/100 ml. Nitrogen levels exceed the Peconic Estuary Program’s recommended limit of 0.45 mg/l. Average nitrogen levels reached as high as 19.37 mg/l. All but one station sampled for routinely exceeded the recommended nitrogen limit. **Table 3-6** below summarizes the water quality data for each sampling station. Sampling stations are depicted in **Figure 3-17**.

Flanders Bay is included within the Pathogen TMDL³² for Peconic Bay. Flanders Bay was estimated to have coliform contributions from several STPs (Riverhead STP, Brookhaven National Lab STP and the NWIRP Calverton STP), as well as contributions from Town stormwater systems and privately owned lands. Overall, the estimated pathogen load to Flanders Bay was 773,119 billion Fecal Coliform per year (FC/yr). The TMDL recommended a reduction goal of 74 percent for Flanders Bay, which, if achieved, would result in 547,600 billion fewer FC/yr entering the waterbody.

³¹ most probable number (MPN) of coliform per 100 ml

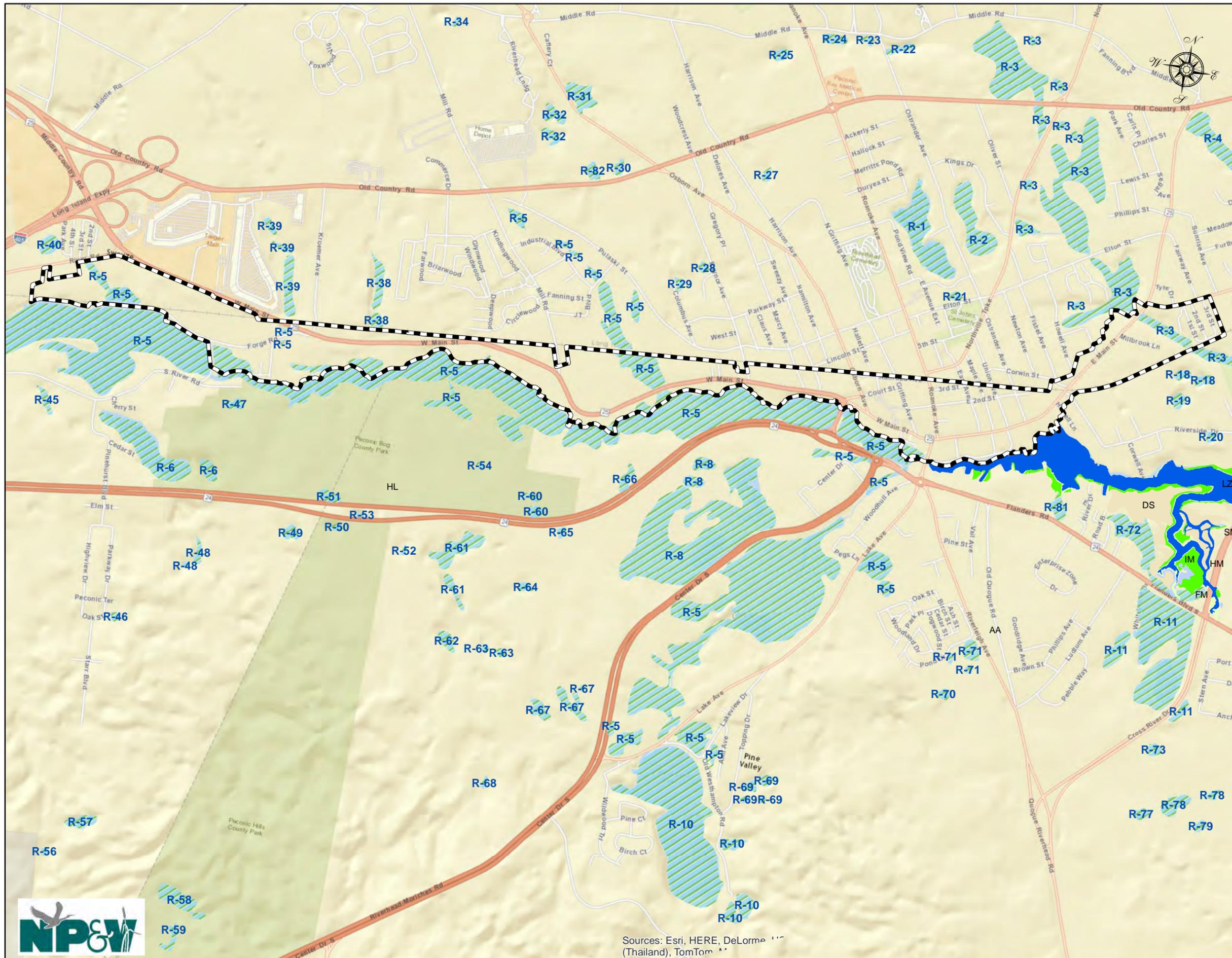
³² TMDL: Total Maximum Daily Load

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FIGURE 3-16
Wetlands



Legend

- BOA Boundary
- NYSDEC Tidal Wetlands
- DS - Dredge Spoil
- FM - Fresh Marsh
- HM - High Marsh
- IM - Intertidal Marsh
- LZ - Littoral Zone
- NYSDEC Freshwater Wetlands

Sources: ESRI WMS; NYSDEC

1 inch = 1,800 feet



Sources: Esri, HERE, DeLorme, Mapbox, TomTom, Swatch, etc.

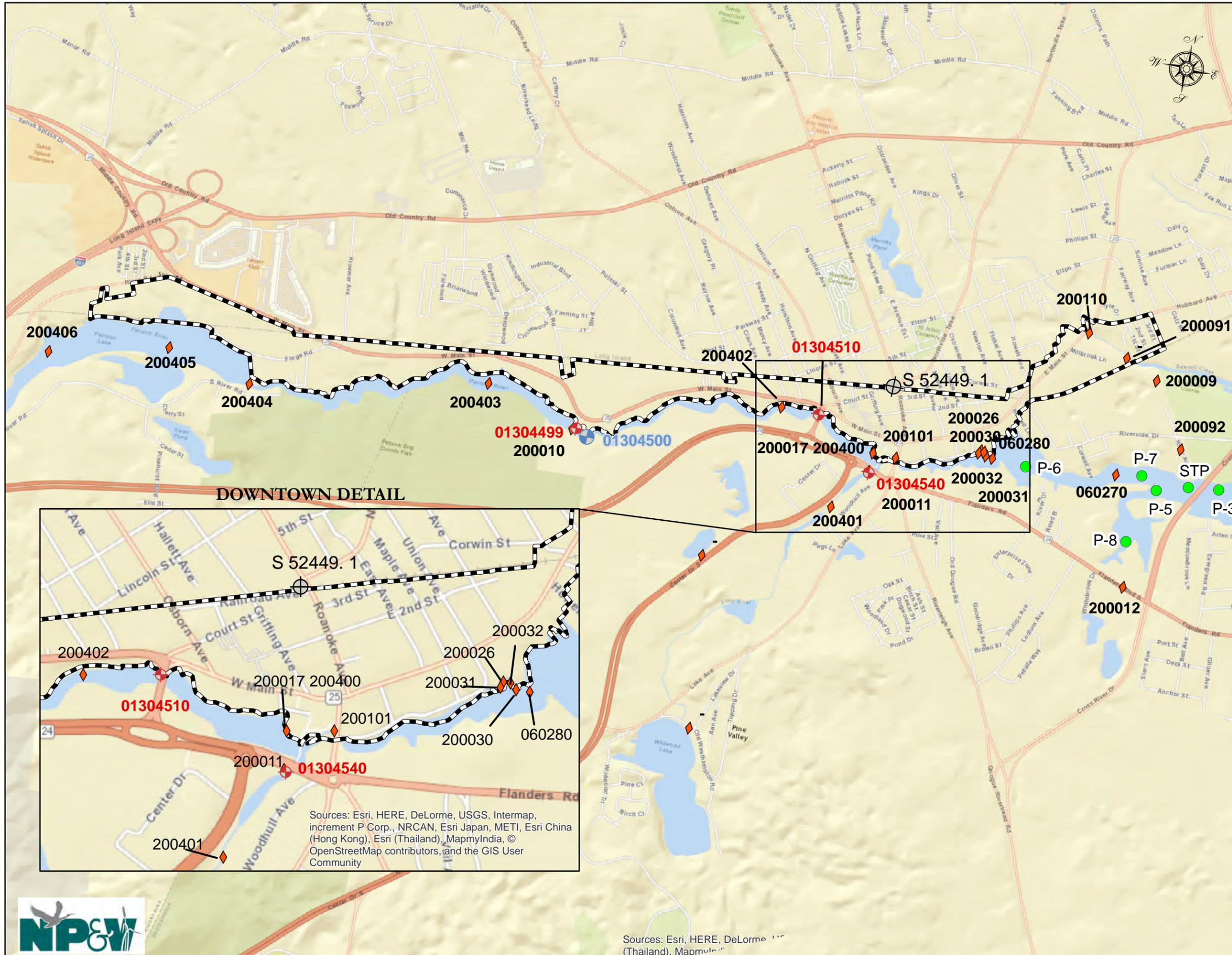


Town of Riverhead
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NYS BOA Step II
Nomination

FIGURE 3-17
Surface Water Quality
Sampling Stations



Legend

- USGS Active Groundwater Station
- USGS Active Surface Water Stations
- USGS Inactive Surface Water Stations
- Suffolk County Sampling Stations
- NYSDEC Sampling Station
- NYSDEC Sampling Station w/YSI
- BOA Boundary

DOWNTOWN DETAIL

Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Sources: ESRI WMS; NYSDEC

1 inch = 2,000 feet



Sources: Esri, HERE, DeLorme, USGS, Intermap, increment P Corp., NRCAN, Esri Japan, METI, Esri China (Thailand), MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



**TABLE 3-6
WATER QUALITY DATA SUMMARY**

Station	Date Range for Samples	Sampling Timeframe (Years)	Number of Samples for Coliforms	Geometric Mean of Total Coliform (MPN/100 ml) (Regulatory limit of 330 MPN/ml)	Geometric Mean of Fecal Coliform (MPN/100 ml) (Regulatory limit of 49 MPN/ml)	Number of Samples for Nitrogen	Average Total Nitrogen (mg/l) (PEP limit of 0.45 mg/l)
200010	7/20/1976 - 12/16/2014	38.43	335	252.67	85.84	68	0.41
200017	8/28/1989 - 12/16/2014	25.32	280	464.26	165.92	48	0.48
200026	7/25/2001 - 12/15/2014	13.40	63	1,792.80	1,084.84	56	3.33
200030	1/28/2005 - 12/15/2014	9.88	48	195.22	76.37	33	0.92
200031	11/28/2005 - 4/8/2009	3.36	13	1,085.52	514.54	13	2.17
200032	11/28/2005 - 4/8/2009	3.36	12	1,165.46	1,012.64	12	19.37
200101	6/22/1987 - 9/18/1989	2.24	7	539.25	124.14	0	N/A
200110	7/20/1976 - 12/16/2014	38.43	102	795.65	188.89	71	0.87
200402	5/22/2002 - 11/25/2002	0.51	2	592.45	124.10	0	N/A
200403	5/22/2002 - 11/25/2003	0.51	2	302.99	40.00	0	N/A
200404	3/6/1996 - 3/20/1996	0.04	2	93.81	18.44	0	N/A
200405	5/22/2002 - 11/25/2002	0.51	2	99.50	28.28	0	N/A
200406	5/22/2002 - 11/25/2003	0.51	2	193.39	46.90	0	N/A
060280	7/20/1976 - 9/18/1989	13.17	75	637.45	199.16	63	0.95

Note: all values in red exceed the regulatory standard shown in the table heading.

Similarly, Flanders Bay is included in the Nitrogen TMDL³³ for Peconic Bay. The estimated daily load allocation of Total Nitrogen (TN) into the bay ranged from 620 to 644 lbs/day (i.e. load under typical conditions), while the maximum daily allocation ranged from 2,298 to 3,265 lbs/day. A 37 percent reduction goal for average daily TN input was allocated for Flanders Bay, while a maximum reduction goal of 32.5 percent was allocated in the TMDL.

The NYSDEC MS4 (Municipal Separate Storm Systems) General Permit 0-10-002 lists Flanders Bay as being located within a Pathogen Impaired Watershed and a Nitrogen Impaired Watershed³⁴. This permit requires a 98 percent pathogen load reduction and a 15 percent nitrogen load reduction by March 9, 2021.

While the MS4 regulations only apply to municipally-owned stormwater infrastructure, the regulations provided in the General Permit can be utilized as guidelines by the Town in reviewing redevelopment projects within the Study Area. To aid in reduction of nitrogen and pathogen inputs to the Peconic River, the Town should require the use of low-impact development techniques for any proposed redevelopment project. Such techniques include use

³³ Total Maximum Daily Load for Nitrogen in the Peconic Estuary Program Study Area, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terrys Creek and Tributaries

³⁴ Appendices 6, 7, & 8 of the General Permit



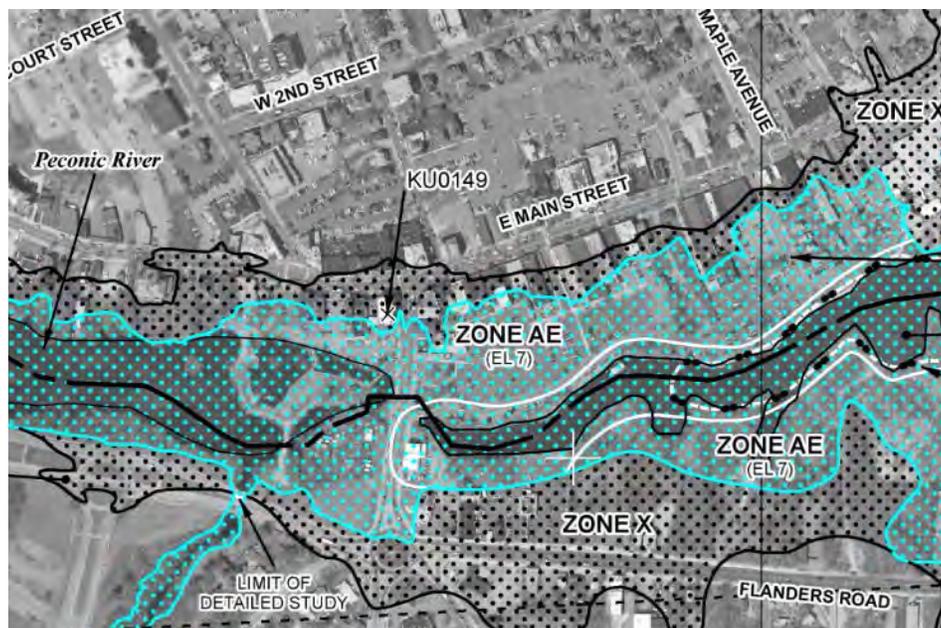
of green stormwater infrastructure (bio-retention areas, rain gardens, etc.), use of permeable pavers or other pervious surfaces, provision of natural buffers, particularly in areas in close proximity to wetlands, use of green roofs, use of native species in landscaping, and limiting the use of fertilizer on sites. All of these techniques aid in reducing pollutants that enter the river, and would therefore aid in meeting both the nitrogen and pathogen reduction goals for the river. **Section 4.0** includes recommendations for specific locations where rain gardens/bioswales could achieve pollutant reductions in stormwater and reduce the impact on wetlands and surface waters.

Flooding

Figure 3-18 illustrates those areas which are within Special Flood Hazard Areas (SFHAs) as identified by the Federal Emergency Management Agency (FEMA). Each flood zone identifies the areas in terms of risk of flooding.

Within the Study Area, there are three designations; Zone AE (which provides base flood elevations), Zone A (no base flood elevations determined), and Zone X (areas of 0.2% chance annual flood, areas of 1% annual chance of flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, areas protected by levees from 1% annual chance flood and areas outside the 0.2% annual chance floodplain). Zone A and AE represent the 100-year floodplain, and Zone X represents the 500-year floodplain.

The floodplain within the Study Area is associated with the Peconic River and Sawmill Creek. The floodplain encroaches and constrains development on certain properties that are on the south side of Forge Road and Middle Country Road – many of those properties are already in private ownership. The 100-year floodplain also encroaches on the rear of properties on the south side of Main Street between its intersections with Osborn Avenue and Howell Lane, within downtown Riverhead.



Portion of Flood Map 36103C0466H for downtown Riverhead
Source: Fema.gov

Town of Riverhead
Peconic River/Rt. 25 Corridor



NYS BOA Step II
Nomination

FIGURE 3-18
FEMA Flood Zones



Legend

- BOA Boundary
- Parcels
- FEMA Flood Zone
 - A
 - AE
 - X, 0.2 PCT ANNUAL CHANCE FLOOD HAZARD

Source: FEMA

1 inch = 1,800 feet



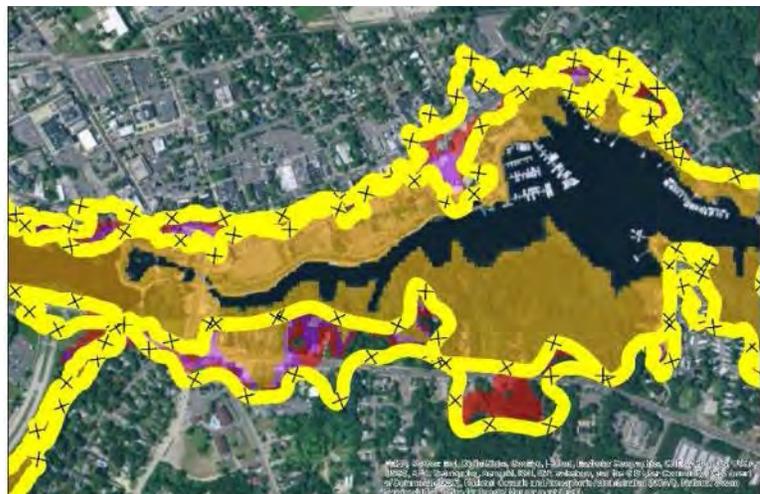


Flooding conditions, including more frequent inundation, can be expected in areas adjacent to the Peconic River, Sawmill Creek which will be exacerbated by climate change. There is much scientific evidence that shows that the Earth's climate is changing. Global sea level rose about 17 centimeters (6.7 inches) in the last century. The rate in the last decade, however, is nearly double that of the last century.³⁵ In New York State, sea levels are rising, worsening the risks from coastal floods and storm surges. Intense precipitation events are more common, and so are long dry spells.

The New York State Community Risk and Resiliency Act (CRRA) now requires that applicants that apply for permits or that seek funding from certain State programs demonstrate that they have taken into account future physical climate risks caused by storm surges, sea-level rise or flooding. The CRRA applies to specific State permitting, funding and regulatory decisions, including smart growth assessments; funding for wastewater treatment plants; siting of hazardous waste facilities; design and construction of petroleum and chemical bulk storage facilities; oil and gas drilling, and State acquisition of open space. One method of evaluating areas in the Study Area that may be most impacted by flooding is to review areas that were impacted by Hurricane Sandy³⁶ using the Sea Level Rise Planning Tool³⁷ created by NOAA in partnership with FEMA, USACE, USGCRP, and CEQ. The maps that result from use of the tool combine FEMA flood hazard data with four scenarios of potential sea level rise from two peer-reviewed reports, including a NOAA-led interagency report on global sea level rise scenarios and a report by the New York City Panel on Climate Change. The four scenarios address different factors that could affect sea level rise, including ocean warming and the melting of mountain glaciers and ice sheets. Sea level rise is projected for the years 2050 and 2100 based upon current trends in the absence of a collective effort to reduce greenhouse gas emissions. The excerpt below is from the Sea Level Rise mapper for the year 2050 showing special flood hazard areas at low, intermediate low, intermediate high and highest change in sea level (which ranges from +0.3' for the lowest and +2.0' for the highest global scenarios).

Legend

- Limit of the 1% Flood Hazard Area (Sandy impacted area)
- Lowest (Most Recent SFHA + 0.3 ft)
- Intermediate-Low (Most Recent SFHA + 0.7 ft)
- Intermediate-High (Most Recent SFHA + 1.3 ft)
- Highest (Most Recent SFHA + 2.0 ft)



³⁵ Source: Commonwealth Scientific and Industrial Research Organization, Australia.

³⁶ Super Storm Sandy occurred on October 30, 2012.

³⁷ The mapping tool can be accessed at the website:

<http://geoplatform.maps.arcgis.com/home/item.html?id=2960f1e066544582ae0f0d988ccb3d27>.



