


*Proposed Adoption of the Land Use
and Implementation Plan for the
Ronkonkoma Hub Transit-Oriented
Development (TOD), TOD Code and
Associated Rezonings to the TOD*

Ronkonkoma, Town of Brookhaven
Suffolk County, New York

Prepared for **Town Board of the Town of Brookhaven**
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**DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT
TOWN BOARD OF THE TOWN OF BROOKHAVEN
PROPOSED ADOPTION OF THE LAND USE AND IMPLEMENTATION PLAN FOR
THE RONKONKOMA HUB TRANSIT-ORIENTED DEVELOPMENT (TOD), TOD
CODE AND ASSOCIATED REZONINGS TO THE TOD
HAMLET OF RONKONKOMA, SUFFOLK COUNTY**

PROJECT LOCATION: 53.73± acres
Union Avenue to the north, Village Plaza Drive to the east, the LIRR tracks (Ronkonkoma Branch) to the south, and County Route 29, Garrity Avenue, and Hawkins Avenue to the west, in the hamlet of Ronkonkoma, Town of Brookhaven, Suffolk County

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**AVAILABILITY OF
DOCUMENT:**

This document represents a Draft Generic Environmental Impact Statement (“DGEIS”) prepared by the above-referenced applicant. Copies are available for public review and comment at the offices of the Lead Agency.

DATE OF ACCEPTANCE:

DEADLINE FOR COMMENTS:

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- Appendix A - Part 1 – Environmental Assessment Form; SEQRA Coordination Letters; Positive Declaration; Positive Declaration Resolution; and Correspondence from Suffolk County Legislature William J. Lindsay, Presiding Officer, Long Island Rail Road Helena E. Williams, President, Suffolk County Department of Planning Thomas A. Isles, Director, Suffolk County Department of Planning Andrew P. Freleng, Chief Planner, and Suffolk County Department of Public Works William Hillman, P.E., Director of Traffic Engineering;
- Appendix B - Land Use and Implementation Plan
- Appendix C - TOD District Zoning Code
- Appendix D - Preliminary Feasibility Study for Sewage Treatment and Disposal
- Appendix E - Environmental Data Resources, Inc. Database Report
- Appendix F - Amphibian and Reptile Species List, NYS Breeding Bird Atlas Reports and Correspondence with Natural Heritage Program
- Appendix G - Traffic and Parking Analysis
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1.0

EXECUTIVE SUMMARY

This document is a Draft Generic Environmental Impact Statement (“DGEIS”) for the proposed action, which consists of the adoption of a Land Use and Implementation Plan for the proposed Ronkonkoma Hub Transit-Oriented Development (“TOD”) (covering 53.73±-acre area that includes the portion of the Long Island Rail Road [“LIRR”] – Ronkonkoma Train Station located within the Town of Brookhaven, and extends beyond the perimeter of the station), the adoption of the TOD zoning district, the rezoning of the project area to the TOD, and the redevelopment of the area in accordance with the TOD zoning district. To ensure comprehensive environmental review in accordance with the State Environmental Quality Review Act (“SEQRA”) and its implementing regulations at 6 NYCRR Part 617, the impacts associated with implementation of the proposed action will be evaluated in this DGEIS. The project area is bounded by Union Avenue to the north, Village Plaza Drive to the east, the LIRR tracks (Ronkonkoma Branch) to the south, and County Route 29, Garrity Avenue, and Hawkins Avenue to the west, in the hamlet of Ronkonkoma, Town of Brookhaven, Suffolk County, New York.

As a DGEIS is being prepared, pursuant to the Positive Declaration issued by the Town Board, of the Town of Brookhaven (“Town Board”), in accordance with 6 NYCRR §617.10(c), the DGEIS sets forth conditions and/or criteria for future actions, including requisite SEQRA compliance.

Specifically, 6 NYCRR §617.10(c) states, in pertinent part:

“Generic EISs...should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQRA compliance...”

Accordingly, the DGEIS will evaluate the specific impacts associated with the adoption of a Land Use and Implementation Plan for the proposed Ronkonkoma Hub TOD, the adoption of the TOD zoning district, and the rezoning of the project area to the TOD, as well as a Theoretical Full Build Plan, which represents a potential redevelopment option. The DGEIS will also propose conditions and criteria for

which future actions would be undertaken and reviewed pursuant to SEQRA and its implementing regulations.

DESCRIPTION OF THE PROPOSED ACTION

Proposed Land Use and Implementation Plan and Transit-Oriented Development Zoning District

The Town Board is developing a Land Use and Implementation Plan for the proposed Ronkonkoma Hub TOD, which consists of an approximately 53.73±-acre area that includes a portion of the LIRR–Ronkonkoma Train Station located within the Town of Brookhaven, and extends beyond the perimeter of the station. The proposed action also includes the adoption of a TOD zoning district and the rezoning of the project area to the TOD to advance the Town’s goals in creating a compact, mixed-use TOD. The proposed Ronkonkoma Hub TOD or “TOD District area” is bounded by Union Avenue to the north, Village Plaza Drive to the east, the LIRR tracks (Ronkonkoma Branch) to the south, and County Route 29, Garrity Avenue, and Hawkins Avenue to the west, in the hamlet of Ronkonkoma, Town of Brookhaven, Suffolk County, New York.

The TOD District zoning code has been designed as a Form-Based Code (“FBC”) with design guidelines and establishes objectives, policies, and standards to promote orderly development and redevelopment within the TOD District area for purposes of encouraging high-density, mixed-use development, housing, retail, and office uses. The overall intent of the TOD District is to encourage the efficient use of land, be a catalyst for revitalization, and foster a sense of place through development of a new transit-oriented, mixed use, pedestrian-friendly community.

The TOD District would also encourage redevelopment of vacant and/or underutilized, blighted properties, which would enhance the tax base and compliment the surrounding communities and uses, as well as better utilize existing public transit infrastructure at Ronkonkoma Station through improved access and increased ridership. More specifically, the purpose and intent of the TOD District zoning code is to:

- Promote compact, mixed-use development in close proximity to the commuter rail station;
- Encourage development that supports transit;
- Encourage a diverse mix of business, commercial, office, residential, institutional, and entertainment uses for workers, visitors, and residents;
- Encourage pedestrian-friendly environment and pedestrian-oriented commercial enterprises and consumer services that do not rely on automobile traffic to bring consumers into the area;
- Encourage flexibility in site and architectural design;
- Maintain a consistently high level of design quality;
- Encourage building reuse and infill to create higher densities; and

- Promote economic development opportunities.

Project History

In 2007, the Town of Brookhaven embarked upon a two-phased planning study, known as the Ronkonkoma Hub Transit-Oriented Planning Study (herein referred to as the “*Ronkonkoma Hub Planning Study*”), aimed at revitalizing a multi-block area around the Ronkonkoma Hub, one of the busiest stations along the entire LIRR system. The area immediately surrounding the train station consists of numerous vacant/unoccupied parcels and/or structures, a number of which are in highly visible locations (i.e., Railroad Avenue), a rundown appearance of local businesses as well as large surface parking lots, a number of which are located along Railroad Avenue east and west of the existing station.

The goal of the *Ronkonkoma Hub Planning Study* was to develop a vision that includes compact, mixed-use redevelopment of underutilized land that supports and expands on the high ridership of and recent improvements made to the train station. The desired outcome of the planning study was a long-term development strategy that established clear and predictable guidance for the revitalization of the blighted, vacant and/or underutilized parcels.

Phase 1 – Ronkonkoma Hub Planning Study

Phase 1, completed in April 2008, focused on documenting the existing conditions of an approximately 181±-acre study area, including analysis of existing zoning, multi-family housing demand, parking, building space, and transportation infrastructure as well as the creation of goals and objectives and preliminary analysis of the development potential for priority development sites. The study area was generally bounded by the LIRR rail line to the south, Express Drive to the north, Bay Avenue to the west and Babcock Avenue to the east.

Phase 2 – Ronkonkoma Hub Planning Study

Phase 2, completed in March 2009, built upon the work completed in Phase 1 and generated a long-term vision and implementation strategy aimed at providing guidance to all interested parties on potential future development around the LIRR – Ronkonkoma Station. The outcome of this planning study was a long-term development strategy that established clear and predictable guidance for the revitalization of the TOD District area.

Key goals of the *Ronkonkoma Hub Planning Study* included:

- Promote quality and healthy communities;
- Redirect growth to areas already served by existing infrastructure;
- Expand transportation choices to enhance environmental quality;
- Reduce vehicle trips around the station;

- Support compact, mixed-use, transit-accessible, pedestrian-oriented redevelopment;
- Create a sense of place;
- Support local businesses;
- Create housing choices;
- Explore reverse commute opportunities; and
- Enhance the tax base for the Town and the region to support the variety of taxing districts.

Phase 3 – Ronkonkoma Hub Planning Study

The implementation phase, or “Phase 3,” of the *Ronkonkoma Hub Transit-Oriented Planning Study* incorporated the principles of the aforesaid planning process, including the elimination of the single-family residential areas from any proposed zoning changes or development modifications. As part of the implementation strategy, the Land Use and Implementation Plan presents the criteria and process for implementing new land use legislation designed to revitalize the area surrounding the Ronkonkoma train station through the TOD District area. The proposed Land Use and Implementation Plan relies on data, assumptions and conceptual plans developed in Phase 2 of the *Ronkonkoma Hub Planning Study*, as well as a detailed market study conducted in August 2010.

Project Purpose, Needs and Benefits

Based upon the results of Phases 1 and 2 of the visioning and planning process conducted from 2007 to 2009, as described above, with the elimination of the existing single-family residential communities from the TOD District area, the 53.73±-acre area represents the area being considered for rezoning and redevelopment as identified in the Land Use and Implementation Plan, or “Phase 3.” The development sites within the 53.73± acres were chosen for redevelopment mostly because they are located on key “gateway” roadways serving the train station (Railroad Avenue, Hawkins Avenue, and Mill Road), where more viable land uses and higher density development are most appropriate and complementary to existing uses within the TOD District area. Specifically along Railroad Avenue, there is potential frontage for new buildings that could help define the street edge. Also, the development sites are all within a 10-minute walk of the Ronkonkoma Station.

As indicated above, the TOD District and Theoretical Full Build Plan (as discussed below) are consistent with the stated goals of the *Ronkonkoma Hub Planning Study* as they encourage the efficient use of land, provide for revitalization, and foster a sense of place through development of a new transit-oriented, mixed- use, self-sufficient community. The proposed action would in turn enhance the tax base through redevelopment of existing vacant/unoccupied parcels and new development by increasing the area’s marketability. The TOD District aims to encourage uses that complement the surrounding existing uses as well as better utilize existing public transit infrastructure at the Ronkonkoma Station.

Existing Site Conditions

The TOD District area encompasses an approximately 53.73±-acre area, which is comprised of 54 individual tax lots. The existing land uses within the TOD District area include parking, neighborhood retail, residential, office, automotive, restaurant, warehouse general services (commercial/industrial). The TOD District area consists of numerous vacant/unoccupied parcels and/or structures, a number of which are located in highly visible locations (i.e., Railroad Avenue), a rundown appearance of local businesses as well as large surface parking lots, a number of which are located along Railroad Avenue east and west of the existing station. These large, unimproved paved parking lots fill to capacity with vehicles of daily commuters taking the train from Ronkonkoma Station, but remain mostly empty during the nighttime hours. Many of the vacant buildings are former retail users or auto-related establishments, are lacking in maintenance and are dilapidated. Also, the majority of the TOD District area lacks adequate pedestrian sidewalks or safe crossings, except in the immediate vicinity of the train station. Unregulated parking (that which exists on the side of the road) is seen predominantly adjacent to unimproved parcels because of their proximity to the Station further restricting pedestrian or bicycle access or circulation.

Description of Theoretical Full Build Plan

The Theoretical Full Build Plan includes the redevelopment of opportunity sites with preferred land uses (i.e., multi-family residential, retail, restaurant, and office). The Theoretical Full Build Plan includes the following program mix on nine defined sites:

- 615 Residential Units;
- 60,875 square feet – Retail;
- 49,375 square feet – Office;
- 30,000 square feet – Health Club;
- 200 seats – Restaurant Use (Total);
- 2,701 new parking spaces;
- Sewage Treatment Plant; and
- Plaza area for outdoor public use.

Sites 1, 2, 3, and 4 make up the TOD core due to their proximity to the Ronkonkoma Station and are anticipated to facilitate a mix of uses including, retail, restaurant, office, health club, and multi-family housing. Sites 5, 6, 7, and 8 would be redeveloped into mostly multi-family housing with amenities, a restaurant and parking within walking distance to Ronkonkoma Station. Site 9 would be redeveloped with a sewage treatment plant (“STP”) that would accommodate the wastewater generated by the development proposed as part of the Theoretical Full Build Plan, and all land uses within the TOD. Additionally, public open space is

planned adjacent to the station on a currently underutilized/vacant site (approximately 0.8-acres) between the station and LIRR parking. Detailed descriptions of each site follows.

Site 1, which totals 4.40± acres and consists of LIRR surface parking for commuters is partially vacant, and controlled by the MTA. Redevelopment being considered for Site 1 includes 123 residential units in three-to-four story buildings over 164 at-grade parking spaces. Site 1 is within walking distance of the train station along Railroad Avenue and adjacent to the proposed public open space. Redevelopment of this site would require coordination with the MTA.

Site 2 consists of 2.96± acres and consists of a variety of uses, including a mix of residential and industrial, auto-body repair, and vacant/unoccupied dilapidated, commercial properties. Redevelopment being considered for Site 2 includes 38,375 square feet of ground-level retail, 24,375 square feet of office and 60 residential units on the upper floors with 252 structured parking spaces.

Site 3 currently consists of a gym and associated surface parking on 3.97± acres. Considered uses for Site 3 include a 30,000 square-foot, two-story health club, 22,500 square feet of ground-level retail, 25,000 square feet of office, and 66 residential units on the upper floors. Approximately 300 parking spaces are also included for Site 3.

Site 4 is 3.76± acres and is centrally located within the TOD District area. This site consists of undeveloped/wooded land and is considered for redevelopment into a 100-seat restaurant and 1,465 spaces of structured parking for patrons of the planned uses, as well as for existing and future commuters using the Ronkonkoma Station.

Site 5, the largest site of all the sites at 6.28± acres, is considered for redevelopment with 196 residential units in multiple three-story buildings over at-grade parking (261 spaces) with a clubhouse and pool. These uses would replace a wide mix of uses, including industrial/manufacturing, office, auto-body repair, and single-family residential.

Site 6 is a 1.8±-acre site that consists of office uses. Considered uses for Site 6 include a 100-seat restaurant with 33 surface parking spaces.

Site 7 is 3.0± acres and consists of industrial uses. Considered uses for Site 7 include two, three-story residential buildings over at-grade parking with a total of 125 units and 166 parking spaces.

Site 8 is 1.13± acres located on the eastern end (vacant/undeveloped portion) of a larger site controlled by the MTA. This site currently consists of the train

station, surface parking, commercial and vacant land. Uses considered for redevelopment of Site 8 include a four-story residential building over at-grade parking with a total of 45 units and 60 parking spaces. Redevelopment of this site would require coordination with the MTA.

Site 9 is 5.47± acres and is currently partially undeveloped consisting of industrial/manufacturing uses. Site 9 is being considered for the STP.

Under the Theoretical Full Build Plan, the remaining 21± acres of the TOD District area would generally consist of properties that remain undeveloped and/or as their current uses (not currently considered for redevelopment), roadways and/or sidewalks, or public open space.

The Theoretical Full Build Plan represents a potential redevelopment option that complies with the TOD District zoning code whereas other feasible development options are possible. It was important to develop a conceptual plan that conforms to the TOD District zoning code to ensure proper and comprehensive review of the potential significant adverse environmental impacts associated with the proposed action, in accordance with SEQRA and its implementing regulations. However, the Theoretical Full Build Plan does not dictate the specific development that will take place on each parcel, but is representative of the overall type and level of development that can take place in the TOD District area. The environmental analysis conducted, and the overall GEIS process, will culminate with a Findings Statement that will, among other things, set forth “specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance” (6 NYCRR §617.10[c]). Thus, upon ultimate adoption of a Findings Statement and the TOD District zoning code by the Town Board, there will be an established set of criteria for development/redevelopment of property within the TOD District area.

Water Supply and Sanitary Disposal

The TOD District area is situated within the service area of the Suffolk County Water Authority (SCWA). Domestic water use for the land uses identified on the Theoretical Full Build Plan is approximately 169,000 gallons per day (“gpd”). With an additional 10 percent estimated for irrigation and domestic uses not entering the sanitary system, the total projected potable water demand for the Theoretical Full Build Plan is 186,000 gpd.

Sanitary waste from existing land uses within the TOD District area is currently discharged to on-site sanitary systems. There is no sewer infrastructure within the TOD District area. The TOD District contemplates the construction of an STP, which has been preliminarily sited in the southeast portion of the TOD (Site 9). Based on the program mix on the Theoretical Full Build Out Plan, the projected sanitary waste volume is 169,000 gpd. However, the STP would be sized to accommodate all land uses within the TOD District area. Based on the approximately five-acre land area on

which the STP could be situated, the facility could be capable of treating 275,000 gallons of sanitary waste per day.

Stormwater Management

Drainage infrastructure within the TOD District area consists of drywells, which are located on various properties throughout the TOD District. The redevelopment of properties in accordance with the proposed TOD District would be subject to compliance with the Town of Brookhaven stormwater ordinance (Chapter 86 of the Code of the Town of Brookhaven [“Town Code”]). Roadway drainage is also accommodated through subsurface leaching structures.

Utilities – Electricity and Natural Gas

Electrical service to properties within the TOD District area is provided by the Long Island Power Authority (LIPA). Natural gas is also available from National Grid.

Required Permits and Approvals

The adoption of the proposed land use plan, creation of the TOD District and zoning code, and associated change of zone of properties therein, are subject to approval by the Town Board. Approvals noted with an asterisk in the table below would be required for actual development that would occur in accordance with the TOD District. These approvals are not needed for adoption of the Land Use and Implementation Plan, TOD zoning code or associated changes of zone, which are all Town Board actions. A description of the required permits and approvals is included in below.

Required Permits and Approvals

Agency	Required Permit/Approval
Town Board	Adoption of Land Use Plan, Creation of TOD District Zoning Code and associated change of zone.
Town Planning Board*	Condemnation (Potential)*
County Health Department*	Site Plans and Potential Subdivision
Local Agencies*	Water Connection and Sanitary Disposal
	Town of Brookhaven Highway
	SCDPW – STP and Highway Work Permit
State Agencies*	Suffolk County Planning Commission – Referral
	NYS Department of Transportation (NYSDOT) – Highway Work Permit
	NYS Department of Environmental Conservation (NYSDEC) – SPDES
Other Agencies*	Metropolitan Transportation Authority – Property Disposition

PROBABLE IMPACTS OF THE PROPOSED ACTION

Soils and Topography

Soils

Redevelopment of properties within the TOD District area would result in the disturbance of soils within the TOD District area for foundation excavation, utility installation, grading, paving, and landscaping. Soils within the TOD District Area are classified as Cut and fill land, gently sloping (“CuB”), Plymouth loamy sand (Pla”), and Riverhead sandy loam, zero to three percent slopes (“RdA”). Based on the soil characteristics and the planning and engineering limitations defined in the *Soil Survey of Suffolk County*, there are no engineering or planning limitations it is not expected that the development of properties would have significant adverse soil impacts. Notwithstanding same, due to the generalities and the potential for actual on-site soils to differ from the *Soil Survey*, actual on-site investigations and mitigation measures, as necessary, would be required for future site-specific development applications.

The disturbance of soils during construction and regrading activities increases the potential for erosion and sedimentation. Any site-specific application for redevelopment within the TOD District area would be required to employ proper erosion and sedimentation controls (e.g., the strategic placement of silt fencing and hay bales to prevent overland runoff and to protect on-site drywells from siltation, maintenance of construction entrances to minimize the transport of sediment on to roadways, placement of appropriate cover over soil stockpiles to protect from wind and precipitation), in accordance with Chapter 86 of the Town Code.

With suitable and proper erosion and sedimentation controls, in accordance with Chapter 86 of the Town Code, it is not expected that site redevelopment would result in significant adverse impacts associated with ground disturbance, regrading and/or construction activities.

Topography

The topography of properties within the TOD District area is relatively flat, and thus, topographic conditions would not be expected to limit potential redevelopment. Moreover, significant regrading would not be required. As such, no significant adverse impacts to topographic features would be expected.

Water Resources and Sanitary Disposal

Water Usage

The potable water use (including irrigation domestic uses not entering the sanitary systems) for the Theoretical Full Build Plan (which includes existing properties to

remain) would be approximately 186,000 gpd. Consultations were undertaken with the SCWA to evaluate the available infrastructure in the area and to identify any necessary upgrades required to meet the water demand. In a response letter dated August 30, 2010, the SCWA advised that it can provide water to the proposed TOD District area. Overall, it would not be expected that the proposed action would result in a significant adverse impact to the SCWA.

Sewage Disposal

A Preliminary Feasibility Study for Sewage Treatment and Disposal was prepared by Michael P. Chiarelli Engineer, P.C. to evaluate the feasibility of constructing an STP within the TOD District area to handle sanitary waste from all properties within the TOD District area. The design average daily flow for the Theoretical Full Build Plan, inclusive of existing properties to remain, will be approximately 169,000 gpd. The Theoretical Full Build Plan includes the construction of an STP within the boundaries of the TOD District area.

Since future development density of this area is not precisely known, the STP within the TOD District area is being evaluated as a 275,000-gpd plant as part of an overall sewer district to be created. The creation of a sewer district will require that the STP accommodate not only the redevelopment of properties identified on the Theoretical Full Build Plan, but all properties within the TOD District area.

The treated effluent from the STP will be recharged to the ground via subsurface leaching pools. Consequently, the State Pollutant Discharge Elimination System (SPDES) permit will require a daily maximum total nitrogen concentration of 10 mg/l as the limiting value and a pH limit of 5.5 to 8.5 SU. As the proposed action includes the placement of an STP within the TOD District area, such that all sewage will be accommodated and treated prior to discharge, no significant adverse groundwater impacts associated with sewage disposal would be expected.

Stormwater Runoff

All site-specific applications would be required to comply with the provisions of Chapter 86 of the Town Code, and thus, there would be no significant adverse impacts associated with stormwater runoff or erosion and sedimentation during construction. With respect to post-development management of stormwater, Chapter 86 of the Town Code also establishes minimum stormwater management requirements and controls for all land development activities. As all applications for land development are subject to compliance with Chapter 86 of the Town Code, no significant adverse impacts associated with stormwater runoff or erosion post-development would be expected.

Surface Water, Wetlands and Floodplains

There are no wetlands or surface water on or proximate to the TOD District area. The TOD District area is not located within a 100-year or 500-year flood zone. As such, implementation of the proposed action will not impact same.

Ecology

Vegetation Impacts

Much of the existing vegetation on properties within the TOD District area is comprised of non-native ornamental trees, shrubs and herbaceous plants populating the various lawn/landscaped areas associated with the developed portions of the site. The Theoretical Full-Build Plan includes the clearing of some of these areas, either for development with structures, or replacement with new landscaped areas. The ecological communities that would be most affected (i.e., Mowed Lawn, Mowed Lawn with Trees and Flower Herb Garden) are all common in the general surrounding area of the site and are considered to be demonstrably secure within New York State by the New York National Heritage Program (“NYNHP”). Further, all three communities would continue to exist on properties within the TOD District following the implementation of the Theoretical Full Build Plan, as these communities are associated with developed properties.

The Theoretical Full Build Plan would also include the clearing of some of the Successional Southern Hardwoods and most of the Successional Shrubland located on the northern portion of the TOD District. Both communities exist as a result of past clearing or other anthropogenic disturbance, and support a variety of invasive/non-native vegetation. As a result, the overall ecological value of these communities, both to the overall flora of the site and as native wildlife habitat, has been reduced. Further, the two communities are ranked by the NYNHP as “demonstrably secure” and “apparently secure,” respectively, within New York State.

The small area of Pitch Pine-Oak Forest located on the eastern portion of the TOD District area would also be cleared as a result of the Theoretical Full Build Plan. However, due to the small size of the parcel and the presence of invasive/non-native species in perimeter areas, the parcel does not support a large, undisturbed block of interior woodland habitat. Further, this community is considered to be “apparently secure” in New York State by the NYNHP and is relatively common in the area to the south and southwest of the site.

Based upon the foregoing observations, the proposed action would not result in significant adverse impacts to local or regional vegetation.

Wildlife Impacts

Due to the developed nature of the TOD District area and general surrounding area, the wildlife species observed or expected on the site are those that are well-adapted to developed and/or disturbed habitats and human presence. Thus, following the construction phase, it is anticipated that suitable habitat will remain for individuals of most displaced wildlife species. It is further anticipated that individuals of most or all of these species will return to the TOD District area post-development.

The removal of Successional Shrubland, Successional Southern Hardwoods and Pitch Pine-Oak Forest will have an impact on the abundance of wildlife using the site. Individuals of a few less mobile wildlife species (i.e., some mammal and reptile species, if present) may suffer direct elimination during clearing of these habitats. More mobile animals (i.e. birds and most mammals) would be forced to emigrate to unaffected habitats, both on the site or in the general surrounding area. In the short term, it is expected that these habitats, will experience a temporary increase in the abundance of some wildlife populations. Subsequently, it is expected that inter- and intra-specific competition for available resources within these habitats will result in a minor net decrease in local population sizes for most species, as a new equilibrium is achieved. Ultimately, development within the TOD District area would not result in significant adverse impacts to the density and diversity of local or regional wildlife populations.

Rare Species/Habitat Potential

Pursuant to the NYNHP, seven records (three current and four historic) exist for vascular plant species in the vicinity of the TOD District area. However, none of these species were observed on properties within the TOD District area during field inspection, and, given the developed/disturbed habitats that currently comprise the TOD District area, the occurrence of these or other rare species is considered to be unlikely. No other NYNHP records currently exist for rare or State-listed animals, plants, significant natural communities or other significant habitats on or in the immediate vicinity of the TOD District area, and none were observed during the field inspection. Further, all of the ecological habitats supported on properties within the TOD District area are ranked as either demonstrably or apparently secure by the NYNHP. Based upon the foregoing, no significant adverse impacts to rare species or habitats are anticipated.

Land Use and Zoning

Land Use

The TOD District area encompasses approximately 53.73± acres, which are comprised of 54 individual parcels. This area is proposed to be rezoned using FBC zoning, which results in a development vision. The Theoretical Full Build Plan would implement this vision, and includes the redevelopment of key opportunity sites with

preferred land uses to achieve the goals and objectives of the visioning and planning process, including significant visual improvements and increased marketability of the land both within and surrounding the TOD District area.

The overall intent of the proposed action is to encourage the efficient use of land, provide for revitalization, and foster a sense of place through development of a new transit-oriented, mixed-use, self-sufficient community. Also, the proposed action encourages development that would enhance the tax base and complement the surrounding communities and uses as well as better utilize existing public transit infrastructure at Ronkonkoma Station through improved access and increased ridership.

The Theoretical Full Build Plan represents a development option for specific portions of the TOD District area (including nine redevelopment sites) that could result upon implementation of the TOD District zoning code. The inclusion of these specific parcels would permit the currently underutilized and partially vacant parcels to be redeveloped into a vibrant Smart Growth community offering an opportunity for a mix of uses, including retail, office, restaurants, and multi-family housing at greater densities, that complement the train station by providing goods and services for commuters, workers and residents. The development sites were chosen for redevelopment mostly because they are located on key “gateway” roadways serving the train station (Railroad Avenue, Hawkins Avenue, and Mill Road), where more viable land uses and higher density development are most appropriate and complement existing uses within the TOD District area. Specifically along Railroad Avenue, there is potential frontage for new buildings that could help define the street edge. Also, the development sites are all within a 10-minute walk of the Ronkonkoma Station.

The Theoretical Full Build Plan is a potential redevelopment option that represents overall type and level of development that can take place if the TOD District is adopted and the area rezoned.

Community Character

Implementation of the proposed action would improve and enhance community character and aesthetics as opposed to conforming to the existing character of a partially-vacant, underutilized area surrounding the Ronkonkoma Station that the Town has deemed in need of revitalization. The establishment of a form-based zoning code for the TOD District allows for the construction of a mixed-use community with a range of building types and land uses including office, housing and retail with focus on their relationships to the streets and streetscapes. The key to sustaining a mix of uses of this type is to employ design control over the scale and urban form of each building regardless of use, and provide a flexible, development framework that can accommodate a range of building types. Unlike the typical suburban development patterns where separate “stand-alone” building form is the

norm, in the TOD District, the objective is to create an environment with visual continuity and a user-friendly public realm.

Zoning

The new TOD District, as proposed, includes all parcels currently zoned J Business 6, (“J-6”) and LI Industrial (“L-1”) that lie within the TOD District area. In addition, it includes some parcels zoned for neighborhood business (“J-2”) and one that is zoned J Business 4 (Professional and Business Offices (“J-4”) on Mill Road. The TOD District area was drawn to include all areas where TOD-type development would be appropriate. Permitted uses in the TOD District would include:

1. Townhouses;
2. Duplexes;
3. Multi-family housing;
4. Live/work dwelling units;
5. Mixed use developments;
6. Professional offices such as those of doctors, lawyers, architects and engineers;
7. Retail businesses such as, but not limited to grocery, drug, apparel, variety, furniture, or sporting goods store;
8. Restaurants and eating and drinking establishments where most food and drink is intended to be consumed on the premises at tables, counters, or bars;
9. Personal services such as barber shops, beauty salons, laundry and dry cleaning establishments;
10. Health club;
11. Business services such as banks and other financial institutions, real estate and insurance offices;
12. Accessory buildings and uses;
13. Home occupations;
14. Child care facilities; and
15. Museum and similar cultural facility of a non-commercial nature.