Another tool is being developed and is available for review at the NOAA page found here: <https://coast.noaa.gov/slr/>. The purpose of the data viewer is to provide a preliminary view of sea level rise and coastal flooding impacts. According to this website, the viewer is a screening-level tool that uses nationally consistent data sets and analyses. Data and maps can be used at several scales to help gauge trends and prioritize actions for different scenarios. The sea level rise tab provides a map tool which allows one to visualize sea level rise. The slider bar provides the differences in inundation levels at one foot to six foot sea level rise over existing “mean higher high water”, or the highest high tides. It is important to note that the mapper, including the data, maps, and information associated with it should be used only as a screening-level tool for general planning purposes.

Because of the BOA Study Area’s location along the Peconic River, which is especially tidally influenced including within the vicinity of downtown Riverhead, it is important to recognize that actions will need to be evaluated to ensure that any new improvements consider the implications of sea level rise.

Wetlands

Freshwater and tidal wetlands located within or surrounding the Study Area are depicted in **Figure 3-16**. Several freshwater wetland areas are located within or adjacent to the Study Area, and tidal wetlands are located adjacent to the southeastern boundary of the Study Area. There are no tidal wetlands located within the Study Area, however, as there are wetlands adjacent to the south, development may be subject to the regulations discussed below. The majority of the freshwater wetlands are associated with NYS Freshwater wetland system R-5, with the exception of the freshwater wetlands located in the eastern portion of the Study Area, which contains wetland system R-3.

The NYSDEC regulates freshwater wetlands under Article 24 and tidal wetlands under Article 25 of the Environmental Conservation Law (ECL). The NYSDEC has jurisdiction within 100 feet of freshwater wetlands. Tidal wetlands jurisdiction varies depending on the site conditions, however, jurisdiction generally extends 300 feet from the tidal wetland boundary, not to extend past the 10 foot contour, or up to the top of a bluff. Wetland area use prohibitions, generally compatible uses and guidelines for improvements are provided in 6 NYCRR Part 661 and Part 663.

NYSDEC Article 24 regulates setbacks from freshwater wetlands including the installation of sanitary systems, drywells, impervious area and proximity of structures to the wetland. Similarly, NYSDEC Article 25 regulates setbacks from tidal wetland areas for sanitary systems (100 feet), drainage structures (100 feet), buildings, driveways, patios, etc. (75 feet) and restricts impervious cover within the adjacent area to 20 percent. cursory review of developed parcels within the watershed indicate that many of the properties were developed prior to the enactment of Article 24 (May 1980) and Article 25 (August 1977), and therefore do not comply with the standards. This may provide a barrier to redevelopment as the NYSDEC looks to have redevelopment conform to regulations, and therefore may reduce overall developable area on a parcel.



Invasive Species

The portion of the Peconic River that borders the Study Area has been infested with water primrose (*Ludwigia peploides*) since prior to 2003, when it was first identified. This species is a floating plant that grows quickly and densely, creating a hindrance to recreation, fish passage, native plants, and biodiversity. This species spreads by fragmentation of the stems which float to a new location for propagation. The NYSDEC has been conducting hand removal of the species from the river through the use of staff and volunteers, however, the species continues to spread. Additional resources are necessary to effectively control the spread of this species.

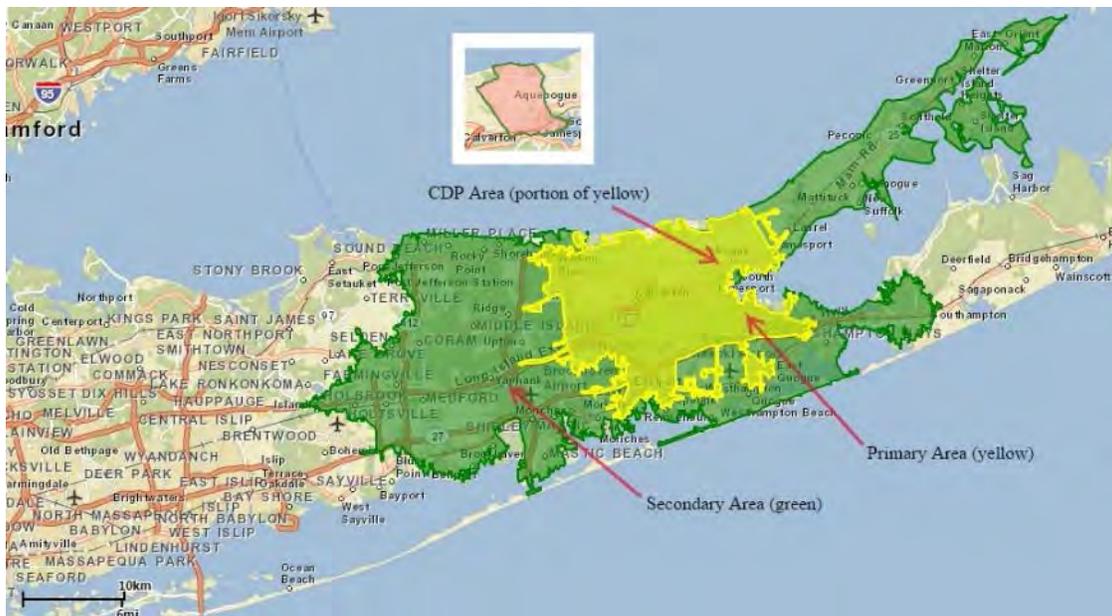


The continued presence of this species within the river could pose a barrier to redevelopment, as this species decreases recreational opportunities and value, as well as decreasing the value of the natural resources within the river itself. Should this portion of the river become un-navigable due to the density of the plant, the redevelopment potential of individual sites may be reduced due to the reduced opportunity for recreation and use of the river. As a result, continued management of this species would aid in encouraging redevelopment.



3.3 Demographics

This section provides a summary of the socioeconomic characteristics of residents, demographic trends, housing stock, and household incomes of the immediate area as well as primary and secondary market areas to help inform economic redevelopment decisions made through the BOA process. These demographics are also useful for providing data to developers and business interests in recruiting new businesses to the area. Census data for the Riverhead CDP are provided, as well as for the local (primary) and regional (secondary) market areas. Where appropriate, comparisons are made between the areas, Suffolk County, New York and United States. The target market areas were developed to understand the characteristics of nearby populations as well as to analyze retail needs and demands of the local (primary) and regional (secondary) market areas. Finally, ESRI Tapestry segment reports were prepared for the target market areas which are summarized towards the end of this section. Tapestry segments describe common characteristics of the major population groups within the regions selected. (It is noted that NP&V also obtained Tapestry information for other market areas – namely potential “Day Trippers” to assist in identifying target populations and identifying potential niche markets in the future which are utilized in the economic and market trends analysis). A map and description of the geographic areas are provided below.



Geographic Area Notes:

- Riverhead CDP: Riverhead Census Designated Place (CDP) as designated by U.S. Census Bureau and is shown on the inset map within the map above.
- Primary Market Area: The primary market area is defined as an average 15-minute drive time radius which was calculated through the ESRI Business Analyst program³⁸ and shown in yellow on the map above.
- Secondary Market Area: The secondary market area is defined as an average 30-minute drive time radius and was augmented to include the entire north fork of Long Island and Shelter Island. While the 30-minute drive time only extended as far east as Southold hamlet, an examination of current market conditions indicate that residents of the entire north fork and Shelter Island travel to Riverhead for the majority of their goods and

³⁸ The methods utilized by ESRI to determine how drive times are calculated has been refined which has led to slight changes in the Primary and Secondary Market Areas since the report last revised January 15, 2014.



services. Therefore, the secondary market area boundary was extended to include North Fork communities and Shelter Island and show in green on the map above.

Population Change

The historic and projected population changes for the Riverhead CDP, Primary Market, and Secondary Market areas are presented in **Table 3-7**. Population growth in Riverhead CDP has outpaced the growth of both the Primary Market and Secondary Market areas as population grew from 10,513 in 2000 to 13,299 in 2010, representing a growth of 26.5 percent during this 10 year period. The population of the Primary Market and Secondary Market areas grew by 19.1 percent and 10.0 percent from 2000 to 2010. The average annual change in population for CDP Riverhead, Primary Market and Secondary Market was 2.4 percent, 1.7 percent, and 1.0 percent from 2000 to 2010. Growth rates are projected to slow significantly from 2010 to 2020. The total population of Riverhead CDP is projected to be 13,607 in 2020, a growth of only 308 persons. This projection does not account for the specific projects planned for the area, nor does it account for recent building that occurred since 2010.

**TABLE 3-7
TOTAL POPULATION AND PROJECTIONS, 2000-2020**

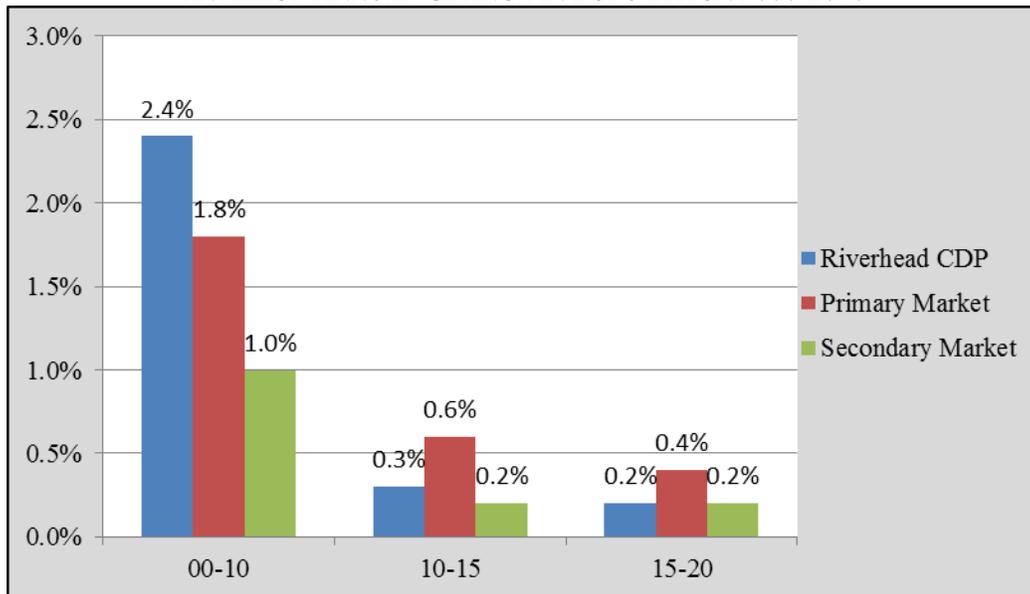
Geographic Area	Census	Census	Projection	
	2000	2010	2015	2020
Riverhead CDP	10,513	13,299	13,496	13,607
Primary Market	42,326	50,409	51,848	52,829
Secondary Market	403,627	445,142	450,718	455,613
Change in Population				
Geographic Area	~	2000-2010	2010-2015	2015-2020
Riverhead CDP		2,786	197	111
Primary Market		8,083	1,439	981
Secondary Market		41,515	5,576	4,895
Percent Change				
Geographic Area	~	2000-2010	2010-2015	2015-2020
Riverhead CDP		26.5%	1.5%	0.8%
Primary Market		19.1%	2.9%	1.9%
Secondary Market		10.0%	1.3%	1.1%
Average Annual Change				
Geographic Area	~	2000-2010	2010-2015	2015-2020
Riverhead CDP		2.4%	0.3%	0.2%
Primary Market		1.7%	0.6%	0.4%
Secondary Market		1.0%	0.2%	0.2%

The rate of annual change for Riverhead CDP is projected to decrease from 2.4% annually to only 0.3 % and 0.2 % annually by 2015 and 2020, respectively. The average annual change in the population in the Primary Market Area is projected to decrease from 1.8% growth annually to about 0.4% between 2010 and 2020, while annual growth in the Secondary Market Area is expected to decrease from 1.0% to 0.2% during the same time period. The demographic data presented in **Chart 3-1** shows that there was a high level of growth between 2000 and 2010, but



that the growth has slowed since 2010, likely as a result of the national economic recession, and that it is expected to remain slow through 2020. It is important to note that the growth levels affect the needs for such resources as housing and community services (and therefore the Town will have limited additional demand for housing and services than as compared to the 2000 to 2010 period). Projections such as those summarized in Chart 3-1 reflect the likely trend assuming that the same amount of housing development which occurred in the previous ten years continues. However, actual population growth will reflect real time market supply and demand which in turn is the result of developer preferences and where they are willing to construct. Regardless of the population projections, population and housing growth could be higher if a developer procures reasonably priced land and the zoning allows a housing density which reflects a good return on the investment. A developer can further be enticed to an area if a municipality incentivizes development. For example, there are many municipalities which are selling underutilized parking areas and other lands at a discounted price and as part of master developer agreements, and those properties are programmed for large housing and mixed use projects. The availability of existing water and sewer infrastructure, and establishment of shovel ready sites (analyzing potential impacts through a GEIS) help to shorten the development review process which is attractive to investment. It is important to lay the groundwork to attract sought after housing beyond that which is projected in Chart 3-1.

CHART 3-1
AVERAGE ANNUAL CHANGE IN POPULATION 2000-2020



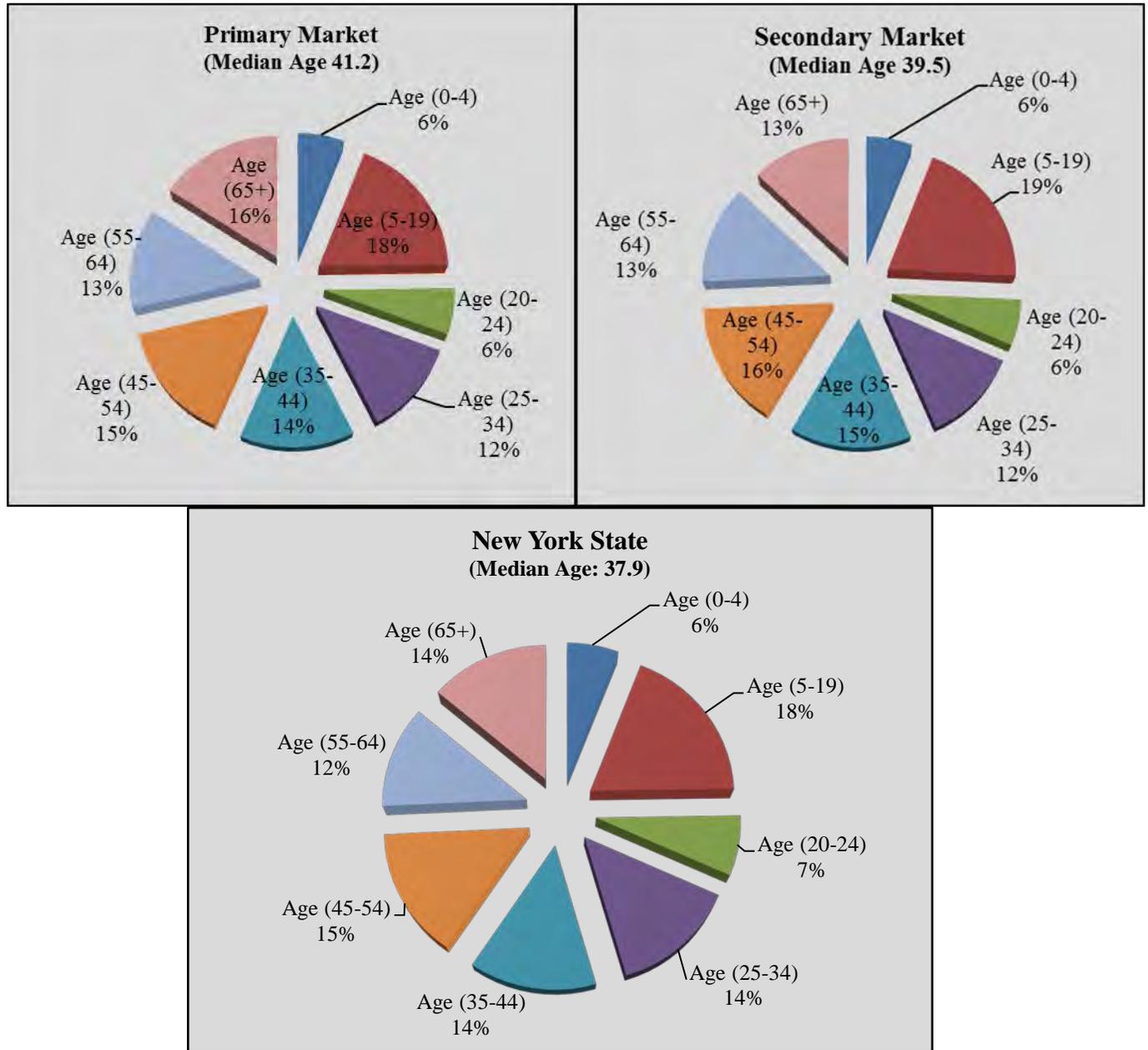
Population Age

The 2010 population age structure of the Primary and Secondary Market areas is illustrated and compared with NY State and are shown in **Chart 3-2**. The age structure of target market areas is similar to NY State except that the target market areas have a larger proportion of older residents as further indicated by median age which is higher than NY State’s median age of 37.9. Also, both the Primary and Secondary Market areas have a greater proportion of empty nesters (age



group 55-64). The core working age group (35-54) for the Primary Market, Secondary Market, and NY State is 29 percent, 31 percent, and 29 percent, respectively.

CHART 3-2
2010 MEDIAN AGE PIE CHARTS



The changing age structure between 2010 and 2020 shown in **Table 3-8** illustrates a number of notable trends within the Primary Market and Secondary Market areas. The shaded cells in **Table 3-8** highlight the more significant growth areas in individual age cohorts which further indicates increase in percent population for age 55 and higher. Percent population in all other age cohorts is expected to either stay the same or slightly decline. This suggests that the housing



growth over the past decade was primarily driven by households that were both “trading up” from starter, or lower cost housing and also possibly downsizing into retirement, or active senior housing. Projections through 2020 suggest that a continuation of the latter trend is anticipated as more of the baby boomer generation reaches retirement age. However, there is also a slight indication that more demand for starter housing may occur with slow growth projected in the 25-34 age groups, especially for the Primary Market area where the percent population is expected to grow from 11.7% in 2010 to 12.2% in 2015 and 12.6% in 2020. In 2020 there are expected to be at least 700 more residents aged 25–34 than in 2010, the age when the majority of people purchase starter homes. This data provide support for the Town’s goal for providing more housing in the downtown area.

**TABLE 3-8
 POPULATION AGE, 2010-2020**

Age Cohorts	Primary Market Area					
	2010	%	2015	%	2020	%
Age (0-4)	2,834	5.6%	2,707	5.3%	2,702	5.1%
Age (5-19)	9,324	18.6%	9,219	17.7%	9,020	17.0%
Age (20-24)	2,958	5.9%	3,036	5.9%	2,607	4.9%
Age (25-34)	5,918	11.7%	6,328	12.2%	6,652	12.6%
Age (35-44)	6,978	13.9%	6,592	12.7%	6,874	13.0%
Age (45-54)	7,698	15.3%	7,503	14.5%	7,008	13.3%
Age (55-64)	6,407	12.7%	6,884	13.2%	7,362	13.9%
Age (65+)	8,290	16.4%	9,581	18.4%	10,603	20.2%
Total	50,407	100.0%	51,850	100.0%	52,828	100.0%
Median Age	41.2		42.2		42.9	

Age Cohorts	Secondary Market Area					
	2010	%	2015	%	2020	%
Age (0-4)	26,545	6.0%	25,021	5.6%	24,650	5.4%
Age (5-19)	89,622	20.2%	85,188	18.8%	81,244	17.8%
Age (20-24)	25,986	5.8%	25,988	5.8%	22,369	4.9%
Age (25-34)	52,624	11.9%	55,926	12.4%	59,235	13.0%
Age (35-44)	64,662	14.5%	59,008	13.1%	59,816	13.2%
Age (45-54)	70,828	15.9%	68,596	15.2%	62,337	13.7%
Age (55-64)	55,639	12.5%	59,804	13.3%	64,228	14.1%
Age (65+)	59,241	13.3%	71,187	15.9%	81,731	18.0%
Total	455,147	100.0%	450,718	100.0%	455,611	100.0%
Median Age	39.6		40.8		41.7	



Other studies³⁹ indicate an increasing demand for affordable rental housing in Long Island, especially in downtown areas such as Riverhead. According to a 2011 poll⁴⁰, 31 percent of Long Island residents would live in an apartment, condo, or townhouse in a local downtown area. However, only 21 percent of the Long Island population actually lives within half-mile of downtown centers and only a portion of these live in multifamily buildings.

Households

The population trends identified in previous sections are further reflected in the increase in households as shown in **Tables 3-9** and **3-10**. Total number of households in the Riverhead CDP increased from 3,878 in 2000 to 4,827 in 2010, or by 24.5 percent. During the same period, the number of households for Primary Market and Secondary Market areas grew by 16.8 percent and 11.9 percent respectively. The average annual change in the number of households for the Riverhead CDP, Primary and Secondary Market areas was 2.2 percent, 1.6 percent, and 1.2 percent respectively from 2000 to 2010. Growth rates are projected to slow down significantly between 2010 and 2020. The total number of households for the Riverhead CDP is projected at 4,941 for 2020, only 114 more households than in 2010.

**TABLE 3-9
 TOTAL HOUSEHOLDS AND CHANGE, 2000-2020**

Geographic Area	Census Year		Projection	
	2000	2010	2015	2020
Riverhead CDP	3,878	4,827	4,898	4,941
Primary Market	15,476	18,071	18,584	18,927
Secondary Market	139,079	155,650	158,426	160,356

**TABLE 3-10
 TOTAL HOUSEHOLD CHANGE, 2000 - 2020**

Geographic Area	Change in Household		
	2000-2010	2010-2015	2015-2020
Riverhead CDP	949	71	43
Primary Market	2,595	513	343
Secondary Market	16,571	2,776	1,930
	Percent Change		
	2000-2010	2010-2015	2015-2020
Riverhead CDP	24.5%	1.5%	0.9%
Primary Market	16.8%	2.8%	1.8%
Secondary Market	11.9%	1.8%	1.2%
	Average Annual Change		

³⁹ Regional Plan Association as a part of the Long Island Affordable and Fair Housing Initiative Advisory Group, “Long Island’s Rental Housing Crisis” September 2013.

⁴⁰ Long Island Index, “Residential Satisfaction and Downtown Development Survey: The view from Long Island and the NY Metro Area” 2011.



Geographic Area	Change in Household		
	2000-2010	2010-2015	2015-2020
Riverhead CDP	2.2%	0.3%	0.2%
Primary Market	1.6%	0.6%	0.4%
Secondary Market	1.2%	0.4%	0.2%

The average annual growth for the Riverhead CDP is projected to decrease from 2.2% (between 2000 and 2010) to 0.3 percent and 0.2 percent between 2010 - 2015 and 2015 - 2020 respectively. The average annual growth in Primary and Secondary Market areas is projected to fall to between 0.2 percent and 0.6 percent from 2010 to 2020. There was high level of growth between 2000 and 2010 and the growth has slowed since 2010 and is expected to remain slow through 2020 and based upon these projections would thus require limited additional demand for housing and services.

The average household size is represented in **Table 3-11** and shows a stable household size of about 2.64 from 2010 onwards in the Riverhead CDP. From 2000 to 2010, the household size for both the Riverhead CDP and Primary Market grew from 2.57 to 2.64 and 2.61 to 2.68 respectively. This increase is not the result of growing families with more children since the number of infants, toddlers, and school age children has gradually decreased since 2010. This increase in household size may be a reflection of the economic downturn where older children, extended families, or unrelated individuals are sharing housing due to financial or other constraints.

TABLE 3-11
AVERAGE HOUSEHOLD SIZE, 2000-2020

Geographic Area	Census Year		Projection	
	2000	2010	2015	2020
Riverhead CDP	2.57	2.64	2.64	2.64
Primary Market	2.61	2.68	2.68	2.69
Secondary Market	2.85	2.81	2.80	2.79

Household Income⁴¹

A comparison of median household income levels for the Riverhead CDP, Primary and Secondary Market areas is presented in **Table 3-12**. As shown, the Riverhead CDP and Primary Market household incomes are expected to grow more rapidly than in the Secondary Market. The household income of the Riverhead CDP is significantly lower than the market areas that support the area’s retail base. In fact, the Riverhead CDP median household income for 2015 represents only 75 percent of the median household income of the Primary Market area, and 69 percent of that of the Secondary Market area (though the gap is projected to decrease by 2020, when the projected income of the CDP will be almost 80 percent of the Primary Market Area income and 74 percent of the Secondary Market Area).

⁴¹ Household income includes all income from individual members of the household over age of 15 and includes income from all sources including wages, unemployment, and child support.



TABLE 3-12
MEDIAN HOUSEHOLD INCOME PROJECTIONS

Geographic Area	Projection		
	2015	2020	% Increase
Riverhead CDP	\$58,369	\$70,632	21.0%
Primary Market	\$77,180	\$88,565	14.8%
Secondary Market	\$84,092	\$94,933	12.9%

Table 3-13 shows per capita income projection for the Riverhead CDP, Primary and Secondary Market areas. Similar to the household income, per capita income in the Riverhead CDP is also significantly lower than Primary Market and Secondary Market areas.

TABLE 3-13
PER CAPITA INCOME PROJECTIONS

Geographic Area	Projection		
	2015	2020	% Increase
Riverhead CDP	\$28,484	\$32,605	14.5%
Primary Market	\$36,049	\$40,983	13.7%
Secondary Market	\$36,605	\$41,547	13.5%

Source: ESRI Business Analyst

Table 3-14 provides a more detailed perspective on how household income levels are expected to change from 2015 to 2020 for the Primary and Secondary Market areas and the data is illustrated in **Chart 3-3** and **Chart 3-4**. As shown, the growth is expected to occur for households with \$75,000 or more in income. All other households with income less than \$75,000 are expected to decline. It is noted that for 2015, 48.6 percent of households in the Primary Market area earn less than \$75,000, out of which about 23 percent earn less than \$35,000. This suggests a larger number of senior households which tend to be on fixed income, but also reflect other segments of the population in lower wage jobs or receiving public assistance to supplement their income. The growth in the percentage of households with incomes over \$100,000 in both the primary and secondary market area indicates an increase in disposable income and potential for increased expenditure on non-essentials such as entertainment, restaurants and high end retail goods and services.



TABLE 3-14
HOUSEHOLDS BY INCOME LEVEL, 2015-2020

Primary Market Area				
Household Income	2015	% of Households	2020	% of Households
<\$15,000	1,323	7.1%	1,160	6.1%
\$15,000 - \$24,999	1,519	8.2%	1,111	5.9%
\$25,000 - \$34,999	1,369	7.4%	1,189	6.3%
\$35,000 - \$49,999	1,943	10.5%	1,834	9.7%
\$50,000 - \$74,999	2,860	15.4%	2,520	13.3%
\$75,000 - \$99,999	2,448	13.2%	2,699	14.3%
\$100,000 - \$149,999	3,780	20.3%	4,373	23.1%
\$150,000 - \$199,999	1,726	9.3%	2,114	11.2%
\$200,000+	1,615	8.7%	1,929	10.2%

Secondary Market Area				
Household Income	2015	% of Households	2020	% of Households
<\$15,000	9,272	5.9%	7,899	4.9%
\$15,000 - \$24,999	9,324	5.9%	6,562	4.1%
\$25,000 - \$34,999	9,373	5.9%	7,660	4.8%
\$35,000 - \$49,999	14,563	9.2%	13,440	8.4%
\$50,000 - \$74,999	25,993	16.4%	22,493	14.0%
\$75,000 - \$99,999	24,500	15.5%	26,319	16.4%
\$100,000 - \$149,999	36,204	22.9%	40,143	25.0%
\$150,000 - \$199,999	15,231	9.6%	19,365	12.4%
\$200,000+	13,964	8.8%	16,472	10.3%

The Secondary Market area represents high earning income households with 41.3 percent households earning more than \$100,000 per year in 2015. This percentage is expected to grow to about 47.7 percent by 2020. Only 26.9 percent of the households earn less than \$50,000 per annum, which is expected to decrease to about 22 percent by 2020. This information can be helpful in identifying uses and activities that may attract these householders, who have disposable income, to the downtown area.



CHART 3-3
PRIMARY MARKET HOUSEHOLD INCOME PROJECTION

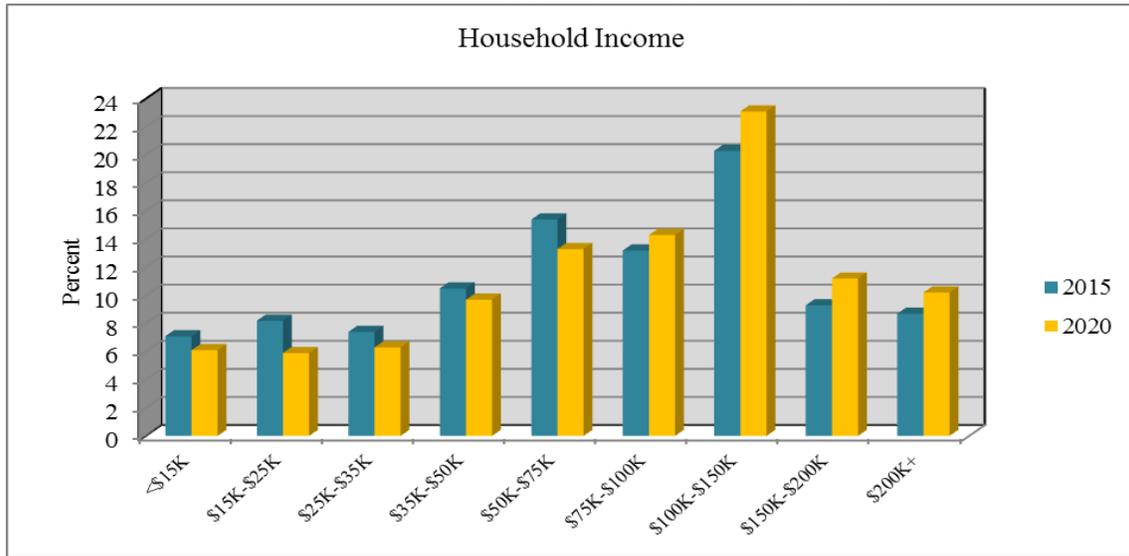
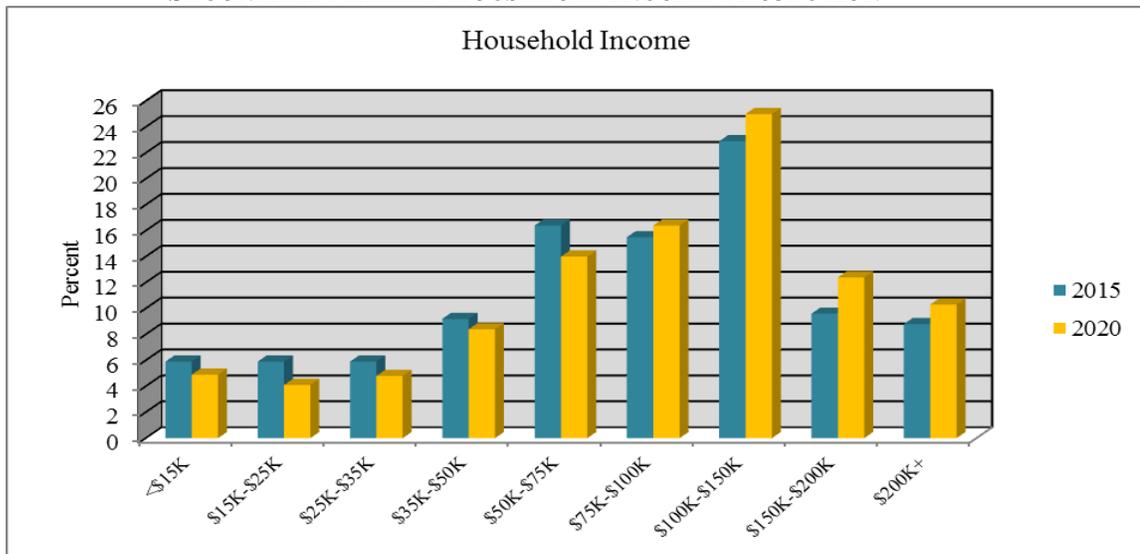


CHART 3-4
SECONDARY MARKET HOUSEHOLD INCOME PROJECTION



Disposable Income

The disposable household income⁴² within the Primary and Secondary Market areas are shown in **Table 3-15**. The 2015 median household disposable income in the Primary and Secondary Market areas is \$57,246 and \$61,875 respectively. The major ranges of disposable income brackets are illustrated by highlighted cells in **Table 3-15** which when aggregated equate to

⁴² Disposable income represents money income after taxes—an estimate of a household's purchasing power. The proportion of household income left after taxes is estimated from special studies conducted by the Census Bureau to simulate household taxes. Esri's 2015 disposable income incorporates data from the 2014 Annual Social and Economic Supplement of the Current Population Survey (ASEC).



nearly 64 percent of households in the Primary Market area having disposable incomes between \$35,000 and \$149,999. Similarly, about 70 percent of households in the Secondary Market area have disposable incomes between \$35,000 and \$149,999. This indicates strong purchasing power of households in both Primary and Secondary Market areas.

TABLE 3-15
DISPOSABLE HOUSEHOLD INCOME

Median Disposal Income Levels	Primary Market		Secondary Market	
	Number of Households 2015	% of Households	Number of Households 2015	% of Households
<\$15,000	1,705	9.2%	11,568	7.3%
\$15,000 - \$24,999	1,752	9.4%	11,137	7.0%
\$25,000 - \$34,999	1,846	9.9%	13,560	8.6%
\$35,000 - \$49,999	2,599	14.0%	22,138	14.0%
\$50,000 - \$74,999	3,647	19.6%	35,850	22.6%
\$75,000 - \$99,999	2,842	15.3%	27,271	17.2%
\$100,000 - \$149,999	2,786	15.0%	24,789	15.6%
\$150,000 - \$199,999	816	4.4%	7,063	4.5%
\$200,000+	591	3.2%	5,049	3.2%
Total	18,584	100.0%	158,424	100.0%
Median Disposable Income	\$57,246		\$61,875	

A more detailed disposable income profile by the age of the head of the household is shown in **Table 3-16** to help understand the population groups who have strong purchasing power in both the Primary and Secondary Market areas. Once again, the groups with highest number of households are illustrated by highlighted cells. The pattern within the Primary and Secondary Market areas appears to be similar in terms of highest number of household and their age group. The data indicates that the 45-54 age group exhibits the highest purchasing power for both Primary and Secondary Market areas with a median disposable income nearly \$80,000. The two neighboring age groups, 35-44 and 55-64 also include a large number of households with a relatively high disposable income (median disposable income is more than \$63,000 in the Primary and nearly \$68,000 in the Secondary area).



**TABLE 3-16
DISPOSABLE INCOME BY AGE OF HOUSEHOLDER**

Primary Market Area							
Disposable Income Levels	Number of Households by the Age of the Head of Household						
	Under 25	25-34	35-44	45-54	55-64	65-74	75+
<\$15,000	61	131	144	167	358	375	469
\$15,000-\$24,999	65	192	235	218	360	415	267
\$25,000-\$34,999	49	170	234	210	227	471	485
\$35,000-\$49,999	63	284	326	401	522	381	623
\$50,000-\$74,999	62	467	788	660	725	645	300
\$75,000-\$99,999	34	276	457	798	630	401	246
\$100,000-\$149,999	21	226	465	858	648	391	178
\$150,000-\$199,999	5	53	179	250	175	109	44
\$200,000+	1	16	62	198	224	64	26
Total	361	1,814	2,890	3,760	3,869	3,252	2,638
Median Disposable Income	\$35,918	\$54,772	\$63,265	\$80,270	\$63,834	\$49,177	\$36,579

Secondary Market Area							
Disposable Income Levels	Number of Households by the Age of the Head of Household						
	Under 25	25-34	35-44	45-54	55-64	65-74	75+
<\$15,000	282	957	1,032	1,365	2,457	2,166	3,308
\$15,000-\$24,999	285	1,176	1,463	1,676	2,343	2,407	1,787
\$25,000-\$34,999	271	1,340	1,816	1,752	1,794	3,256	3,331
\$35,000-\$49,999	458	2,716	3,085	3,909	4,767	3,324	3,877
\$50,000-\$74,999	518	5,247	8,057	7,133	6,727	5,918	2,250
\$75,000-\$99,999	289	2,970	5,790	7,636	5,875	3,040	1,672
\$100,000-\$149,999	145	2,244	4,303	8,296	5,800	2,889	1,112
\$150,000-\$199,999	25	586	1,602	2,089	1,468	991	302
\$200,000+	3	202	549	1,650	1,875	595	174
Total	2,277	17,438	27,697	35,508	33,106	24,585	17,813
Median Disposable Income	\$43,510	\$58,937	\$67,948	\$79,643	\$67,416	\$53,193	\$36,253

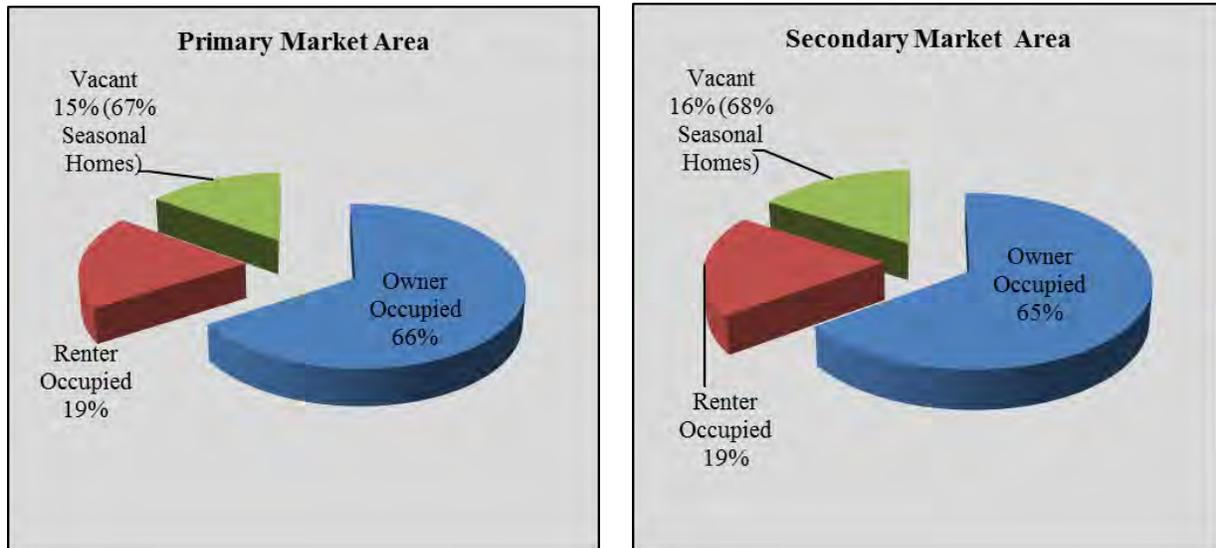
Housing Profile

The occupancy status of 2010 housing stock is illustrated in **Chart 3-5**. Housing tenure of the Primary and Secondary Market areas are presented in **Table 3-17**. Total housing stock in 2010 was reported to be 21,219 housing units in the Primary Market area and 184,532 in the Secondary Market area. Slight growth in the total number of housing units are expected in both Primary and Secondary Market areas from 2010 to 2020. Both the Primary and Secondary Market areas show high vacancy rates (14.8 percent and 15.7 percent respectively in 2010);



however, the high vacancy rate is primarily a reflection of the seasonal/recreational/occasional units which includes second homes.

CHART 3-5
2010 HOUSING UNITS BY OCCUPANCY STATUS



Note: The Primary and Secondary Market areas have 2,098 and 19,687 seasonal homes respectively, accounting for a high percentage of the vacant units reported by the Census.

Out of the total 21,219 housing units located within the Primary Market area in 2010, 65.6 percent were owner occupied, 19.5 percent were renter occupied, and 14.8 percent were vacant. The data indicates that the ownership rate is expected to grow at a modest rate from 2010 to 2020. The percent of renter occupancy is expected to grow at a rate of nearly 1 percent from 2010 to 2015 with a much smaller growth rate between 2015 and 2020 (expected 0.1 percent growth). In addition, it is noted that the data do not reflect the construction of new apartments and thus the actual growth is expected to be higher. The vacancy rate is expected to decline from 14.8 percent in 2010 to 13.1 percent in 2020. The expected reduction in vacancy rate for 2020 can be attributed to a higher owner occupancy rate of 66.3 percent and a higher renter occupancy rate of 20.5 percent.

While the Primary Market Area reflects an increase in owner and renter occupancy with a decrease in vacancies, the Secondary Market Area is expected to decrease in owner occupancy and vacancies, with an increase in renter occupancies. Out of a total of 184,532 housing units in 2010, 65.1 percent were owner occupied, 19.2 percent were renter occupied, and 15.7 percent were vacant. The percent of owner occupied units is expected to decrease slightly from 2010 to 2020 from 65.1 percent to 64.5 percent. The data indicates a higher percentage of renter occupied units in 2015 (20.0 percent) and 2020 (20.3 percent). The percent of vacant units is expected to slightly reduce from 15.7 percent in 2010 to 15.2 percent in 2020.