Building heights would range from three to five stories, depending upon where in the district the development would take place. The form-based code governs building form, massing, architectural design, street types, and public spaces. In contrast to a typical zoning ordinance, the form-based code for the TOD District will not specifically establish dimensional regulations for the buildings other than the height limitation. However, certain setbacks may be established to allow for public spaces and to screen parking areas, for example.

Regulating Plan

The proposed form-based code includes the Regulating Plan which would be adopted by the Town Board. The regulating plan establishes two “subzones” – Main Street and Neighborhood. The Main Street subzone is closer to the train station and would emphasize vertical mixed-use (up to five stories) with retail on the ground floor and residential or commercial above. The Neighborhood subzone would encourage medium-to-high residential density and could include some retail and live/work space. These buildings would generally be between two and four stories. The FBC focuses on three district areas of design, as follows:

1. Building Form

The building form standards identify the specific physical and functional character of the district. The form controls on building frontages work together to frame the street-space while allowing greater functional and operational freedom behind their facades. The building form standards aim for the minimum level of control necessary to meet this intent.

2. Public Space

The form-based code delineates two street types. One would include Railroad, Ronkonkoma, and Garrity Avenues, and would have a right-of-way of approximately 74 feet. The other (for Union, Elm, Maple and Mill Streets, and Union and Carroll Avenues) would have a smaller right-of-way of approximately 50 feet.

3. Architectural, Landscape, and Signage

Architectural, landscape, and signage standards are specified in the FBC and includes the siting of the buildings; location and design of parking areas; pedestrian and bicycle access; pedestrian amenities; building facades; landscape design and plantings; lighting; site furnishings; and the type, size, and materials used for signage.

If the existing zoning was allowed to remain in place, development around Ronkonkoma Station would continue to occur in a haphazard manner that encourages the proliferation of incompatible land uses. The TOD District as a FBC implements the community’s vision for the area. Not only does the FBC allow for land uses that are appropriate for the area, but it does so in manner that encourages sound architectural design along with streetscape standards that promote pedestrian activity.

Land Use and Implementation Plan

The proposed Land Use and Implementation Plan provides the background and history of the planning process that the Town previously embarked on and includes

an overview of the Ronkonkoma Station, and recommended planning and zoning tools (TOD and FBC zoning). As part of the implementation strategy for the proposed action, the proposed Land Use and Implementation Plan outlines the implementation strategy for realizing the vision for Ronkonkoma Hub Transit-Oriented developed as part of the *Ronkonkoma Hub Transit-Oriented Planning Study*, including an overview of the rezoning adoption process, an updated market study, and economic incentives to encourage private development. The Land Use and Implementation Plan relies on data, assumptions and conceptual plans developed in Phase 2 of the *Ronkonkoma Hub Transit-Oriented Planning Study*, as well as a detailed market study conducted in August 2010.

Traffic and Parking

A Traffic and Parking Analysis was prepared to evaluate the future traffic conditions, both with and without the proposed action (i.e., “Build” and “No Build” conditions, respectively), to evaluate the potential impact of development within the TOD District area. The No Build condition represents the future traffic conditions that can be expected to occur, without the site-specific developments included on the Theoretical Full Build Plan. The No Build condition serves as a comparison to the Build condition, which represents expected future traffic conditions resulting from both project and non-project-generated traffic. Traffic volumes in the study area were projected to the year 2014, reflecting the year when the proposed action is expected to be completed and operational. An evaluation of the existing parking supply, the demand for parking and appropriate ratios to meet those demands, were also included.

Trip Generation

The Theoretical Full Build Plan is projected to generate 360 trips during the AM peak hour and 608 trips during the PM peak hour.

Signalized Intersection Capacity Analysis

The signalized intersections of the Long Island Expressway (“LIE”) North Service Road at Hawkins Avenue, LIE South Service Road at Hawkins Avenue, Hawkins Avenue at Union Avenue, Union Avenue at Mill Road, and Hawkins Avenue at Railroad Avenue for the AM and PM peak hours were evaluated. The LIE North Service Road at Hawkins Avenue, Hawkins Avenue at Union Avenue, Union Avenue at Mill Road, and Hawkins Avenue at Railroad Avenue, in the two time periods analyzed, the Level of Service (“LOS”) remains satisfactory C or above in the Build Condition. The change from No Build to Build condition is minimal. The signalized intersection of LIE South Service Road at Hawkins Avenue operates well during AM peak in all three scenarios analyzed, but fails during the PM peak period.

The LOS at the signalized intersection of LIE South Service Road at Hawkins Avenue fails in the existing Condition and worsens in the No Build and Build Conditions. Changes in phase splits are not sufficient to address this, hence the following mitigation measures are recommended.

1. On the South Service Road, an extra through lane should be added. The new eastbound lane configuration would be an exclusive left turn lane, two through, and a shared through and right turn lane.
2. On Hawkins Avenue, an exclusive right turn lane should be added. The new northbound configuration would be two through lanes and an exclusive right turn lane.
3. Optimize the phase split to suit the new lane configurations. Since the cycle length is tied with the cycle length at the LIE North Service Road and Hawkins Avenue, it is recommended that only the phase split be changed.

Unsignalized Intersection Capacity Analysis

The capacity of the unsignalized intersection of Ronkonkoma Avenue at 2nd Street/Powell Street for the AM and PM peak hours was evaluated. At the unsignalized intersection of Ronkonkoma Avenue at 2nd Street/Powell Street, in the two time periods analyzed, the LOS remains satisfactory (C or above) in the Build Condition. The change from No Build to Build Condition is minimal.

Parking

The 2014 Build condition, which includes the construction of the parking structure, would more than accommodate the projected parking demand. By comparing the overall parking supply and demand, there are 1,040 more parking spaces (4,644 – 3,604) provided than are actually needed to accommodate the demand. As such, the proposed parking ratios in the TOD District code would accommodate the demand.

Air Quality

Short-Term Impacts - Construction/Demolition

Construction and demolition activities associated with redevelopment in accordance with the TOD District will result in a slight, short-term increase in air pollution emissions. The primary source of potential emissions is from fugitive dust resulting from construction operations (e.g., clearing, grading). Fugitive dust consists of soil particles that become airborne when disturbed by heavy equipment operations or through wind erosion of exposed soil after groundcover (either lawn or pavement) is removed. To minimize fugitive dust emissions, a water truck will be kept on construction sites during excavation activities. This construction-related air-quality impact (i.e., fugitive dust) would be of relatively short duration. Also, during construction, emission controls from construction vehicles and machinery would include proper maintenance and reduced idling on-site. Overall, therefore, the

impacts on ambient air quality from construction activities associated with site-specific development are not expected to be significant.

Overall, air quality in the TOD District area would not be expected to be substantially affected by redevelopment because of emission control procedures and the temporary nature of construction activities. Emissions from the operation of construction machinery (carbon monoxide ["CO"], nitrogen oxides ["NOx"], particulate matter ["PM"], volatile organic compounds ["VOCs"], and greenhouse gases) are short-term and not generally considered substantial. With the implementation of the various mitigation measures to minimize construction-related air quality impacts, no significant adverse impacts would be expected.

Long-Term Impacts

The projected increase in traffic would likely result in only small increases in CO and PM concentrations, which would result in Ronkonkoma TOD project values that would not be expected to exceed the National Ambient Air Quality Standards ("NAAQS"). If similar increases are realized in ozone precursor emissions (VOC's and NOx), then development in accordance with the Theoretical Full Build Plan would have no impact on the ozone NAAQS because the mobile source emissions are small when compared to the total emissions for the entire nonattainment area. Ozone is a regional problem that is addressed over the nonattainment area that is much larger than the proposed project site.

Similarly for the remaining pollutants, the emissions related to the Theoretical Full Build Plan are expected to have unsubstantial increases in relation to the urban nature of the area and the corresponding background concentrations of the various study pollutants. The urban nature is supported with the Ronkonkoma TOD project situated between a major highway to the north and an airport to the south.

There are no short or long-term air quality impacts expected from development in accordance with the Theoretical Full Build Plan. The primary design intent of the proposed TOD is to create a compact, mixed-use, transit-accessible and walkable community. These types of communities make it possible to live without complete dependence on the automobile for mobility, thus; reducing vehicular emissions within the TOD District area. In addition to the TOD-nature of the project, which in itself reduces vehicular demand for a development, there are transportation-related infrastructure improvements including capacity enhancements at intersections that will reduce vehicular delays. The reduced vehicular delays equate to reduced mobile source emissions. Overall, no significant adverse long-term air quality impacts would be expected.

Noise

The noise impact analysis considered the mobile and stationary source sound levels to determine the potential change in the existing sound levels for sensitive locations

on and in the vicinity of the TOD District. The mobile and stationary source noise analysis typically evaluates daytime and nighttime sound levels. The future No Build and Build sound levels include cumulative impacts from traffic growth over time and increases in traffic from the proposed development and significant other projects in the study area.

Mobile Sources

Although traffic volumes on the roadways within the TOD District area are projected to increase under the 2014 Build condition, it is not expected that the proposed action would increase noise levels by more than six dBa above existing noise levels. In fact, it is expected that the 2014 Build Condition sound levels will likely remain unchanged, as compared to the Existing Conditions. As such, it is not expected that the proposed action would result in significant adverse noise impacts.

Stationary Sources

The proposed action would result in changes in sound levels due to rooftop mechanical equipment and during the nighttime period, which is expected to be the dominant noise source. Properties developed or redeveloped would be required to install rooftop equipment that does not exceed Town noise code standards. Such equipment shall be located in penthouse rooms and/or enclosures, or shall utilize the building height and geometry to create building blockage for receptor locations, and/or install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment. Thus, no significant adverse noise impacts from stationary sources are anticipated.

Noise Related to Facility Operations

The loading and unloading areas for properties within the TOD District area are to be designed and operated to ensure that there would be no adverse noise impacts to the existing residential receptor locations. The loading and service activities for the proposed development would be required to be internally situated or screened to minimize noise associated with loading activities; thus, resulting in no adverse noise impacts to the sensitive receptor locations. In addition, the building operations will be scheduled, to the extent practicable, to minimize noise impacts.

All uses within the TOD District area would be subject to compliance with Section 50 of the Town Code which regulates noise. Thus, required compliance with the Town's noise ordinance will minimize the potential for significant adverse noise impacts from facility operations.

Construction-Related Noise

Construction period activities may temporarily increase nearby sound levels due to the intermittent use of machinery during the construction of the project. The Town of

Brookhaven's Noise Code prohibits construction between the hours of 6:00 PM to 7:00 AM. All exterior construction activities, such as site excavation/grading and new building construction would be limited to the hours of 7:00 AM to 6:00 PM, as specified in the Town Code. All of the daytime construction sound levels are expected to be below 80 dBA. Sound levels would be evaluated at each phase of construction to determine if additional construction noise mitigation measures are necessary.

Socioeconomics

BBP LLC performed a Market Analysis to review trends in the residential, retail and office markets in order to identify opportunities for development in the TOD District. The market analysis revealed a number of key findings by market sector, as follows.

Residential Market Key Findings

- The TOD District area is situated within a primary and secondary market area: the Towns of Brookhaven and Islip (the primary market) and Suffolk County (the secondary market). It is assumed that the majority of demand for new housing will emerge from the primary market area, with the next largest source of demand coming from the secondary market area.
- The target market of households most likely to prefer multi-family housing near transit includes households earning \$35,000 to \$150,000. This income range includes households that can afford current market rate rents and purchase prices. The Market Analysis estimates that the majority of demand will emerge from the middle two-thirds of this range (households earning between approximately \$50,000 to \$130,000).
- There were an estimated 337,000 target market households in the primary and secondary study areas in 2009. By 2019, it is projected that nearly 11,000 households will be added in these areas.
- Top tapestry segments (i.e. socioeconomic groups) in the market areas include "Pleasant-ville," "Sophisticated Squires," "Wealthy Seaboard Suburbs," and "Up and Coming Families." These groups are similar in that most households are relatively affluent; consists of married couples; are headed by empty nesters, couples without children, and baby boomers; live in older single-family homes; commute; and enjoy shopping, dining out, and outdoor activities.
- The TOD District area could capture a modest six percent of household growth in the primary and secondary market areas through 2019. Such capture would support the development of the 615 residential units identified in the Theoretical Full Build Plan.

- To appeal to the target demographic, new units should offer a broad range of amenities. These include both in-unit amenities (e.g. architecturally distinctive features, private entries, gourmet kitchens, etc.) and community/station area amenities (e.g. convenient services such as child care, pet care, and auto care, as well as destination shops and restaurants).
- Developers of new housing units may look to the proximate Fairfield at Ronkonkoma development, a rental townhouse community situated to the east of the transit station, as a model for relatively higher density housing catering to the needs and preferences of target market households. This community offers a variety of amenities, including recreational facilities, landscaping, optional detached garages, and gourmet kitchen and designer bath features. The development has enjoyed an extremely high occupancy rate and high rental rates (in the range of \$1,875 to \$2,480), which suggest demand is strong for this type of housing near the LIRR station.

Retail and Restaurant Market Key Findings

- Two classifications of retail goods and services may be offered at the TOD District area: convenience (e.g. food stores, limited service eating places, etc.) and shoppers goods (e.g. clothing, home furnishings, etc.). The TOD District area is situated within four associated trade areas: the convenience goods primary trade area (three-mile radius, roughly equal to a five-minute drive), the convenience goods secondary trade area (Suffolk County), the shoppers goods primary trade area (five-mile radius, roughly equal to a ten-minute drive), and the shoppers goods secondary trade area (Suffolk County).
- Retail spending in each trade area is strong and projected to grow as population increases and disposable income rises.
- Estimated 2009 retail spending levels on convenience goods were as follows: \$439 million in the convenience goods primary trade area and nearly \$8 billion in the convenience goods secondary trade area. By 2014, these figures are projected to increase to \$463 million in the primary trade area and nearly \$8.6 billion in the secondary trade area.
- In 2009, shoppers goods retail spending levels were as follows: nearly \$1.6 billion in the shoppers goods primary trade area and over \$10.6 billion in the shoppers goods secondary trade area. By 2014, spending is projected to rise to nearly \$1.7 billion in the primary trade area and \$11.4 billion in the secondary trade area.
- Future retail spending could support over 51 million square feet of convenience and shoppers goods retail space in the primary and secondary trade areas (in retail store group categories conducive to downtown development). The TOD District area could capture a modest 0.16 percent of

this supportable space over the next nine years. Such capture would support the development of the 80,875 square feet identified in the Theoretical Full Build Plan.

- New retailers in the TOD District area will face competition from other retailers currently located in the trade areas. An analysis of retail leakage was undertaken to understand which categories of retail are underrepresented, as illustrated by retail sales “leaked” beyond the trade area, indicating unmet demand for goods and services. Such retail types may offer relatively stronger potential for success in the TOD District area given their underrepresentation elsewhere.
- Retail store groups with current sales leakage include: beer, wine and liquor stores; office supplies, stationary, and gift stores; taverns; auto parts, accessories and tire stores; furniture stores; clothing stores; shoe stores; jewelry, luggage and leather goods stores; book, periodical and music stores; used merchandise stores; full-service restaurants; and special food services.
- Factors beyond retail leakage will impact the odds of success of any particular store, including quality of products, customer service, marketing, and the experience offered to customers. A savvy entrepreneur that offers superior products, service, marketing and/or experience may succeed in opening a type of store that is already well-represented in the trade areas by being a strong competitor.
- Future households, employees and transit riders generated by new development in the study area will also offer potential sources of demand for retail, but have been omitted from the analysis because it is important that the future retail uses are self-sufficient (and not reliant on the success of other types of new development). These other sources of demand instead should be viewed as an important additional source of sales that will enhance their opportunity to thrive, but not be the primary reason for such success.

Office Market Key Findings

- A new or expanding business considering Suffolk County or Long Island is likely to consider Ronkonkoma; therefore the primary and secondary market areas have been defined as Suffolk County and Long Island, respectively.
- Existing office uses are few within the TOD District area, and represent a very small proportion of the office uses present in Suffolk County and Long Island.
- Top industry clusters in Long Island include: back office and outsourcing; biomedical; communications, software and media services; financial services;

front office and producer services; and information technology services.

- Office-based employment and associated demand for office space is projected to grow in Suffolk County and Long Island by 2014.
- Office supply is also projected to grow based on past trends in supply.
- To support the 49,375 square feet of office space called for in the Theoretical Full Build Plan, the TOD District area will have to capture either two percent of the office space supported by office employment trends or four percent of the office space supported by supply trends.
- Businesses in growth industries that are compatible with downtown settings should be considered targets for office space in the TOD District area. Such industries include: real estate, rental and leasing; professional, scientific and technical services; management; and administrative support.

Health Club Key Findings

- A health club in the TOD District area will provide synergies to support other development. From a market analysis perspective, the health club is considered an added amenity for future residents and employees, and could bring additional visitors to the area who may then patronize retail shops and restaurants. The demand for same is supported by the development within the TOD District area.

Projected Property Tax Revenues

Town and County

The estimated net increase between the total current tax revenues generated by the project area for Suffolk County (\$74,408±) and the total future project-generated tax revenues for the Theoretical Full Build Plan (\$352,843±) is projected to be approximately \$278,435, or just under four times the tax revenues generated currently by the property. The estimated net increase between the total current tax revenues generated by the project area for the Town of Brookhaven (\$40,989±) and the total future project-generated tax revenues for the proposed development (\$194,367±) is projected to be approximately \$153,379, also just under four times tax revenues generated currently by the property.

School and Library

The projected tax revenues in the analysis based on current 2009-2010 tax rate for the Sachem Central School District (“CSD”). With no changes in assessments, these rates

are likely to increase over time. The net increase between the total current school and library tax revenues (\$366,200±) for the Sachem CSD generated by the project area and the total future project-generated school tax revenues (\$1,736,519±) is projected to be approximately \$1,370,319 or just under four times the level of school tax revenues generated currently by the project site.

Other Special Districts

The future tax revenues generated by the project area for the Lake Ronkonkoma Fire District and Lighting District are projected to be approximately \$92,207± and \$16,650±, respectively. The net increase between the total current tax revenues generated by the project area for the Lake Ronkonkoma Fire District (\$19,445±) and the total future project-generated tax revenues from the proposed project (\$92,207±) is projected to be approximately \$72,762±, or just under four times the tax revenues generated currently by the property. The net increase between the total current tax revenues generated by the site for the Lighting District (\$3,511±) and the total future project-generated tax revenues from the proposed project (\$16,650±) is projected to be approximately \$13,139± or just under four times tax revenues generated currently by the property.

Community Facilities and Services

Fire Protection and Ambulance Service

The TOD District is located within the jurisdiction of the Ronkonkoma Fire Department. In order to ensure that there will be no significant adverse impacts to the Ronkonkoma Fire Department, all development plans would be required to ensure compliance with New York State building and fire codes, and also be reviewed by the Brookhaven Fire Marshal. According to the tax revenue analysis, approximately \$72,762 is the estimated annual net increase in revenue (from existing conditions) to the Ronkonkoma Fire Department. Overall, the proposed action and the future redevelopment of the TOD District in accordance with same would not be expected to result in significant adverse impacts to fire protection and ambulance services, which are provided by the Ronkonkoma Fire Department.

Health Care Facilities

There are health care facilities available to residents and patrons of uses within the TOD District. It is expected that many of the potential residents of the proposed development would be existing residents of the Town of Brookhaven or nearby municipalities. As both Brookhaven Hospital and Stony Brook University Medical Center are health care facilities that already serve this community, it is not anticipated that the proposed development would adversely impact health care services in the area.

Police Protection

The Fourth Precinct of the Suffolk County Police Department currently services the TOD District area. The TOD District area is an existing developed area that has been served by the Fourth Precinct and there is an existing patrol that covers the TOD District area. As such, it is not expected that the proposed action would require additional police personnel to serve the TOD District area. According to the tax revenue analysis, approximately \$255,066 is the estimated annual net increase in revenue in revenue (from existing conditions) to the Suffolk County Police Department. Overall, it is not expected that redevelopment of the TOD District area would result in a demand that causes significant adverse impacts to police services.

Educational Facilities

The TOD District is within the Sachem CSD. The 615 residential units included in the Theoretical Full Build Plan could potentially generate 68 school-aged children. Based on published data (www.schooltree.org), the school enrollment is 15,311 children. Therefore, the additional 68 school-aged children would represent only a 0.4 percent increase in total enrollment. The total cost to the CSD for the 68 additional children would be \$1,265,242. The Theoretical Full Build Plan would generate \$1,634,007 annually to the school district. Therefore, an estimated \$368,765 would be a net annual benefit to the school district. Overall, it is not expected that the proposed action would result in significant adverse impacts to the Sachem CSD.

Solid Waste (Collection and Disposal)

The Theoretical Full Build Plan would generate approximately 124.14 tons of solid waste per month. The collection and disposal of solid waste generated by commercial properties (including the retail, office, and restaurant uses included on the Theoretical Full Build Plan) is performed by licensed, private carters (which is typical practice for Long Island Towns). Also, the collection and disposal of solid waste from private, multi-family residential developments would also be performed by licensed, private carters. Thus, the ultimate disposal locations are at the discretion of the carter and would not be expected to result in significant adverse impacts to the Town's waste management facilities.

Aesthetics

Architectural Features and Streetscape Elements

A key objective of the TOD District FBC is to locate buildings close to streets and to each other as opposed to separate structures with large front and side yard areas. Parking would be in one of several forms, including; structured parking as part of the buildings, located behind the buildings and/or at the rear of lots, or on-street along the key gateway streets such as Railroad Avenue. This approach to orienting buildings and entrances towards the street and the provision of on-street parking

would give definition to the street as a public space, and create a comfortable sense of place for pedestrians. The goal is to create a development pattern that avoids the fragmented look of large-format “big-box” buildings sitting within the middle of a site, surrounded by a sea of parking. Instead, the emphasis is on visual continuity between the buildings and streets.

The proposed structures would respect the scale and massing of existing development outside of the TOD District area by transitioning down in height at the northern district boundary. However it will allow greater density, building type variety and interruptions in roof forms and skyline treatment that would enhance the visual interest within the TOD District area. The variation of building heights is part of the diversity of many attractive urban centers. There will be selected opportunities for taller signature building elements/design features that would be allowed to extend above surrounding buildings as prominent visual features within the community fabric.

High quality streetscape design and landscaping, including a landscaped median in the gateway streets is an important feature for this type of urban-style neighborhood where the public street space becomes, in effect, the place for the social interactions that builds a sense of community. The proposed public open space south of Railroad Avenue will blend with the more urban aspects of the design, to create a visually diverse community. Additionally, the form-based code contains provisions that call for landscaping of the redeveloped properties in such a way as to create visual relief and interest, provide shade for pedestrians, and to screen the parking and loading areas. The public realm street design standards will also provide for trees along the roadway in addition to the landscaped median.

Overall, the creation of the TOD District and the redevelopment of properties in accordance with the TOD District zoning code would result in beneficial impacts to the visual character of the area.

Cultural Resources

There are no cultural resources (historic or archaeological) resources on or adjacent to the TOD District. As such, the redevelopment of properties within the TOD District would not result in adverse impacts to cultural resources.

PROPOSED MITIGATION MEASURES

Soils and Topography

- Parcels developed or redeveloped within the TOD District area would employ proper erosion and sedimentation controls, in accordance with Chapter 86 of the Town Code.

- Parcels to be developed or redeveloped would implement dust control measures during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.

Water Resources and Sanitary Disposal

- Sanitary waste from newly-developed/redeveloped parcels within the TOD District area would be accommodated by the proposed STP and, therefore, would conform to the prevailing regulations of the Suffolk County Sanitary Code. Moreover, the NYSDEC will establish discharge limits in accordance with the permit ultimately issued for the STP. These measures will help mitigate potential impacts to groundwater.
- Parcels developed or redeveloped within the TOD District area would be required to implement water conservation measures, including low-flow fixtures, low-flow toilets, and/or drip irrigation.
- Parcels developed or redeveloped within the TOD District area would be required to comply with Chapter 86 of the Town Code, which is the Town's stormwater ordinance.
- Parcels developed or redeveloped within the TOD District area would be required to use native or low maintenance plantings, as included in the TOD zoning code, to reduce irrigation needs and fertilizer demand. These measures will mitigate potential impacts to water quantity and quality.

Ecology

There are no significant adverse impacts expected to result from the proposed action. However, to minimize habitat impacts, development/redevelopment would incorporate native or low maintenance species into the landscaping plan.

Land Use and Zoning

- The proposed TOD District includes the establishment of zoning criteria and design guidelines to minimize potential adverse impacts, including the following:
 1. Regulating Plan – The regulating plan establishes two “subzones” – Main Street and Neighborhood. The Main Street subzone is closer to the train station and would emphasize vertical mixed-use (up to five stories) with retail on the ground floor and residential or commercial above. The Neighborhood subzone would encourage medium-to-high residential density and could include some retail and live/work

space. Development/redevelopment would be required to conform to the regulating plan.

2. Public Space Standards - The public space includes plazas and open spaces, as well as the streets and sidewalks. The form-based code delineates two street types. One, which would include Railroad, Ronkonkoma, and Garrity Avenues, would have a right-of-way of approximately 74 feet. The other (for Union, Elm, Maple and Mill Streets, and Union and Carroll Avenues) would have a smaller right-of-way of approximately 50 feet. All improvements conducted as part of development/redevelopment would comply with the public space standards.
3. Building Form Standards - The building form standards identify the specific physical and functional character of the TOD District. The form controls on building frontages work together to frame the street-space while allowing greater functional and operational freedom behind their facades. All development/redevelopment would conform to the building form standards.
4. Architectural, Landscaping and Signage Standards - Architectural, landscape, and signage controls are specified in the TOD District zoning code and include the siting of the buildings; location and design of parking areas; pedestrian and bicycle access; pedestrian amenities; building facades; landscape design and plantings; lighting; site furnishings; and the type, size, and materials used for signage. All development/redevelopment would conform to the architectural, landscaping and signage Standards.

Traffic and Parking

To address impacts to the signalized intersection of LIE South Service Road at Hawkins Avenue, the following mitigation measures are necessary:

- On the South Service Road, a new eastbound lane configuration would be an exclusive left turn lane, two through, and a shared through and right turn lane;
- On Hawkins Avenue, a new northbound configuration would be two through lanes and an exclusive right turn lane; and
- Modification of the phase split to suit the new lane configurations.

To address potential parking losses should Sites 1 and 8 be redeveloped, alternative commuter parking locations must be identified, if determined that same is required by the MTA.

Air Quality

- During construction within the TOD District area, emission controls for construction vehicle emissions would be employed and should include, as appropriate, proper maintenance of all motor vehicles, machinery, and equipment associated with construction activities, such as, the maintenance of manufacture's muffler equipment or other regulatory-required emissions control devices.
- Parcels to be developed or redeveloped would implement dust control measures during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.
- Regular sweeping of pavement of adjacent roadway surfaces during construction would be conducted to minimize the potential for vehicular traffic to create airborne dust and particulate matter.

Noise

- Parcels developed or redeveloped with residential land use components would be required to implement mitigation strategies such that interior noise levels do not exceed 45 dBA.
- Parcels developed or redeveloped would be required to install rooftop equipment that does not exceed Town noise code standards. Such equipment shall be located in penthouse rooms and/or enclosures, or shall utilize the building height and geometry to create building blockage for receptor locations, and/or install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment.
- Loading and service activities on parcels to be developed or redeveloped will be internally situated or screened to minimize noise associated with loading activities from the surrounding residential areas.
- Construction equipment would be required to have appropriate noise muffler systems. Excessive idling of construction equipment engines would be prohibited.

Socioeconomics

As there are no significant adverse demographic or economic impacts associated with the proposed action, no mitigation measures are required.

Community Facilities and Services

- Parcels developed or redeveloped will comply with New York State building and fire codes.
- All development/redevelopment applications would be required to be reviewed by the Brookhaven Fire Marshal, and would comply with all Fire Marshal requirements.
- Parcels developed or redeveloped will provide proper egress and ingress for emergency service providers.

Aesthetics

- Architectural, landscape, and signage controls are specified in the FBC Code. This includes the siting of the buildings; location and design of parking areas; pedestrian and bicycle access; pedestrian amenities; building facades; landscape design and plantings; lighting; site furnishings; and the type, size, and materials used for signage. All development/redevelopment must conform to the Architectural, Landscaping and Signage Standards.

Cultural Resources

There have been no historic or archaeological resources identified within or adjacent to the TOD District area, and thus, mitigation measures are not required.

CONDITIONS/CRITERIA UNDER WHICH FUTURE ACTIONS WILL BE UNDERTAKEN OR APPROVED INCLUDING REQUIREMENTS FOR SUBSEQUENT SEQRA COMPLIANCE

6 NYCRR §617.10(c) and (d) state, in pertinent part:

“(c) Generic EISs...should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQRA compliance...”