TABLE 3-17
HOUSING UNITS BY OCCUPANCY STATUS AND TENURE

Primary Market						
Occupancy Status	2010		2015		2020	
	Number	%	Number	%	Number	%
Occupied	18,071	85.2%	18,584	86.3%	18,926	86.9%
Owner	13,930	65.6%	14,200	65.9%	14,453	66.3%
Renter	4,141	19.5%	4,384	20.4%	4,473	20.5%
Vacant	3,148	14.8%	2,958	13.7%	2,858	13.1%
Total Housing Units	21,219	100.0%	21,542	100.0%	21,785	100.0%
Secondary Market						
Occupancy Status	2010		2015		2020	
	Number	%	Number	%	Number	%
Occupied	155,650	84.3%	158,425	84.7%	160,356	84.8%
Owner	120,201	65.1%	120,966	64.7%	121,920	64.5%
Renter	35,449	19.2%	37,459	20.0%	38,436	20.3%
Vacant	28,882	15.7%	28,609	15.3%	28,643	15.2%
Total Housing Units	184,532	100.0%	187,035	100.0%	188,999	100.0%

3.4 Economic and Market Trends Analysis

An Economic and Market Trends Analysis can identify new opportunities for vacant and underutilized properties. Despite the strengths – both within the Study Area and in the immediate surroundings – the downtown has failed to fully capitalize on its assets. An abundance of vacant storefronts and underutilized properties exist in the downtown and nearby, and stores are struggling to compete with the nearby “big-box” retail corridor. In addition, the downtown area lacks an identity; there is a strong opportunity to benefit from a more niche-oriented position in the local market. In short, the Town – and the downtown especially – must make efforts to position itself to a broader market by attracting the right mix of businesses that are demanded in the local market; the downtown’s economic future is dependent on it.

An analysis of local retail market potential identifies and quantifies the existing uses, and compares it to the demand by residents, visitors and others in the local market. The analysis identifies the mix of uses that are economically suitable for the downtown, by understanding how the community’s resources both meet, and fall short of, the needs of its residents and visitors alike. The study includes an analysis of, and makes recommendations for, the most sustainable uses for the downtown, as well as uses that may be better suited to areas outside of the downtown within the Study Area. The analysis and recommendations are intended to function as a planning assistance tool, providing Town personnel with assistance in business and industry attraction and retention efforts for downtown Riverhead, based on the types of uses recommended in this analysis. In addition, preferred used will inform any rezoning and redevelopment efforts.



Methodology

Various data and information from national, state, local and private sources were used to conduct the analysis of local retail market potential for Downtown Riverhead. Methodology specific to various sections of this analysis are outlined in greater detail where applicable. This form of analysis conforms to standards of the industry, with methods, data and information, and sources that are considered to be industry standard in the preparation of a market analysis.

- The United States Census Bureau was consulted for pertinent demographic data, including population trends, household trends and median household income from 1990, 2000 and/or 2010 for the target market area. These data will be utilized to examine the trends in demand for various types of uses for the Study Area.
- International Council of Shopping Centers (ICSC) and Urban Land Institute (ULI) both publish standards pertaining to trade areas for various types of shopping places. Moreover, these sources provide median sales revenues per square foot among various types of shopping places and specific types of retail establishments within a sample of the above-mentioned shopping-place protocols in the United States. These data will be useful when projecting the absorption and the amount of space that could be supported within downtown Riverhead and throughout the Study Area.
- Environmental Systems Research Institute, Inc. (ESRI) generated on-demand demographic reports specific to the target market areas. Various reports were created for each of the geographic areas under study, with demographic factors in these profiles including those pertaining to age, average household size, median household income, per capita income, and employment, among others. Data was collected for 2000 as well as current estimates and projections, where available. In addition, reports were created for the purpose of preparing an analysis of local retail market potential to measure supply and demand. This allows for an understanding of whether existing goods and service providers adequately meet the needs of the downtown’s consumers.
- Planners Advisory Service (via the American Planning Association) compiles planning research including case studies, news articles, success stories, best practices, incentives, innovative solutions and implementation strategies used in similar riverfront and/or waterfront communities – both domestic and abroad – that have experienced a successful transformation and an economically thriving downtown. NP&V reviewed the materials for insight into successes that may be applied in Riverhead.

The current expenditures (based upon 2013 data) within the Primary and Secondary Market areas were studied to understand the consumer spending pattern. The expenditure for 2018 was then projected based on projected increase in median income and projected increase in number of households. It is to be noted that the consumer spending was only considered for retail goods and services which are typically found in a downtown. The overall methodology is described by the flow chart (shown here to the right).

Market share, for purposes of this BOA Study, is the percent of spending in a downtown compared to the total spending within the market area. Market share is calculated by dividing the total





spending in the downtown and total spending in the primary market area. It is to be noted that the limit of a downtown area and its associated Primary Market Area will vary from area to area, depending upon the unique demographics and geographic character of a region. The market share was calculated to provide an “order of magnitude” estimation of how much of the projected 2018 expenditure could be spent downtown. The sales expenditures are divided by the average sales per square feet for retail use (ICSC/ULI) to calculate the square feet of retail space that can be supported in the downtown by 2018.

Leakage in an area represents a condition where demand exceeds supply. In other words, retailers outside the market area are fulfilling the demand for retail products; therefore, demand is “leaking” out of a trade area. Such a condition highlights an opportunity for new retailers to enter a trade area or for existing retailers to extend their marketing outreach to accommodate the excess demand. A leakage analysis was also conducted to determine and identify opportunities for introduction or expansion of commercial uses within downtown Riverhead.

Tourist data were analyzed to determine the additional demand that could potentially be generated by increased number of tourists. Increase in number of tourists is anticipated as a result of overall improvements in downtown Riverhead and introduction of key tourist attractions.

For comparative purposes, the business mix and tourist attractions in other downtowns in Long Island were reviewed to provide insight into strengths and weaknesses within downtown Riverhead.

Finally, tapestry segment data published by ESRI is reviewed for the Primary Market Area. Tapestry classifies US residential neighborhoods into 67 unique segments⁴³ based on demographic and socioeconomic characteristics. Common spending patterns and preferences within the top three (3) tapestry segments were reviewed and analyzed in conjunction with survey results to determine potential demand for certain types of commercial uses within downtown Riverhead.

Industry Trends

An analysis of industry trends seeks to identify the clusters that may be established or emerging in the local economy, as well as those that may serve to support stronger industries in the region. For the purpose of this analysis, industry trends – with regard to both the number of employees and the number of establishments – within the boundaries of Suffolk County were examined over fourteen year period (between 1998 and 2012).

The values shown in **Table 3-18** compare the businesses in Suffolk County in 1998 as compared to 2012⁴⁴ based upon the NAICS code and highlights significant changes in overall businesses during this period. There was the highest growth in construction and professional, scientific and technical services, and high growth in health care/social assistance, accommodation and food

⁴³See: http://doc.arcgis.com/en/esri-demographics/data/tapestry-segmentation.htm#ESRI_SECTION1_87F5D845F8E04723AE1F4F502FF3B636

⁴⁴ Source: <http://censtats.census.gov>



services, Administrative and Support and Waste Management and Remediation Services and Finance and Insurance. The biggest loss for the county was in manufacturing businesses, which declined by a total of 444 businesses.

The values shown in **Table 3-19** compare the change in the number of paid employees in Suffolk County in 1998 as compared to 2012 based upon the NAICS code of the company and highlights significant changes in overall employment during this period.

Green shading in each table indicates increases in jobs or businesses, while red shading indicates losses.

TABLE 3-18
CHANGE IN BUSINESS ESTABLISHMENTS
SUFFOLK COUNTY
1998 - 2012

NAICS code description	Change in Total Establishments Between 1998 and 2012 (values in parenthesis are losses)
Total for all sectors	6,530
Agriculture, Forestry, Fishing and Hunting	5
Mining, Quarrying, and Oil and Gas Extraction	(4)
Utilities	48
Construction	1,182
Manufacturing	(444)
Wholesale Trade	(115)
Retail Trade	86
Transportation and Warehousing	283
Information	67
Finance and Insurance	584
Real Estate and Rental and Leasing	305
Professional, Scientific, and Technical Services	1,513
Management of Companies and Enterprises	45
Administrative and Support and Waste Management and Remediation Services	730
Educational Services	211
Health Care and Social Assistance	977
Arts, Entertainment, and Recreation	164
Accommodation and Food Services	805
Other Services (except Public Administration)	503
Auxiliaries (exc corporate, subsidiary & regional mgt)	(55)
Industries not classified	(360)



TABLE 3-19
CHANGE IN PAID EMPLOYEES (FOR THOSE SECTORS WHERE DATA IS AVAILABLE)
SUFFOLK COUNTY FOR 1998 - 2012

NAICS code description	Change in Paid Employees (where information available)
Total for all sectors	62,752
Agriculture, Forestry, Fishing and Hunting	
Mining, Quarrying, and Oil and Gas Extraction	
Utilities	
Construction	8,384
Manufacturing	(14,863)
Wholesale Trade	(1,795)
Retail Trade	9,331
Transportation and Warehousing	2,325
Information	(3,045)
Finance and Insurance	(1,644)
Real Estate and Rental and Leasing	534
Professional, Scientific, and Technical Services	14,450
Management of Companies and Enterprises	2,485
Administrative and Support and Waste Management and Remediation Services	3,297
Educational Services	3,456
Health Care and Social Assistance	22,914
Arts, Entertainment, and Recreation	2,171
Accommodation and Food Services	14,412
Other Services (except Public Administration)	4,659
Auxiliaries (exc corporate, subsidiary & regional mgt)	(2,724)
Industries not classified	

A large number of industries witnessed considerable growth, both in terms of the number of employees and the number of establishments within the community. An analysis of the industry data reveal several strong clusters in the regional economy. This includes services pertaining to health care, professional, scientific and technical services, retail, tourism, and construction. There has been a significant decline in manufacturing jobs in Suffolk County during this period, and to a lesser degree, information services, real estate and leasing and management. See additional data in **Appendix H-1**.

Based upon the areas of growth, it appears that there exists opportunities for additional office space within the county – including space for both professional and medical uses.

Growth Areas for Long Island

The New York State Department of Labor has created a list of the fastest growing occupations on Long Island, projected between 2010 and 2020. The top twelve occupations with the fastest growth (percentage wise) are shown in **Table 3-20**. (The full dataset is provided in **Appendix H-2**).



TABLE 3-20
FASTEST GROWTH OCCUPATIONS
TOP TWELVE BY GREATEST PERCENT OF INCREASE

Title	Percent	Employment		Increase in jobs
	Change	2010	2020	
Personal Care Aides	53.3%	12,210	18,720	6,510
Physical Therapist Aides	47.8%	690	1,020	330
Home Health Aides	46.9%	13,150	19,320	6,170
Veterinary Technologists and Technicians	41.5%	940	1,330	390
Athletic Trainers	38.5%	130	180	50
Audiologists	36.8%	190	260	70
Helpers--Brickmasons, Blockmasons, Stonemasons, Tile and Marble Setters	36.5%	520	710	190
Helpers--Carpenters	36.5%	850	1,160	310
Coaches and Scouts	36.2%	2,710	3,690	980
Diagnostic Medical Sonographers	34.5%	550	740	190
Medical Secretaries	33.9%	1,920	2,570	650
Physical Therapists	33.7%	2,730	3,650	920

Source: New York State Department of Labor, Division of Research and Statistics, Occupational Employment Statistics Survey

It is also important to view the actual increase in employment opportunities (rather than a percent change) for the fastest growing occupations, to view the bigger picture. For example, while athletic trainers and audiologists are the top five and six growth occupations based upon the percent increase, this is somewhat misleading in considering the actual number of jobs that are expected to become available (which are quite low comparatively). **Table 3-21** illustrates the top twelve growth occupations based upon the increase in the number of jobs. In this case, there are a number of occupations with a percent change in the lower values, but which overall will provide more opportunities, such as medical assistants, pharmacy technicians and medical secretaries (all within the larger health care industry).



TABLE 3-21
FASTEST GROWTH OCCUPATIONS
TOP TWELVE BY GREATEST NUMBER OF JOBS

Title	Percent	Employment		Increase in jobs
	Change	2010	2020	
Personal Care Aides	53.3%	12,210	18,720	6,510
Home Health Aides	46.9%	13,150	19,320	6,170
Medical Assistants	25.6%	5,770	7,250	1,480
Coaches and Scouts	36.2%	2,710	3,690	980
Physical Therapists	33.7%	2,730	3,650	920
Market Research Analysts and Marketing Specialists	27.0%	3,180	4,040	860
Pharmacy Technicians	25.2%	2,620	3,280	660
Medical Secretaries	33.9%	1,920	2,570	650
Food Servers, Non-restaurant	26.7%	2,210	2,800	590
Personal Financial Advisors	28.3%	2,050	2,630	580
Software Developers, Systems Software	25.4%	2,130	2,670	540
Dental Hygienists	28.5%	1,790	2,300	510

While many of the fastest growing occupations are centered on the medical/health-care industry, other fast-growing occupations projected to occur throughout the Long Island region include those centered on recreation and fitness; food service; tourism; restaurants and entertainment; personal services; construction; and a variety of scientific, technical and professional occupations.⁴⁵

Target Market Area

In planning for the most economically sustainable uses within downtown Riverhead, it is important to recognize various considerations and concepts affecting viability in this location. The first of these criteria is to identify the target market area. A target market area establishes the boundary from which the majority of consumer interest will be drawn for additional uses within this part of the community.

The International Council of Shopping Centers (ICSC) has defined five (5) basic types of shopping centers: convenience, neighborhood, super-community/community, regional and super-regional. These types of shopping centers vary in terms of size, number and type of tenants, and average sales per square foot, among other defining characteristics. Moreover, each shopping center prototype is associated with a drawing radius with respect to where their consumer base, or target market, originates. For example, a convenience-type shopping center typically attracts consumers from within a one (1)-mile and/or five (5)-minute drive-time radius, whereas larger super-regional shopping centers typically attract consumers from within a five (5) to 25-mile and/or a 30-45 minute drive-time radius. However, downtowns, mixed-use developments and other shopping centers such as lifestyle centers and town centers provide consumers with a much different experience than traditional shopping centers, and therefore don't necessarily fall within

⁴⁵ New York State Department of Labor, Fastest Growing Occupations, Long-Term Occupational Projections, Long Island Region, 2010-2020. Accessed via <http://labor.ny.gov/stats/lproj.shtm>.





one of these defined classifications.⁴⁶ The boundaries of the target market area for these types of shopping areas are slightly more elusive. As such, and for the purpose of this analysis, it was necessary to create a unique target market area for downtown Riverhead, based on population density, travel time, travel pattern, geographic barriers, and the existence and location of other comparable downtown settings.

Downtown Riverhead is unique in that it attracts a mix of consumers – ranging from local residents, to Town and other local employees, and visitors from both near and far. Since these consumers tend to have different spending patterns, it was necessary to categorize them into two market segments: the primary market area, and the secondary market area. A study titled “Real Estate Market Assessment Calverton Enterprise Park (EPCAL)” conducted by RKG Associates in December of 2011 looked at Town of Riverhead data and compared it with Suffolk County and Long Island.⁴⁷ This study analyzed different development potentials and options for EPCAL property including an airport, high-tech business park, mixed use planned development, native American casino gaming, professional auto racing, polo/equestrian complex, and specialized recreational uses.

While some studies designate downtown markets within a certain “ring” radius, of say three (3) or five (5) miles, Long Island is a unique market, and its dense population and generally car oriented population, a more accurate depiction of a target market area considers average travel time, which is determined by the pattern of roadways, speed limits, and geographic barriers. As such, an average 15-minute drive time radius was calculated (through the ESRI Business Analyst program) to determine the Primary Market area. The Secondary Market area was determined by the 30-minute drive time radius and includes the entire of the North Fork and Shelter Island. While the 30-minute drive time only extended as far east as the Southold hamlet, an examination of current market conditions indicate that residents of the entire North Fork and Shelter Island travel to Riverhead for the majority of their goods and services. Therefore, the Secondary Market area boundary was extended to include the North Fork and Shelter Island.

It is important to note that residents of the target market areas do not represent the only consumers projected to support additional business and industry within downtown Riverhead. Other consumers residing outside of the target market area support retailers in downtown Riverhead, since it is a destination in itself and is within close proximity to other attractions in the area, including Tanger Outlet Center, the Long Island Aquarium, Suffolk Theatre, the riverfront, and other attractions which will continue to draw additional interest to the area.

Key Demographic Trends

Trends in the residential population and in the number of households located within the target market area allow for a clear understanding of those consumers that support the local economy – including new businesses in Downtown Riverhead area. An analysis of past data, coupled with current estimates and projections, illustrate the changing needs of the target market area, and how such needs can be accommodated within the local market through existing and future

⁴⁶ International Council of Shopping Centers, “ICSC Shopping Center Definitions: Basic Configurations and Types for the United States,” 2004.

⁴⁷ RKG Associates, Inc., “Real Estate Market Assessment Calverton Enterprise Park (EPCAL) Riverhead, New York,” December, 2011.



business establishments. **Table 3-22** provides demographic summary of Riverhead CDP, Primary Market, and Secondary Market.

TABLE 3-22
DEMOGRAPHIC SUMMARY, 2015-2020

Parameter	Riverhead CDP		Primary Market		Secondary Market	
	2015	2020	2015	2020	2015	2020
Population	13,496	13,607	51,848	52,829	450,718	455,613
Households	4,898	4,941	18,584	18,927	158,426	160,356
Families			12,533	12,743	113,761	114,901
Median Age			42.2	42.9	40.8	41.7
Median Household Income	\$58,369	\$70,632	\$77,180	\$88,565	\$84,092	\$94,933

The following provides a summary of the data utilized in the economic trends analysis:

- Population growth in Riverhead CDP has outpaced the growth of both the Primary Market and Secondary Market areas as population grew from 10,513 in 2000 to 13,299 in 2010, representing a growth of 26.5 percent during this 10 year period.
- Growth rates are projected to slow down significantly from 2010 to 2020. The total population of Riverhead CDP is projected to be 13,607 in 2020, only 308 more than its 2010 population.
- The age structure of target market areas is similar to NY State age structure except that the target market areas has a larger proportion of older residents as further indicated by median age which is higher than NY State’s median age of 38.0. Also, both Primary and Secondary Market areas has greater proportion of empty nesters (age group 55-64).
- There is also a slight indication that more demand for starter housing may occur with slow growth projected in the 25-34 age groups, especially for the Primary Market area where the percent population is expected to grow from 11.7 percent in 2010 to 12.6 percent in 2020.
- Other studies⁴⁸ indicate an increasing demand for affordable rental housing in Long Island, especially in downtown areas such as Riverhead downtown provides. According to 2011 poll⁴⁹, 31 percent of Long Island residents would live in an apartment, condo, or townhouse in a local downtown area. However, only 21 percent of Long Island population actually lives within half-mile of downtown centers and only a portion of these live in multifamily buildings.
- Total number of households in the Riverhead CDP increased from 3,878 in 2000 to 4,827 in 2010, an increase of 24.5 percent. Growth rates are projected to slow down significantly between 2010 and 2020. The total number of households for Riverhead CDP is projected to be 4,941 in 2020, only 114 more than in 2010.
- From 2000 to 2010, the household size for both Riverhead CDP and Primary Market grew from 2.57 to 2.64 and 2.60 to 2.68 respectively. This increase is not the result of growing families with more children but a reflection of the economic downturn where older children, extended families, or unrelated individuals are sharing housing due to financial constraints.

⁴⁸ Regional Plan Association as a part of the Long Island Affordable and Fair Housing Initiative Advisory Group, “Long Island’s Rental Housing Crisis” September 2013.

⁴⁹ Long Island Index, “Residential Satisfaction and Downtown Development Survey: The view from Long Island and the NY Metro Area” 2011.



- The Primary and Secondary Market areas represent high earning income households with about 40 percent households earning more than \$100,000 per annum in 2015. This percentage is expected to grow to about 45 percent by 2020.

Expenditure Analysis

In order to determine whether additional commercial space may be supported in the local market, it was necessary to conduct an analysis of market demand. This section examines the demand for new business and industry in Downtown Riverhead. The demand is based on several determining demographic and socioeconomic characteristics of the residential population located within the target market areas, household expenditure analysis as well as information obtained through surveys and interviews with key stakeholders.

Current Expenditure

A summary of retail goods and services expenditures for the primary and secondary market areas for 2015 is provided below in **Table 3-23**. This data is useful in understanding how money is spent, and the percentage spent on major items.

**TABLE 3-23
RETAIL GOODS & SERVICES EXPENDITURES**

	PRIMARY MARKET		SECONDARY MARKET	
	Average Amount Spent per Household (HH)	Estimated Total spent within Primary Market Area	Average Amount Spent per Household (HH)	Estimated Total spent within Secondary Market Area
Apparel and Services	\$2,976	\$55,309,143	\$2,115	\$341,693,056
Computer	\$342	\$6,361,489	\$355	\$57,292,374
Entertainment & Recreation	\$4,360	\$81,020,293	\$4,741	\$765,917,707
Food	\$8,045	\$149,500,289	\$8,195	\$1,323,837,304
Health	\$924	\$17,173,289	\$954	\$154,146,890
Household Furnishings and Equipment	\$1,393	\$25,887,326	\$1,480	\$239,122,873
Household Operations	\$2,224	\$41,323,568	\$2,321	\$374,972,392
TOTAL	\$20,263	\$376,575,397	\$20,161	\$3,256,982,596

* Not all categories of expenditures are included in the above table. For a complete breakdown, see the data provided included in **Appendix H-3**.

In the Primary Market Area, the total retail goods and services expenditures exceed \$376 million per year and with an average of \$20,263 per year/household. In the Secondary Market Area, nearly \$3.2 Billion is spent yearly on retail goods and services, with an average of \$20,161 per year/household. Household expenditure data for retail goods and services for both Primary and Secondary Markets are provided in **Appendix H-3**.



Projected Expenditures

The projected expenditure for 2020 within the Primary Market area is calculated (see **Appendix H-3**) and summarized in **Table 3-24** below. The total projected expenditure for 2020 is calculated to be \$440,100,519 which indicates additional \$63,525,122 expenditure that would be available within the Primary Market Area. This additional expenditure is simply a result of increase in 343 new households (as projected) and increased average expenditure of current households from \$20,263 in 2015 to \$23,253 in 2020. The 2020 average expenditure is projected based on increase in median family income from \$77,180 in 2015 to \$88,565 in 2020.

It should be noted that only a portion of \$63,525,122 additional expenditure would be spent in downtown Riverhead. Most of the daily basic needs including food and home furnishing will be satisfied by the businesses located outside of the downtown Riverhead such as the retail corridor along Route 58. However, a small percent of this available expenditure would be actually spent in downtown Riverhead such as restaurants and few daily basic needs for food and groceries. The next section calculates the percent that would be available for spending within the downtown Riverhead.

TABLE 3-24
2020 PROJECTED EXPENDITURES FOR PRIMARY MARKET

	Avg. Expenditure/ Household	Total Expenditure
2015 Expenditure		
From current 18,584 households	\$20,263	\$376,575,397
2020 Expenditure		
From additional 343 new households	\$23,253	\$7,975,616
From current 18,584 households		\$432,124,904
Total		\$440,100,519
Additional Expenditure (2015 - 2020)		\$63,525,122

Future Downtown Expenditure

Downtown Market Share: Downtown market share can be defined as the percent of spending in a downtown compared to the total spending within the Primary Market Area. In order to determine the market share, actual business sales data for the downtown area and Primary Market area (7 minute drive time) were obtained from ESRI Business Analyst. Three (3) sample markets in Long Island including Huntington, Port Jefferson, and Patchogue (see **Appendix H-4**, Retail MarketPlace Profile reports from ESRI Business Analyst) were used to determine future intended capture for Downtown Riverhead. These three downtowns were chosen based upon input received regarding other downtowns that survey respondents visit and input from the Steering Committee. The downtowns are all located in Suffolk County and have had continued success as places to live, play, work and shop (or in the case of Patchogue has recently revitalized and become a successful downtown).

The ratio of actual sales is calculated between the downtown area and primary market areas for individual retail sectors for all three (3) sample markets. For example, a ratio of actual dollar spent on groceries is calculated within downtown area and primary market area based on actual



sales. The market share is calculated for all individual retail sectors and is provided in **Appendix H-5**⁵⁰ and summarized in **Table 3-25**.

Based upon analysis, the average market share of the three (3) example markets in Long Island is approximately 6.47 percent, or the amount of sales within the downtown area compared with total sales in the Primary Market⁵¹. The current market share for Riverhead is estimated at 2.62 percent which is calculated based on actual sales of retail sectors within the downtown area and Primary Market Area. If Riverhead has a comparable market share as the sample downtowns, its sales would increase by an additional 3.85 percent of the Primary Market.

**TABLE 3-25
MARKET SHARE**

	Supply (Downtown)	Supply (7 Min Drive Time)	Market Share
Huntington	\$42,291,213	\$533,855,245	7.9%
Port Jefferson	\$22,666,092	\$430,347,717	5.3%
Patchogue	\$74,262,895	\$1,184,380,478	6.2%
Average Market Share			6.47%
Riverhead Market Share			2.62%
Potential for Additional Market Share			3.85%

Projected Downtown Expenditure: Riverhead downtown expenditure is then calculated by applying the market share calculated in the previous section with the additional available expenditure within the Primary Market area. The calculation is shown below in **Table 3-26** which indicates additional \$17,152,831 would be available to be spent in downtown Riverhead by 2020.

**TABLE 3-26
2020 PROJECTED ADDITIONAL DOWNTOWN EXPENDITURE**

	2020 Projected Expenditure	Downtown Market Share	2020 Projected Additional Downtown Expenditure
Additional new households ⁵²	\$7,975,616	6.47%	\$516,022
2020 Projected Expenditure from current 18,584 households	\$432,124,904	3.85%	\$16,636,809
Total	\$440,100,519		\$17,152,831

⁵⁰ Note that Appendix I-2 provides an economic analysis of alternative development scenario 2 described herein (and detailed methodology/factors included in the development of alternative scenarios contained in Appendix I. It is noted that the data utilized for Market Share was prepared prior to 2020 projection becoming available.

⁵¹ A seven (7) minute drive time radius has been used as the Primary Market Area for these three (3) example markets because most have retail centers located within this distance.

⁵² Per demographic projections within the Primary Market Area.



Additional Supportable Commercial in Downtown

The additional \$17,152,831 available for expenditure within the downtown Riverhead would generate demand of retail and service sectors, either new or expansion of existing facilities. Average sale/SF of \$284.30⁵³ is used to calculate the amount of additional square feet of commercial space that can be supported by an increase in expenditures and is shown below in **Table 3-27**. The total amount of retail and commercial space that can be supported within the downtown Riverhead as a result of \$17,152,831 additional expenditure is estimated to be 60,334 SF.

TABLE 3-27
ADDITIONAL SUPPORTABLE RETAIL/ COMMERCIAL (2018)

2020 Projected Additional Downtown Expenditure	Avg. Sales/ SF (ULI/ICSC)	Supportable Retail/Commercial (SF)
\$17,152,831	\$284.30	60,334 SF

It is further noted that this 60,334 SF of additional retail/commercial space is essentially due to increase in number of new households and increase in the median family income. It is assumed that the overall improvements within downtown Riverhead will result in more reliance on retail and services provided within the downtown Riverhead to satisfy the demands on local residents similar of the other successful downtowns in Long Island such as Huntington, Port Jefferson and Patchogue. The additional expenditures could also be absorbed by businesses that locate within existing vacant space in downtown Riverhead.

The alternative development scenarios for the BOA Study Area have been prepared and are described in **Appendix I** of this report as well as the additional residential and non-residential square footage that can be reasonably accommodated in Riverhead Downtown area. The future development within the entire BOA Study Area is also described and resulting floor area for individual uses is calculated. The economic impact of alternative development scenario 2 including resulting additional employment is provided as **Appendix I-2**.

Preliminary Findings and Recommendations

- In the Primary Market Area, the total retail goods and services expenditures exceed \$376 million per year with an average of \$20,263 per year/household.
- The projected expenditure for 2020 is calculated to be \$440,100,519 within the Primary Market Area which indicates additional \$63,525,122 would be available for expenditure.
- The average market share of the three (3) example markets in Long Island including Huntington, Port Jefferson, and Patchogue is estimated to be 6.47 percent. The current market share for downtown Riverhead is estimated to be 2.62 percent. The analysis evaluates the additional commercial square footage of space that could be supported if downtown Riverhead was able to increase its market share by an addition 3.85 percent.

⁵³ The average sales per square feet is obtained from ICSC/ULI.



- By 2020, additional \$17,152,831 would be available to be spent within the downtown and it would support approximately 60,334 SF of retail and commercial space.

Leakage Analysis

In order to quantify the opportunity for new commercial development within downtown Riverhead, a leakage analysis was conducted. For the purpose of this analysis, the demand represents the average consumer expenditures (in 2015) among households located within the target market area – split into the primary market area and the secondary market area – for various types of retail. The supply represents the actual sales revenues generated by the existing businesses located within the target market area, as of the fourth quarter of 2014. The difference between the demand and the supply indicate a leakage or a surplus in the local retail market. A leakage or surplus is differentiated and quantified through a leakage factor – ranging from negative 100 percent (-100 percent) to 100 percent (+100 percent). A factor of -100 percent indicates a complete market surplus, where demand is zero. A factor of 100 percent indicates a complete leakage, where supply is zero.

A leakage emerges when the demand exceeds the supply. This typically occurs when consumers purchase goods from outside of the target market area. This may be indicative of the nonexistence of retailers within the target market area, or of retailers with greater selection and/or better prices elsewhere, including non-store retailers and sales occurring through mail-order sources such as catalogs and online shopping sites. The existence of a leakage indicates that there remains untapped retail potential in the target market area, and it is likely that there exists demand for a given product and/or service. As such, additional opportunities within a specific industry are likely to exist within the target market area.

A surplus emerges when the supply exceeds the demand, or when retailers are able to attract persons residing outside of the target market area. Such a surplus is likely indicative of specialty retailers, or those retailers with greater selection and/or better prices than in neighboring communities. The existence of a surplus indicates that the local demand has been met. As such, additional retailers within such an industry are likely not demanded and may saturate the target market area. However, it is important to note that the existence of a surplus may also indicate the presence of a niche market. A niche market is one that has been identified as having a special attribute, unique from others, that stands out from the competition, and thus becomes a place that is able to be marketed to residents, new business prospectors and visitors alike. It is important to differentiate between the two types of surpluses, and apply the appropriate rationale when forming recommendations for uses that would best serve the target market area.

In order to determine the specific industries with local retail potential (and therefore the industries that should be targeted for development within Downtown Riverhead), a leakage analysis was conducted specific to the target market area.⁵⁴ Data specific to both the current

⁵⁴ A leakage analysis is considered to be the industry standard when examining the relationship between market demand and existing supply during the preparation of a commercial market analysis. However, there are other factors specific to the project site that will influence the decision to locate within a given community, and ultimately determine whether retail establishments within specific industry sub-sectors will succeed within the local market. This is especially true in the Long Island market, which is vastly different than other suburban communities throughout New York State and the nation.



consumer expenditures and actual business sales data within the primary and secondary market areas were obtained from ESRI Business Analyst, to calculate the difference between the demand and the supply within both the primary market area and the secondary market area (see **Appendix H-6**, Retail MarketPlace Profile reports from ESRI Business Analyst). Data for both demand and supply are based upon household expenditures and actual sales receipts, generated through available data from the Census of Retail Trade from the United States Census Bureau.

The leakage analysis accounts for both physical retailers/food and drink establishments, as well as non-store retailers (NAICS 454: Non-Store Retailers). According to the North American Industry Classification System (via the U.S. Census Bureau), non-store retailers include mail-order sources such as catalogs and online shopping sites, as well as sales stemming from door-to-door solicitation, portable stalls and vending machine operators, in addition to establishments engaged in the direct sale of products, and newspaper delivery service providers.

An examination of consumer spending patterns was conducted, and compared to retail sales data within the target market area.⁵⁵ The supply (retail sales) of all retail trade establishments and food services and drinking places within the primary market area exceeds the demand for such retail by 43.9 percent, or by approximately \$571,415,445. This retail surplus represents the total sales that retail goods and services are attracting from outside of primary market area. Contrary to primary market area, the demand for the retail trade and food and drinks exceeds the supply for such retail by 12.5 percent or by approximately \$818,097 in the secondary market area. This retail gap represents the opportunity for additional retail that can be supported from current demand.

The retail surplus within the primary market area indicates that the existing businesses are not only able to capture significant consumer demand from those residing within the target market area, but also they are able to capture an abundance of demand from consumers residing outside of the target market area – including those employed within the target market area, in addition to visitors and others passing through the community. Among other rationale, this can be attributed to the existence of relatively wealthy households in the target market area, as well as specialty retailers and the historic Downtown Riverhead setting that is successful in drawing consumer demand from outside of the immediate community.

While much of the demand for goods and services is satisfied by the retailers along Route 58, there are several business segments where demand is quite strong, as reflected in significant gaps between consumer spending and sales – extending beyond the primary market area, and into the secondary market area as well. These gaps indicate success potential, with demand that is likely large enough to support additional establishment(s) within the target market area. Industries in both the primary and secondary market that exhibit a retail gap include:

- Auto parts, accessories and tire stores;
- Furniture stores;

⁵⁵ This includes stand-alone retail trade and food and drink establishments, as well as those located within all types of shopping centers and downtown settings.



- Specialty food stores (including meat markets, fish and seafood markets, fruit and vegetable markets, bakeries and/or candy stores)
- Book, periodic and music stores;
- Other general merchandise stores (including warehouse clubs and supercenters);
- Florists;
- Full-service restaurants (or sit-down restaurants where patrons generally order and are served by wait staff); and,
- Special food services (including food service contractors, caterers and mobile food services).

Community input supplemented the data and indicated the need for additional places to eat and socialize (coffee shops, other venues to hear live music), the desire to attract a grocery store to the downtown, and unique shops.

Whereas Route 58 can continue to be a retail corridor and meet the needs of the primary and secondary market areas, the downtown and gateway has an opportunity to position itself as a destination for visitors to enjoy entertainment and attractions, the riverfront environment, social venues and unique shops. Annual visitor data to nearby attractions was used to identify potential additional market for new downtown expenditures, assuming a small percentage of visitors could be drawn downtown. **Table 3-28** provides a conservative example of how additional expenditures could be accommodated by additional venues and shops in downtown Riverhead if only 1 percent of visitors to Tanger, the Aquarium, the Courts and other cultural venues were enticed through marketing campaign or other strategies to visit downtown (or in the case of downtown places - to stay to shop and or eat). A nominal spending value was applied to be conservative (\$25 per person for visitors to the aquarium and Tanger, \$15 for other venues and \$10 for Court visitors). (It is noted that while a 1 percent capture rate was assumed, the value was reduced to account for multiple trips by the same person). Based upon this analysis, nearly \$1.65 million could be diverted to downtown venues.

TABLE 3-28
ANNUAL VISITORS AND POSSIBLE NEW DOWNTOWN EXPENDITURES

	Annual Visitors	Visitor to Downtown (1% Capture)	10% Reduction to Account for Multiple Trips	Avg. Expenditure/ Visitor (\$)	Total Annual Expenditure in Downtown
Tanger	6.67 million	66,700	60,030	\$25	\$1,500,750
Aquarium	350,000	3,500	3,150	\$25	\$78,750
Other Cultural Visitors	465,000	4,650	4,185	\$15	\$62,775
Court Visitors	80,000	800	720	\$10	\$7,200
TOTAL					\$1,649,475



The mix of uses and percentages can show the difference between a successful destination downtown and an unsuccessful downtown. In the case of Riverhead in comparison with several locally successful downtowns, the mix of uses is fairly consistent with others - with a few noticeable differences. **Table 3-29** illustrates the business mix of six downtown areas (including Riverhead) based upon ESRI's Business Summary Reports which utilizes data provided by Dun & Bradstreet, Inc.⁵⁶ It is noted that this data does not provide a complete inventory of businesses in an area; however, is useful as a general comparison and can provide interesting insight into what businesses would be needed to attract additional visitors to the downtown. Riverhead, being situated near the County Courts and as the County Seat, has higher percentages of legal services and financial services. Whereas the other downtown areas have at least 2.5 percent of the businesses in apparel and accessories, Riverhead has no businesses in this category. In addition, under the miscellaneous retail category, which would include unique shops and gift stores, this accounts for under 4 percent in Riverhead, whereas in the other downtowns, the percentage is between 5 percent and 10 percent of the business mix. In addition, of all of the downtowns analyzed, Riverhead has the lowest percentage of eating and drinking places. Thus, if Riverhead were to emulate the successes of other downtowns by having a comparable mix of business as other destination type downtowns, additional shops and restaurants are needed. However, as noted previously, this is only one tool for identifying the 'ideal' mix of uses.

⁵⁶ Source: Copyright 2013 Dun & Bradstreet, Inc. All rights reserved.



TABLE 3-29
BUSINESS SUMMARY COMPARISON OF DOWNTOWNS

	Riverhead Businesses	Port Jefferson Businesses	Huntington Businesses	Patchogue Businesses	Greenport Businesses	Babylon Businesses
by SIC Codes	Percent	Percent	Percent	Percent	Percent	Percent
Agriculture & Mining	1.3%	1.9%	1.9%	0.6%	2.4%	1.0%
Construction	3.9%	4.9%	3.6%	5.8%	6.0%	4.7%
Manufacturing	2.6%	2.5%	2.3%	2.3%	1.2%	2.6%
Transportation	1.3%	1.2%	1.3%	2.3%	3.6%	2.1%
Communication	1.3%	0.6%	0.6%	1.8%	0.0%	0.5%
Utility	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%
Wholesale Trade	3.9%	3.7%	3.9%	2.9%	6.0%	5.2%
						0.0%
Retail Trade Summary	18.2%	25.3%	23.0%	23.4%	29.8%	20.4%
Home Improvement	1.3%	0.6%	0.6%	0.6%	1.2%	0.5%
General Merchandise Stores	0.0%	0.6%	0.3%	0.6%	0.0%	0.0%
Food Stores	3.9%	1.9%	2.9%	2.9%	3.6%	3.7%
Auto Dealers, Gas Stations, Auto Aftermarket	1.3%	1.2%	0.6%	1.8%	0.0%	1.0%
Apparel & Accessory Stores	0.0%	3.1%	2.6%	2.9%	4.8%	2.6%
Furniture & Home Furnishings	1.3%	1.9%	1.0%	1.8%	1.2%	0.5%
Eating & Drinking Places	6.5%	6.8%	7.8%	7.8%	10.7%	6.8%
Miscellaneous Retail	3.9%	9.3%	6.8%	5.3%	8.3%	5.2%
						0.0%
Finance, Insurance, Real Estate Summary	11.7%	9.3%	9.4%	8.8%	4.8%	8.4%
Banks, Savings & Lending Institutions	2.6%	1.2%	1.0%	1.8%	1.2%	1.6%
Securities Brokers	1.3%	1.2%	1.0%	0.6%	0.0%	0.5%
Insurance Carriers & Agents	3.9%	1.9%	2.9%	2.9%	1.2%	1.6%
Real Estate, Holding, Other Investment Offices	3.9%	4.9%	4.2%	3.5%	2.4%	5.2%
						0.0%
Services Summary	53.2%	49.4%	53.7%	50.3%	45.2%	55.0%
Hotels & Lodging	0.0%	0.6%	0.0%	0.0%	2.4%	0.0%
Automotive Services	1.3%	0.6%	1.0%	3.5%	1.2%	0.0%
Motion Pictures & Amusements	2.6%	3.7%	3.6%	2.9%	3.6%	3.7%
Health Services	7.8%	11.1%	15.2%	8.8%	8.3%	9.9%
Legal Services	10.4%	3.7%	6.1%	5.3%	1.2%	5.8%
Education Institutions & Libraries	2.6%	1.2%	1.3%	1.8%	1.2%	1.6%
Other Services	29.9%	28.4%	26.5%	27.5%	28.6%	34.0%
						0.0%
Government	2.6%	0.6%	0.6%	1.8%	1.2%	0.5%
						0.0%
Totals	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Another analysis completed for the Economic and Market Trends analysis included a review of common attributes of successful downtowns on Long Island and in other waterfront areas and preparation of a comparative matrix. The matrix illustrated that Riverhead has most of the features that other successful downtown destinations have, with the exception of a multitude of unique shops, a community center, a lively nightlife scene, and a movie theater. These features, interestingly, were all features that were identified as needs for the area through the community survey and other outreach conducted during the Nomination Study.