(d) When a final generic EIS has been filed under this part:

- (1) No further SEQRA compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement;*
- (2) An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the generic EIS but was not addressed or was not adequately addressed in the findings statement for the generic EIS;*

(3) *A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action will not result in any significant environmental impacts;*

(4) *A supplement to the final generic EIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action may have one or more significant adverse environmental impacts."*

Based on the analyses contained in this DGEIS, the following represent the proposed conditions and thresholds, which, if met, would allow full development of the TOD District area within the Town of Brookhaven without the need for further SEQRA compliance:

- To address the impacts to the signalized intersection of LIE South Service Road at Hawkins Avenue, mitigation measures are necessary, including (1) on the LIE South Service Road, construction of a new eastbound lane configuration to function as an exclusive left turn lane, two through, and a shared through and right turn lane; (2) on Hawkins Avenue, construction of a new northbound configuration to provide two through lanes and an exclusive right turn lane; and (3) modification of the phase split to suit the new lane configurations. Developers would be required to contribute a fair share to the required improvements.
- All developers must construct or fund required off-site roadway improvements (including drainage), and streetscape enhancements (including, but not limited to sidewalks, lighting, landscaping), as set forth in the design guidelines of the TOD District zoning code, contiguous to the parcels being considered for development. In addition to said improvements, a monetary contribution to the Town of Brookhaven Highway Department may be required for roadway and related infrastructure improvements (e.g., drainage, landscaped median, bike paths, etc.).
- To address potential parking losses should Sites 1 and 8 be redeveloped, the developer(s) of Sites 1 and 8 must identify alternative commuter parking locations, if determined that same is required by the MTA.
- The traffic analysis determined that 573 additional vehicle trips during the AM peak hour (458 trips for the Theoretical Maximum Build Plan + 115 trips for Scenario 1 [Cumulative Impacts]) and 925 additional vehicle trips during the PM peak hour (787 trips for the Theoretical Maximum Build Plan + 138 trips for Scenario 1 [Cumulative Impacts]) could be accommodated without

significant adverse impacts to the roadways. In the event that development/redevelopment is proposed that would exceed this trip generation, additional traffic evaluation must be conducted. As necessary, mitigation measures would then have to be identified and employed.

- The design capacity of the STP is 275,000 gpd. Thus, sanitary discharge associated with development/redevelopment within the TOD District area cannot exceed this amount. In the event that development/redevelopment is proposed that would cause this capacity to be exceeded, additional evaluation must be conducted and additional sewage capacity (either within or outside the TOD District area) must be secured to support the additional development.
- All developers would be required to contribute a fair-share contribution to the SCWA infrastructure improvements within the TOD District area.
- All development/redevelopment of multi-story buildings must demonstrate adequate water pressure for the higher elevations in the buildings, and, where necessary, install a booster pump system.
- Parcels developed or redeveloped within the TOD District area would be required to implement water conservation measures, including low-flow fixtures, low-flow toilets, and/or drip irrigation.
- All development must demonstrate compliance with Section 16-4.2 of the Town Code (energy efficiency) and must incorporate energy conservation measures.
- All development must demonstrate compliance with Chapter 86 of the Town Code for stormwater management and erosion control.
- All development must implement dust control measures during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.
- All development must incorporate native or low maintenance plantings in to the landscaping plans, as provided in the TOD District zoning code, to reduce irrigation needs and fertilizer demand.
- Parcels developed or redeveloped for residential purposes within the TOD District area would be required to comply with the Long Island Workforce Housing Act.

- All development/redevelopment would be required to conform to the Regulating Plan, Public Space Standards, Building Form Standards, Architectural Standards, Landscaping Standards, and Signage Standards.
- All developers must construct and/or contribute to the construction of the public open space/plaza.
- During construction, regular sweeping of pavement of adjacent roadway surfaces must be conducted to minimize airborne dust and particulate matter.
- Parcels developed or redeveloped with residential land use components will be required to implement mitigation strategies such that interior noise levels do not exceed 45 dBA. A noise study demonstrating that such noise levels can be achieved must be submitted to the Town.
- Parcels developed or redeveloped must incorporate mitigation measures and demonstrate that rooftop equipment does not exceed Town noise code standards. Such equipment shall be located in penthouse rooms and/or enclosures, or shall utilize the building height and geometry to create building blockage for receptor locations, and/or install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment.
- Loading and service activities on parcels to be developed or redeveloped will be required to be internally situated or screened to minimize noise associated with loading activities from the surrounding residential areas.

In the event that any of the above conditions are proposed to be exceeded by future development, additional SEQRA compliance would be necessary in accordance with 6 NYCRR §617.10(d)(2),(3) or (4), as would be appropriate, given the actual development plan proposed and the associated potential environmental impacts associated therewith.

ALTERNATIVES AND THEIR IMPACTS

No-Action Alternative

This section examines the SEQRA-mandated No-Action alternative, which involves leaving the TOD District area in its present state. While the implementation of this alternative would leave the TOD District area unchanged and would not result in any additional environmental impacts, the Town's desire to revitalize the TOD District area would not be realized. Specifically, the No-Action alternative would result in the possible continuation of an area that consists of vacant, underutilized

and/or blighted properties. The No-action alternative would also allow the TOD District area to continue with unplanned, uncoordinated development.

The TOD District area has been the subject of planning studies and community involvement since 2007. Subsequent to the *Ronkonkoma Hub Transit-Oriented Planning Study*, the Town moved forward with the implementation phase (i.e., adoption of a Land Use and Implementation Plan for the TOD District area, TOD code and the associated rezoning of properties within the TOD District area). The intent of the TOD District is to encourage the efficient use of land, be a catalyst for revitalization, and foster a sense of place through development of a new transit-oriented, mixed use, pedestrian-friendly community. As such, implementation of the No-Action alternative would be in contravention of the Town's stated goals and the community's desire to revitalize the area, as evidenced by the visioning process. Furthermore, the projected tax and employment benefits, the introduction of new multi-family housing, and the economic benefits associated with the proposed action would not occur under the No-Action alternative.

Theoretical Maximum Build-Out Plan

An alternative plan is being evaluated that considers the inclusion of property to the south of the LIRR tracks, within the Town of Islip, that is currently used for parking. This alternative would include the development of retail space, structured parking and an STP on property within the Town of Islip. Thus, for this alternative, the boundary of the TOD District area includes the 52.16± acres to the south of the LIRR tracks, within the Town of Islip. The "Theoretical Maximum Build Out Plan" includes the following within the overall 105.89±-acre area (Towns of Brookhaven and Islip):

- 802 Multi-family residential units;
- Six townhouses;
- 102,275 square feet – Retail Space;
- 49,375 square feet – Office Space;
- 30,000 square feet – Health Club;
- 100 seats – Restaurant; and
- Sewage Treatment Plant.

CUMULATIVE IMPACTS

The potential cumulative impacts of the development of properties not identified on the Theoretical Full Build or Maximum Build Out Plans were evaluated. The land use components and density of future development applications cannot be identified at this time as same will be determined by, among other things, market demand, and the intentions of property owners. As land uses and land use density cannot be specifically predicted, for the purposes of evaluating the potential cumulative

impacts, assumptions had to be made on the potential build out of these parcels. For purposes of evaluating the cumulative impacts, the following two development scenarios have been identified:

- Scenario 1: Redevelopment includes all residential; or
- Scenario 2: Redevelopment includes retail, office and residential.

For the cumulative analysis, it has been determined that the limiting factor in the redevelopment of the TOD District area will be STP capacity – i.e., 275,000 gpd. Therefore, it is the size of the STP and the ability to accommodate sanitary waste that will limit the size and type of land uses on properties that may be proposed by landowners for redevelopment at a future date.

2.0

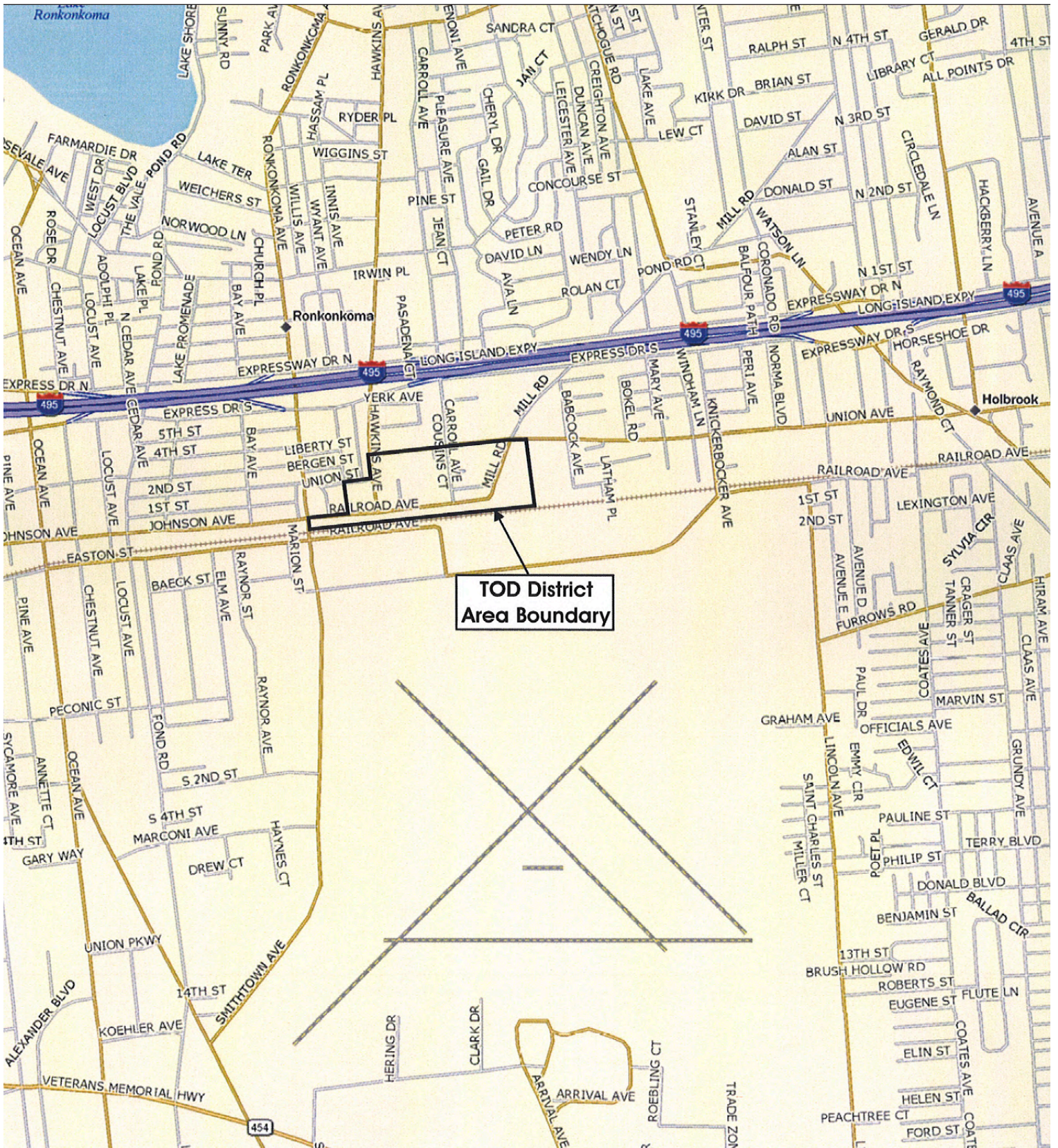
DESCRIPTION OF THE PROPOSED ACTION

2.1 Proposed Land Use and Implementation Plan and Transit-Oriented Development Zoning District

The Town Board of the Town of Brookhaven is developing a Land Use and Implementation Plan (see Appendix B) for the proposed Ronkonkoma Hub Transit-Oriented Development (“TOD”), which consists of an approximately 53.73±-acre area that includes a portion of the Long Island Rail Road (“LIRR”) – Ronkonkoma Train Station located within the Town of Brookhaven, and extends beyond the perimeter of the station. The proposed action also includes the adoption of a TOD zoning district and the rezoning of the project area to the TOD, to advance the Town’s goals in creating a compact, mixed-use TOD. The proposed Ronkonkoma Hub TOD or “TOD District area” is bounded by Union Avenue to the north, Village Plaza Drive to the east, the LIRR tracks (Ronkonkoma Branch) to the south, and County Route 29, Garrity Avenue, and Hawkins Avenue to the west, in the hamlet of Ronkonkoma, Town of Brookhaven, Suffolk County, New York (see Figure 1).

For the purposes of determining the appropriate density, types of uses and the potential redevelopment sites, a conceptual development plan (i.e., hereinafter identified as the “Theoretical Full Build Plan”) included in Figure 2 – Theoretical Full Build has been prepared and includes the following program components:

- 615 Residential Units;
- 60,875 square feet – Retail;
- 49,375 square feet – Office;
- 30,000 square feet – Health Club;
- 200 seats – Restaurant Use (Total);
- Sewage Treatment Plant; and
- Plaza area for outdoor public use.



Note: Boundary is approximate

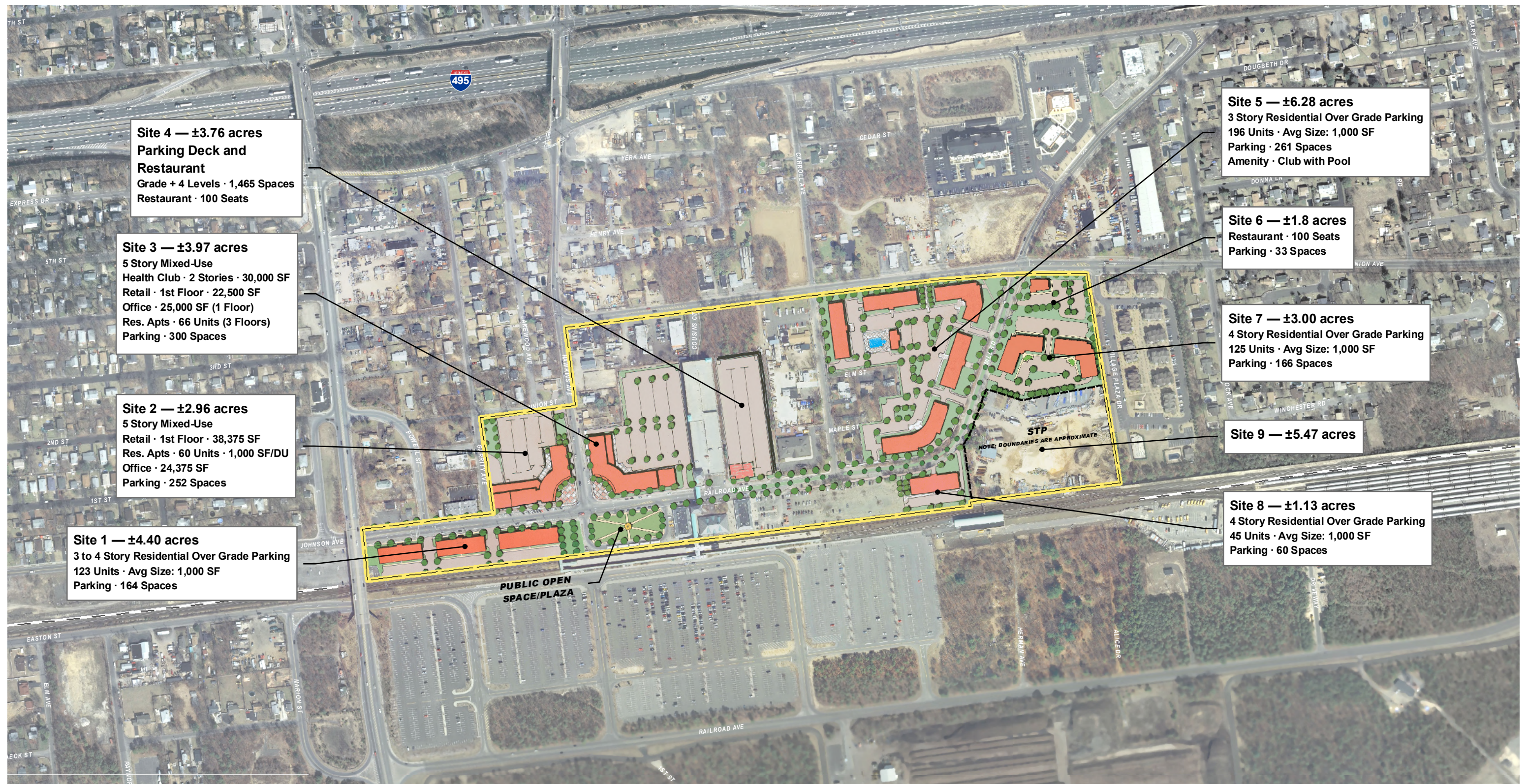


Figure 1
TOD District Area Location Map

Ronkonkoma Hub
Transit-Oriented Development



not to scale



VHB Engineering, Surveying and Landscape Architecture, P.C.

Legend

- Study Area
- Long Island Rail Road

Note: Parking based on ITE parking generation rates as follows:

- Res:** 1.33 Spaces/Unit
- Office:** 2.84 Spaces/Unit
- Retail:** 2.65 Spaces/Unit
- Restaurant:** 1 Space/3 Seats

Note: Study Area totals are as follows...

Brookhaven: 53.73 Acres



Data sources:
Aerial Imagery – New York State Geographic Information Systems
Assessors Parcels, LIR Rail, Land Use and Zoning – Suffolk County GIS Basemap, Town of Brookhaven, Long Island, NY



Figure 2
Theoretical Full Build Plan

Ronkonkoma Hub
Transit-Oriented Development

The Theoretical Full Build Plan is not a specific development proposal, but represents a feasible redevelopment option that achieves the goals and objectives of the Land Use and Implementation Plan and complies with the proposed TOD District. Further, the Theoretical Full Build Plan enables a comprehensive environmental review of the overall proposed action (described below) pursuant to SEQRA and its implementing regulations at 6 NYCRR Part 617.

The proposed action includes the adoption the Land Use and Implementation Plan, the adoption of the TOD zoning district, the rezoning of the TOD District area to TOD, and the redevelopment of the area in accordance with the TOD zoning district. The TOD District zoning code has been designed as a Form-Based Code with design guidelines (see Appendix C). Form-based code zoning is different from conventional zoning in that it emphasizes building form and appearance rather than specifying and distinguishing uses or establishing set back, building height, or lot coverage restrictions. Form-based code zoning focuses on regulating the public realm, including street types, blocks, and civic spaces and provides for flexibility in use, site and architectural design. Form-based code zoning also includes an extensive use of graphics to illustrate, for example, the anticipated relationship of the building to the street or site.

The TOD District zoning code, included in Appendix C of this DGEIS, establishes objectives, policies, and standards to promote orderly development and redevelopment within the TOD District area for purposes of encouraging high-density mixed-use development, housing, retail, and office uses. The overall intent of the TOD District is to encourage the efficient use of land, be a catalyst for revitalization, and foster a sense of place through development of a new transit-oriented, mixed use, pedestrian-friendly community.

The TOD District would also encourage redevelopment of vacant and/or underutilized, blighted properties, which would enhance the tax base and compliment the surrounding communities and uses as well as better utilize existing public transit infrastructure at Ronkonkoma Station through improved access and increased ridership. More specifically, the purpose and intent of the TOD District zoning code is to:

- Promote compact, mixed-use development in close proximity to the commuter rail station;
- Encourage development that supports transit;
- Encourage a diverse mix of business, commercial, office, residential, institutional, and entertainment uses for workers, visitors, and residents;
- Encourage a pedestrian-friendly environment and pedestrian-oriented commercial enterprises and consumer services that do not rely on automobile traffic to bring consumers into the area;
- Encourage flexibility in site and architectural design;
- Maintain a consistently high level of design quality;
- Encourage building reuse and infill to create higher densities; and

- Promote economic development opportunities.

The TOD District zoning code is included in Appendix C of this DGEIS and is evaluated in Section 4.4 of this DGEIS.

2.2 Project History, Purpose, Needs and Benefits

2.2.1 Project History

In 2007, the Town of Brookhaven embarked upon a two-phased planning study, known as the Ronkonkoma Hub Planning Study (herein referred to as the “*Ronkonkoma Hub Planning Study*”), aimed at revitalizing a multi-block area around the Ronkonkoma Hub, one of the busiest stations along the entire LIRR system. The area immediately surrounding the train station consists of numerous vacant/unoccupied parcels and/or structures, a number of which are in highly visible locations (i.e., Railroad Avenue), a rundown appearance of local businesses as well as large surface parking lots, a number of which are located along Railroad Avenue east and west of the existing station. Refer to Section 3.4 – Land Use and Zoning for a more detailed description of the existing conditions of the TOD District area.

The goal of the *Ronkonkoma Hub Planning Study* was to develop a vision that includes compact, mixed-use redevelopment of underutilized land that supports and expands on the high ridership of and recent improvements made to the train station. The desired outcome of the planning study was a long-term development strategy that established clear and predictable guidance for the revitalization of the blighted, vacant and/or underutilized parcels.

Phase 1, completed in April 2008, focused on documenting existing conditions of an approximately 181±-acre study area, including analysis of existing zoning, multi-family housing demand, parking, building space, and transportation infrastructure as well as the creation of goals and objectives and preliminary analysis of the development potential for priority development sites. The study area was generally bounded by the LIRR rail line to the south, Express Drive to the north, Bay Avenue to the west and Babcock Avenue to the east.

Phase 2, completed in March 2009, built upon the work completed in Phase 1 and generated a long-term vision and implementation strategy aimed at providing guidance to all interested parties on potential future development around the LIRR – Ronkonkoma Station. The outcome of this planning study was a long-term development strategy that established clear and predictable guidance for the revitalization of the TOD District area.

Key goals of the *Ronkonkoma Hub Planning Study* included:

- Promote quality and healthy communities;
- Redirect growth to areas already served by existing infrastructure;
- Expand transportation choices to enhance environmental quality;
- Reduce vehicle trips around the station;
- Support compact, mixed-use, transit-accessible, pedestrian-oriented redevelopment;
- Create a sense of place;
- Support local businesses;
- Create housing choices;
- Explore reverse commute opportunities; and
- Enhance the tax base for the Town and the region to support the variety of taxing districts.

Public meetings were held to gather input from local government, residents, businesses and other stakeholders throughout the planning study, including the development of a vision for the Ronkonkoma Station. Table 1 lists the multiple public meetings held throughout the development of the *Ronkonkoma Hub Planning Study* under both Phases 1 and 2.

Table 1 – Public Meetings

Meeting	Date
Stakeholder Meeting	October 18, 2007
Local Stakeholders and Civic League	November 7, 2007
Public Information Meeting	January 17, 2008
Stakeholder Meeting	June 16, 2008
Public Information Meeting	September 18, 2008

With input from local government, residents, businesses and other stakeholders, the *Ronkonkoma Hub Planning Study* included zoning recommendations, identification of transportation improvements, financial implications, and concept plans. A Vision Plan was developed that transformed Railroad Avenue into a community “Main Street” with mixed-use buildings that define the street edge, provided pedestrian amenities such as small urban plazas at study intersections, and included streetscape improvements along both sides of Railroad Avenue. The Vision Plan called for a mix of housing, retail, recreation and office space.

The highlights of that Vision Plan included:

- Urban plazas at study intersections to provide public spaces for pedestrians and help activate the street;
- Streetscape enhancements including sidewalks, signage, lighting and landscaping along Railroad Avenue, Mill Road and Hawkins Avenue;

- Orientation of buildings toward the street edge along Railroad Avenue and Hawkins Avenue to help define the “Main Street” character;
- Parking at the rear or interior of lots and seek opportunities for shared parking;
- Active pedestrian-oriented uses on the ground floor, particularly along Railroad Avenue between Garrity Avenue and the Station;
- New development on the MTA “bus loop” site;
- Buildings up to five stories on Railroad Avenue, up to four stories on Mill Road and up to 2.5 stories on Union Avenue;
- Streetscape enhancements to the Station plaza;
- Mix of uses on upper floors;
- Buildings oriented toward the street edge along Mill Road;
- Multi-family buildings oriented toward amenities such as parks or plazas;
- Residential unit types mixed within development sites;
- Pedestrian connections to Fairfield residential apartments;
- Approximately 430 residential units at densities that range from 15 to 20 units per acre; and
- Approximately 132,000 square feet of office and retail space.

Four “opportunity” sites were identified by the Town of Brookhaven early in the planning process. While these sites were the focus of the Vision Plan, it was noted that there could be other opportunity sites for development within the Ronkonkoma Hub. The four sites include: three MTA-controlled parcels that range from approximately three-quarters of an acre to three acres (two of which are within the TOD District area) (Sites 1, 8 and public plaza, as shown on Figure 2 – Theoretical Full Build Plan); and the block bounded by Garrity and Hawkins Avenues between Union Street and Railroad Avenue consisting of approximately three acres of land (within the TOD District area) (Site 2, as shown in Figure 2).

The *Ronkonkoma Hub Planning Study* identified many attributes to redeveloping these properties, including:

- The potential for Railroad Avenue to become a “Main Street” spine with buildings addressing the street;
- Opportunities to create “Gateways” along Railroad Avenue (to the east and west and at the Station) to celebrate entry to the Main Street area;
- All four opportunity sites are within a 10-minute walk of the Station;
- Large residential and mixed-use areas surround the four key sites; and
- There is potential frontage along Railroad Avenue for new buildings that could help define the street edge.

In addition to the land use goals, the *Ronkonkoma Hub Planning Study* identified numerous opportunities to enhance the streetscape and roadways to improve the public realm and plan for the anticipated growth in development within the study area. Roadway and other streetscape goals included the following:

- Potential new intersection treatment at Railroad and Hawkins Avenues;
- Potential roadway and streetscape improvements to Railroad Avenue, Mill Street, Union Street, and Hawkins Avenue;
- Streetscape amenities along Railroad Avenue including sidewalks, street trees, lighting, plazas, and landscape improvements at study intersections;
- Possible implementation of bike route connections along Railroad Avenue and Mill Road and Union Avenue; and
- Bicycle storage at the train station.

Based on the aforementioned land use goals and objectives, and to implement the Vision detailed in the *Ronkonkoma Hub Planning Study*, the Town of Brookhaven is proposing to rezone the area using a FBC incorporating TOD principles. Form-Based Code zoning focuses on regulating the public realm, including street types, blocks, and civic spaces and provides for flexibility in use, site and architectural design. Transit-Oriented Development promotes the creation or enhancement of walkable communities centered around high-quality train systems. These types of communities make it possible to live without complete dependence on the automobile for mobility. Key components of TOD include:

- Walkability with the pedestrian as the highest priority;
- A train station as a prominent feature within the community;
- A regional node containing a mix of uses including residential, office, retail and civic uses; and
- A high-density, high-quality development within a 10-to-15-minute walk surrounding the train station.

As a result of the community visioning and planning process, it was evident that the community did not want any zoning changes or development modifications to the existing single-family residential neighborhoods located in the eastern perimeter, and west and northwest portions of the 181-acre study area. Therefore, the redevelopment area was reduced to a 53.73±-acre area excluding the areas of single-family residential uses and including the core TOD area, which consists of the most severely underutilized and underdeveloped parcels with existing compatible land uses (i.e., commercial) as the intent of the action is not to redevelop thriving residential communities. The 53.73±-acre area is referred to herein as the “TOD District area.” The Theoretical Full Build Plan (Figure 2) represents a potential redevelopment option that illustrates the overall type and level of development that could take place with the implementation of the TOD District and for which potential environmental impacts are analyzed.

2.2.1.1 Implementation Phase

The implementation phase, or “Phase 3,” of the *Ronkonkoma Hub Planning Study* incorporated the principles of the aforesaid planning process, including the elimination of the single-family residential areas from any proposed zoning changes

or development modifications. As part of the implementation strategy, the Land Use and Implementation Plan (see Appendix B of this DGEIS) presents the criteria and process for implementing new land use legislation designed to revitalize the area surrounding the Ronkonkoma train station through the TOD District area. The proposed Land Use and Implementation Plan included in Appendix B of this DGEIS relies on data, assumptions and conceptual plans developed in Phase 2 of the *Ronkonkoma Hub Planning Study*, as well as a detailed market study conducted in August 2010.

2.2.2 Project Purpose, Needs and Benefits

Based upon the results of Phases 1 and 2 of the visioning and planning process conducted from 2007 to 2009, as described above, with the elimination of the existing single-family residential communities from the TOD District area, the 53.73±-acre area represents the area being considered for rezoning and redevelopment as identified in the Land Use and Implementation Plan, or “Phase 3.” The development sites within the 53.74±-acre were chosen for redevelopment mostly because they are located on key “gateway” roadways serving the train station (Railroad Avenue, Hawkins Avenue, and Mill Road), where more viable land uses and higher density development are most appropriate and complementary to existing uses within the TOD District area. Specifically along Railroad Avenue, there is potential frontage for new buildings that could help define the street edge. Also, the development sites are all within a 10-minute walk of the Ronkonkoma Station.

As indicated above, the TOD District and Theoretical Full Build Plan (as discussed below) are consistent with the stated goals of the *Ronkonkoma Hub Planning Study* as they encourage the efficient use of land, provide for revitalization, and foster a sense of place through development of a new transit-oriented, mixed-use, self-sufficient community. The proposed action would in turn enhance the tax base through redevelopment of existing vacant/unoccupied parcels and new development by increasing the area’s marketability. The TOD District aims to encourage uses that complement the surrounding existing uses as well as better utilize existing public transit infrastructure at the Ronkonkoma Station.

2.3 Existing Site Conditions

The TOD District area encompasses an approximately 53.73±-acre area, which is comprised of 54 individual tax lots. As identified in Figure 11 - Land Use Inventory, in Section 3.4 of this DGEIS, the existing land uses within the TOD District area include parking, neighborhood retail, residential, office, automotive, restaurant, warehouse general services (commercial/industrial), and parking areas. The TOD District area consists of numerous vacant/unoccupied parcels and/or structures, a number of which are located in highly visible locations (i.e., Railroad Avenue), a

rundown appearance of local businesses as well as large surface parking lots, a number of which are located along Railroad Avenue east and west of the existing station. These large, unimproved paved parking lots fill to capacity with vehicles of daily commuters taking the train from Ronkonkoma Station, but remain mostly empty during the nighttime hours. Many of the vacant buildings are former retail users or auto-related establishments, are lacking in maintenance and are dilapidated. Also, the majority of the TOD District area lacks adequate pedestrian sidewalks or safe crossings, except in the immediate vicinity of the train station. Unregulated parking (that which exists on the side of the road but not in lots) is seen predominantly adjacent to unimproved parcels because of their proximity to the Station further restricting pedestrian or bicycle access or circulation. Refer to Figure 14 - Views of the TOD District Area for images of the existing land use conditions.

2.4 Description of Theoretical Full Build Plan

The Theoretical Full Build Plan included in Figure 2 – Theoretical Full Build Plan has been prepared based on the *Ronkonkoma Hub Planning Study*. The Theoretical Full Build Plan includes the redevelopment of opportunity sites with preferred land uses (i.e., multi-family residential, retail, restaurant, and office). The Theoretical Full Build Plan includes the following program mix:

- 615 Residential Units;
- 60,875 square feet – Retail;
- 49,375 square feet – Office;
- 30,000 square feet – Health Club;
- 200 seats – Restaurant Use (Total);
- 2,701 new parking spaces;
- Sewage Treatment Plant; and
- Plaza area for outdoor public use.

The Theoretical Full Build Plan achieves the goals and objectives of the visioning and planning process because it would significantly visually improve the TOD District area and increase marketability of the land both within and surrounding the TOD District area.

As indicated on the Theoretical Full Build Plan (Figure 2), Sites 1, 2, 3, and 4 make up the TOD core due to their proximity to the Ronkonkoma Station and are anticipated to facilitate a mix of uses including, retail, restaurant, office, health club, and multi-family housing. Sites 5, 6, 7, and 8 would be redeveloped into mostly multi-family housing with amenities, a restaurant and parking within walking distance to Ronkonkoma Station. Site 9 would be redeveloped with a sewage treatment plant (“STP”) that would accommodate the wastewater generated by the development proposed as part of the Theoretical Full Build Plan, and all land uses within the TOD.

Additionally, public open space is planned adjacent to the station on a currently underutilized/vacant site (approximately 0.8-acres) between the station and LIRR parking. Detailed descriptions of each site follows.

Site 1, which totals 4.40± acres and consists of LIRR surface parking for commuters is partially vacant, and controlled by the MTA. Redevelopment being considered for Site 1 includes 123 residential units in three-to-four story buildings over 164 grade parking spaces. Site 1 is within walking distance of the train station along Railroad Avenue and adjacent to the proposed public open space. Redevelopment of this site would require coordination with the MTA.

Site 2 consists of 2.96± acres and consists of a variety of uses, including a mix of residential and industrial, auto-body repair, and vacant/unoccupied dilapidated commercial properties. Redevelopment being considered for Site 2 includes 38,375 square feet of ground-level retail, 24,375 square feet of office and 60 residential units on the upper floors with 252 structured parking spaces.

Site 3 currently consists of a gym and associated surface parking on 3.97± acres. Considered uses for Site 3 include a 30,000 square-foot, two-story health club, 22,500 square feet of ground-level retail, and 25,000 square feet of office and 66 residential units on the upper floors. Approximately 300 parking spaces are also included for Site 3.

Site 4 is 3.76± acres and is centrally located within the TOD District area. This site consists of undeveloped/wooded land and is considered for redevelopment into a 100-seat restaurant and 1,465 spaces of structured parking for patrons of the planned uses, as well as for existing and future commuters using the Ronkonkoma Station.

Site 5, the largest site of all the sites at 6.28± acres, is considered for redevelopment with 196 residential units in multiple three-story buildings over at-grade parking (261 spaces) with a clubhouse and pool. These uses would replace a wide mix of uses, including industrial/manufacturing, office, auto-body repair, and single-family residential.

Site 6 is a 1.8±-acre site that consists of office uses. Considered uses for Site 6 include a 100-seat restaurant with 33 surface parking spaces.

Site 7 is 3.0± acres and consists of industrial uses. Considered uses for Site 7 include two, three-story residential buildings over at-grade parking with a total of 125 units and 166 parking spaces.

Site 8 is 1.13± acres located on the eastern end (vacant/undeveloped portion) of a larger site controlled by the MTA. This site currently consists of the train station, surface parking, commercial and vacant land. Uses considered for redevelopment of Site 8 include a four-story residential building over at-grade parking with a total of

45 units and 60 parking spaces. Redevelopment of this site would require coordination with the MTA.

Site 9 is 5.47± acres and is currently partially undeveloped consisting of industrial/manufacturing uses. Site 9 is being considered for the STP.

Under the Theoretical Full Build Plan, the remaining 21± acres of the TOD District area would generally consist of properties that remain undeveloped and/or as their current uses (not currently considered for redevelopment), roadways and/or sidewalks, or public open space.

The Theoretical Full Build Plan represents a potential redevelopment option that complies with the TOD District zoning code whereas other feasible development options are possible. It was important to develop a conceptual plan that conforms to the TOD District zoning code (included in Appendix C and evaluated in Section 4.4 of this DGEIS) to ensure proper and comprehensive review of the potential significant adverse environmental impacts associated with the proposed action, in accordance with SEQRA and its implementing regulations. However, the Theoretical Full Build Plan does not dictate the specific development that will take place on each parcel, but is representative of the overall type and level of development that can take place in the TOD District area. The environmental analysis conducted, and the overall GEIS process, will culminate with a Findings Statement that will, among other things, set forth “specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance” (6 NYCRR §617.10[c]). Thus, upon ultimate adoption of a Findings Statement and the TOD District zoning code by the Town Board, there will be an established set of criteria for development/redevelopment of property within the TOD District area.

2.5 Water Supply and Sanitary Disposal

The TOD District area is situated within the service area of the Suffolk County Water Authority (SCWA). Based on a land use analysis, it is estimated that the total water demand for the existing land uses within the TOD District is approximately 14,375 gallons per day (“gpd”) (see Section 3.2 of this DGEIS). Domestic water use for the land uses identified on the Theoretical Full Build Plan is approximately 169,000 gallons per day. With an additional 10 percent estimated for irrigation and domestic uses not entering the sanitary system, the total projected potable water demand for the Theoretical Full Build Plan is 186,000 gpd.

Sanitary waste from existing land uses within the TOD District area is currently discharged to on-site sanitary systems. There is no sewer infrastructure within the TOD District area. The TOD District contemplates the construction of an STP, which has been preliminarily sited in the southeast portion of the TOD (Site 9). Based on the program mix on the Theoretical Full Build Out Plan, the projected sanitary waste

volume is 169,000 gpd (see Section 4.2 of this DGEIS). However, the STP would be sized to accommodate all land uses within the TOD District area. Based on the approximately five-acre land area on which the STP could be situated, the facility could be capable of treating 275,000 gallons of sanitary waste per day. An extensive sewer analysis has been prepared by Michael P. Chiarelli Engineer, P.C. and is included in Appendix D of this DGEIS. This 275,000-gallon capacity would accommodate the Theoretical Full Build Plan as well as connection of existing uses to remain and/or redevelopment and connection of parcels not specifically identified in the Theoretical Full Build Plan.

2.6 Stormwater Management

Drainage infrastructure within the TOD District area consists of drywells, which are located on various properties throughout the TOD District. The redevelopment of properties in accordance with the proposed TOD District would be subject to compliance with the Town of Brookhaven stormwater ordinance (Chapter 86 of the Town Code) (see Sections 3.2 and 4.2 of this DGEIS). Roadway drainage is also accommodated through subsurface leaching structures.

2.7 Utilities – Electricity and Natural Gas

Electrical service to properties within the TOD District area is provided by the Long Island Power Authority (LIPA). Natural gas is also available from National Grid.

2.8 Required Permits and Approvals

The adoption of the proposed land use plan, creation of the TOD District and zoning code, and associated change of zone of properties therein, are subject to approval by the Town Board of the Town of Brookhaven. Approvals noted with an asterisk in the table below would be required for actual development that would occur in accordance with the TOD District. These approvals are not needed for adoption of the Land Use and Implementation Plan, TOD District zoning code or associated changes of zone, which are all Town Board actions. A description of the required permits and approvals is included in Table 2 below.

Table 2 – Required Permits and Approvals

Agency	Required Permit/Approval
Town Board	Adoption of Land Use Plan, Creation of District Zoning TOD Code and associated change of zone. Condemnation (Potential)*
Town Planning Board*	Site Plans and Potential Subdivision
County Health Department*	Water Connection and Sanitary Disposal
Local Agencies*	Town of Brookhaven Highway SCDPW – STP and Highway Work Permit Suffolk County Planning Commission – Referral
State Agencies*	NYS Department of Transportation (NYSDOT) – Highway Work Permit NYS Department of Environmental Conservation (NYSDEC) – SPDES
Other Agencies*	Metropolitan Transportation Authority – Property Disposition

3.0

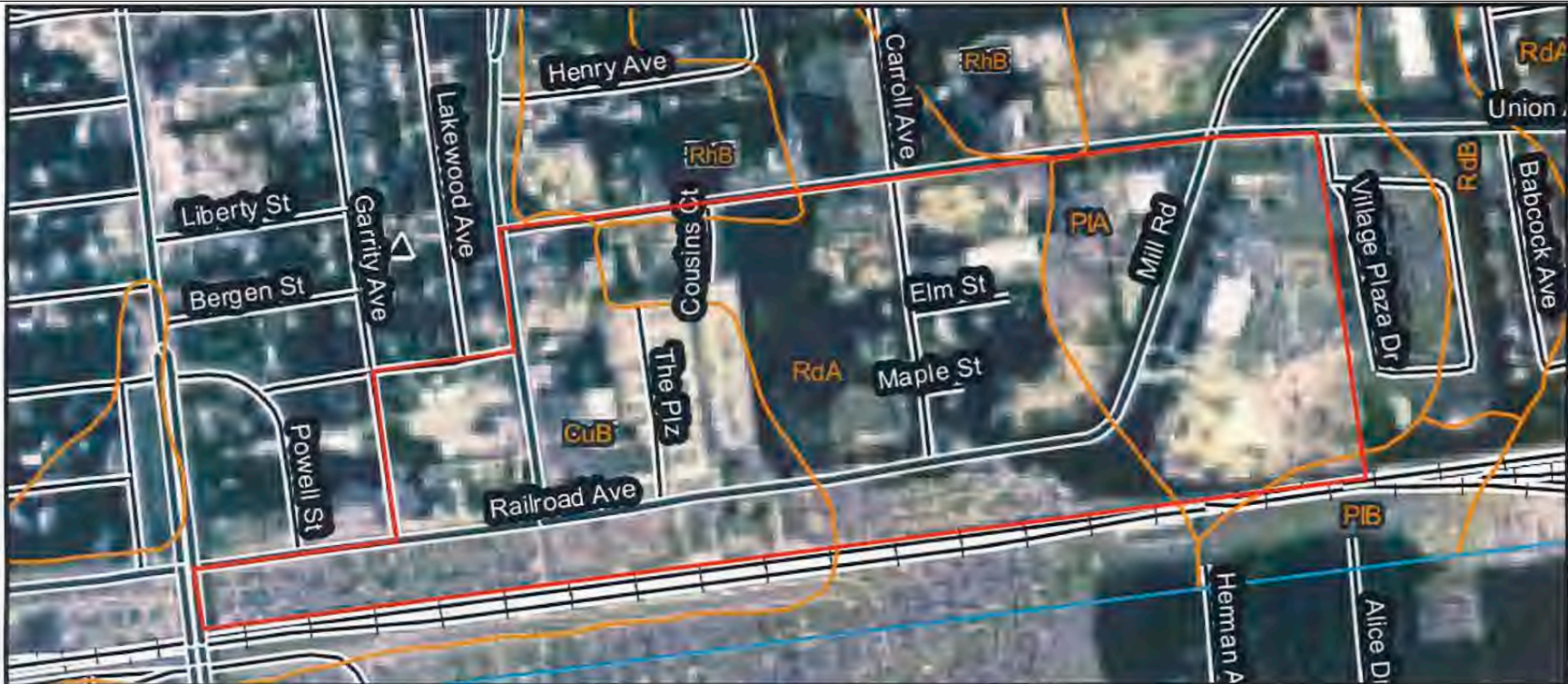
EXISTING ENVIRONMENTAL CONDITIONS

3.1 Soils and Topography

3.1.1 Soils

According to the *Soil Survey of Suffolk County, New York* (USDA, 1975), (hereinafter “*Soil Survey*”) soils are classified according to distinct characteristics and placed (according to these characteristics) into “series” and “mapping units.” A “series” is a group of mapping units formed from particular disintegrated and partly weathered rocks that lie approximately parallel to the surface and that are similar in arrangement and differentiating characteristics such as color, structure, reaction, consistency, mineralogical composition and chemical composition. “Mapping units” differ from each other according to slope, and may differ according to characteristics such as texture.

According to the *Soil Survey*, the predominant soils within the TOD District area are classified as Cut and fill land, gently sloping (“CuB”); Plymouth loamy sand, zero to three percent slopes (“PIA”); and Riverhead sandy loam, zero to three percent slopes (“RdA”) (see Figure 3 – Soils Type Map). Roughly, the western third of the TOD District consists of CuB soils, the middle third of the TOD District area consists of RdA soils, and the eastern third of the TOD District area consists of PIA soils. The *Soil Survey* indicates a minimal area of Riverhead and Haven Soils, graded, zero to eight percent slopes (“RhB”) on the northern-central periphery of the TOD District area and a minimal area of Plymouth loamy sand, three to eight percent slopes (“PIB”) at the southeastern corner of the TOD District. The relevant excerpts from the *Soil Survey* relating to soil series and mapping units are presented below.



Map Unit Information		Map Legend	Map Information
Map Unit Symbol	Map Unit Name	TOD District Area Boundary	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilssurvey.nrcs.usda.gov Coordinate System: UTM Zone 18N NAD83 This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Survey Area: Suffolk County, New York Survey Area Data: Version 7, Dec 11, 2006 Date(s) aerial images were photographed: 7/31/2006 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
CuB	Cut and fill land, gently sloping	Area of Interest (AOI)	
PIA	Plymouth loamy sand, 0 to 3 percent slopes	Soil Map Units	
PIB	Plymouth loamy sand, 3 to 8 percent slopes	Rails	
RdA	Riverhead sandy loam, 0 to 3 percent slopes	Major Roads	
RdB	Riverhead sandy loam, 3 to 8 percent slopes	Local Roads	
RhB	Riverhead and Haven soils, graded, 0 to 8 percent slopes		

Note: Boundary is approximate



Figure 3
Soils Type Map

Ronkonkoma Hub
Transit-Oriented Development

Cut and Fill Land

Cut and fill land is made up of areas that have been altered by grading operations for housing developments, shopping centers, and similar nonfarm uses. Generally, the initial grading consists of cuts and fills for streets or parking lots. During this phase, excess soil material is stockpiled for final grading and top dressing around houses or other buildings.

Areas of cut and fill land contain deep cuts in or near the sandy substratum of the soil or sandy fills of 28 inches or more. Generally, cuts are so deep or fills so thick that identification of soils by series is not possible. The soil material making up the upper 40 inches of this unit contains as much as 12 inches of sandy loam, loam, or silt loam in some places. The 28 inches that remain are loamy fine sand or coarser textured material. Cut and fill land is generally associated with Carver and Plymouth soils.

The soil material that remains after grading operations are complete has low available moisture capacity, is droughty, and is low to very low in natural fertility.

Cut and fill land has severe limitations to use in establishing and maintaining lawns and landscaping. The areas are not suited to farming operations because of the alteration of existing soil material and the presence of buildings and other works of man.

Cut and fill land, gently sloping ("CuB")

This unit is made up of level to gently-sloping areas that have been cut and filled for non-farm uses. Slopes range from one to eight percent, and, because of final grading around houses and other buildings, slopes are generally complex.

Plymouth Series

The Plymouth series consists of deep, excessively drained, coarse-textured soils that formed in a mantle of loamy sand or sand over thick layers of stratified coarse sand and gravel. These nearly level to steep soils are throughout the County on broad, gently sloping to level outwash plains and on undulating to steep moraines. Native vegetation consists of white oak, black oak, pitch pine, and scrub oak.

In a representative profile, the surface layer is very dark grayish-brown loamy sand, about four inches thick, in wooded areas. In cultivated areas, the surface layer is mixed with materials formerly in the upper part of the subsoil, and there is a brown to dark-brown plow layer of loam about ten-inches thick. The subsoil is yellowish brown and brown, very friable and loose loamy sand to a depth of about 27 inches.

The substratum, to a depth of about 58 inches, is a yellowish-brown, loose gravelly-coarse sand.

Plymouth loamy sand, zero-to-three percent slopes ("PIA")

This soil has the profile described as representative of the series. It is mainly on outwash plains south of the Ronkonkoma Moraine. It is also on flat hilltops and in drainageways on morainic deposits. The areas generally are nearly level, but they are somewhat undulating in some places. Areas on outwash plains are large and uniform, and areas on the moraine are small and irregular.

Included with this soil in mapping are small areas of Riverhead soils that have a texture that is marginal to loamy sand. Also included are some loamy sands that have a profile similar in appearance to the soils of the Carver series.

The hazard of erosion is slight on this Plymouth soil. This soil is fairly well suited to crops commonly grown in the County. Many areas were formerly cleared for farming, but most of these areas are idle or are in brush or trees. Small areas that are in large tracts with Riverhead or Haven soils are the only areas used for farming. In the western part of the County, most of this soil is used for housing developments and as industrial sites.

Plymouth Loamy Sand, 3 to 8 percent slopes ("PIB")

This soil is on moraines and outwash plains. Slopes are undulating, or they are single along the sides of intermittent drainageways. The undulating areas generally are large. The areas along intermittent drainageways are narrow and long, and follow the course of the drainage channel. Included with this soil mapping are small areas of Riverhead soils that are marginal to loamy sand in texture. Also included are loamy sands that have profiles similar to those of soils in the Carver series. Other inclusions on moraines are Montauk loamy sand, sand variant soils that have weak fragipan or areas that are too small to map separately. These are intergrades between Plymouth loamy sand and Montauk loamy sand, sandy variant soils. Small gravelly areas less than about two acres in size are included. Included are few small areas, particularly on Fisher's Island, that are dominantly fine sand.

The hazard of erosion is slight on this Plymouth soil. This soil tends to be droughty. This soil is fairly well suited to the crops commonly grown in the county. Some areas were formerly used for farming, but most such areas are in brush or are idle. In the western part of the county, this soil is used mainly for housing developments.

Riverhead Series

The Riverhead series consists of deep, well-drained, moderately-coarse textured soils that formed in a mantle of sandy loam or fine sandy loam over thick layers of coarse sand and gravel. These soils occur throughout Suffolk County in rolling to steep areas on moraines and in level to gently sloping areas on outwash plains. These soils range from nearly level to steep; however, they are generally nearly level to gently sloping. Native vegetation consists of black oak, white oak, red oak and scrub oak.

In a representative profile, the surface layer is brown to dark brown sandy loam about 12 inches thick. The upper part of the subsoil, to a depth of about 27 inches, is strong-brown, friable sandy loam. The lower part of the subsoil is yellowish-brown, very friable loamy sand to a depth of about 32 inches. Below is yellowish-brown, friable gravelly loamy sand to a depth of about 35 inches. The substratum is very pale brown and brown loose sand and gravel or sand to a depth of 65 inches.

Riverhead soils have moderate-to-high available moisture capacity. Internal drainage is good. Permeability is moderately rapid in the surface layer and in the subsoil and very rapid in the substratum.

Riverhead Sandy Loam, zero-to-three percent slopes ("RdA")

This soil has the profile as that described as representative of the series. It generally is on outwash plains, and the areas are large and uniform. Where this soil occurs on outwash plains, it generally has slope characteristics of this landform. Slopes are undulating in places. A few small, irregular areas are on moraines.

Included with this soil in mapping are small areas of Sudbury soils that are less than one to two acres in size. Also included are areas of soils near Bridgehampton that have a profile similar to that of this soil, except that at a depth of about 30 inches they have layers of gray and strong brown silt loam one to two feet thick. Also included are areas of Haven and Plymouth soils that have a texture of marginal to sandy loam and areas of soils that have a loam or fine sandy loam surface layer and sandy loam subsoil. Areas of Montauk soils on moraines that have a very weak fragipan formed in loose sandy till are included.

The hazard of erosion is slight on this Riverhead soil. This soil is limited only by moderate droughtiness in the moderately coarse textured solum. This soil is well suited to all crops commonly grown in Suffolk County, and it is used extensively for that purpose. Most areas in the western part of Suffolk County, however, are used for housing developments and industrial parks.

Riverhead and Haven Soils, graded, zero to eight percent slopes ("RhB")

This mapping unit consists of areas of Riverhead sandy loam, of Haven loam, or of both. The areas have been altered by grading operations for housing developments, shopping centers, industrial parks, and similar nonfarm uses. In the western part of the County, the areas of this mapping unit are very large, and large acreages are used as sites for housing developments.

Originally, the Riverhead and Haven soils in this unit each had the profile described as representative of the respective series, but grading operations have left a man-made profile that is significantly different. In places, the surface layer and the upper part of the subsoil have been removed, but in other places they have been filled with soil material cut from adjoining high spots, but the Riverhead and Haven soils can be identified because

sufficient diagnostic characteristics of the respective series remain. In some areas, Riverhead and Haven soils that have not been graded make up as much as 25 percent of this unit. In places, another 10 to 15 percent has been so deeply cut or filled that the upper 40 inches is sandy and contains no diagnostic horizons of the respective series.

Included with these soils in mapping are areas in which most or all diagnostic horizons have been destroyed, but these areas contain at least 12 inches of loam, silt loam, or sandy loam in the upper 40 inches. In places, these 12 inches of material is in one layer, and in others it is in several thinner layers. Also included are small areas of Cut and fill land and Montauk soils, graded.

These soils are suited to most grasses and shrubs generally used for lawns and landscaping. In places very deeply cut or filled areas are slightly droughty and need supplemental irrigation. The response of plants to applications of lime and fertilizer is good. The practice generally is to build on the soils immediately after grading; therefore, the number of existing buildings on areas of the soils in this unit is the main factor in determining their future uses. Capability unit not assigned; woodland suitability group not assigned.

A description of the engineering and planning limitations for the soils on the TOD District area is included in Table 3 – Engineering and Planning Limitations of On-Site Soils.

Table 3 – Engineering and Planning Limitations of On-Site Soils

Symbol	Mapping Unit	Slopes	Homesites*	Streets and Parking Lots	Lawns, Landscaping and Golf Fairways	Sewage Disposal Fields
CuB**	Cut and fill land	Gently sloping	Slight	Moderate (A)	Severe (B)	Slight
PIA**	Plymouth loamy sand	0 to 3	Slight	Slight	Severe (B)	Slight (C)
PIB	Plymouth loamy sand	3 to 8	Slight	Moderate (A)(D)	Severe (B)	Slight
RdA**	Riverhead sandy loam	0 to 3	Slight	Slight	Slight	Slight (C)
RhB	Riverhead and Haven soils	0 to 8	Slight	Moderate (A)(D)	Slight	Slight (C)

Reasons for limitations:

(A) Slopes.

(B) Sandy surface layer.

(C) Possible pollution hazard to lakes, springs, or shallow wells in these rapidly permeable soils.

(D) Slight for Town or County roads.

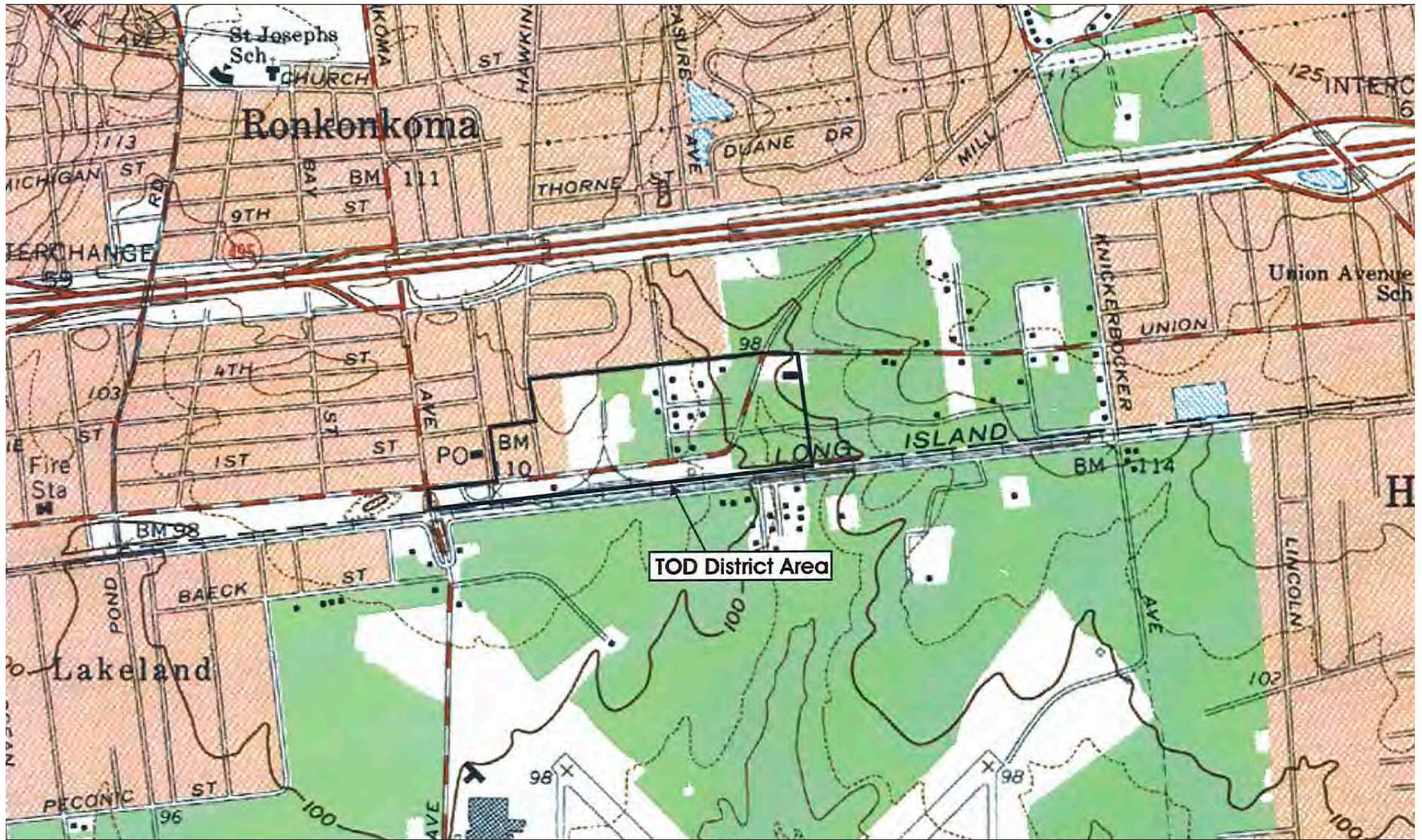
* The *Soil Survey* evaluates the engineering and planning limitations of soils for the development of “homesites.” The *Soil Survey* does not include ratings for other types of buildings, and thus, the “homesites” evaluation is used to determine potential limitations for the development of structures.

**Represents predominant soil types mapped in the TOD District area.

Source: *Soil Survey of Suffolk County, New York (USDA, 1975)*

3.1.2 Topography

According to the United States Geological Survey (“USGS”) Topographic Map, Patchogue Quadrangle (see Figure 4 – USGS Topographic Map), the elevation of the properties within the TOD District area ranges from 92± feet to 111± feet above mean sea level (“amsl”). The site elevation is highest at the western portion of the TOD District and then slopes downward to the east. Site elevation increases again at the extreme northeast corner of the TOD District area. Overall, the topography of the 54± acres that comprise the TOD District area is relatively flat.



Note: Boundary is approximate
 Source: USGS Topographic Map (Patchogue Quadrangle). Earthvisions, Inc. 1996.