Tapestry Segments

To identify the lifestyle characteristics and housing preferences of various market areas, an evaluation of top household tapestry segments was performed. ESRI Business Information Solutions uses demographic information such as labor force characteristics, median income, age, and spending habits to categorize neighborhoods according to a trademarked Community Tapestry classification system and has named each segment to reflect the group characteristics. **Table 3-30** identifies the top tapestry segments in the Primary Market Area. To classify the lifestyle characteristics and housing preferences of various market areas in the Primary Market area, an evaluation of top household tapestry segments was performed. ESRI Business



Information Solutions uses demographic information such as labor force characteristics, median income, age, and spending habits to categorize neighborhoods according to a trademarked Community Tapestry classification system and has named each segment to reflect the group characteristics. The full Tapestry Segmentation Area Profile for the Primary Market area is provided in **Appendix H-7**, and a general description is provided below.

The 65 tapestry segments defined by ESRI Business Information Solutions have been classified into 12 Life Mode Groups. These Life Mode Groups represent markets that share a common experience or a significant demographic trait and are frequently based on common lifestyle and life stage. Within the Primary Market Area, the three dominant life mode groups are “Upscale Avenues”, “Affluent Estates”, and “Senior Styles” which are described below:

- Within the Primary Market Area, there are 5,103 households (27.5% of the total) are classified within the “Upscale Avenues” life mode segment. This life mode group is characterized by well-educated residents with above average earnings who have typically earned their success from years of hard work. The median household income for this group is \$65,912 and residents frequently invest money in their homes. Common leisure activities include golf, weight lifting, bicycling, and domestic travel.
- There are 3,495 households (18.8%) within the “Affluent Estates” life mode group within the Riverhead Primary Market Area. The “Affluent Estates” life group includes wealthy and well-educated residents that seek a variety of activities. This group is characterized as being socially responsible and aim for a balanced lifestyle. The median household income for the “Affluent Estates” is \$157,000.
- The “Senior Styles” life group consists of 3,324 households which represents 17.9% of the households in the Primary Market Area. This life group consists of many seasonal yet owner occupied housing units, including a large amount of mobile and single family homes. The median household income is \$35,000 however a large portion of this group is at or near retirement age.

Table 3-30 identifies the top three tapestry segments represented in the Primary Market Area⁵⁷. A general description of the top tapestry segments represented within the Primary Market area is provided below with profiles provided in **Appendix H-7**.

TABLE 3-30
TOP TAPESTRY SEGMENTS IN PRIMARY MARKET AREA - 2015

Tapestry Segment	Percent of Households
Pleasantville	22.6%
Senior Escapes	13.6%
City Lights	9.8%
Source: ESRI Business Analyst	

⁵⁷ Profiles of these population groups are available at:
http://downloads.esri.com/ESRI_CONTENT_DOC/DBL/US/TAPESTRY/TAPESTRY_FLIERS_ALL_0914.PDF.



Pleasantville

The Pleasantville Tapestry Segment is within the Upscale Avenues Life Mode described above. Pleasantville is the dominant segment represented within Riverhead's Primary Market Area with approximately 4,193 households (22.6% of the total households). The following provides general characteristics of the Pleasantville segment:

- **Demographic:** Prosperous domesticity distinguishes the settled lives of Pleasantville residents. Families, especially middle-aged married couples, characterize Pleasantville neighborhoods. The average household size is 2.86; many families have adult children living at home or have transitioned into empty nesters. The median age of 41.9 years is slightly older than the U.S. median of 37.6 years.
- **Socioeconomic:** Among Tapestry's upscale segments, these residents have a median household income of \$85,000 and a median net worth of \$285,000. Employed residents work in a variety of occupations including finance, information/technology, and management. Income is primarily earned from salaries but there is a significant amount of income from investments and retirement income which is expected to increase in the coming years. This group is well educated with about 64% of residents having a college education and 34% holding a Bachelor's degree or higher.
- **Residential:** Residents of Pleasantville neighborhoods live in single-family homes; nearly half of these homes were built between 1950 and 1970. Despite the fluctuation in housing values over time, homeownership remains high at 83.6 percent and a low percentage of vacancies (4.7%). The median home value is \$312,000. To maintain their comfortable lifestyle, 12 percent commute an hour or more to work. Transportation is important; two-thirds maintain two or more vehicles.

Senior Escapes

The Senior Escapes tapestry segment is within the Senior Styles life mode group described above. Within the Primary Market Area, there are 2,535 Senior Escapes housing units which represents 13.6% of the total housing units in the market area. The following provides general characteristics of the Senior Escapes segment:

- **Demographic:** Many Senior Escapes neighborhoods began as seasonal gateways and now serve as primary residences. These neighborhoods are heavily concentrated in warmer states, however, there are clusters located in eastern Long Island and other areas of the country. The average household size is 2.19 and the median age is 52.6, which is significantly older than the U.S. median. About one third of households are single-person households and an additional one third consists of married couples without children.
- **Socioeconomic:** The median household income is \$35,000, derived from retirement and Social Security income since labor force participation is low. The median net worth is \$84,000 which is slightly higher than the U.S. median of \$71,000. This group is characterized by living within their means, avoiding carrying balanced and credit cards, and the majority of homes have already been paid off.
- **Residential:** A mix of mobile homes and single-family dwellings, these neighborhoods consist of primary and secondary homes located in rural or semirural areas. Approximately 75% of homes are owner-occupied and over half do not have a mortgage. The median home value is \$110,000 which is less than the U.S. median of \$177,000.



City Lights

The City Lights tapestry group is within the Middle Ground life mode and includes 1,812 households, which is 9.8% of the total households in the Primary Market Area. The Middle Ground life mode includes millennials and a combination of single/married, renters/homeowners, and middle class/working class. The majority of Middle Ground residents have attended college and spend a significant amount of time online. The following provides general characteristics of the City Lights segment:

- Demographic: The City Lights tapestry segment is a densely populated urban market characterized by residents with a passion for social welfare and equal opportunity. The common household types range from single person to married couples with children. These neighborhoods tend to be racially and ethnically diverse. The median age is 38.8 and the average household size is 2.56.
- Socioeconomic: Many residents have completed some college or have earned a college degree, and earn a good income in professional and service occupations. The median household income is \$60,000 and the median net worth is \$64,000. Although their incomes are above average, net worth is lagging behind the national median of \$71,000. There is a high amount of labor force participation and residents often save for the future in order to buy homes. Residents work hard in professional and service operations, but also seek to enjoy life.
- Residential: These diverse neighborhoods are primarily in the Northeast. There are a variety of housing types within this segment including single-family homes, townhouses, and apartment buildings. Housing is older than the U.S. average as nearly two-thirds of structures were built before 1970. Approximately half of the homes are owned and half are rented.

Common Spending Pattern and Preferences

The common spending pattern and preferences of the top three tapestry segments in the Primary Market Area is tabulated and provided in **Table 3-31**.

**TABLE 3-31
COMMON SPENDING PATTERNS AND PREFERENCES
OF THE TOP THREE (3) TAPESTRY SEGMENTS IN THE PRIMARY MARKET AREA**

Spending Category	Pleasantville	Senior Escapes	City Lights
Dine Out	Occasionally to family friendly restaurant	Denny's, Golden Corral, Cracker Barrel	Health conscious; purchase low fat and low calorie food; buy groceries at Kroger and Stop & Shop
Shopping	Warehouse and Department stores	Stock up on good deals	Price savvy but will pay for quality brands that they trust; Target, Walmart
Home Improvement	Home Improvement projects are priority		Spend more on home furnishing than home improvement
Entertainment	Family oriented; theme parks, baseball games	TV, cruises, Bingo, boating/fishing, gardening	Travel, cruises, movies, HBO, visit Atlantic City



Review of the table above indicates that there is common interest of price-savvy shopping by actively seeking out deals on products and utilizing department stores. The Pleasantville and Senior Escapes residents typically dine at family friendly and affordable restaurants, while the City Lights residents are focused on healthy food options. Home Improvement projects are a priority for Pleasantville residents which indicates potential need for home improvements contractors, while City Lights focus more on furnishing than home improvement. The Pleasantville entertainment needs are mostly family oriented and therefore suggest potential need for such type of entertainment activities and facilities where children of all ages can also participate.

3.5 Development and Analysis of Alternative Development Scenarios

Based upon input from the Town and community and in consideration of the inventory and analysis, the detailed demographic profiles and the economic and market trends analysis, NP&V developed three alternative development scenarios for the BOA Study Area. The alternatives were developed at two “levels”: the DC-1 level, and the overall BOA Study Area level. For purposes of this discussion, they are referred to as DC-1 Scenarios and BOA Scenarios.

First, the three development scenarios were assessed on a parcel-by-parcel basis for the properties within the DC-1 zoning district, which encompasses downtown Riverhead. Downtown Riverhead provides the greatest density of built environment within the entire BOA Study Area, especially within the DC-1 (Main Street) Zoning District. Therefore, the alternative build-out scenarios for DC-1 District were analyzed in detail prior to developing the alternative development scenarios for the entire BOA Study Area. The DC-1 Scenario 1 is based upon the existing development in the area and assumes that 80 percent of the vacant storefronts in downtown Riverhead are filled, and accounts for those developments that are currently planned for implementation. Input with respect to the type of uses desired by the community, such as a grocery store, and need to redevelop the train station block, were considered in the selection of critical sites and mix of uses.

Two future alternative development scenarios were also analyzed. Scenarios 2 and 3 represent lesser build alternatives for the DC-1 zoning district, as the buildouts represent more realistic scenarios taking into consideration market trends; the buildout also reflects what could reasonable occur within a ten-year timeframe. The results of these analyses, in terms of potential development, is described in **Appendix I-1**. The three scenarios are:

- DC-1 Scenario 1: Baseline conditions, based on current zoning regulations. Under full buildout, the DC-1 district could theoretically accommodate an additional 1,841,703 square feet gross floor area of additional space. The land use mix is described in Table 3 of Appendix I-1.
- DC-1 Scenario 2: Assumes a floor area ratio of 1.75 for the applicable developable properties. Under this Scenario, the DC-1 district could theoretically accommodate an additional 448,314 square feet gross floor area of additional space. The land use mix is described in Table 3 of Appendix I-1.
- DC-1 Scenario 3: Assumes a floor area ratio of 1.62 for the applicable developable properties. Under this Scenario, the DC-1 district could theoretically accommodate an additional 390,553



square feet gross floor area of additional space. The land use mix is described in Table 3 of Appendix I-1.

Subsequently, the three Scenarios for the DC-1 district were incorporated into three alternative development scenarios for the overall BOA Study Area. Sites within the BOA Study Area for which development was evaluated are illustrated on **Plate 2**. The three BOA Study Area scenarios are as follows:

- BOA Scenario 1: Baseline conditions, based on full buildout under current zoning regulations. This development alternative is the same as the base conditions analysis used for the traffic impact analysis and “Transit Oriented Development (TOD) Growth Plan,” dated January 2014, a separate report prepared in connection with the BOA Nomination Study.
- BOA Scenario 2: This development alternative assumes the most ideal development scenario on all of the proposed sites including the conceptual plans included in **Section 4.0** of this BOA Study and this level of development provided the basis of analysis used for the traffic impact analysis and “Transit Oriented Development (TOD) Growth Plan,” dated September 2015. It also incorporates the DC-1 District Scenario 2 buildout. Below are some of the key highlights of Development Alternative 2:
 - Site W3: Redevelopment of 87 Lumber in to an approximately 10,000 SF visitor center with food court and rail spur for scoot train;
 - Site C1: Redevelopment of properties located at the corner of Mill Road and Route-25 to Peconic Landing providing approximately 9,600 SF of retail, gift shops, restaurants, approximately 8,000 SF of bed and breakfast, and conversion of 3 existing residential homes to rental cottage;
 - Site D1: Redevelopment of the train station block to a coordinated mixed-use development providing approximately 30,000 SF of retail and approximately 95 residential apartment units along with a 4 story parking garage providing approximately 882 parking spaces;
 - Site D4: Redevelopment of a portion of the block between Griffing Ave and Osborn Ave to an approximately 14,000 SF Grocery Store and approximately 7,000 SF retail strip along with 2 story parking garage providing approximately 120 parking spaces;
 - Site D6: Redevelopment of DC-1 District to Scenario 2 as described in previous section providing an additional 69,092 SF of retail and restaurant, approximately 54,020 SF of office/other similar use, and approximately 325 additional apartment units; and
 - Site E3: Redevelopment of existing Auto Salvage (Gershow) into a multi-family development providing approximately 28 residential units. The existing site is approximately 5.9 acres and is zoned CRC (Commercial Residential Campus). FAR of 0.2 is permitted within this zone for a development without a public sewer. FAR of 0.2 would yield 51,400 SF of building floor area. Assuming 1,800 SF average size of a townhome, this site would yield approximately 28 townhomes.

All development envisioned under the BOA Scenario 2 is set forth in Table 5 in **Appendix I-1**. The following summarizes key parameters of BOA Scenario 3:

- BOA Scenario 3: The primary difference between this alternative and BOA Development Scenario 2 is the level of development within the DC-1 district (it is based on DC-1 Scenario 3) and as follows:



- Site W3: Redevelopment of 87 Lumber to a multiplex/ IMAX theater with food court;
- Site D1: Redevelopment of train station block to a multiplex with parking structure; and
- Site D6: Redevelopment of DC-1 District to Scenario-3 as described in previous section providing an additional 69,092 SF of retail and restaurant, approximately 54,020 SF of office/other similar use, and approximately 267 additional apartment units.

All development envisioned under the BOA Scenario 3 is set forth in Table 6 in **Appendix I-1**. Ultimately, one objective to establishing alternative development scenarios was to identify the most ideal development scenarios supported by the community that would also likely be feasible. The evaluation assisted in assessing where impacts and demands on public infrastructure could occur, and be realistically accommodated or mitigated.

An economic analysis using IMPLAN software was conducted of Alternative Development Scenario 2 and the results are included in **Appendix I-2**.⁵⁸ IMPLAN estimates local economic multipliers, including those pertaining to production, value-added, employment, wage and supplier data. For the purpose of this analysis, multipliers specific to socio-economic data in Suffolk County were analyzed to determine the direct, indirect and induced economic impacts during both the short-term construction period and during annual operations of the Scenario 2 buildout.

The alternative development scenario evaluation also included an evaluation of a “Sustainable Development Density Bonus”. The Sustainable Development Density Bonus would be used to encourage sustainable design. **Appendix I-1** describes a theoretical program which could be implemented. Bonus density criteria Type I and Type II could be provided for projects which do not seek LEED certification but that provide sustainable approaches, e.g., to address water efficiency and the reduction of potable water use for sewage conveyance. Bonus density criteria Type III could be granted for LEED Certification⁵⁹ which includes bonus density criteria Type I and Type II. Bonus density criteria Type IV, V, VI would be granted for higher LEED standards, LEED Silver, LEED Gold, and LEED Platinum respectively. These criterion are set up such that any project can have either Type I, or Type II or Type III or Type IV or Type V or Type VI. The bonus density is incremental based upon the difficulty level (and commensurate additional investment required on the part of the applicant) from one level to the next. A resulting floor area ratio calculation is provided as **Table 8** in **Appendix I-1** for the DC-1 (Main Street) district only.

Feasibility of a new TDR program was also evaluated that could apply, for example, to properties within the Recreational Area of the WSRR, primarily along the south side of West Main Street (NYS Route 25). The land on the south side of West Main Street would become the sending area and would be preserved and put into passive public use for enjoyment of the Peconic River. The development rights could be transferred to the DC-1 District and possibly

⁵⁸ Minnesota IMPLAN Group developed an economic impact modeling system known as IMPLAN, short for “impact analysis for planning”. The program was developed in the 1970s through the United States Department of Agriculture’s Forest Service, and was privatized in 1993.

⁵⁹ There are 40-49 points that a project must achieve for LEED Certification. Water conservation and reduction of potable water use for building sewage conveyance are part of LEED Certification.



other areas of the downtown, which would become the receiving area. The Town Comprehensive Plan envisioned use of the Town's TDR program to allow additional density (FAR of 5.0) in the DC-1 District. However, the recommendation has not been implemented to date.



4.0 SUMMARY OF ANALYSIS, FINDINGS & RECOMMENDATIONS

This section documents the key findings and recommendations of the evaluations set forth in **Section 3.0** of this Step II BOA Study. It includes an identification of the key strategic sites and areas that present the best opportunities for redevelopment, which in turn will serve as catalysts for revitalization of the BOA Study Area as a whole.

The BOA Study Area is approximately 495 acres in size and is generally situated along NYS Route 25 between the Long Island Rail Road (LIRR) to the north and the Peconic River to the south (with some exceptions at the outer reaches where parcels to the north of the LIRR are included). The Study Area stretches approximately 1.03 miles from west to east generally from the eastern end of the Long Island Expressway (LIE) east to Hubbard Avenue and also encompasses an area north of Main Street in downtown Riverhead. For the purpose of this analysis, the overall BOA Study Area has been divided into four Subareas based on land use patterns and the location of potential strategic BOA sites. The Study Area and Subareas (West, Central, Downtown and East) are depicted on **Figure 1-4**.

The BOA Study Area presents a number of challenges and opportunities, some of which are site specific and some which are general in nature and apply to the entire Study Area. The previous sections of this Nomination Study mainly provide an inventory and analysis of broad topics including land use and zoning, natural resources, and transportation. In addition, the Study has provided data and analyses which can inform future land use and other decisions towards realization of revitalization of the Study Area (such as a full demographic analysis, the Economic and Market Trends Analysis, and the Transit Oriented Development Growth Plan).

This section also discusses each of the issues and opportunities that are present in the BOA Study Area. The discussion includes an evaluation of site specific issues as well as obstacles for future growth and development. **Plate 1** provides an overall Issues and Opportunities Plan. This section provides a summary of the analyses and recommendations by resource area and where applicable, specific recommendations by subarea.

4.1 Land Use, Zoning, and WSRR

The purpose of this section is to provide a summary of analyses included in previous sections and to apply the findings as recommendations for achieving the goals of the Town of Riverhead including the future development and redevelopment of an individual site or group of parcels.

Sketches of certain blocks of the BOA Study Area are provided, illustrating concepts for future development and redevelopment. The sketches evolved by first identifying a site, which could consist of a parcel or groups of parcels, in need of revitalization, which pose negative impacts on the environment and on the community, or which provide an opportunity to meet a community need. Current site conditions and challenges were documented. Community preferences for these sites were determined through the feedback received via a public workshop. It is important to note that the concept sketches illustrate potential layouts for planning purposes. Ultimately, the site-specific layouts would be determined at such time a land use application is advanced.



At present, the DEC WSRR regulations and Town of Riverhead zoning law govern the permissible land uses within the Study Area (and to some extent, historical land use plays a part). This section describes findings and recommendations related to land use, zoning and the WSRR for each of the four subareas. The sites are shown on **Plate 2. Table 4-1A** provides a summary of all sites included in the alternative development scenarios, including those sites that have been identified as strategic because of their potential to be transformative are described in detail. The sites are as follows:

**TABLE 4-1A
 DEVELOPMENT SITES**

Subarea	Site ID	Strategic Site ID	Acres	Description
West	W1	1	13.81	Former Duck Farm – Consider redevelopment for river-oriented lodging or six-single family dwellings.
	W2		1.55	Dynamic Auto - This site was selected as strategic due to its prior and current automotive land use and its prominence as a gateway. If the DEC approves the change in designation, conforming commercial use is recommended.
	W3	2	5.52	84 Lumber - Future redevelopment as a visitor center with a food court. Because of its size and ample frontage on West Main Street, the property could accommodate a large building and a large area of surface parking appropriate for this type of use including a multiplex theater. In addition, the existing rail spur could provide an opportunity in the future for a shuttle train providing “scoot” service.
	W4		0.84	AutoLab - Develop with a compatible commercial use.
	W5	3	16.2	Former Bridge View Duck Farm - Reuse site for residential use or lodging/campground with the provision of sewer or alternative treatment. An alternative to redevelopment that would provide benefit is acquisition for public recreational use.
	W6		1.66	Industrial/outdoor storage - Develop with compatible commercial use of same size building.
	W7		1.33	Vacant Propane Business – Develop for 4,500 square feet gross floor area (gfa) of compatible commercial use. Yield is as per WSRR requirements.