Figure 4
 USGS Topographic Map

**Ronkonkoma Hub
 Transit-Oriented Development**

Prepared for the Town of Brookhaven, June 2010

3.2 Water Resources and Sanitary Disposal

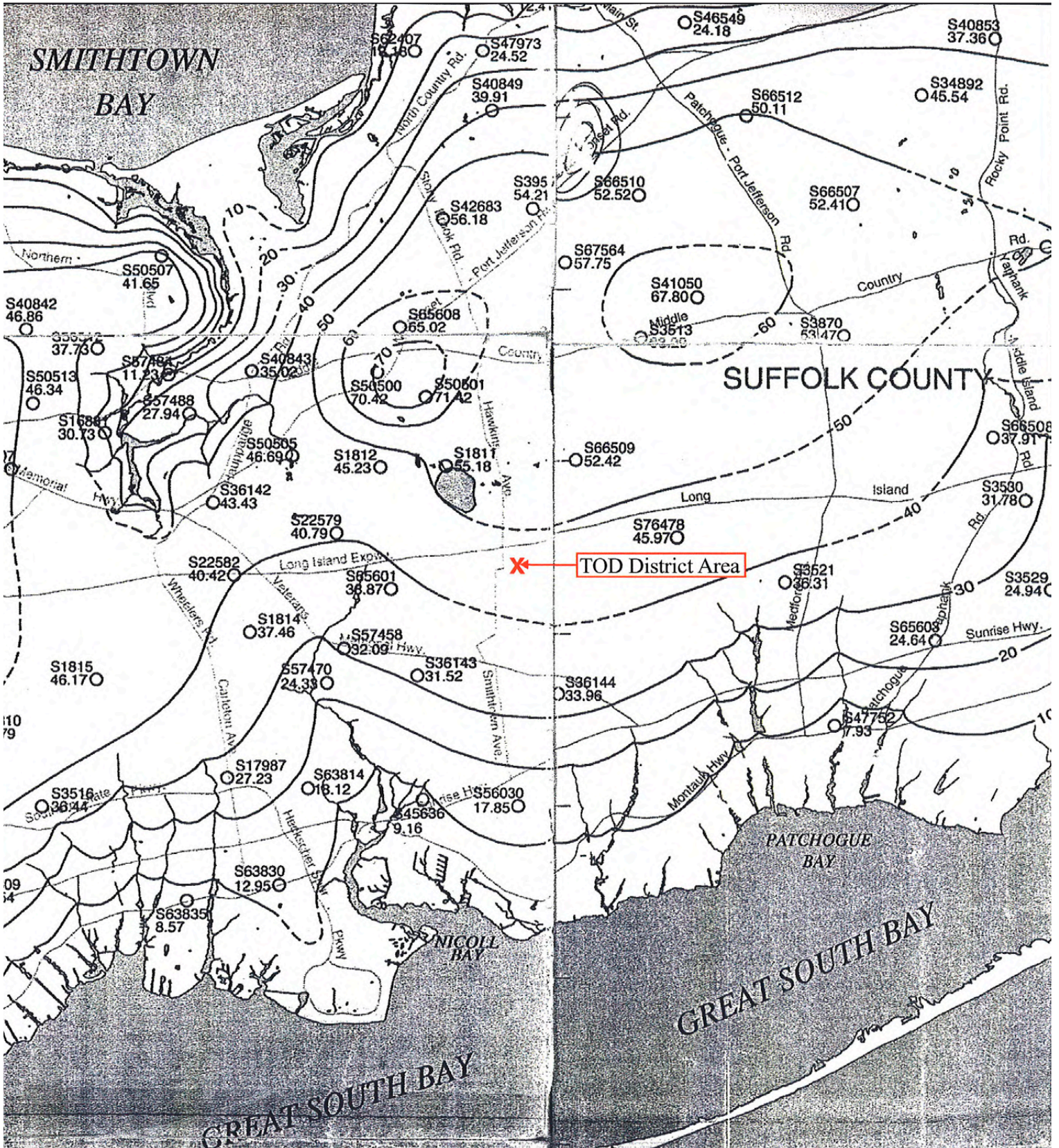
3.2.1 Groundwater

Long Island is considered a sole source aquifer region, which means that the groundwater is the single water supply source. Thus, land uses have the potential to impact the quality of the water supply.

There are three major aquifers under Long Island: the Upper Glacial, the Magothy and the Lloyd. The Upper Glacial and Magothy are the significant water supply sources for most of Long Island. In recent years, suburbanization has caused contamination in areas of the Upper Glacial aquifer, since it is closest to the surface.

Depth to Groundwater

According to the U.S.G.S. Water Table of the Upper Glacial Aquifer on Western Long Island, New York in March-April 2000 (2002), the water table in the TOD District area ranges from 45± feet to 48± feet amsl (see Figure 5 – Water Table Elevation Map). As previously discussed, the elevation of the TOD District area ranges from 92± feet to 111± feet amsl, with grades rising from generally east to west (see Figure 4 – USGS Topographic Map). Thus, depth to groundwater ranges from 47± feet to 63± feet below grade surface (“bgs”), from generally east to west. The groundwater flow direction in the area is generally to the south.



Note: Boundary is approximate
 Source: Water table of the Upper Glacial Aquifer on Eastern and Western Long Island, NY 2000, 2002.



Figure 5
 Water Table Elevation Map

Ronkonkoma Hub
Transit-Oriented Development



The Long Island Comprehensive Waste Treatment Management Plan (208 Study)

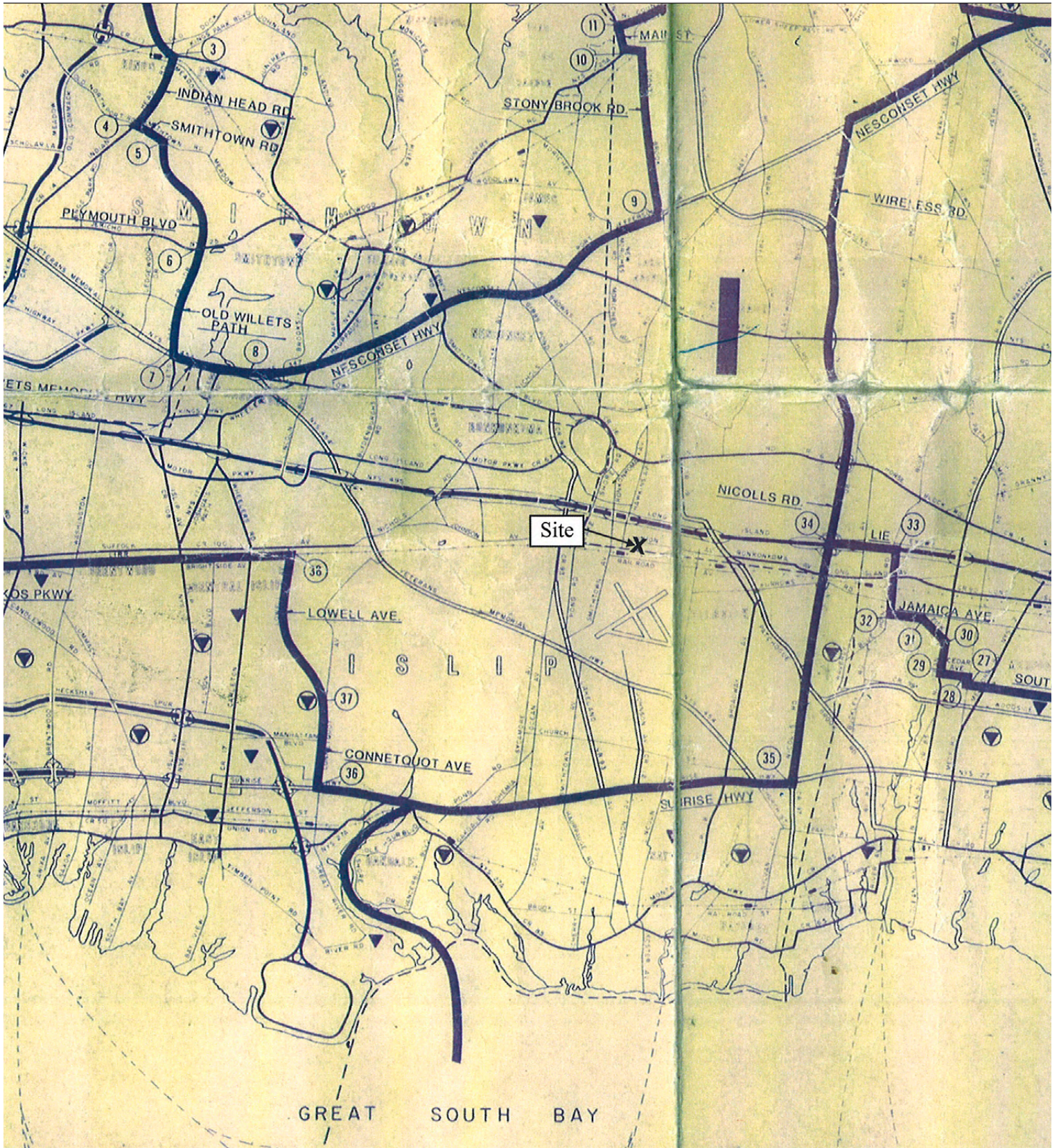
In 1978, Long Island was divided into eight hydrogeologic zones in the *Long Island Comprehensive Waste Treatment Management Plan* (hereinafter referred to as the “208 Study”). The site is located in Hydrogeologic Zone I: Deep Flow System (Magothy Recharge Area), according to the *208 Study* (Page 177 Volume I) (see Figure 6 – Excerpt of Hydrogeologic Zone Map). Hydrogeologic Zone I encompasses much of the residential, transport, commercial and industrial activity areas of Nassau and Suffolk Counties. It covers areas characterized by a deep flow system, which generally contribute water to the middle and lower portions of the Magothy Aquifer. As Hydrogeologic Zone I is a deep recharge area with vertical flow, materials released at the surface move downward into the Magothy Aquifer. Because of this, levels of discharge must be controlled. Zone I is a primary source of drinking water for both Nassau and Suffolk Counties. As such, point and non-point source controls should be implemented in this zone to protect the public health.

In addition to the structural, non-structural and non-point source control recommendations for wastewater management, the *208 Study* includes areawide alternatives for all hydrogeologic zones. For Zone I, the highest priority areawide alternatives relevant to the potential future redevelopment of the TOD District are as follows:

- Implement “Best Management Practices” to control runoff and remove nitrogen for treatment plants recharging effluent;
- Restrict the use of inorganic fertilizers. Promote the use of low-maintenance lawns;
- Control stormwater runoff to minimize the transport of nutrients, metals, sediments, organic chemicals; and
- Promotes water conservation to reduce overall demand on Long Island’s water supply.

The Long Island Comprehensive Special Groundwater Protection Area Plan (“SGPA Plan”)

Special Groundwater Protection Areas (“SGPAs”) are significant, largely undeveloped, or sparsely developed geographic areas of Long Island that provide recharge to portions of the deep flow aquifer system. They represent a unique final opportunity for comprehensive, preventative management to preclude or minimize land use activities that can have a deleterious impact on groundwater. Nine SGPAs are located on Long Island: North Hills, Oyster Bay, West Hills/Melville, Oak Brush Plains, Central Suffolk, Southold, South Fork, and Hither Hills. The TOD District is not situated within the boundaries of any of the above-mentioned SGPA’s (see Figure 7 – Special Groundwater Protection Area Map).



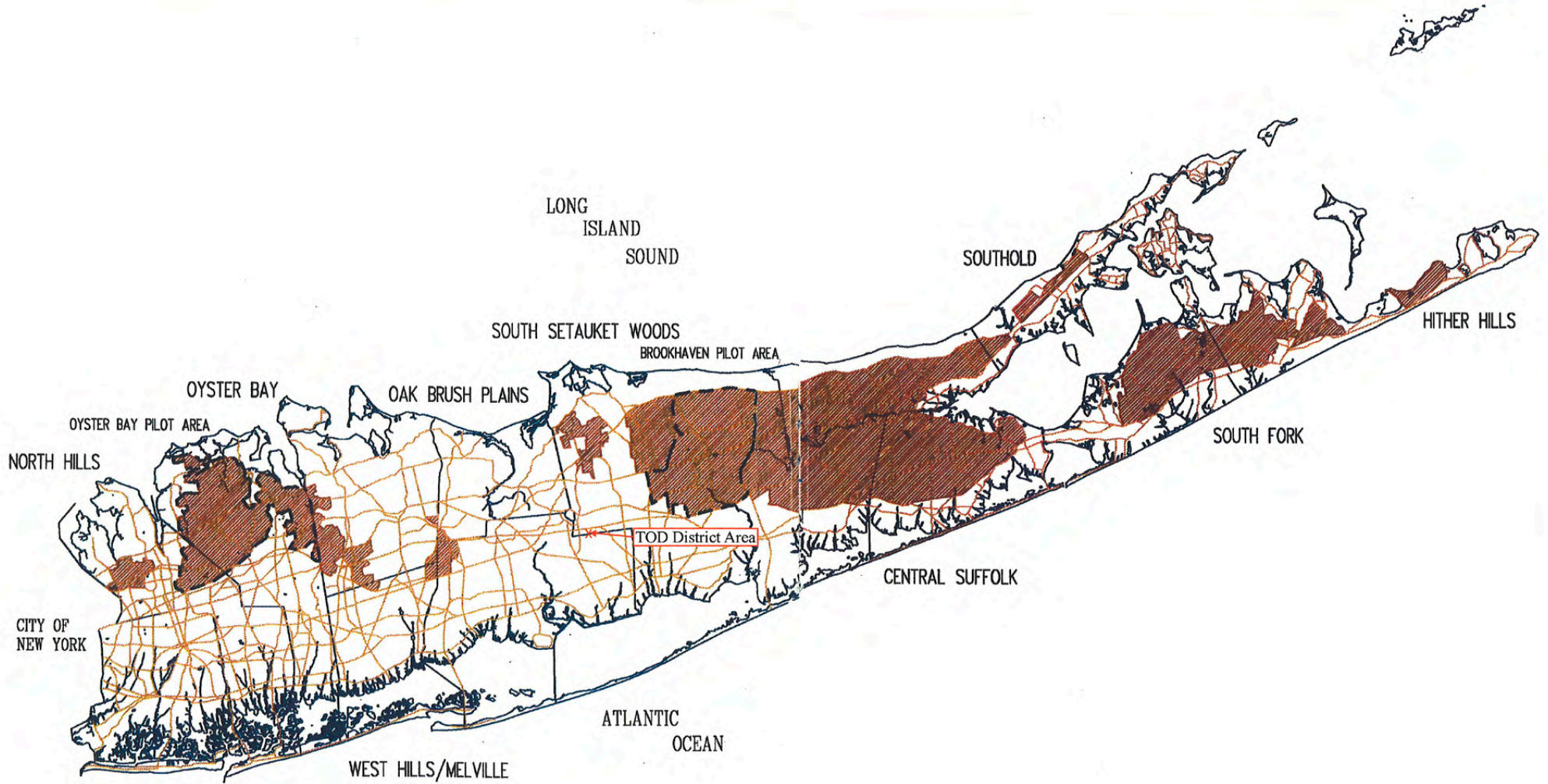
Note: Boundary is approximate
 Source: Suffolk County Sanitary Code—Article 7 Groundwater Management Zones. October 1993.



Figure 6
 Excerpt of Hydrogeologic Zone Map

**Ronkonkoma Hub
 Transit-Oriented Development**





Note: Boundary is approximate
 Source: Long Island Regional Planning Board, December 17, 1991.



Figure 7
 Special Groundwater Protection Area Map

**Ronkonkoma Hub
 Transit-Oriented Development**

Final Long Island Groundwater Management Plan

The *Final Long Island Groundwater Management Plan* (NYSDEC, 1986) is the product of a study effort, funded by a grant from the U.S. Environmental Protection Agency (“USEPA”) under Section 208 of the Federal Clean Water Act (“CWA”). Under this grant, the New York State Department of Environmental Conservation (“NYSDEC”), with cooperation and advice of numerous other state, federal and local agencies involved with groundwater management on Long Island, conducted an intensive review of Long Island groundwater problems and the programs that address them, and prepared a detailed Groundwater Management Program designed to assure a viable, high quality groundwater resource for the future.

The *Final Long Island Groundwater Management Plan* was reviewed to determine whether there is any reported presence of organics, nitrates or aldicarb in groundwater. None of the three contaminants are reported as being present in wells surrounding the subject site. It should be noted, however, that the subject site is situated within a general area of shallow nitrate contamination.

Suffolk County Sanitary Code

In order to protect the groundwater quality in Suffolk County, the SCDHS adopted Articles 6, 7 and 12 of the Suffolk County Sanitary Code (“SCSC”).

Article 6, Sanitary Density

Article 6, *Realty Subdivisions, Developments and Other Construction Projects*, contains several provisions relevant to this project, as summarized below.

Section 760-607(B) of Article 6 indicates that individual or subsurface sewerage systems may be approved as the method of sewage disposal for construction projects other than conventional single-family residential realty subdivisions and developments, when all of the following conditions are met:

- The construction project is located within Groundwater Management Zones III, V, or VI, and the population density equivalent is equal to or less than that of a realty subdivision or development of single-family residences in which all parcels consist of an area of at least 40,000 square feet;
- The construction project is located outside of Groundwater Management Zones III, V, or VI, and the population density equivalent is equal to or less than that of a realty subdivision or development of single-family residences in which all parcels consist of an area of at least 20,000 square feet;
- The construction project, or any portion thereof, is not located within an existing sewer district and is located in an area where subsoil and groundwater conditions

are conducive to the proper functioning of an individual or subsurface sewerage system; and

- ▶ The individual or subsurface systems comply with the Department's current standards and minimum State requirements as set forth in 10 NYCRR Part 75 to the extent applicable to Suffolk County.

Pursuant to Article 6 of the SCSC, sewage discharge from on-site systems in Hydrogeologic Zone I is limited to 600 gallons per day per acre. Thus, the maximum potential sanitary discharge to on-site sanitary systems for the 53.73±-acre TOD District is approximately 32,238 gallons per day. The TOD District area is not within an area served by public sewers. As indicated in the Preliminary Feasibility Study for the Sewage Treatment and Disposal included in Appendix D of this DGEIS, and summarized in Table 5, the existing land uses (including occupancy of existing structures) within the TOD District currently generate approximately 13,068± gallons of sanitary waste per day.

Article 6 also includes requirements with regard to water facilities for construction projects other than conventional single-family residential realty subdivisions and developments. This section states that a community water system method of water supply is required when any of the following conditions are present:

- ▶ the construction project, or any portion thereof, is located within an existing water district or service area;
- ▶ the construction project is reasonably accessible to an existing water district or service area (note that this requirement shall apply in the absence of proof satisfactory to the Department that the developer cannot effect arrangements for the installation and/or connection to the water system to the existing water district or service area facilities); and
- ▶ individual wells cannot provide sufficient yield of freshwater meeting Department requirements or standards, groundwaters in the area are non-potable, or potentially hazardous.

Article 7, Water Pollution Control

Article 7, *Water Pollution Control*, was adopted and added to the SCSC in 1985 to protect the groundwater of Suffolk County, especially in the deep recharge areas of Zones I, II, III and V described in the *208 Study*, from discharge of sewage, industrial wastes, toxic or other hazardous materials and stormwater runoff.

Section 760-706 provides additional restrictions for the deep recharge zones and water supply sensitive areas including stringent limitations on toxic and hazardous materials storage and discharge. Pursuant to §760-706(B)(1), it is unlawful to use or store any *restricted toxic or hazardous materials*¹ on any premises except as follows:

- ▶ The intended use of the product stored is solely for on-site heating, or intermittent stationary power production such as stand-by electricity generation or irrigation pump power;
- ▶ The facility for such storage is intended solely for the storage of kerosene, number 2 fuel oil, number 4 fuel oil, number 6 fuel oil, diesel oil or lubricating oil;
- ▶ The facility for such storage is constructed in accordance with the requirements of Article 12 of the Suffolk County Sanitary Code for new construction;
- ▶ The materials so stored are not industrial wastes from processes containing restricted toxic or hazardous materials; and
- ▶ The materials stored are not intended for resale.

As indicated earlier in this section, the TOD District area is located in a deep recharge area. As such, the storage of any *restricted toxic or hazardous materials*, as defined in the SCSC, would be regulated by the SCDHS.

Article 12, Toxic and Hazardous Materials Storage and Handling Controls

Article 12, *Toxic and Hazardous Materials Storage and Handling Controls*, relates to the storage and handling of toxic and hazardous materials. Due to the nature of the existing uses within the TOD District area (i.e., commercial properties), it is likely that underground and aboveground fuel oil storage tanks exist on many of the properties for the purpose of heating. As such, Environmental Data Resources, Inc. (“EDR”) provided a computerized database search of the TOD District area (see Appendix E of this DGEIS). The search radius for each database was set at the ASTM-standard radius plus one-half mile. The database output was reviewed specific to the NYSDEC Petroleum Bulk Storage (“PBS”) database.

The database report also includes a summary of “Orphan” sites. Orphan sites are those sites where due to poor or inadequate address information the location of the property cannot be determined sufficiently for it to be included on the radius map. However, sites with similar street names or zip codes are summarized in the database report as these sites may present environmental risks to the subject property. There were no listings for the project area within the Orphan Summary of the EDR database report.



¹ As defined in §760-703(P) of the SCSC.

The following sites were identified on the subject site to have been registered for above-ground and/or underground storage tanks (“ASTs” and/or “USTs”).

➤ Ronkonkoma Lumber Company – 15 Hawkins Avenue

One (1) 18,000-gallon No. 2 fuel oil UST installed in 1965 and removed in 1990; and
One (1) 25,000-gallon No. 2 fuel oil UST installed in 1965 and removed in 1990.

➤ Town Bus WE Transport, 14B Hawkins Avenue

Two (2) 4,000-gallon gasoline UST installed in 1969 and removed in 1990;
One (1) 5,000-gallon diesel UST installed in 1991;
One (1) 275-gallon No. 2 fuel oil AST installed in 1980;
One (1) 100-gallon kerosene AST installed in 1970 and removed in 1991;
One (1) 275-gallon waste oil AST installed in 1991 and removed in 2001;
One (1) 275-gallon motor oil AST installed in 1991 and removed in 2001;
One (1) 2,000-gallon diesel AST installed in 1991 and removed in 2001; and
One (1) 275-gallon No. 2 fuel oil AST.

➤ Delfern Corporation, 6B Union Avenue

One (1) 275-gallon waste oil AST removed in 1994.

➤ Whelen Automotive, 234 Carroll Avenue

One (1) 275-gallon waste oil AST removed in 1991

➤ Roadkill, 23 Hawkins Avenue

One (1) 4,000-gallon gasoline UST installed in 1950 and removed in 1990;
One (1) 1,000-gallon waste oil UST installed in 1950 and removed in 1990; and
One (1) 275-gallon No. 2 fuel oil AST.

➤ Affordable Cesspool, 49 Hawkins Avenue

One (1) 4,100-gallon sulfuric acid AST.

➤ A1 Towing, 47 Hawkins Avenue

One (1) 4,000-gallon gasoline UST installed in 1975 and removed in 1990;
Two (2) 3,000-gallon gasoline USTs installed in 1975 and removed in 1990; and
One (1) 3,000-gallon gasoline UST installed in 1979 and removed in 1990.

➤ KPW Enterprise, Inc., One Hawkins Avenue

One (1) 3,000-gallon gasoline UST removed in 1985; and

Two (2) 2,000-gallon gasoline USTs removed in 1985.

➤ Tru Green Corporation, 66 Union Avenue

One (1) 150-gallon industrial waste UST installed in 1982 and removed in 1992;
One (1) 6,400-gallon fertilizer AST removed in 1992;
One (1) 6,400-gallon methanol AST removed in 1992; and
One (1) 1,200-gallon industrial waste AST installed in 1982 and removed in 1992.

➤ William Mallins Cesspool, 54 Union Avenue

Two (2) 4,000-gallon gasoline USTs installed in 1979 and removed in 1990;
One (1) 8,000-gallon diesel UST installed in 1979 and removed in 1990;
Two (1) 10,000-gallon sanitary waste USTs installed in 1979;
One (1) 4,000-gallon gasoline UST;
One (1) 10,000-gallon diesel UST installed in 1991; and
One (1) 275-gallon waste oil AST installed in 1978 and removed in 2000.

➤ Ronkonkoma Wheel Alignment, 54 Union Avenue

One (1) 275-gallon waste oil AST installed in 1979 and removed in 1991.

It should be noted that although the EDR database indicates that the majority of the aforementioned site have removed tanks, Article 12 of the SCSC does not require registration of tanks with a combined capacity less than 1,100-gallons. As such, it is likely that there are unregistered USTs and/or ASTs within the project area that would require removal. More specifically, heating oil tanks are likely present on the 13 residential parcels and commercial properties where natural gas is not utilized.

Water Usage

Potable water is currently supplied by the SCWA. As indicated in the table below, the existing water usage by existing land uses within the TOD District area is approximately 14,375± gpd. It is important to note that for purposes of comprehensive analysis, the existing vacant developed properties were assumed to be occupied.

Table 4 – Existing Water Use

Land Use	Gross Floor Area (square feet) ¹	Design Category	Design Flow	Design Units	Total Flow (GPD)
Residential (9 Lots)	16,783.24	Residential	300	GPD/unit	2,700.00
Commercial	181,835.21	Gen. Ind.	0.04	GPD/sq. ft.	7,273.41
Office	10,555.35	Office	0.06	GPD/sq. ft.	633.32
Commercial/Vacant	17,788.16	Gen. Ind.	0.04	GPD/sq. ft.	711.53
Residential/Vacant (1 Lot)	1,893.33	Gen. Ind.	300	GPD/unit	300.00
Industrial	36,249.37	Gen. Ind.	0.04	GPD/sq. ft.	1,449.97
TOTAL SANITARY FLOW					13,068.23
ADDITIONAL 10% FOR WATER NOT ENTERING SANITARY SYSTEM					1,307±
TOTAL WATER USAGE					14,375±

1. Based on information from the Town of Brookhaven GIS Database, 2010.

Pursuant to the SCWA’s 2010 Annual Drinking Water Quality Report, in 2009, the SCWA served 376,156 customers and pumped 60.7 billion gallons of water. The SCWA system includes 569 active wells.² As indicated in the Preliminary Feasibility Study for the Sewage Treatment and Disposal (see Appendix D of this DGEIS), there are no public water supply wells within 1,500 feet of the TOD District area. The nearest public water supply wells are:

- Lincoln Avenue Well Field 1,700 ft ± to the Southeast
- Easton Street Well Field 1,800 ft ± to the Southwest

There are six-inch, eight-inch and 12-inch public water mains owned by SCWA that serve the area within the TOD District area.

Nonpoint Source Management Handbook

The *Nonpoint Source Management Handbook*, which was prepared as part of the USEPA’s 208 Plan Implementation Program, is divided into several elements: Land Use, Stormwater Runoff, On-site Systems, Highway Deicing, Fertilizer, Animal Waste, Wells-Water Supply, Boat Pollution, and Site Plan Review and Ordinances. The *Handbook* makes a variety of recommendations for counties, municipalities, engineers, etc., to use in the controlling of non-point sources of groundwater contamination. Relevant recommendations from this study along with a review of the project’s consistency therewith are included in Section 4.2 of this DGEIS.

▼
² Suffolk County Water Authority. 2010 Annual Drinking Water Quality Report.

3.2.2 Sewage Disposal

Sanitary waste generated by properties within the TOD District area is accommodated with individual on-site sanitary systems, as there is no public sewer service. As indicated in table below, the total sanitary flow by existing land uses within the TOD District area is 13,069± gpd. It is important to note, for purposes of comprehensive analysis, the existing vacant developed properties were assumed occupied.

Table 5 – Existing Sanitary Flow

Land Use	Gross Floor Area (square feet) ¹	Design Category	Design Flow	Design Units	Total Flow (GPD)
Residential (9 Lots)	16,783.24	Residential	300	GPD/unit	2,700.00
Commercial	181,835.21	Gen. Ind.	0.04	GPD/sq. ft.	7,273.41
Office	10,555.35	Office	0.06	GPD/sq. ft.	633.32
Commercial/Vacant	17,788.16	Gen. Ind.	0.04	GPD/sq. ft.	711.53
Residential/Vacant (1 Lot)	1,893.33	Gen. Ind.	300	GPD/unit	300.00
Industrial	36,249.37	Gen. Ind.	0.04	GPD/sq. ft.	1,449.97
TOTAL					13,068.23

1. Based on information from the Town of Brookhaven GIS Database, 2010.

An extensive analysis of the sanitary demands for the TOD District area and the findings of a feasibility study prepared by Michael P. Chiarelli Engineer, P.C. is included in Section 4.2 of this DGEIS. The Preliminary Feasibility Study for the Sewage Treatment and Disposal is attached in its entirety in Appendix D of this DGEIS.

3.2.3 Stormwater Runoff

Stormwater runoff is generated by precipitation events and is divided into three components: surface runoff, interflow and base flow. Surface runoff is that portion of the stormwater that remains after a precipitation event and is not captured by depression storage or ponding, does not infiltrate the surface and is not evapotranspired from the earth's surface. Interflow is that portion of stormwater that infiltrates the surface into the soil zone and moves in a horizontal direction until reaching a surface water body. Finally, the base flow is that portion which infiltrates the surface and soil profile to reach groundwater.³

Stormwater Management

Several drywells exist on each of the LIRR paved parking areas in order to accommodate stormwater runoff. Drywells also exist on most of the commercial and industrial properties throughout the TOD District area. Stormwater from existing roadways is discharged to subsurface leaching structures.

Chapter 86 of the Town of Brookhaven Town Code Stormwater Management and Erosion Control

The Town of Brookhaven has adopted a stormwater management ordinance to establish minimum stormwater management requirements and controls. The objectives of Chapter 86 of the Town Code, Stormwater Management and Erosion Control, are as follows:

- “(1) Meet the requirements of minimum measures four and five of NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Municipal Separate Stormwater Sewer Systems (MS4s), Permit No. GP-02-02 or as amended or revised;*
- (2) Require land development activities to conform to the substantive requirements of the NYSDEC SPDES General Permit for Construction Activities GP-02-01 or as amended or revised;*
- (3) Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and stream bank erosion;*
- (4) Minimize increases in pollution caused by stormwater runoff from land development activities, which would otherwise degrade local water quality;*
- (5) Minimize the total annual volume of stormwater runoff, which flows from any specific site during and following development to the maximum extent practicable; and*

▼
³ *Reducing Impacts of Stormwater Runoff From New Development*, New York State Department of Environmental Conservation. As indicated on the NYSDEC website (www.dec.state.ny.us), “This document provides guidance on site planning and stormwater management including an example of a **model stormwater ordinance**. The document is out of print at this time because it is being revised and updated. Watch this web page for the update.”

(6) Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety.”