Subarea	Site ID	Strategic Site ID	Acres	Description
Central	C1	4	1.38	<p>Peconic Overlook (Dare to Dream Concept) - This location is envisioned as a gateway to Downtown Riverhead and provides opportunities to be developed collectively as “Peconic Overlook”. Consolidate ten parcels and coordinate development which takes into consideration the surrounding restaurants, ice cream shops, and existing residences to provide a cohesive development which not only attracts visitors but also improves the existing land use, water quality and overall environment of this area. The existing residential single family homes are proposed to be re-used as rental cottages, and the existing fish market and restaurant is integrated in the design.</p> <p>The concept plan shows 9,600 SF of mixed retail and a café, an 8,000 SF Bed & Breakfast, a parking lot providing 40 parking spaces surrounding the existing Buoy One fish market and restaurant, a boat/canoe launch, a river walk, and open space with seating areas and picnic tables, and a stormwater management plan designed on the principles of green infrastructure. The plan also includes a landmark (such as a water fountain or something similar) which will emphasize this is a gateway to Downtown Riverhead.</p>
	C2		3.81	Former MOSF Site – Develop in conjunction with C8. Redevelop with 20,000 square feet gfa compatible commercial use.
	C3		3.89	Blackman Plumbing – New showroom with 40,000 square feet gfa approved.
	C4		1.49	National Propane – compatible commercial use of 6,000 sf gfa building.
	C5		10.84	Mix of light industrial/commercial uses. Create a Planned Business Park.
	C6		1.93	Art Sites – develop with alternative compatible commercial use.
	C7	<i>Note that C7 was eliminated from map/analysis</i>		
	C8		2.06	Office building – Potential redevelopment site in conjunction with C2. Redevelop with 20,000 square feet gross floor area compatible commercial use.
Downtown	D1	5	3.42	Train Station Block (Dare to Dream Concept) - Redevelop with coordinated mixed-use development. The concept sketch envisions a four (4) story building in the eastern portion of the block providing approximately 30,000 SF of commercial on the ground level and approximately 35,000 SF on each of the upper levels. The 30,000 SF of commercial on the ground level could include 10,000 SF of retail, 10,000 SF of restaurant/eating places, and 10,000 SF of office space. Upper levels are anticipated to be



Subarea	Site ID	Strategic Site ID	Acres	Description
				developed with apartments only of various sizes ranging 900 SF to 1,300 SF. A total of approximately 95 apartment units are envisioned on upper levels. The western portion of the site would be developed with a 4 story parking garage providing approximately 882 parking spaces. Site is located within the Railroad Avenue Urban Renewal Area. Large site could also be used for multiplex theater with parking structure. A change of zone or implementation of an overlay district would be required to allow this level of development. The DC-1 District, which allows a mix of retail and residential use could be considered
	D2		0.74	Vacant building –redevelop with 2,400 SF gfa sit down restaurant.
	D3		0.95	Marathon Motors – Used Car Sales – redevelop with 4,000 SF gfa of compatible commercial use.
	D4		1.82	Grocery Store Site (Dare to Dream Concept) – Redevelop with small format grocery store. Small format grocery stores can range from 10,000 to 20,000 square feet.
	D5		1.08	Fire Department Headquarters – reuse existing building for public use – redevelop with commercial uses and agricultural center.
	D6		47.25	DC-1 District – Rezoning to accomplish reasonable buildout scenario. Redevelopment of DC-1 District to Scenario 2 as described in previous section providing an additional 69,092 SF of retail and restaurant, approximately 54,020 SF of office/other similar use, and approximately 325 additional apartment units.
East	E1		0.52	Vojvoda’s Cleaners – Potential for redevelopment with alternative compatible use.
	E2	6	0.22	Sap Enterprises Auto Repair - Because of its location on Sawmill Creek and the pond, the property provides an opportunity for a small gateway park.
	E3	7 and 8	5.94	Gershow Recycling and adjacent towing company – Reuse for residential purposes; consider increasing residential density to encourage redevelopment with conforming use.

A large portion of the western and a smaller portion the central subareas of the Brownfield Opportunity Area (BOA) Study Area are within the boundary of the NYSDEC-designated Peconic River Recreational River corridor (refer to **Figure 3-3**). The existing stringent regulations on development have been identified as a major obstacle to redevelopment within these portions of the BOA Study Area. The existing “Recreational” designation effectively prohibits industrial/institutional/commercial use development (with the exception of river-related retail) and only allows residential use on a minimum 2-acre lot.



The “Community” designation (which is also protective of the river in appropriately applied areas) would allow limited industrial/institutional/commercial development. This is more in keeping with existing land use and goals for the area as expressed in this BOA Study. The WSRR provides minimum criteria which must be met for Community River designations. A separate analysis (see **Appendix B**, WSRR Analysis and Application to NYSDEC) was conducted to assess the potential to change the designation from the “Recreational” to “Community” classification, for certain properties located along the Long Island Railroad (LIRR) right-of-way and/or along West Main Street in Riverhead between the east end of I-495 and Mill Road. The result of the analysis revealed that there is potential for a new community designation which, if approved by the DEC, would apply to a total of 51 parcels including one (1) parcel of LIRR right-of-way and West Main Street⁶⁰.

4.1.1 Western Subarea

The Western Subarea extends from the western Study Area boundary east to Mill Road. This subarea is fairly rural in character at its western end and transitions to a mix of commercial, light industrial and residential uses towards the Central Subarea. In the more rural portion, land uses include vacant properties, protected open space, former duck farms, a hotel, and a mix of light industrial, commercial and residential uses fronting on West Main Street (generally on the north side). Below are specific issues and opportunities identified for this subarea:

Strategic Site #1 (Dynamic Auto) and Alternative Development Scenario Map ID W2

This property is prominent along the corridor as it is the first property located within the BOA Study Area that one encounters along Route 25 at its westerly end. This site was selected as strategic due to its prior and current land use as an automotive service facility and its prominence as a gateway to the Study Area and downtown. The site is approximately 1 acre in size and is classified “Recreational” under the DEC WSRR. NP&V recommended that this site be redesignated to “Community” which would allow the property to be developed for other uses than allowed at present; however, based upon NYSDEC input on the application for Community designation, it was learned that this site would not be supported for redesignation due to its remote location from the balance of the proposed Community area. Thus, the amended application to the DEC does not include this property. During discussions, NYSDEC staff noted that the redevelopment of this site for an alternative commercial use would be considered, due to its preexisting nonconforming status. A conforming commercial use is recommended and with mitigating features is expected to be feasible. Due to the prior and existing land use, a Phase I ESA is recommended prior to redevelopment to identify potential for environmental contamination of soils and groundwater and provide direction related to necessary testing.

⁶⁰ Which includes two separate “lots”.



Strategic Site #2 (84 Lumber) and Alternative Development Scenario Map ID W3

This former commercial lumberyard is developed with a large storage building which would likely be demolished to support redevelopment on the site. The site is within the WSRR Recreational area which significantly restricts re-use and NP&V recommends that the parcel be reclassified to “Community”. The site is a relatively large parcel (approximately 5.5 acres in size), is highly visible, is located adjacent to an existing rail spur and is in close proximity to the Tanger Outlet Center. These factors present a great opportunity for future redevelopment as a visitor center with a food court. Because of its size and ample frontage on West Main Street, the property could accommodate a large building and a large area of surface parking appropriate for this type of use. In addition, the existing rail spur could provide an opportunity in the future for a shuttle train providing a transit link to the downtown train station - and beyond. As recent as 2012, the LIRR was considering the possibility of providing “scoot” service as a way to increase service opportunities and ridership in eastern Suffolk County.

In the long term, an old steam train could evolve into a major attraction for families and a unique way to encourage Tanger Mall shoppers to make a visit to Riverhead Downtown. An example of a tourist based rail line is located in Mt. Dora, Florida where a steam train travels back and forth between Mt. Dora and Tavares - the train, known as the Orange Blossom Cannonball Express is wholly a tourist attraction - and is very successful. More details regarding this concept are presented in **Section 4.5.3**.

During the outreach, the public also expressed a strong desire for a multiplex in Downtown Riverhead. Several possible sites within the downtown and surrounding area were analyzed conceptually for providing sufficient space for the structure and parking; a site of this size could support a theater.

Strategic Site 3 (Former Bridge View Duck Farm) and Alternative Development Scenario Map ID W5

The Bridge View Duck Farm operated on this site between 1966 and 2001. The site consists of 3 separate tax parcels and is approximately 16 acres in size. This highly visible site on the south side of West Main Street is now overgrown and contains several abandoned deteriorating buildings, three of which are clearly visible from the roadway. The property is located adjacent to the west of a LIPA Row and Suffolk County Parkland and has frontage on the Peconic River.

There are areas of freshwater wetlands on the property which would need to be flagged and surveyed to determine the actual redevelopment potential of the property. The WSRR Recreation designation limits use on the property to residential and limited recreational related retail. Input from DEC Region 1 was obtained regarding the potential for river oriented lodging and it was indicated that such use is compatible with the regulations. The former use as a duck farm could have resulted in subsurface contamination and nutrient rich soil from duck waste contributing to a high nitrogen load to the river. Reuse of the site for a form of residential use with the provision of sewer or alternative treatment or river oriented lodging is recommended.



The property owner is exploring the feasibility of a seasonal camping facility that would include a mix of RV pads with utility hookups, tent sites, and lean-tos (or platform tents) similar to those shown in the image here.



Image courtesy of Parks Canada Website⁶¹

Part of the vision for reuse of the former duck farm is the creation of scenic river access trails & riverfront amenities for fishing and boat access, as well as to restore a duck pond as a swimming hole. The property owner is also considering the incorporation of arts and education components such as an art park, small museum and/or nature education facility.

It is noted that residual waste products from the prior duck farm use (consisting of buried remains, duck sludge) could remain on the site and if present would need to be removed prior to redevelopment. Another benefit that can be achieved through the redevelopment of this site is the removal of invasive species (namely *phragmites australis*) and revegetation of the shoreline with native vegetation that can provide habitat and food sources for local wildlife.

If redevelopment proves to be infeasible, an alternative to redevelopment that would provide benefit is acquisition for public recreational use.

4.1.2 Central Subarea

This subarea is located east of Mill Road along Route 25, to just west of Nugent Drive/CR-94. The western part of this subarea is developed with commercial uses including restaurants, car repair shops, and retail and service businesses. The development density gradually decreases toward the east along West Main Street with mostly single family residential homes along the corridor. The eastern portion of this subarea includes car dealerships and is considered a gateway to downtown Riverhead. The subarea has at least two clear views of the river from West Main Street and sites where there is the potential for enhanced river views. The following provides specific issues and opportunities identified for this subarea:

⁶¹ <http://www.pc.gc.ca/eng/voyage-travel/hebergement-accommodation/otentik.aspx>



Strategic Site #4 - Peconic Overlook (Specific Site Redevelopment Concept) and Alternative Development Scenario Map ID C1

The intersection of W. Main Street and Mill Street includes certain non-conforming uses including auto repair establishments and outdoor storage/ contractor yard. The “Peconic Overlook” area is outlined in bold yellow on the aerial below, and is comprised of ten (10) parcels. The existing land uses include three (3) single family residential homes, an existing fish market and restaurant, office, contractor yard/ outdoor storage areas, and auto repair shop. An existing ice cream shop and small restaurant are located across the street and another existing restaurant is located to the east within walking distance of the site. In addition to conflicting land uses and a relatively poor pedestrian environment, the site aerial also shows land disturbance in close proximity to the Peconic River contributing to deterioration of water quality. This entire area is currently located within the WSRR corridor “recreation” designation which prevents any non-residential use⁶². The subject site is included in the proposal for a WSRR change to the “community” designation⁶³ which would open new opportunities for redevelopment of this area.



Peconic Overlook – Existing Site Aerial

Source: NYS GIS Orthoimagery, 2013 and Town of Riverhead Tax Parcels

⁶² WSRR corridor “recreation” designation allows residential and river oriented commercial such as gift shop, canoe launch etc. These regulations limit the opportunity of the existing non-conforming uses.

⁶³ WSRR change in designation from “recreation” class to “community” class is proposed for fifty-one (51) parcels including ten (10) parcels of subject site and is provided in **Appendix B-2**.



This location is envisioned as a gateway to Downtown Riverhead and provides opportunities to be developed collectively as “Peconic Overlook” as illustrated in the conceptual sketch provided on the following page. The plan considers consolidation of these ten parcels and a coordinated development which takes into consideration the surrounding restaurants, ice cream shops, and existing residential to provide a cohesive development which not only attracts visitors but also improves the existing land use, water quality and overall environment of this area. The existing residential single family homes are proposed to be re-used as rental cottages, and the existing fish market and restaurant is integrated in the design.

The concept plan shows 9,600 SF of mixed retail and a café, an 8,000 SF Bed & Breakfast, a parking lot providing 40 parking spaces surrounding the existing Buoy One fish market and restaurant, a boat/canoe launch, a river walk, and open space with seating areas and picnic tables, and a stormwater management plan designed on the principles of green infrastructure. The plan also includes a landmark (such as a water fountain or something similar) which will emphasize this is a gateway to Downtown Riverhead. In order to limit the land disturbance, as envisioned the existing foundations would be reused. The areas adjacent to Peconic River are shown as replanted and revegetated and a storm water management feature is illustrated at the southeast corner of the site to provide combined onsite drainage and water feature. Care needs to be taken to avoid further filling the 100-year floodplain.



DEC WSRR "COMMUNITY" Regs:
 Max. Lot Coverage: 10%
 Min. Setback from public road: 100'
 Max. Height: 34'

Zoning Regs (PRC District):
 Min. Lot Area: 80,000 SF
 Max. Building Coverage: 20%
 Max. Impervious: 40%
 Max. Building Height: 34'
 Max. FAR: 0.40
 Min. Front Yard: 25'
 Min. Side Yard: 15' each/ 30' combined
 Min. Rear Yard: 50'

Peconic Overlook Sketch:
 Current Zoning: RFC (Riverfront Corridor)
 Lot Area: Overall approx. 60,000 SF
 Building Coverage: Approx. 40%
 FAR: Approx. 0.4
 Impervious Coverage: Approx. 50%

Various zoning relief and/or a new overlay district, and/or WSRR variance may be required.

Sustainable development incorporating LEED building design features and green infrastructure is recommended.

PECONIC OVERLOOK
RIVER ORIENTED RECREATION (MILL ROAD & W. MAIN STREET)





4.1.3 Downtown Subarea

East of Nugent Drive/ CR-94 to Howell Lane). The downtown area exhibits a mix of cultural, commercial, office, and institutional uses along the Main Street corridor. The northwestern portion of the downtown subarea includes mainly offices, small retail and institutional uses such as Suffolk County Court and offices. The northeast portion of the downtown is generally residential. Downtown area also includes some of the area's major attractions such as the Long Island Aquarium and Suffolk Theatre, as well as designated historic structures, including the Suffolk County Historical Society on the west side of the downtown subarea. Below are specific issues and opportunities identified for this subarea:

Alternative Development Scenario Map ID D6/(DC-1 Main Street Zoning District)

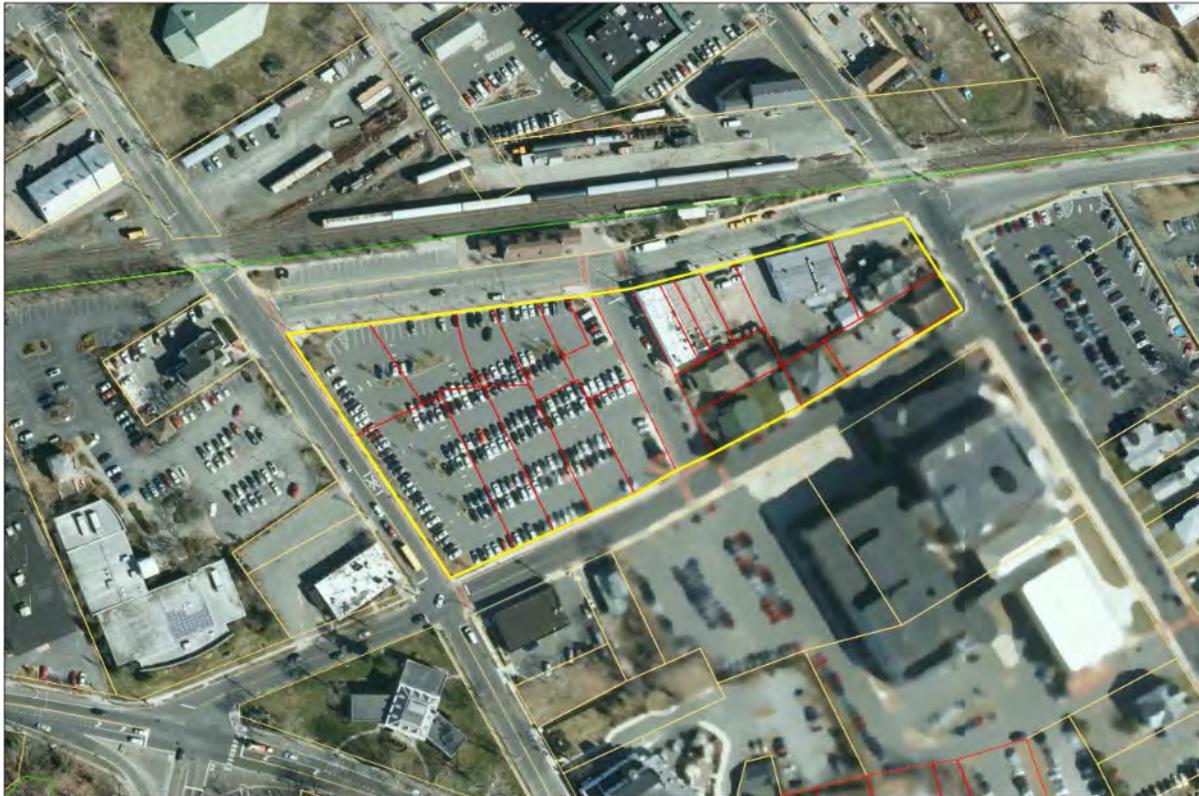
The existing DC-1 district consists of 112 parcels (approximately 47 acres) based upon Town of Riverhead GIS parcel data. The current DC-1 district zoning code provisions allow for 80 percent building coverage with a Floor Area Ratio (FAR) of 4.0. Additionally, this zoning district includes a provision to further increase density to 100 percent building coverage (FAR of 5.0) by special permit issued by the Town Board⁶⁴. It is noted that the code includes no specific development requirements or provisions to provide guidance for the Town Board in granting a special permit for this increase in density. The implementation of development under these bulk regulations would permit a much higher density in the DC-1 district and may not be feasible given the limitations of existing infrastructure which can only support a certain level of development within the downtown.

Analysis of the code provisions using a build-out scenario was prepared and is provided in **Appendix I**. Alternative development scenarios were also generated with reduced bulk requirements for comparison. The analysis included a review of form-based development parameters, provisions for an open space requirement, requirement of on-site parking (currently none required within the parking district), and bonus density provisions for projects developed under the principles of LEED criteria as published by US Green Building Council (USGBC). The limit of 500 residential units in the DC-1 district was also analyzed.

Strategic Site #5 (Train Station Block) and Alternative Development Scenario Map ID D1

The block located along the north side of Court Street between Osborn Avenue and Griffing Avenue, south of Railroad Avenue is comprised of twenty one (21) parcels (see aerial) and is within the Railroad Street Urban Renewal Area. The western portion of the block is a surface parking lot owned by the Town of Riverhead, of which most is designated parking for the Suffolk County courts located to the south of the subject site. The eastern portion of the block is developed with a retail market, a barber shop, vacant store fronts, few residential homes, and (insert the name of the corner building). While this block has tremendous opportunity due to its proximity to the train station, it appears to be underutilized.

⁶⁴ It is noted that the Table of Dimensional Requirements notes a requirement for TDR for increased density to 100%, as was recommended in the Comprehensive Plan. However, no code provisions are provided to support this and there is no TDR program established that includes the DC-1 District as a receiving zone for TDR credits.



Train Station Block and Vicinity – Existing Site Aerial

Sources: NYS GIS Orthoimagery, 2013 and SC Real Property GIS Parcel Database

Redevelopment of this area to a coordinated mixed-use development is envisioned and illustrated on the sketch on the following page. The concept sketch envisions a four (4) story building in the eastern portion of the block providing approximately 30,000 SF of commercial on the ground level and approximately 35,000 SF on each of the upper levels. The 30,000 SF of commercial on the ground level could include 10,000 SF of retail, 10,000 SF of restaurant/eating places, and 10,000 SF of office space. Upper levels are anticipated to be developed with apartments only of various sizes ranging 900 SF to 1,300 SF. A total of approximately 95 apartment units are envisioned on upper levels.

The western portion of the site would be developed with a 4 story parking garage providing approximately 882 parking spaces; the need for a parking garage evolved from the evaluation of alternative development scenarios, as described in **Appendix I**. This parking garage is designed not only to provide parking needs of the proposed mixed-use building but also provides designated court parking. The parking analysis conducted as part of this project (see TOD Growth Plan under separate cover) finds that designated court parking is located throughout the Downtown Riverhead and it occupies parking which could otherwise be used by visitors to the downtown, business owners, employees and customers. The idea of structured parking is to consolidate and provide designated parking for the courts and new development to free up designated spaces closer to Downtown Riverhead.