Pursuant to §86-6, as part of any land development activity, a stormwater pollution prevention plan must be filed and approved by the Town’s Stormwater Management Officer. The required contents of the stormwater pollution prevention plan, pursuant to §86-6(B)(1) are as follows:

“(a) Background information about the scope of the project, including location, type and size of project;

(b) The name(s), address(es), telephone and fax number(s) of the applicant, developer, and/or property owner, and the principal contact person of the retained consulting firm responsible for monitoring daily compliance in accordance with the provisions of this chapter;

(c) Site map/construction drawing(s) for the project, including a general location map at a scale not less than one inch equals 2,000 feet. The site map shall be at a scale no smaller than one inch equals 50 feet. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s);

(d) Description of the soil(s) present at the site;

(e) Construction phasing plans describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (i.e., Erosion Control Manual), not more than five acres shall be disturbed at any one time unless pursuant to an approved SWPPP;

(f) Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;

(g) Description of construction and waste materials expected to be stored in on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;

- (h) Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out;*
- (i) A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;*
- (j) Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;*
- (k) Temporary practices that will be converted to permanent control measures;*
- (l) Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;*
- (m) Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;*
- (n) Name(s) of the receiving water(s);*
- (o) Delineation of SWPPP implementation responsibilities for each part of the site;*
- (p) Description of structural practices designed to divert flows from exposed soil, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; [and]*
- (q) Any existing data that describes the stormwater runoff at the site."*

Chapter 86 also sets forth required erosion and sedimentation controls. Pursuant to §86-7(A), all land development activities shall be subject to the following:

"A. Technical Standards. For the purpose of this chapter, the following documents shall serve as the specifications and standards for stormwater management. Stormwater management practices that are designed and constructed in accordance with the documents set forth in herein shall be presumed to meet the standards imposed by this chapter:

- (1) The New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation, or any amendments thereto, hereafter referred to as the 'Design Manual').*
- (2) New York Standards and Specifications for Erosion and Sediment Control (Empire State Chapter of the Soil and Water Conservation Society, 2004 (most current version), or any amendments thereto, hereafter referred to as the 'Erosion Control Manual.')*

After construction, reports are to be submitted in accordance with §86-9(D), as follows:

“D. Submission of Reports.

- (1) The Stormwater Management Officer may require monitoring and reporting from entities subject to this chapter as are necessary to determine compliance with this chapter.*
- (2) All applicants are required to submit ‘as built’ plans for any stormwater management practices located on-site after final construction is completed. The plans must show the final construction layout for all stormwater management facilities. The plans must also clearly display any alterations made to the original approved construction details, sections, and/or plan layout. A professional engineer must certify the as-built plans.”*

Long Island Segment of the Nationwide Urban Runoff Program (“NURP Study”)

With regard to stormwater runoff, the *Long Island Segment of the Nationwide Urban Runoff Program* has made the following findings relating to groundwater:

Groundwater

- Most of the runoff into recharge basins is derived from rain that falls directly on impervious surfaces, except during storms of high intensity, high volume and/or long duration.
- In general, with the exception of lead and chloride, the concentrations of inorganic chemicals measured in stormwater runoff do not have the potential to adversely affect groundwater quality.
- Infiltration through the soil is generally an effective mechanism for reducing lead and probably chromium from runoff on Long Island. Although the NURP Study findings concerning chromium are not conclusive, data from a spill at Farmingdale indicate attenuation. Chloride is not attenuated. The effect of infiltration on nitrogen is undetermined.
- Coliform and fecal streptococcal indicator bacteria are removed from stormwater as it infiltrates through soil.

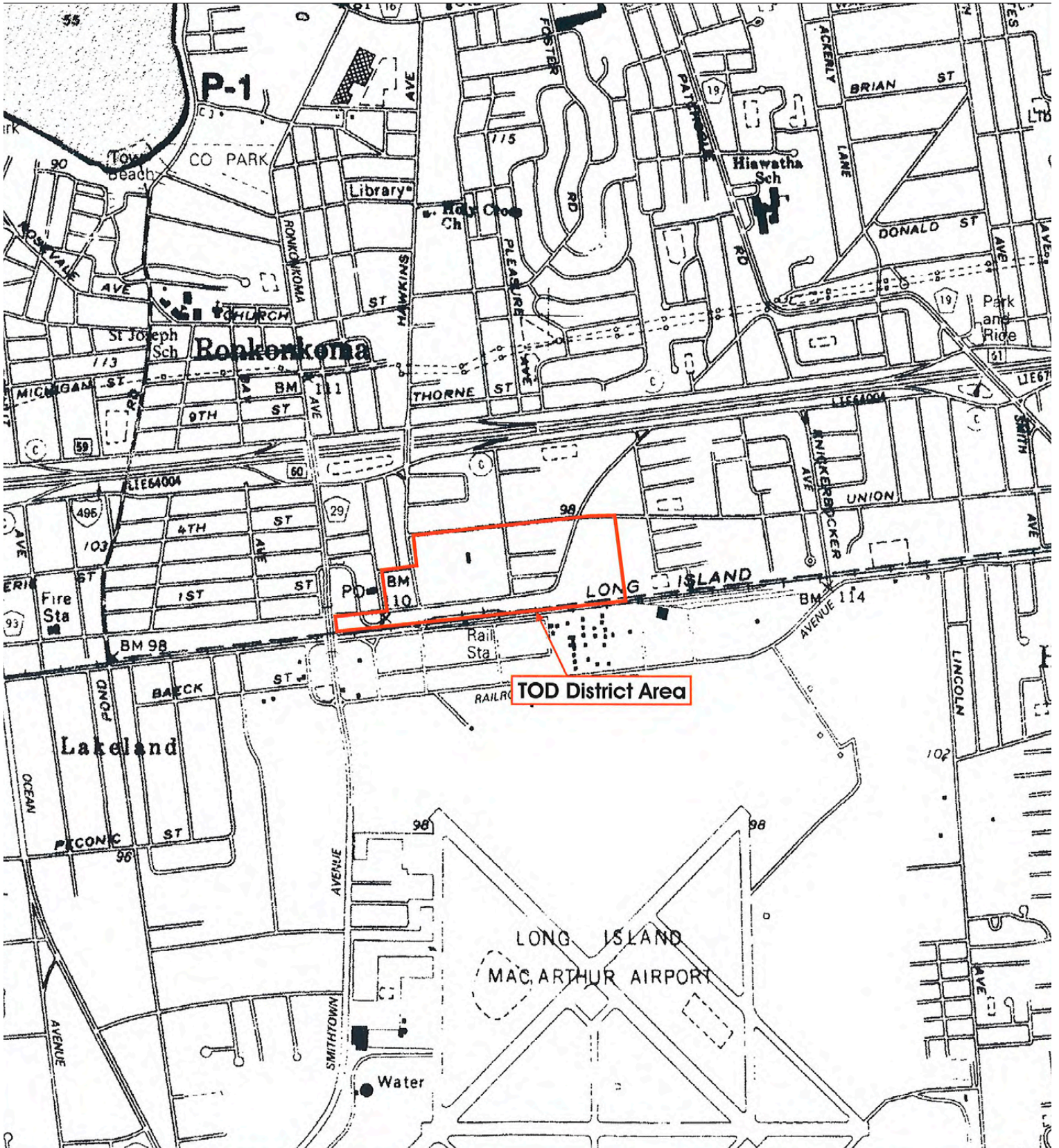
3.2.4 Surface Water, Wetlands and Floodplains

There are no surface waters on or adjoining the TOD District area. According to the NYSDEC Freshwater Wetlands Map No. 27 of 39 (Patchogue Quadrangle), there are no regulated freshwater wetlands on or adjoining the TOD District (see Figure 8 – Excerpt of NYSDEC Freshwater Wetlands Map). The National Wetland Inventory (“NWI”) Map is an advisory resource prepared by the United States Fish and Wildlife Service. A review of NWI Map No. 647 (Patchogue Quadrangle) indicates that the closest wetlands feature is a recharge basin situated approximately 0.13 mile north of the eastern portion of the TOD District, between the Long Island Expressway South Service Road to the north and the Courtyard Long Island MacArthur Airport hotel to the south (see Figure 9 – Excerpt of National Wetlands Inventory Map). The TOD District area is not situated proximate to any tidal wetlands.

The Flood Emergency Management Agency (“FEMA”) Flood Insurance Rate Map No. 36103C0690H was consulted to determine the flood zone in which the project site is located. No map exists for this Panel Identification Number. As such, the TOD District is not located within a 100-year or 500-year flood zone.

3.3 Ecology

The TOD District area was inspected on June 17 and July 1, 2010, for the purposes of assessing the general ecological conditions within the TOD District area. The ecological assessment included a characterization of existing habitats, as well as an inventory of observed and expected flora and fauna. Special attention was given to the possible presence of any rare (i.e., endangered, threatened or special concern) species or ecological communities.



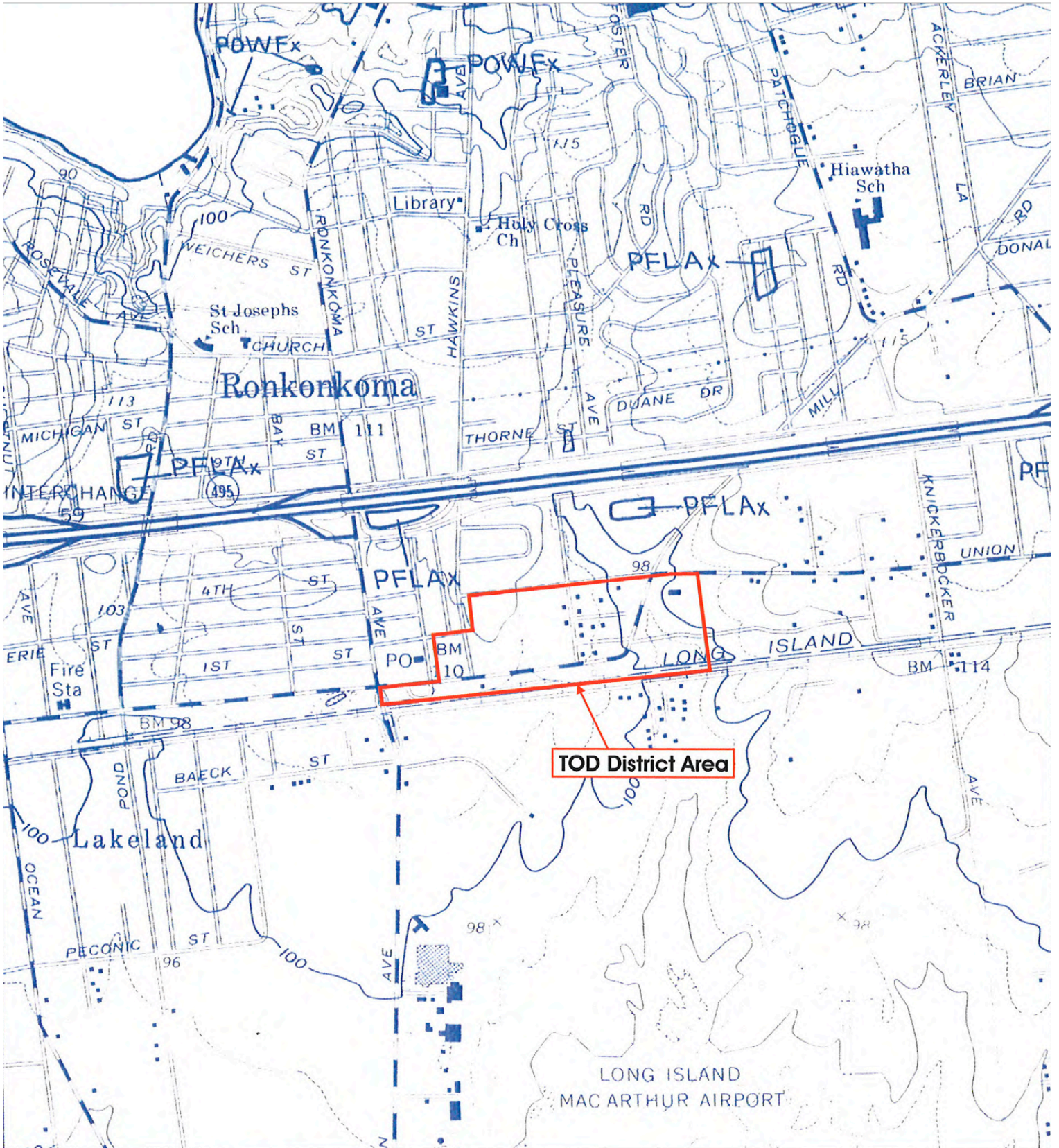
Note: Boundary is approximate
 Source: NYSDEC Freshwater Wetlands Map (Patchogue Quadrangle), 1991.



Figure 8
 Excerpt of NYSDEC
 Freshwater Wetlands Map
 Ronkonkoma Hub
 Transit-Oriented Development



not to scale



Note: Boundary is approximate
 Source: USFWS National Wetlands Inventory Map (Patchogue Quadrangle). 1994.



Figure 9
 Excerpt of National Wetlands Inventory Map

**Ronkonkoma Hub
 Transit-Oriented Development**



not to scale

3.3.1 Vegetation

The New York Natural Heritage Program's ("NYNHP") publication "Ecological Communities of New York State" (Reschke, 1990, as updated by Edinger et al., 2002) contains detailed descriptions of ecological communities found throughout New York State. This resource also provides global and state rarity rankings for each defined ecological community. Based upon the NYNHP community descriptions, the TOD District area supports nine distinct ecological communities:

- (1) Paved Road/Path;
- (2) Urban Structure Exterior;
- (3) Railroad;
- (4) Mowed Lawn;
- (5) Mowed Lawn with Trees;
- (6) Flower/Herb Garden;
- (7) Successional Shrubland;
- (8) Successional Southern Hardwoods; and
- (9) Pitch Pine-Oak Forest.

The first six ecological communities were observed on the developed properties within the TOD District area. Vegetation in these areas is comprised primarily of ornamental trees, shrubs and herbaceous plants (including grasses), as well as common "weed" species. The six communities have been assigned rarity rankings of G5, S5, by the NYNHP, where "G" refers to the Global rarity ranking and "S" refers to the New York State rarity ranking. G5 indicates a community that is considered "demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery." The S5 ranking refers to a community that is considered to be "demonstrably secure in New York State."

The latter three of the above-listed ecological communities (i.e., Successional Southern Hardwood, Successional Shrubland and Pitch Pine-Oak Forest) are restricted to two currently-undeveloped areas within the TOD District area (see Parcels "A" and "B" on Figure 10 – Existing Habitats – TOD District Area). The NYNHP has assigned rarity rankings of G5, S5 to Successional Southern Hardwoods and G4, S4 to both Successional Shrubland and Pitch Pine-Oak Forest. G4 indicates a community that is considered "apparently secure globally, though it might be quite rare in parts of its range, especially at the periphery." The S4 ranking denotes a community that is considered "apparently secure in New York State." The NYNHP descriptions for the typical vegetative associations found within the three communities follow:

Successional Southern Hardwoods

"A hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed. Characteristic trees and shrubs include any of the following: American elm (Ulmus americana), slippery elm (U. rubra), white ash (Fraxinus americana), red maple

(*Acer rubrum*), box elder (*Acer negundo*), silver maple (*A. saccharinum*), sassafras (*Sassafras albidum*), gray birch (*Betula populifolia*), hawthorns (*Crataegus* spp.), eastern red cedar (*Juniperus virginiana*), and choke-cherry (*Prunus virginiana*). Certain introduced species are commonly found in successional forests, including black locust (*Robinia pseudo-acacia*), tree-of-heaven (*Ailanthus altissima*), and buckthorn (*Rhamnus cathartica*). Any of these may be dominant or co-dominant in a Successional Southern Hardwoods forest. Southern indicators include American elm, white ash, red maple, box elder, choke-cherry, and sassafras. This is a broadly defined community and several seral and regional variants are known.”

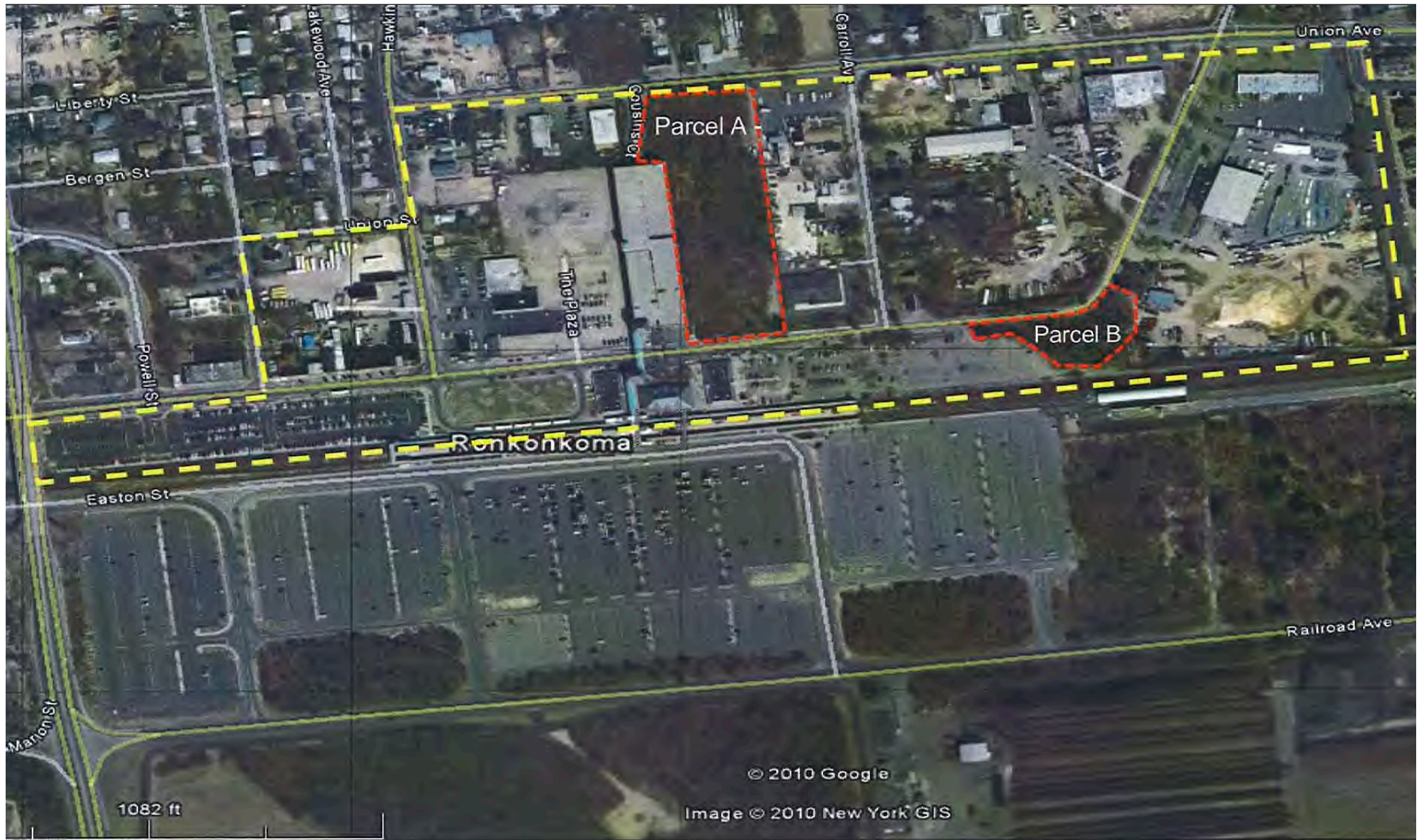
Successional Shrubland

“A shrubland that occurs on sites that have been cleared (for farming, logging, development, etc.) or otherwise disturbed. This community has at least 50% cover of shrubs. Characteristic shrubs include gray dogwood (*Cornus foemina* ssp. *racemosa*), eastern red cedar (*Juniperus virginiana*), raspberries (*Rubus* spp.), hawthorne (*Crataegus* spp.), serviceberries (*Amelanchier* spp.), choke-cherry (*Prunus virginiana*), wild plum (*Prunus americana*), sumac (*Rhus glabra*, *R. typhina*), nanny-berry (*Viburnum lentago*), arrowwood (*Viburnum recognitum*), and multiflora rose.”

Pitch Pine-Oak Forest

“A mixed forest that typically occurs on well-drained, sandy soils of glacial outwash plains or moraines; it also occurs on thin, rocky soils of ridge tops. The dominant trees are pitch pine (*Pinus rigida*) mixed with one or more of the following oaks: scarlet oak (*Quercus coccinea*), white oak (*Quercus alba*), red oak (*Quercus rubra*), or black oak (*Quercus velutina*). The relative proportions of pines and oaks are quite variable within this community type. At one extreme are stands in which the pines are widely spaced amidst the oaks, in which case the pines are often emergent above the canopy of oak trees. At the other extreme are stands in which the pines form a nearly pure stand with only a few widely spaced oak trees. The shrub layer is well-developed with scattered clumps of scrub oak (*Quercus ilicifolia*) and a nearly continuous cover of low heath shrubs such as blueberries (*Vaccinium pallidum*, *V. angustifolium*) and black huckleberry (*Gaylussacia baccata*). The herbaceous layer is relatively sparse; characteristic species are bracken fern (*Pteridium aquilinum*), wintergreen (*Gaultheria procumbens*) and Pennsylvania sedge (*Carex pensylvanica*).”

Field observations indicate that Parcel A (see Figure 10 – Existing Habitats – TOD District Area) is in various stages of recovery from past disturbances (i.e., agricultural and/or development-related clearing). The resulting successional habitats support a variety of native and non-native vegetation. The southern portion of Parcel A supports Successional Shrubland habitat that is dominated by non-native/invasive species, including mugwort (*Artemisia vulgaris*), multiflora rose (*rosa multiflora*), autumn olive (*Elaeagnus umbellata*), Japanese honeysuckle (*Lonicera japonica*) and Asiatic bittersweet (*Celastrus obiculatus*). Scattered trees are also present, including big-tooth aspen (*Populus grandidentata*) and eastern red cedar, as well as non-native/invasive Norway maple (*acer plantanoides*) and Russian olive (*Celastrus angustifolium*).



Note: Boundary is approximate
 Source: Google, 2010.



Legend

Parcel A: Successional southern hardwoods and successional shrubland

Parcel B: Pitch pine-oak forest

All Other Areas: Paved road/path, urban structure exterior, railroad, mowed lawn
 mowed lawn with trees, and flower/herb garden



Figure 10

Existing Habitats–TOD District Area

**Ronkonkoma Hub
 Transit-Oriented Development**

The central portion of the parcel supports trees species typical of Successional Southern Hardwoods, including the non-native/invasive species black locust, Norway maple and tree-of-heaven. Scattered native trees, including gray birch and black cherry (*Prunus serotina*), are also present. Poison ivy (*Toxicodendron radicans*) and trumpet creeper (*Campsis radicans*) vines are dominant or co-dominant in the groundcover, shrub and canopy strata. Some vestiges of pre-disturbance Pitch Pine-Oak Forest remain in interior portions of Parcel A, as evidenced by the presence of scarlet oak (*Quercus Coccinea*) white oak (*Quercus alba*) and pitch pine (*Pinus rigida*). However, invasive shrub, vine and herbaceous plants have replaced the native species normally found within with the shrub and groundcover strata of this ecological community (i.e., blueberries, huckleberry, bearberry, bracken fern, wintergreen, etc.).

The northern portion Parcel A supports additional Successional Southern Hardwoods habitat similar to that found on the central portion of the parcel, as described previously.

Unlike Parcel A, Parcel B (see Figure 10 – Existing Habitats – TOD District Area) supports a relatively undisturbed area of Pitch Pine-Oak Forest located within interior portions of this small parcel. Similar to the NYNHP community description, dominant species include white oak, scarlet oak, scrub oak, lowbush blueberry and black huckleberry. Invasive/non-native species including mugwort, Japanese honeysuckle, common reed (*Phragmites australis*) and multiflora rose are present-to-dominant in perimeter areas of Parcel B.

As indicated by the above community descriptions, various non-native/invasive plant species are prevalent and/or dominant throughout much of the canopy, shrub and groundcover strata of Parcel A and in perimeter areas of Parcel B. In general, the presence of non-native/invasive vegetation reduces the ecological value of a habitat by out-competing native vegetation and reducing or eliminating foraging, breeding and nesting habitat for native wildlife species.

The following table provides a list of vegetation observed within the boundaries of the TOD District area during the field inspection. The list is not intended to represent an all-inclusive inventory of the vegetative species present in the area.

Plant Species List

Trees

big-tooth aspen	<i>Populus grandidentata</i>
black cherry	<i>Prunus serotina</i>
black locust	<i>Robinia pseudoacacia</i>
black oak	<i>Quercus velutina</i>
black walnut	<i>Juglans nigra</i>
eastern red cedar	<i>Juniperus virginiana</i>
eastern white pine	<i>Pinus strobus</i>
European white birch	<i>Betula pendula</i>

gray birch
northern catalpa
northern red oak
Norway maple
pignut hickory
quaking aspen
red maple
Russian olive
sassafras
scarlet oak
Scots pine
scrub oak
spruce
tree-of-heaven
white oak

Betula poulifolia
Catalpa speciosa
Quercus rubra
Acer platanoides
Carya galbra
Populus tremuloides
Acer rubrum
Elaeagnus angustifolia
Sassafras albidum
Quercus coccinea
Pinus sylvestris
Quercus illicifolia
Picea sp.
Ailanthus altissima
Quercus alba

Shrubs and Vines

Asiatic bittersweet
autumn olive
black huckleberry
dwarf sumac
forsythia
Japanese honeysuckle
lowbush blueberry
multiflora rose
poison ivy
raspberries
round-leaved greenbrier
smooth sumac
Tartarian honeysuckle
trumpet creeper vine
Virginia creeper

Celastrus orbiculatus

Eleagnus umbellata
Gaylussacia baccata
Rhus copallinum
Forsythia sp.
Lonicera japonica
Vaccinium angustifolium
Rosa multiflora
Toxicodendron radicans
Rubs spp.
Smilax rotundifolia
Rhus glabra
Lonicera tatarica
Campsis radicans
Parthenocissus quinquefolia

Herbaceous Plants

annual sowthistle
broadleaf plantain
butter and eggs
common blue violet
common chicory
common fleabane
common mugwort
common mullein
common purslane
common reed

Sonchus oleraceus
Plantago major
Linaria vulgaris
Viola sororia
Cichorium intybus
Erigeron philadelphicus
Artemisia vulgaris
Verbascum thapsus
Portulaca oleracea
Phragmites australis

common yarrow	<i>Achillea millefolium</i>
dandelion	<i>Taraxacum officinale</i>
deer-tongue grass	<u><i>Dichanthelium clandestinum</i></u>
deptford pink	<i>Dianthus armeria</i>
garlic mustard	<i>Allaria petiolata</i>
goldenrod	<i>Solidago sp.</i>
green foxtail	<i>Setaria viridis</i>
Japanese knotweed	<i>Polygonum cuspidatum</i>
lily-of-the-valley	<i>Convallaria majalis</i>
lowbush blueberry	<i>Vaccinium angustifolium</i>
narrowleaf plantain	<i>Plantago lanceolata</i>
perennial sowthistle	<i>Sonchus arvensis</i>
pokeweed	<i>Phytolacca americana</i>
prickly lettuce	<i>Lactuca serriola</i>
Queen Ann's lace	<i>Daucus carota</i>
red clover	<i>Trifolium pratense</i>
rough-stemmed goldenrod	<i>Solidago rugosa</i>
spotted knapweed	<i>Centaurea stoebe</i>
spotted spurge	<i>Euphorbia maculata</i>
tall goldenrod	<i>Solidago altissima</i>
timothy grass	<i>Phleum pratense</i>
white clover	<i>Trifolium repens</i>
yellow foxtail	<i>Setaria glauca</i>
yellow toadflax	<i>Linaria vulgaris</i>
yellow wood sorrel	<i>Oxalis stricta</i>

3.3.2 Wildlife

Birds

Avian species are the most common form of wildlife observed and expected within the TOD District area. Eleven bird species were observed on-site during the field inspection, including American crow (*Corvus brachyrhynchos*), American robin (*Turdus migratorius*), black-capped chickadee (*Poecile atricapillus*), blue jay (*Cyanocitta cristata*), European starling (*Sturnus vulgaris*), gray catbird (*Pumetella carolinensis*), mourning dove (*Zenaida macroura*), northern cardinal (*Cardinalis cardinalis*), northern mockingbird (*Mimus polyglottos*), red-winged blackbird (*Agelaius phoeniceus*), and song sparrow (*Melospiza melodia*). All of the above-listed birds are species that are generally well-adapted to suburban, urban and/or disturbed successional habitats.

Due to the developed nature of the TOD District area and the general surrounding area, as well as the fragmentation of the remaining woodland habitat, it is not expected that avian species that require large, undisturbed blocks of woodland habitat would frequent the area. Nevertheless, in order to provide a reasonable estimate of the avian species not

observed during the field inspection but potentially utilizing the site, “The Second Atlas of Breeding Birds in New York State” (McGowan and Corwin, 2008) was consulted. According to this resource, a total of 59 bird species were identified between 2000 and 2005 within the two survey blocks of the TOD District area is located (Blocks 6551A and 6551B). Of these species, 19 are confirmed as breeding, 31 are listed as probable breeders and nine are listed as possibly breeding (a copy of the atlas reports for Blocks 6551A and 6551B is included in Appendix F). It is important to note that the two survey blocks total 18 square miles in area and support a diverse range of habitats, many of which are not found within the TOD District area. Thus, some of the avian species recorded for Blocks 6551A and 6551B require breeding, foraging and/or nesting habitats that are not found in the TOD District area, and, therefore, these birds are not expected to utilize the area.

Mammals

Eastern gray squirrel (*Sciurus carolinensis*) was the only mammal species noted within the TOD District area during the field inspection. In order to provide an estimate of the mammal species potentially utilizing the site, “The Mammals of Long Island, New York” (Connor, 1971) was consulted. Based upon this resource, as well as an evaluation of the existing ecological conditions on the site, the following mammal species have been identified as potentially utilizing the TOD District area.

big brown bat	<i>Eptesicus fuscus</i>
eastern chipmunk	<i>Tamias striatus</i>
eastern cottontail	<i>Sylvilagus floridanus</i>
eastern gray squirrel*	<i>Sciurus carolinensis</i>
eastern mole	<i>Scalopus aquaticus</i>
house mouse	<i>Mus musculus</i>
little brown bat	<i>Myotis lucifugus</i>
masked shrew	<i>Sorex cinereus</i>
meadow vole	<i>Microtus pennsylvanicus</i>
Norway rat	<i>Rattus norvegicus</i>
raccoon	<i>Procyon lotor</i>
short-tailed shrew	<i>Blarina brevicauda</i>
Virginia opossum	<i>Didelphis virginialis</i>
white-footed mouse	<i>Peromyscus leucopus</i>
*observed on-site	

Herpetofauna

No herpetofauna (amphibians and reptiles) were observed within the TOD District area, although it may support a limited number of species. In order to provide an accurate estimate of the species potentially utilizing the site, an evaluation of existing site conditions was performed and the New York State Amphibian and Reptile Atlas Project (“NYSARAP”), (available online at <http://www.dec.ny.gov/animals/7140.html>) was reviewed. According to NYSARAP data collected from 1990 to 1999, a total of 20

amphibian and reptile species have been identified within the area covered by the United States Geological Survey (“USGS”) Patchogue, New York Quadrangle topographic map, within which the TOD District area is located (a list of these species is included in Appendix F).

It is important to note that, due to the predominantly-developed and fragmented nature of the TOD District area, most of the species on the NYSARAP list are not expected. Moreover, as indicated in Section 3.2.3 of this DGEIS, there are no surface waters or wetlands on or adjoining the properties within the TOD District area. Due to this factor, aquatic and semi-aquatic herpetofauna are not expected within the TOD District area. As also noted in Section 3.2 of this DGEIS, the nearest wetland feature is a recharge basin situated approximately 0.13 mile north of the TOD District area. Based upon observations during the field inspection and a review of aerial photographs, it appears that this feature experiences sporadic inundation during precipitation events. Thus, the possibility exists that some amphibian species could utilize the recharge basin as breeding habitat. However, as the recharge basin is separated from the TOD District area by residential/commercial development and paved roadways, no natural wildlife corridor exists that would facilitate travel to the TOD District area for breeding amphibian species, if any are present.

Based upon these considerations, it is expected that only those species that are most-adapted to human presence and developed/disturbed upland habitats might be found. Thus, the following three species are potentially expected on the site:

eastern garter snake	<i>Thamnophis sirtalis</i>
eastern milk snake	<i>Lampropeltis triangulatum</i>
northern redback salamander	<i>Plethodon c. cinereus</i>

3.3.3 Rare Species/Habitat Potential

Correspondence dated June 14, 2010 was forwarded to the NYNHP requesting whether records exist for known occurrences of rare or State-listed animals, plants, significant natural communities or other significant habitats on or in the immediate vicinity of the TOD District area (see Appendix F). In correspondence dated June 30, 2010 (see Appendix F), the NYNHP reported that records exist for three vascular plant species, northern blazing-star (*Liatris scariosa* var. *novae-angliae*), flax-leaf whitetop (*Sericocarpus linifolius*) and showy aster (*Eurybia spectabilis*) in fields and artificial grasslands situated adjacent to runways at Islip-MacArthur Airport, located to the south of the TOD District area, within the Town of Islip. According to the map provided by the NYNHP, the nearest field/artificial grassland is located approximately 0.37-mile south of the TOD District area. Although limited areas of potentially-suitable habitat for these plants exist on portions of the TOD District area, the three species were not observed during the field inspection. Given the condition of the ecological communities observed on the vast majority of the

TOD District area (i.e., developed, landscaped or in various stages of recovery from anthropogenic disturbance), the occurrence of these or other rare plant species is unlikely.

Additionally, four NYNHP historical records exist for vascular plants on or in the vicinity of the site: few-flowered nut rush (*Scleria pauciflora var. caroliniana*), silvery aster (*Symphytotrichum concolor var. concolor*), southern yellow flax (*Linum medium var. texanum*) and velvety bush-clover (*Lespedeza stuevei*). According to the NYNHP, a record is considered historical if the species in question has not been documented on or in the vicinity of the site since 1979 or earlier. It is important to note that the historical records for the four plants are all over 81 years old, and date from 1922, 1928, 1925 and 1928, respectively. Although limited areas of potentially-suitable habitat for these plants exist on portions of the TOD District, none of the four aforementioned species was observed during the field inspection. Further, as indicated previously, due to developed/disturbed nature of the TOD District area, the occurrence of these or other rare plant species on the site is considered to be unlikely.

According to the NYNHP response letter, no other records currently exist for rare or State-listed animals, plants, significant natural communities or other significant habitats on or in the immediate vicinity of the TOD District area.

3.4 Land Use and Zoning

The following sections describe the existing land uses and zoning, as well as land use plans relevant to the TOD District area and its intended uses.

3.4.1 Land Use

The TOD District area encompasses an approximately 53.73-acre area, which is currently comprised of 54 individual tax lots (see Figure 11 – Suffolk County Tax Map). In general, existing land uses within the TOD District area include:

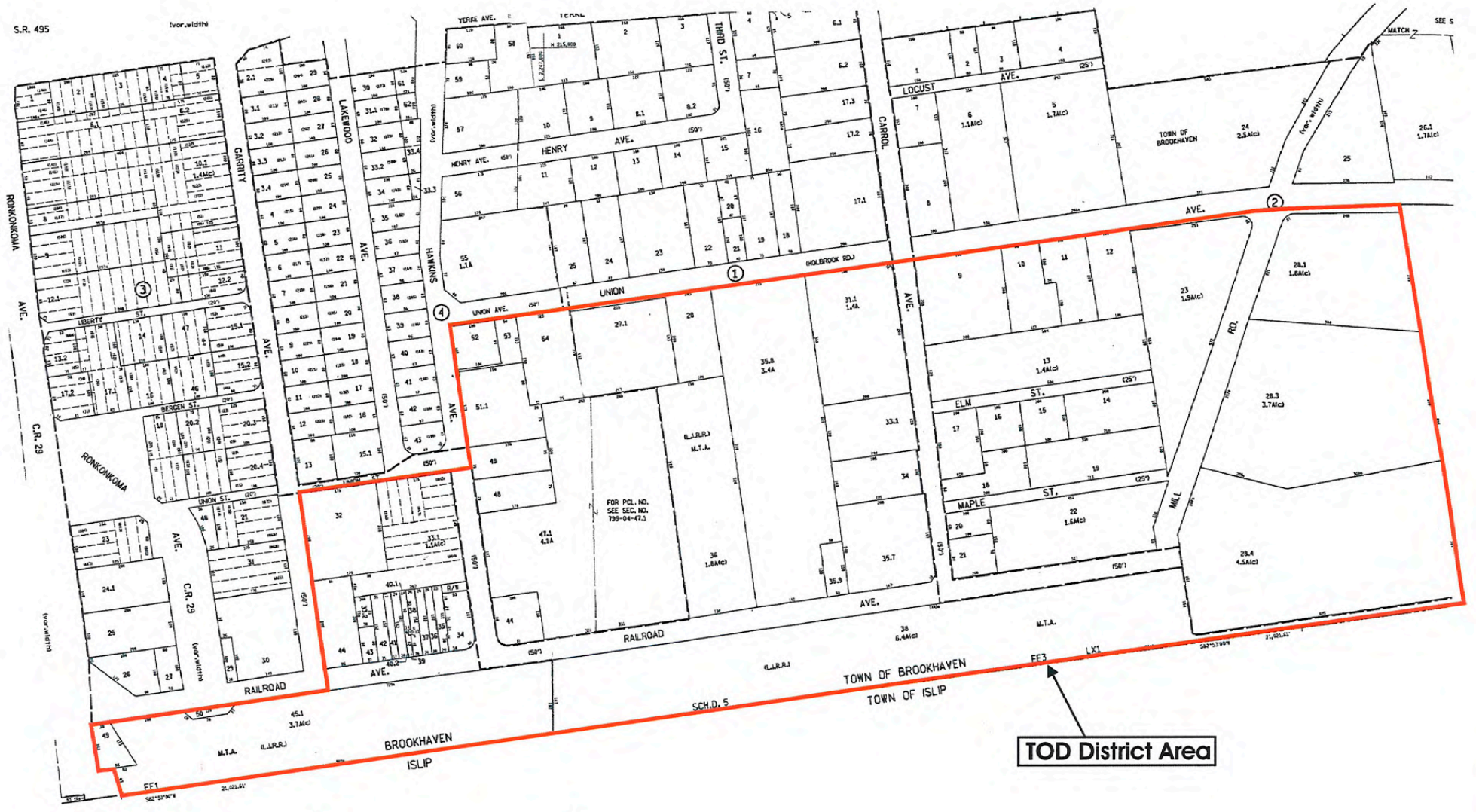
- Residential;
- Office;
- Automotive;
- Restaurant;
- Warehouse;
- General Service (Commercial and Industrial);
- LIRR parking areas (surface and structured); and
- Vacant/Unoccupied.

The TOD District area consists of numerous vacant/unoccupied parcels and/or structures, a number of which are in highly visible locations (i.e., Railroad Avenue). A number of local businesses, some of which are also in highly visible locations, lack repair and maintenance resulting in a rundown appearance. Large surface parking lots exist along

Railroad Avenue east and west of the existing station and Ronkonkoma Avenue (County Road 29), which is the western boundary of the TOD District area, is flanked with commercial development. Industrial and office uses exist within the eastern portion of the TOD District area along Mill Road. Refer to Figure 12 – Existing Land Use Inventory for the land use types within the TOD District area.

Just to the south of the TOD District area are the LIRR tracks, which is the dividing line between the Towns of Brookhaven and Islip. Just south of the LIRR tracks are the LIRR Ronkonkoma Train Station parking areas and the Town of Islip compost facility and, even further south, the Long Island MacArthur Airport. Single-family uses are located in the northwest and eastern portions of the TOD District area. Residential uses, including a multi-family apartment/condominium complex, border the eastern edge of the TOD District area.

Table 6 – Study Area Parcels Ownership, Land Use and Current Zoning lists the ownership of parcels within the TOD District area, the designated land use, according to the Town Assessor’s data and field verification, and the current zoning designation.

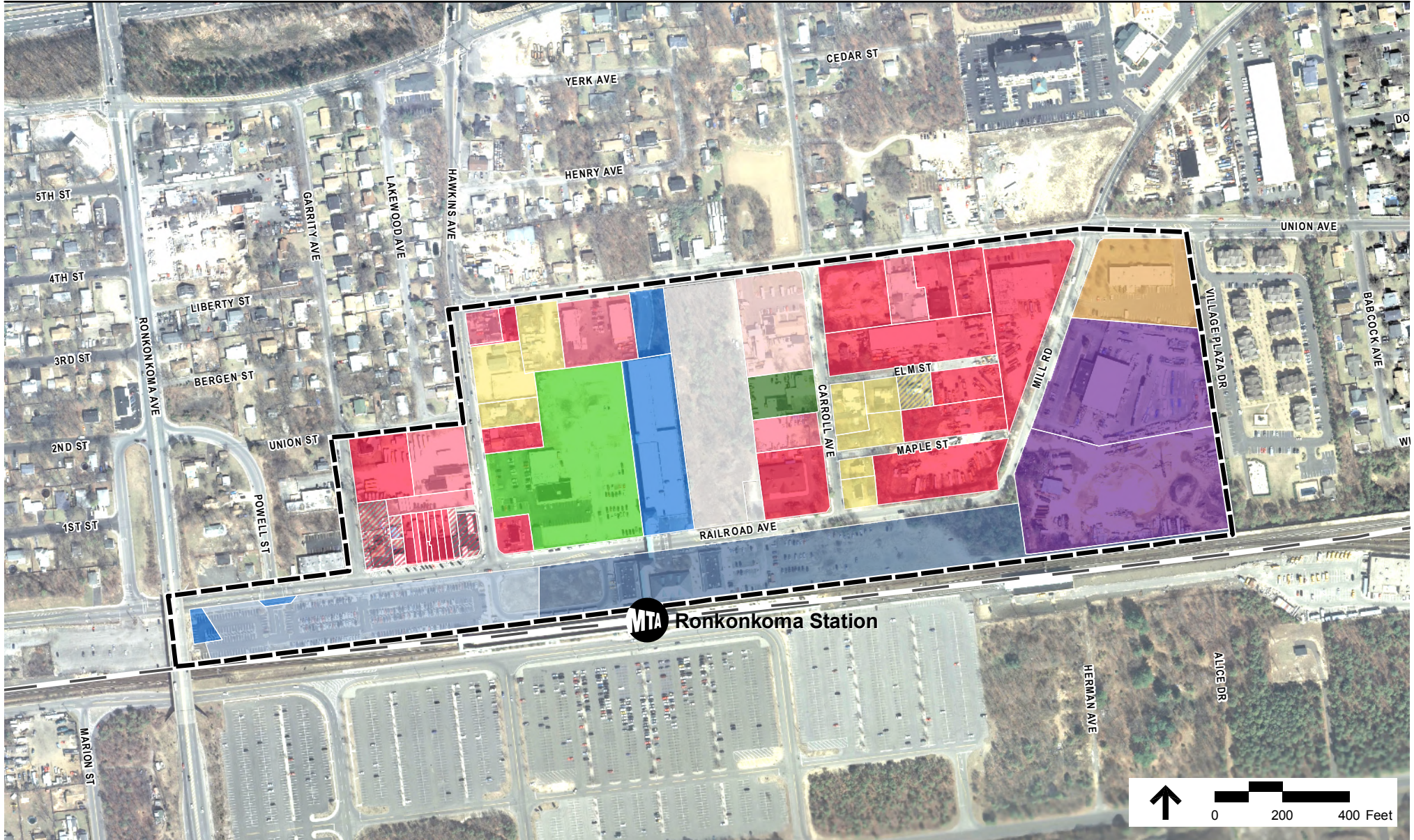


Note: Boundary is approximate
 Source: County of Suffolk Real Property Tax Service Agency, District 799, Sections 799 and 800. Last Revised December 2, 2008.



Figure 11
 Suffolk County Tax Map

Ronkonkoma Hub
 Transit-Oriented Development



Data sources:
 Assessors Parcels, LIRR and Zoning – Suffolk County GIS
 Basemap – Town of Brookhaven, Long Island, NY
 Land Use – Field verification by VHB, Inc., 2010.

Legend















- | | | | |
|---|--|---|--|
|  | Commercial |  | LIRR Parking |
|  | Commercial (Auto-Body Repairs) |  | Mixed Use (Parking, Gym and Commercial [Vacant]) |
|  | Commercial (Vacant) |  | Mixed Use (Residential and Commercial) |
|  | Commercial (Wholesale/Distribution) |  | Office |
|  | Industrial/Manufacturing |  | Single-Family Residential |
|  | LIRR Mixed Use (Parking and Vacant) |  | Single-Family Residential (Vacant) |
|  | LIRR Mixed Use (Vacant, Parking, Train Station and Commercial) |  | Wooded (Vacant) |



Figure 12
 Existing Land Use Inventory

Ronkonkoma Hub
 Transit-Oriented Development

Table 6 – Study Area Parcels Ownership, Land Use and Current Zoning

No.	Suffolk County Tax Map Number	Name of Owner	Current Land Use	Current Zoning
1	0200 – 799.00 – 03.00 – 032.000	14 Hawkins Avenue, LLC	Mixed Use (Residential and Auto-Body Repair)	J6
2	0200 – 799.00 – 03.00 – 033.001	14 Hawkins Avenue, LLC	Commercial (Auto-Body Repair)	J6
3	0200 – 799.00 – 03.00 – 033.002	55 Property Corp.	Commercial (Vacant) ¹	J6
4	0200 – 799.00 – 03.00 – 034.000	Gregory J. Mensch	Commercial (Vacant) ¹	J6
5	0200 – 799.00 – 03.00 – 035.000	Band Construction, Inc.	Commercial (Vacant) ²	J6
6	0200 – 799.00 – 03.00 – 036.000	Antonio Melo	Commercial	J6
7	0200 – 799.00 – 03.00 – 037.000	Micah Disipio	Commercial	J6
8	0200 – 799.00 – 03.00 – 038.000	65 Railroad Avenue, LLC	Commercial	J6
9	0200 – 799.00 – 03.00 – 039.000	63 Railroad Avenue, LLC	Commercial	J6
10	0200 – 799.00 – 03.00 – 040.001	61 Property Corp.	Commercial ³	J6
11	0200 – 799.00 – 03.00 – 040.002	61 Properties Corp.	Commercial	J6
12	0200 – 799.00 – 03.00 – 041.000	John & Lily Bedell	Commercial	J6
13	0200 – 799.00 – 03.00 – 042.000	55 Property Corp.	Commercial	J6
14	0200 – 799.00 – 03.00 – 043.000	51 Property Corp.	Commercial (Vacant) ²	J6
15	0200 – 799.00 – 03.00 – 044.000	Bernett & Gordon Realty Co.	Commercial (Vacant) ²	J6
16	0200 – 799.00 – 03.00 – 045.001	M.T.A (LIRR)	LIRR Mixed Use (Parking and Vacant) ¹	L1
17	0200 – 799.00 – 03.00 – 049.000	M.T.A (LIRR)	LIRR Parking ¹	L1
18	0200 – 799.00 – 03.00 – 050.000	M.T.A (LIRR)	LIRR Parking ¹	L1
19	0200 – 799.00 – 04.00 – 044.000	NHP Realty, LLC	Commercial ¹	J6

No.	Suffolk County Tax Map Number	Name of Owner	Current Land Use	Current Zoning
20	0200 – 799.00 – 04.00 – 047.001	On-Track Realty, LLC	Mixed Use (Parking and Gym) ⁴	J6
21	0200 – 799.00 – 04.00 – 048.000	Margaret Higgins & Jerome Gaynor	Mixed Use (Residential and Auto-Body Repair) ⁵	J6
22	0200 – 799.00 – 04.00 – 049.000	Community Housing Innovations, Inc.	Single-Family Residential ⁶	J6
23	0200 – 799.00 – 04.00 – 051.001	Marco Giangrasso	Single-Family Residential ⁷	L1
24	0200 – 799.00 – 04.00 – 052.000	Hawkins & Union Avenue Realty, LLC	Commercial (Auto-Body Repair)	L1
25	0200 – 799.00 – 04.00 – 053.000	Carmine E. Dorsi	Commercial	L1
26	0200 – 799.00 – 04.00 – 054.000	Anthony & Blase Davi	Single-Family Residential	L1
27	0200 – 800.00 – 01.00 – 027.001	Anthony & Blase Davi	Commercial (Auto-Body Repair)	L1
28	0200 – 800.00 – 01.00 – 028.000	Metropolitan Transportation Authority & R. Bergen David S. Symons	LIRR Parking	L1
29	0200 – 800.00 – 01.00 – 031.001	Island Wide, LLC	Commercial (Wholesale/Distribution)	L1
30	0200 – 800.00 – 01.00 – 033.001	Carroll Properties, Inc.	Mixed Use (Residential and Auto-Body Repair) ⁵	L1
31	0200 – 800.00 – 01.00 – 034.000	Nelson Fernandes & Magalhaes Americo	Commercial (Auto-Body Repair) ⁸	L1
32	0200 – 800.00 – 01.00 – 035.007	Tudor Station Plaza, LLC c/o Island Estates	Commercial	L1
33	0200 – 800.00 – 01.00 – 035.008	Ronkonkoma Railroad Properties, LLC	Wooded (Vacant)	L1
34	0200 – 800.00 – 01.00 – 035.009	Tudor Station Plaza, LLC	Wooded (Vacant)	L1
35	0200 – 800.00 – 01.00 – 036.000	M.T.A (LIRR)	LIRR Parking ¹	L1
36	0200 – 800.00 – 01.00 – 038.000	M.T.A (LIRR)	LIRR Mixed Use (Vacant, Parking, Train Station, and Commercial) ¹	L1
37	0200 – 800.00 – 02.00 – 009.000	Holbrook Truck & Equipment Leasing, Inc.	Commercial ⁹	L1

No.	Suffolk County Tax Map Number	Name of Owner	Current Land Use	Current Zoning
38	0200 – 800.00 – 02.00 – 010.000	William & Mildred Mallins	Commercial (Auto-Body Repair)	L1
39	0200 – 800.00 – 02.00 – 011.000	William & Mildred Mallins	Commercial	L1
40	0200 – 800.00 – 02.00 – 012.000	William & Mildred Mallins	Commercial ¹¹	L1
41	0200 – 800.00 – 02.00 – 013.000	Subsurface Maintenance Corp.	Commercial (storage and warehouse)	L1
42	0200 – 800.00 – 02.00 – 014.000	Subsurface Maintenance Corp.	Commercial	L1
43	0200 – 800.00 – 02.00 – 015.000	James Zambik	Single-Family Residential	L1
44	0200 – 800.00 – 02.00 – 016.000	Wiencyzyslaw & Gabriela Odynocki	Single-Family Residential ¹²	L1
45	0200 – 800.00 – 02.00 – 017.000	Joseph Urban	Single-Family Residential	L1
46	0200 – 800.00 – 02.00 – 018.000	Calvin C. Lorenz	Single-Family Residential	L1
47	0200 – 800.00 – 02.00 – 019.000	William A. Mallins	Commercial ¹⁰	L1
48	0200 – 800.00 – 02.00 – 020.000	Yashvinder & Jaspir Mahajan	Single-Family Residential	L1
49	0200 – 800.00 – 02.00 – 021.000	Anthony Mingoia	Commercial (converted residence)	L1
50	0200 – 800.00 – 02.00 – 022.000	William A. Mallins	Commercial ¹⁰	L1
51	0200 – 800.00 – 02.00 – 023.000	John Lock & George McDowell	Comemrcial ¹³	L1
52	0200 – 800.00 – 02.00 – 028.001	Lock & McDowell, Inc.	Office	J4
53	0200 – 800.00 – 02.00 – 028.003	Unified Credit Trust & G&D Oakland & C. Hill Trustee	Industrial	J2
54	0200 – 800.00 – 02.00 – 028.004	Unified Credit Trust & G&D Oakland & C. Hill Trustee	Industrial	J2

Sources: Town of Brookhaven Department of Assessor and field verification by VHB, June 2010.

Notes: Bolded items indicate conflicting land use identifications.

1. Observed land use – no tax bill available.
2. Commercial building is vacant, based upon field survey.
3. Tax bill indicates parcel is vacant residential. Field survey confirmed the parcel is undeveloped but utilized commercially in conjunction with adjoining lot 40.2.

4. Tax bill indicates parcel is developed with a lumber yard. However, field survey confirmed the parcel is developed with a gym and a parking lot.
5. Tax bill indicates parcel is developed with auto-body use. However, field survey confirmed the parcel is also developed with a residence.
6. Tax bill indicates that the parcel is developed with a two-family residence. However, field survey indicates that this is a single-family residence.
7. Tax bill indicates that the parcel is developed commercially. However, field survey indicates this parcel is developed with a residence.
8. Tax bill indicates that the parcel is vacant commercial land. While the parcel is undeveloped, it is utilized for automotive purposes.
9. Tax bill indicates parcel consists of vacant, residential land. However, the property is utilized commercially.
10. Tax bill indicates parcel is vacant, residential land. However, field survey indicates site is utilized for commercial storage.
11. Tax bill indicates parcel is developed with a residence. However, field survey confirmed the site is developed with a commercial use.
12. Tax bill indicates parcel is developed with a converted residence. However, field survey confirms that the parcel is developed with a residence.
13. Tax bill indicates parcel is developed with a neighborhood shopping center. However, field survey confirmed parcel is developed with a commercial use.

3.4.1.1 Community Character

The TOD District area is surrounded by a network of roadways that provide good access to the train station and to the areas along Railroad Avenue north of the LIRR tracks. In general, the corridors leading to the TOD District area contain buildings and development that range in character and aesthetics from unmaintained/unoccupied dilapidated structures to maintained businesses or residences to vacant/undeveloped parcels. The TOD District area is a gateway to the Town of Brookhaven from the south along Ronkonkoma Avenue, as well as from the existing Ronkonkoma Train Station and provides significant opportunities for redevelopment.

The TOD District area consists of numerous vacant/unoccupied parcels and/or structures, a number of which are in highly visible locations (i.e., Railroad Avenue), a rundown appearance of local businesses as well as large surface parking lots, a number of which are located along Railroad Avenue east and west of the existing station. These large, unimproved paved parking lots fill to capacity with vehicles of daily commuters taking the train from Ronkonkoma train station, but remain mostly empty during the nighttime hours. Many of the vacant buildings are former retail users or auto-related establishments, and are lacking in maintenance and are dilapidated. Also, the majority of the TOD District area lacks adequate pedestrian sidewalks or safe crossings, except in the immediate vicinity of the train station. Unregulated parking (that which exists on the side of the road but not in lots) is seen predominantly adjacent to unimproved parcels because of their proximity to the train station further restricting pedestrian or bicycle access or circulation. A description of existing architecture and area views along major roadways is included in

Section 3.10 of this DGEIS. Figure 14 - Views of the TOD District Area includes images of the existing land use conditions and community character throughout the TOD District area.

3.4.2 Zoning

According to the Town of Brookhaven Zoning Map (see Figure 13 – Existing Zoning Map), substantial portions of the TOD District area are zoned L1 (Light Industry) and J-6 (Main Street Business District). Other zones include J-2 (General Business) and J-4 (Professional and Business Offices).

The permitted uses within the project site zoning districts are presented in Table 7 – Current Zoning and Summary of Permitted Uses within the TOD District Area, below.

Table 7 – Current Zoning and Summary of Permitted Uses within the TOD District Area

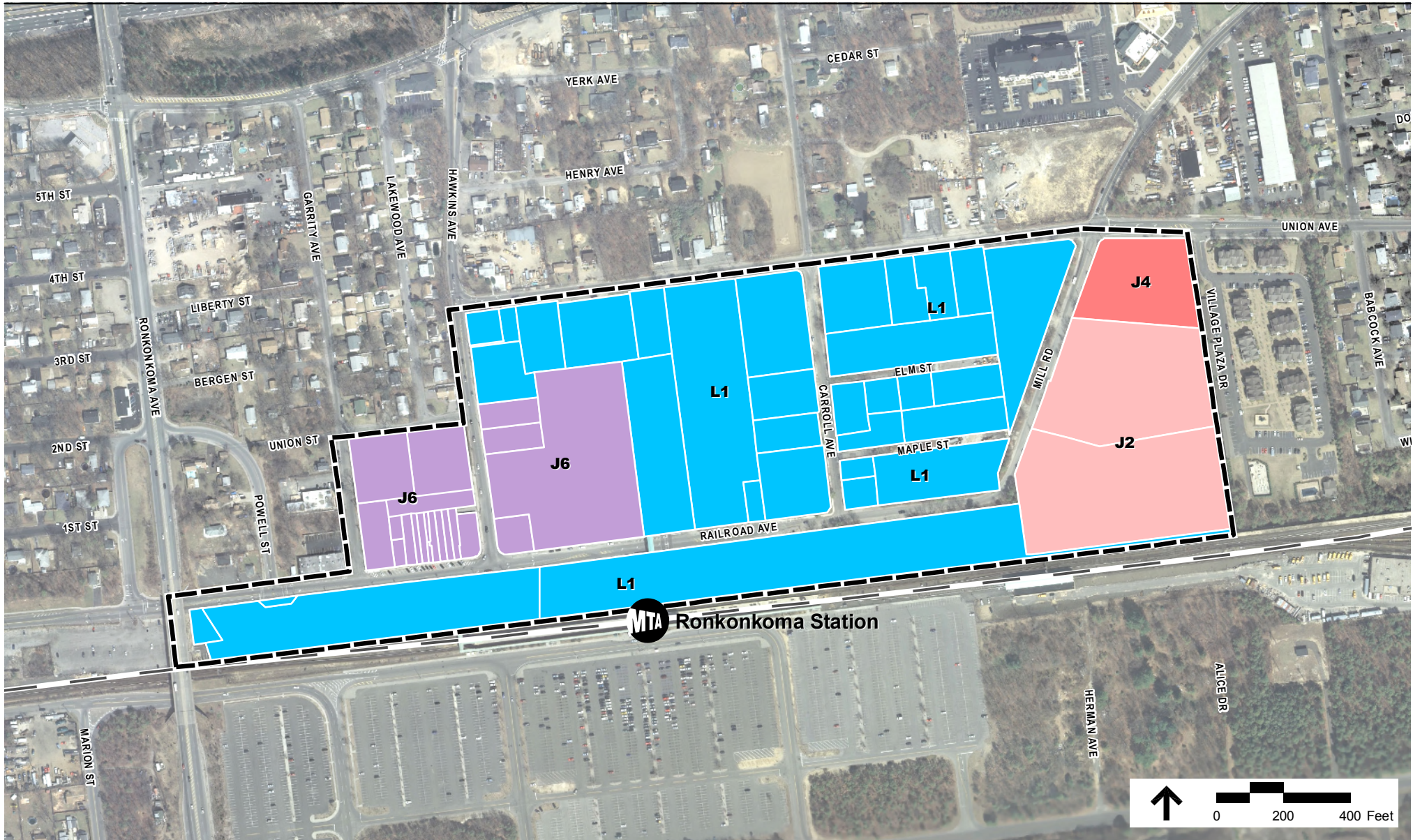
Zoning District	Summary of Permitted Uses
L1: Light Industrial District	Agriculture; banks; churches; commercial laundry; day-care facility; health club; manufacturing; office; printing plants; research and development; veterinarian; and warehouse
J-6: Main Street Business District	Retail and personal service stores; restaurants and bars; offices; banks; museums; theaters; studios; indoor recreation; private instruction schools; institutions; and second story residential or office use
J-2: General Business	Banks (without drive-through facility); bowling alleys; places of worship; commercial centers; day care facilities; delicatessens; dry cleaners; health clubs; Laundromats; non- degree granting schools; offices; personal service shops; pharmacies (without drive-through facility); retail stores; shops for custom work; take-out restaurants; undertaking establishments; veterinarians
J-4: Business –Office Building	Offices; art galleries; banks; day care facilities; exhibit halls; undertaking establishments

Properties surrounding and within the TOD District area are within the following zoning districts: Single-Family Residence (“C Residence”); Multi-Family Residence (“MF Residence”); J-2; J-4; J-6; Gasoline/Filling Stations (“J5 Business”); Business (“J-8 Business”); and L1 Industrial.