Zoning Regs (DC-3 District):

Min. Lot Area: 5,000 SF
Max. Building Coverage: 50%
Max. Impervious Covg.: 80%
Max. Bldg. Height: 35'
Max. FAR: 1.5
Min. Front Yard: 15'
Min. Side Yard: 10' each/ 20' combined
Min. Rear Yard: 25'

Sketch:

Parking Structure Lot (2.09 Acres):
Building Coverage: Approx. 80%
FAR: Approx. 2.4

Apartment Building Lot (1.29 Acres):

Building Coverage: 75%
FAR: Approx. 2.5

Various zoning relief and/or a new overlay district, and/or special permit may be required.

Assigned parking spaces for Courts to be located in the parking garage.

Sustainable development incorporating LEED building design features are recommended for both commercial/residential building and for the parking garage.



Four (4) Story Building
Ground Level Commercial: 30,000 SF
Upper Levels: 35,000 SF each
Level 2: 38 Apartments (900 SF/ apt)
Level 3: 31 Apartments (1,100 SF/ apt)
Level 4: 26 Apartments (1,300 SF/ apt)
Total: 95 Apartments



**COORDINATED MIXED USE CONCEPT
TRAIN STATION BLOCK**

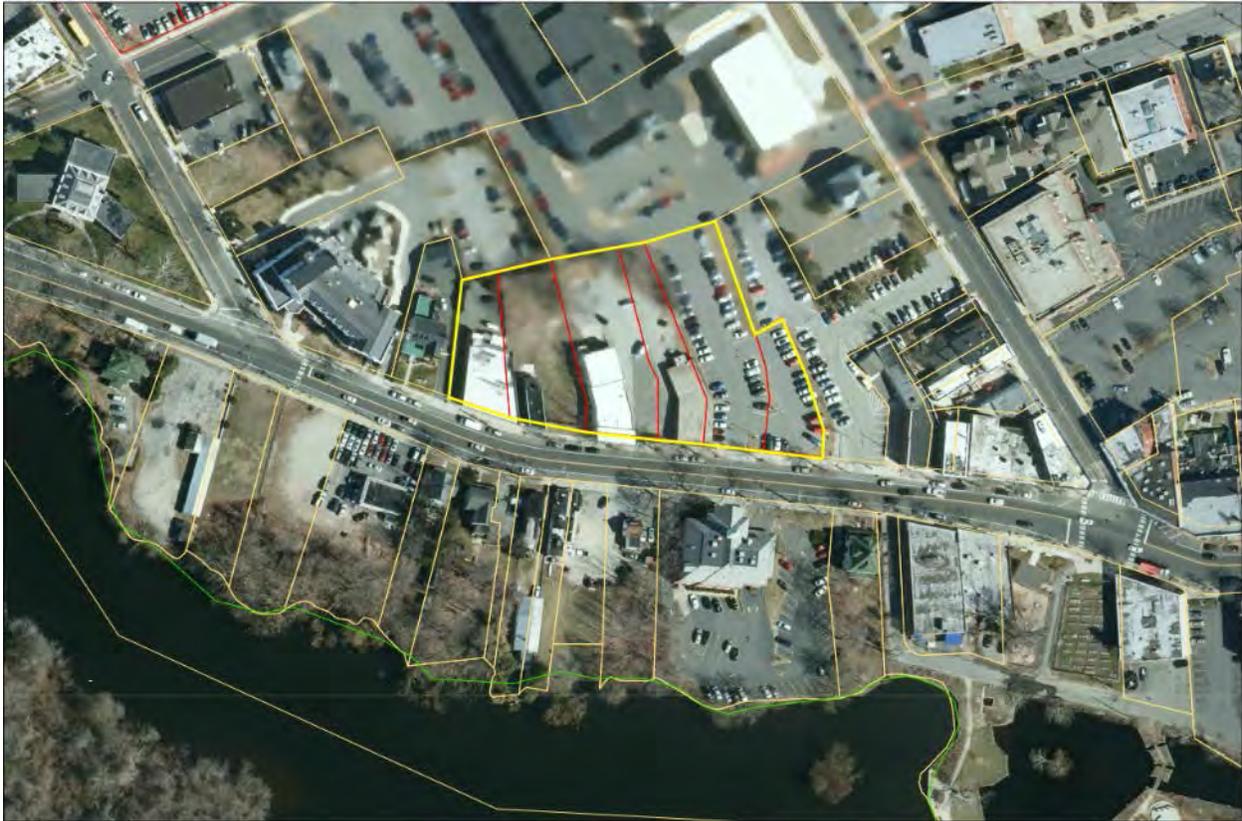




Alternative Development Scenario Map ID D4 (Grocery Store Concept)

The following provides an overview of a conceptual plan generated for a grocery store which was developed in response to a strong desire from the public for a grocery store in the downtown area. The assessment evaluated space needs for a small format grocery store (including floor area and parking area) and identified a group of properties that could provide an opportunity in the future if redevelopment was pursued (or if another site of similar size is identified). As noted in Supermarket News, small format grocery stores are on the rise, as the trend increases for customers to make more frequent trips and make smaller purchases. The trend is also being driven by consumers wanting to eat healthy and buy fresh produce, also driving up the number of trips made in a week. Small format grocery stores can range from 10,000 to 20,000 square feet.

The site incorporates two Town-owned parking areas which are used for court parking and if implemented would require that parking be provided for the court visitors in addition to parking for the retail customers and employees. The concept was revealed at the second community workshop as part of a “Dare to Dream” scenario. This concept would require a public private partnership, as well as the consolidation of private properties to support the implementation. This site’s potential is enhanced in that the Town controls two of the parcels which could be consolidated. The concept could further be pursued by the Town actively entering into a dialogue with grocery store operators and determining if there is an interest, and communicating with the adjoining property owners as to whether they would be interested. Further, the Town could, on its own initiative, prepare a site plan for a potential operator, and conduct the SEQRA evaluation in advance, to be able to advance a “shovel ready” site. The BOA Study also finds that there may be other locations in the downtown which could support a small format grocery store. The feasibility of the use of any other site would depend on a number of factors, including compatibility with adjoining land uses, consistency with other goals including historic preservation and protecting historic properties, and other considerations. The following is but one option which the Town could pursue.



Grocery Concept – Existing Site Aerial

The conceptual study envisioned redevelopment of this area to support a 14,000 SF grocery store and approximately 7,000 SF of mixed retail along with 2 story parking garage providing approximately 120 parking spaces.

It should be noted that a grocery store could be incorporated into the parking garage itself as well. (See image of a Whole Foods incorporated into a parking garage in historic neighborhood in Philadelphia).





2 Level Parking Garage
(Approx. 120 Parking Stalls)



Strip Retail
(Approx. 7,000 SF)



Existing designated Court parking to be consolidated in the anticipated 4 level parking garage near the train station

1 Story Retail Building
(Approx. 14,000 SF)

Zoning Regs (DC-3 District):
Min. Lot Area: 5,000 SF
Max. Building Coverage: 50%
Max. Impervious: 80%
Max. Building Height: 35'
Max. FAR: 1.5
Min. Front Yard: 15'
Min. Side Yard: 15' each/ 20' combined
Min. Rear Yard: 25'

Sketch:
Lot Area: Overall approx. 1.8 acres
Building Coverage: Approx. 52%
FAR: Approx. 0.52
Impervious Coverage: Approx. 70%

Various zoning relief may be required.

Sustainable development incorporating LEED building design features for both retail building and parking garage is recommended.



GROCERY CONCEPT
GRIFFING AVE & MAIN STREET





4.1.4 Eastern Subarea

The eastern subarea includes parcels fronting on East Main Street east of Howell Avenue and extends to the BOA Study Area's eastern boundary on Hubbard Avenue. This area includes a mix of uses including residences, a multifamily housing complex, offices, retail, service, and institutional uses along Main Street and one light industrial use and a mobile home park on Hubbard Avenue. The land use recommendations for the eastern subarea are related to three properties, one which is envisioned as a new gateway park as two sites as a new townhome community (which could occur separately, though ideally would be coordinated as a single site redevelopment).

Strategic Site #6 (Sap Enterprises Auto Repair) and Alternative Development Scenario Map ID E2

This property is located on the north side of East Main Street and on the west side of Sawmill Creek and a small pond. The parcel is approximately 0.22 acre in size and is zoned RA40 (Residential) but is developed with an auto repair business, a nonconforming use. The Town of Riverhead maintains an easement across the east side of the property for access to Sawmill Creek⁶⁵.

This site was identified as a potential brownfield site in the original grant application for the BOA Program due to its use and the database search identified a history of spills on the site (all closed). Because of its location on Sawmill Creek and the pond, the property provides an opportunity for a small gateway park.

It is recommended that the Town consider acquisition of this site for the purpose of providing a gateway park. Prior to acquisition of the site, a Phase I ESA would be required and Phase II testing would likely be recommended to identify presence of environmental contamination on the site.

Strategic Sites #7 & 8 (Gershow Recycling and adjacent towing company site) and Alternative Development Scenario Map ID E3

This site consists of two separate tax parcels. The western parcel has its address at 965 East Main Street (SCTM # 131-1-1.1) and is an auto towing business. The site is listed as a petroleum bulk storage facility with one underground storage tank. The eastern parcel is located at 27 Hubbard Avenue and is developed with the Gershow recycling facility. This use has been identified as an incompatible land use in consideration of the surrounding residential uses along Hubbard Avenue and a more compatible use has long been recommended - including in the Town Comprehensive Plan which resulted in the change of zone to the Commercial Residential Campus (CRC) District.

The two properties total approximately 5.9 acres in size. The western property is located within the Riverhead Sewer District, but the Gershow property is not with the District. Based upon the

⁶⁵ Based upon discussion with Town Councilman John Dunleavey



current dimensional regulations and a floor area ratio of 0.2 (for development without a public sewer), the site could yield 51,400 SF of floor area. Assuming 1,800 SF average size of a townhome without sewer connection, this site would yield approximately 28 townhomes⁶⁶.

Under the code provisions the yield could also increase significantly (to FAR .50) if the property were connected to the sewer district. However, based upon a footnote in the Commercial Districts Schedule of Dimensional Regulations, within the CRC zoning district, residential yield is to be calculated at one dwelling unit per 40,000 SF of lot area, which restricts the density to 6 units. It is expected that the return on investment for 6 townhomes would not provide the necessary economic incentive for the property owners to encourage redevelopment. To encourage the redevelopment of the properties with a compatible use, it is recommended that the provisions of the CRC District be revisited to consider increasing the allowable residential density. It is noted that based upon a review of the seven CRC Districts in the Town of Riverhead, the only one that is developed with residential units is the Millbrook Apartment complex which is located within the study area. The density of this development far exceeds the residential yield for this zone (the property is over 6.5 acres in size and the complex contains 9 separate buildings, each with multiple units). It is recommended that the Town study the development restrictions placed on this zoning district to determine if it is consistent with the goals for this zone.

Since the property is located on Sawmill Creek, a tributary to the Peconic Estuary, and groundwater recharged from this site reaches surface water within 2 to 4 years, redevelopment needs to be sensitive to the potential impact on water quality. Thus, if this property were redeveloped with residential use in the future, it is recommended that the property be connected to the sewer district to reduce the potential for impact on surface water quality⁶⁷.



⁶⁶ It is noted that the yield per FAR would not be permissible without treatment of wastewater under Article VI of SCSC.

⁶⁷ Based upon discussions with the District Commissioner such an extension would be feasible.



4.1.5 Sustainable Development Density Bonus

As described in **Appendix I-1**, sustainability promotes development practices that result in buildings that are healthier to occupy, less expensive to operate and more responsible to the environment. Sustainable developments designed on the principles established by LEED could be encouraged through a bonus density incentive program.

Leadership in Energy and Environmental Design (LEED) is a rating system that measures the design, construction and operation of high performance green buildings, homes and neighborhoods. LEED was developed by the U.S. Green Building Council (USGBC) to guide the building industry and provide standards for sustainability for a variety of building projects. In LEED certification scoring, there are 136 possible base points distributed across five major credit categories: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, Indoor Environmental Quality, plus an additional 6 points for Innovation in Design and an additional 4 points for Regional Priority.

The implication for redevelopment and recommendations related to water quality recommends the additional need for actions beyond the MS4 requirements to reduce nitrogen and pathogen inputs to the Peconic River. Use of low-impact development techniques for new development and redevelopment projects are recommended including green storm water infrastructure (such as bio-retention areas and rain gardens) use of permeable pavers or other pervious surfaces, provision of natural buffers, particularly in areas proximate to wetlands, use of green roofs, use of native species in landscaping, and limiting the use of fertilizer dependent vegetation on sites. Thus, local and regional environmental challenges are also considered for bonus density criteria.

A sample rating system is provided in **Appendix I-3**.

4.1.6 Transfer of Development Rights Program

A follow up study to establish a TDR program is recommended that would to encourage preservation within the sending area which would constitute the south side of NYS Route 25 along West Main Street, and provide additional density in the DC-1 zoning district (and potentially other sewered areas within the Downtown), which serve as the receiving area. This program would need to ensure that it is equitable and even advantageous to transfer density from “sending parcels” to “receiving parcels.” Such a program could situate development more appropriately, and potentially assist with revitalization of this corridor in a prescribed manner. The program would also provide environmental benefits such as great open space in the more sensitive areas of the corridor, and improved methods for handling sanitary waste with discharges farther from the river.

A TDR program is complex in that it must be enabled by Town zoning, and be consistent with comprehensive planning goals, but must also consider the myriad of additional regulations (Suffolk County Sanitary Code, WSRR, wetlands protection laws, flood plain development considerations and so on), while still providing a framework to provide economic viability and incentives to induce landowners to participate.



4.1.7 Potential Candidates for Site Assessment Funding

Step III of the NYSDOS BOA Program provides funding for implementation strategies identified through preparation of a Step II Nomination Study. Upon acceptance of a Nomination, the Town of Riverhead may submit an application for project advancement to complete a Step III Implementation Strategy and/or Site Assessments (subject to funding availability) which can include Phase I Environmental Site Assessments and Phase II Testing. The remedial investigations can then be used to design a conceptual level remediation strategy for priority sites. There are a number of sites that could potentially be candidates, with consent of the property owner, for site assessment funding identified in this Nomination. This includes all of the properties identified as Strategic Sites (see **Figure 3-9B**) as well as several properties whose past or present land use may have resulted in environmental contamination and whose redevelopment would be a benefit within the Study Area. A list of properties that should be considered as candidates for funding of site assessments is provided in **Table 4-1B** and are illustrated on **Figure 3-9A**. Note that shaded rows indicate those properties which have been identified as Strategic Sites.

TABLE 4-1B
POTENTIAL CANDIDATES FOR SITE ASSESSMENT FUNDING

ID #	Address	Tax Map Number (s)	Land Use	Discussion
1	2011 River Road	118 – 4 – 5.10	Former Olin Warner Duck Farm	Prior duck farm use potentially impacting water quality of the Peconic River. Not a highly visible site; however, redevelopment of the site with residential or river recreational/lodging permitted under zoning. The property is currently developed with a single family residence.
2	1863 West Main Street	118 – 4 – 8.1	Auto Repair	Strategic Site #1. The property is developed with an auto service use and an accessory use of a cell tower. Many automobiles are parked outside on the site. This property would be a priority for redevelopment due to its high visibility at the gateway of the Route 25 corridor leading into downtown Riverhead. WSRR regulations constrain redevelopment.
3	1751 West Main Street	118-4-10	Former 84 Lumber	Strategic Site #2. Vacant lumberyard which contains several warehouse buildings. The property has high visibility on the corridor. WSRR regulations currently constrain redevelopment.
4	1681 West Main Street	118 – 4 – 11	Auto Repair	This is a site whose redevelopment would be desirable to improve aesthetics in the gateway area to the downtown. The site has a small building and many vehicles and equipment stores outside. WSRR regulations constrain redevelopment.
5	1501 – 1595 West Main Street	119 – 2 – 56-58	Former Bridge View Duck Farm	Strategic Site #4. This is a highly visible site on the south side of West Main Street. It is an abandoned duck farm property and contains several deteriorated structures visible from the roadway and



ID #	Address	Tax Map Number (s)	Land Use	Discussion
				is overgrown. Wetlands and WSRR regulations constrain redevelopment.
6	Forge Road	139-1 (multiple lots)	Forge Road Mobile Home Park	This mobile home park is located on the Peconic River and was constructed prior to Suffolk County Sanitary Code requirements for single family residential on site sanitary systems. The mobile home park is well maintained by its owners. However, it is expected that water quality would benefit from connection of the area to Riverhead's STP or an alternative wastewater treatment system.
7	1175, 1161, 1167, 1153-1159, 1165, & 1141 West Main Street	125 – 2 – 25.2, 26.2, 27.2, 27.3, 27.5, & 28	Mix of uses including auto repair	Strategic Site #4. This group of sites include auto repair uses and mix of contractor uses, office and restaurant uses situated on the Peconic River. The group of sites was identified as potential redevelopment area with a concept for coordinated redevelopment prepared. WSRR regulations and need for sewage treatment options constrain redevelopment.
8	656 West Main Street	124 – 3 – 17	Ice and fuel company	The existing land use at this property includes fuel storage. The business is in operation and there is no indication that the property is to become available for redevelopment. It is noted that redevelopment would require site investigation and possible testing to determine presence of environmental contamination from past and current use of the property.
9	626 West Main Street	124 – 3 – 21.1	Gas Station	The property is developed with a gas station which was recently upgraded and thus is not expected to be a candidate for redevelopment in the near future. However, redevelopment would require site investigation and possible testing to determine presence of environmental contamination.
10	504 West Main Street	128 – 2 – 4	Auto Repair (Vacant)	This property contains an abandoned auto use. It is a small property (approximately 0.2 acre) with limited potential for redevelopment to act as a catalyst for other development. Redevelopment would require site investigation and possible testing to determine presence of environmental contamination.
11	205 Osborn Avenue	128 - 2 - 22	Medial Office (Vacant)	This property contains a long vacant building formerly used for radiology. The location is significant in the context of potential reuse of the Town railroad parking lot for development or the realignment of Court Street and Nugent Street for improvements at that intersection which is currently offset.
12	Block bounded by	128 – 3 – 12.1, 12.2, 12.3,	Town owned surface	Strategic Site #5. This is a group of sites that includes the Town of Riverhead parking lot



ID #	Address	Tax Map Number (s)	Land Use	Discussion
	Railroad Avenue, Court Street, Osborn and Griffing Avenues	13.0, 14.0, 15.0, 17.1, 18.0, 19.0, 20.0	parking and mix of uses (residential, retail, office)	adjacent to the train station and the adjacent block, which contains a mix of retail, residential and office uses. The surface parking area and potentially the adjacent block provide a unique opportunity for a coordinated redevelopment.
13	305 West Main Street	128 – 3 – 48, 49	Auto Repair (Vacant)	This former auto repair has been vacant for many years. Redevelopment would require site investigation and possible testing to determine presence of environmental contamination related to the former use of the site.
14	243-255 West Main Street	128 – 3 – 50, 51	Auto Repair (Vacant)	As with the neighboring site, this is a former auto repair use, and redevelopment would require site investigation and possible testing to determine presence of environmental contamination.
15	415 East Main Street	129 – 4 – 17	Gas Station Auto Repair	This property is an active gas station with a central location in the downtown; redevelopment would require site investigation and possible testing to determine presence of environmental contamination.
16	712 East Main Street	127 – 4 – 32.2	Dry Cleaners	Active dry cleaner use with no indication that the business seeks to cease operations. Redevelopment would require site investigation and possible testing to determine presence of environmental contamination.
17	944 East Main Street	109 – 2 – 13	Auto Repair	Strategic Site #6. Property is developed with an auto repair business which is located on the headwaters of creek which is a tributary to the Peconic River and is considered important as a gateway site at the east end of the study area. Redevelopment would require site investigation and possible testing to determine presence of environmental contamination.
18	965 East Main Street	131 – 1 – 1.1	Auto Towing	Strategic Site #7. Property developed with an auto related use; redevelopment would require site investigation and possible testing to determine presence of environmental contamination. Important as gateway site.
19	27 Hubbard Avenue	131 – 1 – 2.2	Recycling Yard	Strategic Site #8. Property developed with recycling operations center which includes crushing operations. Redevelopment would require site investigation and possible testing to determine presence of environmental contamination. Site use has a history of complaints as a nuisance use for surrounding property owners.