Permitted uses adjacent to the TOD District area to the north and west (within the C Residence [Single-Family Residence] zone), include single-family homes, churches, educational uses, agriculture, day care facilities, cemeteries; and accessory uses such as home offices. Also to the north are properties within the J-8 zoning district, which permits

hotels and motels. To the east are properties within the MF Residence zoning district, which permits multi-family rental housing and single-family dwellings.

A detailed description of the zoning districts within the TOD District area follows.



Data sources:
Assessors Parcels, LIR Rail and Zoning – Suffolk County GIS Basemap, Town of Brookhaven, Long Island, NY

Legend

Study Area

Zoning

- J2 – General Business
- J4 – Business - Office Building
- J6 – Business - Main Street
- L1 – Light Industrial



Figure 13
Existing Zoning

Ronkonkoma Hub
Transit-Oriented Development

3.4.2.1 Light Industrial District (L1)

- The land to the south of Railroad Avenue and to the east of the J-6 district is zoned L1 (see Figure 12 – Existing Land Use Inventory). Table 7 – Current Zoning and Summary of Permitted Uses within the TOD District Area above lists the permitted uses within the L1 district. Special permits can authorize an airport, electric generating facility, adult uses, private parking (structure or surface), bars/nightclubs, heavy vehicle sales, kennels, lumberyard, mini-storage warehouse, non-degree granting instruction, retail sales, transportation facility, trucking, terminal, and higher education. Drive-throughs are allowed as an accessory use by special permit for banks. Additional special permit criteria apply for specific uses.
- The maximum height in the L1 district is 50 feet, or 3 stories. Generally, the minimum lot size is 40,000 square feet, frontage is 100 feet, front and rear yard setback is 50 feet and side yard setback is 10 feet. The floor-area ratio (“FAR”) is 35 percent.⁴

3.4.2.2 Main Street Business District (J-6)

The Main Street Business District zoning (J-6) is located in the western portion of the TOD District area (see Figure 13 – Existing Zoning Map). The Main Street Business District was designed to preserve the sense of place in Brookhaven’s centers and traditional neighborhoods. It allows for the development of “fully integrated mixed-use pedestrian-oriented main street centers” and includes building design and architectural standards adopted as part of the zoning article by the Town in July 2003 (as specified in the July 2003 Main Street Business Design Manual) described further below. Maximum height in the district is 30 feet or two stories.

Refer to Table 7 – Current Zoning and Summary of Permitted Uses within the TOD District Area for the list of permitted uses for the J-6 District. Special permit uses include hotels and a third story for residential use. Certain accessory uses are allowed, such as outdoor seating and retail display and drive-throughs, which require a special permit. Parking garages are allowed by special permit if they are located to the rear of the district. A landscaped buffer of 25 feet is required adjacent to residential uses, and landscaping and buffering plans are required.

The Planning Board is authorized to grant zoning incentives to encourage main street center and traditional neighborhood development. Incentives include increased FAR, reduced parking, or other relief from development standards as appropriate. Such incentives could be considered if the developer provides for public parking, sewage

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⁴Note that these standards are as written in the text (§85-313) and differ from the standards in the Table of Dimensional Regulations for L Industrial Districts (§85-292). There appear to be some internal inconsistencies in the text as well.

treatment plant capacity, civic or park space, and/or downtown infrastructure improvements (street furniture, lighting, public amenities, etc.).

The July 2003 Main Street Business Design Manual design guidelines are intended to “guide the review and approval of a development plan,” but for the most part do not contain specific standards. Rather, they provide conceptual guidelines with photos and graphics to illustrate the particular guideline. The guidelines cover the following:

- Building design and site layout
- Architecture
- Signage
- Parking
- Landscaping and buffering
- Lighting
- Street furniture
- Pedestrians
- Multi-family residential development
- Parks and open space

3.4.2.3 General Business (J-2)

Several individual parcels within the eastern portion of the TOD District area (between Mill Road and Village Plaza Drive and just north of the Station) are zoned J-2 (General Business) (see Figure 13 – Existing Zoning Map). Table 7 lists the permitted uses within the J-4 district. Special permit uses include college or university facilities; single- and two-family dwellings; bars and nightclubs; some limited manufacturing uses; public utilities; and restaurants. Drive-throughs may also be allowed by special permit for banks or pharmacies. Restaurants and movie theaters can be permitted as an accessory use to a commercial center if granted a special permit. Maximum height in the district is 50 feet or three stories.

3.4.2.4 Business – Office Building (J-4)

A limited amount of land within the eastern portion of the TOD District area (between Mill Road and Village Plaza Drive) is zoned J-4 (Business – Office Building) (see Figure 13 – Existing Zoning Map). Table 7 lists the permitted uses within the J-4 district. The only special permits that may be granted in the J-4 district are for drive-throughs for a bank, and restaurants as an accessory use to one of the principal uses allowed by right. The height limitation in this district is 35 feet or 2 ½ stories.

3.4.3 Relevant Land Use Plans

3.4.3.1 Ronkonkoma Hub Planning Study

In 2007, the Town of Brookhaven embarked upon a two-phased planning study, known as the *Ronkonkoma Hub Planning Study*, aimed at revitalizing a multi-block area around the Ronkonkoma Hub, one of the busiest stations along the entire LIRR system. The goal of the *Ronkonkoma Hub Planning Study* was to develop a vision that includes compact, mixed-use redevelopment of underutilized land that supports and expands on the high ridership of and recent improvements made to the train station. The desired outcome of the planning study was a long-term development strategy that established clear and predictable guidance for the revitalization of the blighted, vacant and/or underutilized parcels.

Phase 1, completed in April 2008, focused on documenting existing conditions of a 181±-acre study area, including analysis of existing zoning, multi-family housing demand, parking, building space, and transportation infrastructure as well as the creation of goals and objectives and preliminary analysis of the development potential for priority development sites. The study area was generally bounded by the LIRR rail line to the south, Express Drive to the north, Bay Avenue to the west and Babcock Avenue to the east.

Phase 2 of the planning study, which was completed in March 2009, built upon the work completed in Phase 1 and generated a long-term vision and implementation strategy aimed at providing guidance to all interested parties on potential future development around the Station. The outcome of this planning study is a long-term development strategy that establishes clear and predictable guidance for the revitalization of the area.

Key goals of the Ronkonkoma Hub Planning Study included:

- Promote quality and healthy communities;
- Redirect growth to areas already served by existing infrastructure;
- Expand transportation choices to enhance environmental quality;
- Reduce vehicle trips around the station;
- Support compact, mixed-use, transit-accessible, pedestrian-oriented redevelopment;
- Create a sense of place;
- Support local businesses;
- Create housing choices;
- Explore reverse commute opportunities; and
- Enhance the tax base for the Town and the region to support the variety of taxing districts.

With input from local government, residents, businesses and other stakeholders through public meetings, the *Ronkonkoma Hub Planning Study* included zoning recommendations, identification of transportation improvements, financial implications, and concept plans. A Vision Plan was developed that transformed Railroad Avenue into a community “Main Street” with mixed-use buildings that define the street edge, provided pedestrian amenities such as small urban plazas at study intersections, and included streetscape improvements along both sides of Railroad Avenue. The Vision Plan called for a mix of housing, retail, recreation and office space. Refer to Section 2.2.1 – Project History for the highlights of the Vision Plan.

In addition to the land use goals, the *Ronkonkoma Hub Planning Study* identified numerous opportunities to enhance the streetscape and roadways to improve the public realm and plan for the anticipated growth in development within the study area. Such improvements included: intersection modifications; new/expanded sidewalks; street trees; bicycle facilities (lanes/connections and storage); lighting; public plazas/open space; and landscape improvements.

Ronkonkoma Hub Planning Study - Key Opportunity Sites

Four “opportunity” sites were identified by the Town of Brookhaven early in the planning process. While these sites were the focus of the Vision Plan, it was noted that there may be other opportunity sites for development within the Ronkonkoma Hub. The four sites include: three MTA-controlled parcels that range from approximately three-quarters of an acre to three acres (two of which are within the TOD District area) (Sites 1, 8 and public plaza, as shown on Figure 2 – Theoretical Full Build Plan); and the block bounded by Garrity and Hawkins Avenues between Union Street and Railroad Avenue consisting of approximately three acres of land (within the TOD District area) (Site 2, as shown on Figure 2 – Theoretical Full Build Plan).

The *Ronkonkoma Hub Planning Study* identified many attributes to redeveloping these properties, including:

- The potential for Railroad Avenue to become a “Main Street” spine with buildings addressing the street;
- Opportunities to create “Gateways” along Railroad Avenue (to the east and west and at the Station) to celebrate entry to the Main Street area;
- All four opportunity sites are within a 10-minute walk of the Station;
- Large residential and mixed-use areas surround the four key sites; and
- There is potential frontage along Railroad Avenue for new buildings that could help define the street edge.

Ronkonkoma Hub Planning Study – Rezoning and Implementation

Based on the above-mentioned land use goals and objectives, a key is a tool the Town has developed to implement the Vision detailed in the *Ronkonkoma Hub Planning Study* is

rezoning the area using a FBC and incorporating TOD principles. Refer to Appendix B - Land Use and Implementation Plan for background on FBC zoning and key elements of TOD.

As indicated in Section 2.0 of this DGEIS, as a result of the community visioning and planning process, it was evident that the community did not want any zoning changes or development modifications to the existing single-family residential neighborhoods located in the eastern perimeter, and west and northwest portions of the 181-acre study area. Therefore, the TOD District area was reduced to a 53.73±-acre area excluding the areas of single-family residential uses and including the core TOD area, which consists of the most severely underutilized and underdeveloped parcels with existing compatible land uses (i.e., commercial) as the intent of the action is not to redevelop thriving residential communities. The 53.73±-acre area is referred to herein as the “TOD District area.”

As part of a third phase, or “Phase 3”, of the planning process, the Town of Brookhaven has now decided to implement a Land Use and Implementation Plan, create a new TOD Zoning District, and rezone properties within the TOD, in accordance with the stated goals of the *Ronkonkoma Hub Planning Study*. The Land Use and Implementation Plan is provided as Appendix B to this DGEIS.

3.4.3.2 Brookhaven 1996 Comprehensive Land Use Plan

A Comprehensive Plan is a tool for guiding the future of a community. Its purpose is to establish a common vision for the future of a community and then determine policies that will help attain that vision.

In general, the *Brookhaven 1996 Comprehensive Land Use Plan* (“1996 Comprehensive Plan”) includes an assessment of existing land uses; existing zoning and related codes; demographic data depicting the fullest range of population, housing, social and economic data; historical and cultural facts; previous land use plans such as Brookhaven's 1975 and 1987 plans; community services and facilities; circulation or transportation infrastructure; and environmental resources. It also identifies existing problems, deficiencies and needs—as well as community strengths and assets, and sets forth goals, aspirations and/or objectives to be achieved. Lastly, alternatives and implementation programs for achieving the plan goals and objectives are proposed.

Transportation

Under existing conditions, the 1996 Comprehensive Plan identifies the need for an increase in parking capacity at the Ronkonkoma train station.⁵ A key recommendation for future improvements includes expansion of parking facilities at the Stony Brook, Port Jefferson, Ronkonkoma and Shirley train stations to provide for access by more

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⁵ *Town of Brookhaven Long Island Final 1996 Comprehensive Land Use Plan*, Town of Brookhaven, 1996.

commuters and relieve overuse of Ronkonkoma. Additionally, any future development should be within the Ronkonkoma Hub District should be continued in accordance with the Town's Hub Plan, which includes widening of Hawkins Avenue, Railroad Avenue, and Union Avenue as well as improvements to the Long Island Expressway service roads.

The 1996 Comprehensive Plan also recommends that the MTA continue to obtain funding for improvements to station facilities within Brookhaven, including the feasibility of increasing freight operations to relieve some of the strain on the existing roadway infrastructure and to allow for increased access to off-Island markets for Brookhaven's manufacturers.

Land Use and Zoning

The 1996 Comprehensive Plan identified opportunities for focused commercial corridors along Ronkonkoma and Hawkins Avenues - two existing commercial roadways within the TOD District area. While Hawkins Avenue is the primary artery in the TOD District area, two shopping centers front on Ronkonkoma Avenue. The commercial use patterns on both these roads are well established and consistent with the J-2 zone; however, on Ronkonkoma Avenue there are many single-family homes in the J2 zone.

The Town envisioned a special transportation zoning district to control and permit specific uses relevant to a transportation center to support the LIRR to encourage improvement in the area near the Ronkonkoma rail station. It was envisioned that the area would develop into a hub with large attractive office buildings and industrial development, which would take advantage of the proximity of two major transportation hubs - the Long Island MacArthur Airport and the electrified Ronkonkoma station.⁶ Some major improvements have already occurred, including a new multi-story parking garage and retail area associated with the train station; however, the other development proposed for the area has not yet occurred.

An update to the 1996 Comprehensive Plan is currently underway as the *Draft Brookhaven 2030 Plan* (discussed below).

3.4.3.3 Draft Brookhaven 2030 Plan

The *Draft Brookhaven 2030 Plan* is currently being prepared to guide the future of the Town of Brookhaven. The *Draft Brookhaven 2030 Plan* identifies strategies to:

- Preserve important resources and coordinate conservation activities;
- Guide future land use decisions and regulations;
- Enhance community character;
- Program public projects and meet public needs; and



⁶ *Town of Brookhaven Long Island Final 1996 Comprehensive Land Use Plan*, Town of Brookhaven, 1996.

- Promote quality of life for residents.

The goals of the *Draft Brookhaven 2030 Plan* include:

- Protect open space;
- Ensure environmental protection;
- Build consensus with residents, community leaders, stakeholders and public agencies;
- Redirect growth to areas served by infrastructure, revitalize downtowns, and establish pedestrian-oriented centers that have a sense of place;
- Promote healthy communities;
- Expand the range of transportation options; and
- Ensure a sustainable tax base through business and job development.

The *Draft Brookhaven 2030 Plan* identifies Ronkonkoma Station as “the most used station, due to its electrified service as compared to diesel service on the other two routes, and is one of the most used LIRR stations overall.”⁷ Specifically, the *Draft Brookhaven 2030 Plan* addresses the importance of “creating transit-oriented developments surrounding Brookhaven’s Long Island Railroad stations, including those in Port Jefferson Station, Patchogue, Ronkonkoma, Bellport, Medford, Mastic and Yaphank.”⁸

3.4.3.4 Long Island 2035 Visioning Initiative Final Report

The Long Island Regional Planning Council is currently drafting the “Long Island 2035 Comprehensive Regional Sustainability Plan,” which is intended to guide sustainable development of Long Island’s economy and social and natural environment of the next 25 years.

As an integral first step, a visioning initiative has been undertaken and the “Long Island 2035 Visioning Initiative Final Report” (hereinafter referred to as the “2035 Final Report”) has documented these efforts. As stated on page 4 of the 2035 Final Report, the goal of the visioning initiative was to assess “*the priorities of participants...against existing conditions and trends, translating these priorities into potential future scenarios, and evaluating these alternatives against commonly held goals and objectives. The Long Island 2035 Visioning Initiative was established to help achieve a regional public consensus on where the next generation of Long Islanders could live and work, the transportation systems needed to support these settlements and the public and private actions required to ensure a prosperous, equitable and environmentally sustainable Long Island. It was designed as a multi-phase project that would develop and*

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⁷ Town of Brookhaven Department of Planning, Environment and Land Management, *Brookhaven 2030 Plan Existing Conditions and Trends Report*, Prepared by Urbitran Associates, July 2008, Page 4. (website: <http://www.brookhaven2030.org/pdfs/ExistingConditionsandTrends.pdf>)

⁸ Town of Brookhaven Department of Planning, Environment and Land Management, *Brookhaven 2030 Plan Issues and Opportunities Outreach Report*, Prepared by Urbitran Associates, December 2007, Page 8. (website: http://www.brookhaven2030.org/pdfs/issues_and_opportunities_report.pdf)

implement a preferred vision that would be determined through extensive public input drawn from a series of workshops that would construct and rigorously evaluate alternative scenarios of how the Island could develop over the next 25 years.”

Of particular importance was the identification of several common themes for sustainable development on Long Island, which were confirmed by study team analysis of workshop notes and chip allocations. The following were relevant to the proposed action:

- *“Redevelopment already-developed areas & infill.*
- *A common theme amongst almost all tables was the focus on redeveloping already-developed areas rather than developing entirely new neighborhoods in unprotected open spaces. Participants identified large-scale redevelopments, such as the Nassau Hub, Pilgrim State Psychiatric Center and unused airports, as good sites for mixed-use development. Many groups also emphasized infill development of existing neighborhoods in the chip allocation exercise. Additionally, most groups indentified existing employment centers or transit-accessible locations as targets for employment intensification in a mixed-use setting. Many focused on large-scale development and redevelopment of employment at sites including old airports, the Nassau Hub, and Pilgrim State. They also identified university neighborhoods and the Brookhaven labs as opportunities to build on existing technology-driven employment centers.*
- *Many groups expressed a particular need to develop housing accessible at a variety of income levels, in addition to housing for seniors, young people, and empty-nesters.*
- *Mixed-use in downtowns, near railroad stations & at major redevelopment sites.*
- *Most participants selected more intense mixed-use development around existing downtowns and Long Island Rail Road stations as a good way to accommodate growth, although there was variation in the degree of intensity they advocated for in these areas.”*

As part of the visioning initiative, three alternative scenarios were synthesized from public workshops and, to a greater or lesser extent, they all reflect the following preferences that were common to most workshop participants:

- *Emphasize redevelopment and multi-family housing over new single-family development;*
- *Focus housing and commercial activity in existing downtowns;*
- *Make system-wide improvements to public transportation;*
- *Preserve as much open space as possible; and*
- *Avoid new commercial strip development.*

One of the three scenarios included “Concentrating Growth Around the Existing Transit

Network,” (“The Transit Communities Scenario”) (see page 40). As excerpted from the 2035 Final Report:

‘It is a snowy day in 2035. You embark on the 10-minute walk from your townhouse to the Long Island Rail Road station before settling in for the 35-minute commute to your job on the east side of midtown Manhattan. The recent completion of the Long Island Rail Road east side access project has given you an extra 40 minutes each day to tend to personal affairs, while the completion of a Third Track on the LIRR Main Line allows your husband to commute eastward to his job in Ronkonkoma. On the walk to the train station, you pick up breakfast and drop some clothes off at the cleaners, a bit chilly but thankful not to have had to shovel a car out of the driveway this morning. You and your husband were able to afford your three-bedroom townhouse because you cut your expenses by sharing one car. Your yard is smaller than it was at your parents’ house growing up, but it is worth it to be able to walk just a few minutes to pick up groceries or grab some dinner. Your teenage children ride their bikes to and from school, sports activities, and part-time jobs on most days, leaving you free to stop by the gym after work or pay a visit to your neighbors.’

As stated in the 2035 Final Report, “[a]lthough this scenario would accommodate some growth in redevelopment sites and neighborhood infill, its predominant focus is on employment and population growth in downtowns and other areas around existing transit centers, including Long Island Rail Road stations, hubs for bus service and ferry terminals. Under this scenario, more than half of the projected employment growth would occur within one-half mile of a rail station. Transportation improvements would predominantly consist of enhancements to existing rail and bus service, such as a Third Track on the LIRR Main Line, station renovations and expanded bus service.

Some population growth under this scenario would occur in five towns in the East End; however the vast majority would occur in Nassau and the western part of Suffolk County. This distribution would enable Long Island to accommodate projected growth while consuming very little of the remaining unprotected farmland and open space.

This Transit Communities Scenario would contain a moderate amount of mixed-use development. As is the case under the other two scenarios, the bulk of housing growth would be in the form of multi-family homes. Of the three scenarios, this one would have the largest increase of employment in downtown areas. Little to no employment growth would occur along commercial strips.”

3.5 Traffic and Parking

A Traffic and Parking Analysis has been prepared to evaluate the existing traffic and parking conditions and the potential impacts of the proposed Ronkonkoma Hub TOD upon the surrounding road network. The methodology employed, the study intersections and road segments, and the existing traffic conditions are discussed below. The potential impacts of the proposed action upon traffic conditions in the area are discussed in Section 4.5 of this DGEIS. The Traffic and Parking Analysis is included in its entirety in

Appendix G.

Methodology

The following methodology was employed in developing the Traffic and Parking Analysis:

- Four signalized and two unsignalized intersections (listed below) were identified as the relevant study intersections;
- The prevailing traffic conditions, geometric parameters, traffic control devices and the number and direction of travel lanes at the study intersections were observed and inventories were made;
- Manual turning movement counts were collected at the study intersections on a typical weekday during AM and PM peak periods;
- The existing traffic volumes at the previously-identified study intersections were expanded to a future No Build year assumed to be 2014;
- The traffic generated by the proposed alternatives was estimated based on recognized traffic engineering standards;
- The site-generated volumes were distributed along the adjacent roadway network and added to the 2014 No Build volumes to produce the proposed 2014 Build volumes, based on the Theoretical Full Build Plan;
- Capacity analyses were performed at the study intersections for the Existing, No Build, 2014 Build (i.e., Theoretical Full Build Plan) and 2019 Full Build (i.e., Theoretical Maximum Build Out Plan) (an alternate plan is evaluated in Section 7.2 of this DGEIS) Conditions;
- The need for traffic mitigation measures was evaluated; and
- A parking analysis was conducted to determine the existing and projected parking demands.

Study Area Roadways and Intersections

The principal roadways and intersections in the project area are described below. The descriptions of the roadways and study intersections include the geometric conditions and traffic control characteristics.

The following six intersections were analyzed for the Existing, No Build, Build and Full Build conditions:

- Long Island Expressway (“LIE”) North Service Road at Hawkins Avenue (Signalized);
- LIE North Marginal Road at Hawkins Avenue (Signalized);
- Hawkins Avenue at Union Avenue (Signalized);
- Union Avenue at Mill Road (Signalized);
- Hawkins Avenue at Railroad Avenue (Currently Unsignalized); and
- Ronkonkoma Avenue at 2nd Street/Powell Street (Unsignalized).

The study intersections are shown in Figure 14 – Key Intersections.



Note: Boundary is approximate



Figure 14
Key Intersections

Ronkonkoma Hub
Transit-Oriented Development

3.5.1 Roadways

3.5.1.1 LIE North and South Service Roads

LIE North Service Road runs on the north side of the LIE and allows only westbound traffic. *LIE South Service Road* runs on the south side of the LIE and allows only eastbound traffic. The maintenance of the LIE service roads comes under the jurisdiction of Suffolk County Department of Public Works (“SCDPW”), but the signals are maintained by New York State Department of Transportation (“NYSDOT”). Both service roads provide two travel lanes with turn lanes at the intersections. The 2010 NYSDOT counts on the LIE North Service Road show the AADT to be 13,569 vehicles per day (“vpd”). The 2008 NYSDOT hourly counts show the Average Annual Daily Traffic (“AADT”) on the LIE South Service Road to be 16,741 vpd. The posted speed is 40 miles per hour.

3.5.1.2 Hawkins Avenue

Hawkins Avenue is a north-south collector distributor road under the jurisdiction of the Town of Brookhaven. The road is also on the National Highway System (NHS). It provides one travel lane in each direction, with additional turn lanes at study intersections. The AADT on Hawkins Avenue in the vicinity of the TOD District area is about 16,000 vpd. The posted speed on this roadway is 30 miles per hour.

3.5.1.3 Ronkonkoma Avenue CR 29

Ronkonkoma Avenue, County Road 29 is a north-south collector distributor road under the jurisdiction of the Town of Brookhaven. Though this roadway is designated as CR 29, it is not actually a county road, but comes under the county road system, and is maintained by the Town. It runs north from Railroad Avenue, to merge with Hawkins Avenue at a location north of CR 16 (Portion Road). South of Railroad Avenue, Ronkonkoma Avenue is designated as Smithtown Avenue. It runs along the west side of the TOD District area. In the vicinity, it provides two travel lanes in each direction to the LIE North Service Road, north of which it provides one travel lane in each direction, with additional turn lanes at study intersections. The AADT on Ronkonkoma Avenue in the vicinity of the TOD District area is about 30,000 vpd. The posted speed on this roadway is 30 miles per hour.

3.5.1.4 Railroad Avenue / Mill Road

Railroad Avenue is an east-west Town of Brookhaven road that runs east from Ronkonkoma Avenue to the LIRR - Ronkonkoma station. East of the station, it runs in the north-south direction and is designated *Mill Road*. It terminates at the LIE South Service Road. It provides one travel lane in each direction. The posted speed on this roadway is 30 miles per hour.

3.5.1.5 Union Avenue

Union Avenue is an east-west Town of Brookhaven road that runs east from Hawkins Avenue to CR 19, Patchogue Holbrook Road. It provides one travel lane in each direction. The posted speed on this roadway is 30 miles per hour.

3.5.2 Study Intersections

3.5.2.1 LIE North Service Road and Hawkins Avenue

The signalized intersection of the LIE North Service Road and Hawkins Avenue is a four-legged intersection with three active approaches. The traffic flows one-way in the westerly direction on the LIE North Service Road that provides an exclusive left turn lane, one through lane and a shared right-turn and through-lane. Hawkins Avenue provides an exclusive left-turn lane and two through lanes in the northbound direction, and a through and a shared through-lane and right-turn lane in the southbound direction. The intersection is controlled by a three-phase actuated signal that is coordinated with the signal at the intersection of the LIE South Service Road and Hawkins Avenue. The phasing allows westbound movement followed by north-south movements with permitted northbound left turns and lastly a lagging northbound left turn and northbound movement.

3.5.2.2 LIE South Service Road and Hawkins Avenue

The signalized intersection of the LIE South Service Road and Hawkins Avenue is a four-legged intersection with three active approaches. The traffic flows one-way in the easterly direction on the LIE South Service Road that provides an exclusive left-turn lane, one through-lane and a shared right-turn and through-lane, with a right-turn channel at the stop bar. Hawkins Avenue provides a through and a shared through and right-turn lane in the northbound direction, an exclusive left-turn lane and two through-lanes in the southbound direction. The intersection is controlled by a three-phase actuated signal that is coordinated with the signal at the intersection of the LIE North Service Road and Hawkins Avenue. The phasing allows eastbound movement followed by north-south movements with permitted southbound left turns and a lagging southbound left-turn and southbound movement.

3.5.2.3 Hawkins Avenue and Union Avenue

The signalized intersection of Hawkins Avenue and Union Avenue is a three-legged intersection. The westbound Union Avenue provides a left-turn lane and a right-turn lane. Hawkins Avenue provides a shared through and right turn lane in the northbound direction, an exclusive left turn-lane and one through-lane in the southbound direction. The intersection is controlled by a three-phase actuated signal. The phasing allows southbound through and protected southbound left-turn movements followed by north-south movements with permitted southbound left turns and lastly westbound movement.

3.5.2.4 Union Avenue and Mill Road

The signalized intersection of Union Avenue and Mill Road is a four-legged intersection. The east-west Union Avenue provides a left-turn lane and shared through and right-turn lane in both directions. Mill Road provides a shared left-turn, through and right-turn lane in both northbound and southbound directions. The intersection is controlled by a two-phase actuated signal.

3.5.2.5 Hawkins Avenue and Railroad Avenue

The unsignalized intersection of Hawkins Avenue and Railroad Avenue is a four-legged intersection with three active approaches. The northbound approach is one-way southbound. Hawkins Avenue forms the southbound approach and provides a shared left-turn and through-lane and an exclusive right-turn lane. The east-west Railroad Avenue provides an exclusive left turn and a shared through and right-turn lane in the eastbound direction and an exclusive left-turn, a through and an exclusive right-turn lane in the westbound direction. The southbound approach is stop-controlled.

This intersection is being considered for signalization in the near future. Thus, in the future conditions, No Build 2014, Build 2014 and Full Build 2019, Hawkins Avenue and Railroad Avenue was analyzed as a signalized intersection.

3.5.2.6 Ronkonkoma Avenue and 2nd Street / Powell Street

The unsignalized intersection of Ronkonkoma Avenue and 2nd Street/Powell Street is a four-legged intersection. No left turns from any of the approaches or east-west through movements are allowed at these intersections. Effectively, Powell Street and 2nd Street operate as right-in, right-out only. The portion of Ronkonkoma Avenue that runs north-south provides a through and a shared through and right-turn lane in both directions. Both the westbound Powell Street and eastbound 2nd Street provide a right-turn lane. Powell Street and 2nd Street are stop-controlled.

3.5.3 Existing Traffic Volume Data

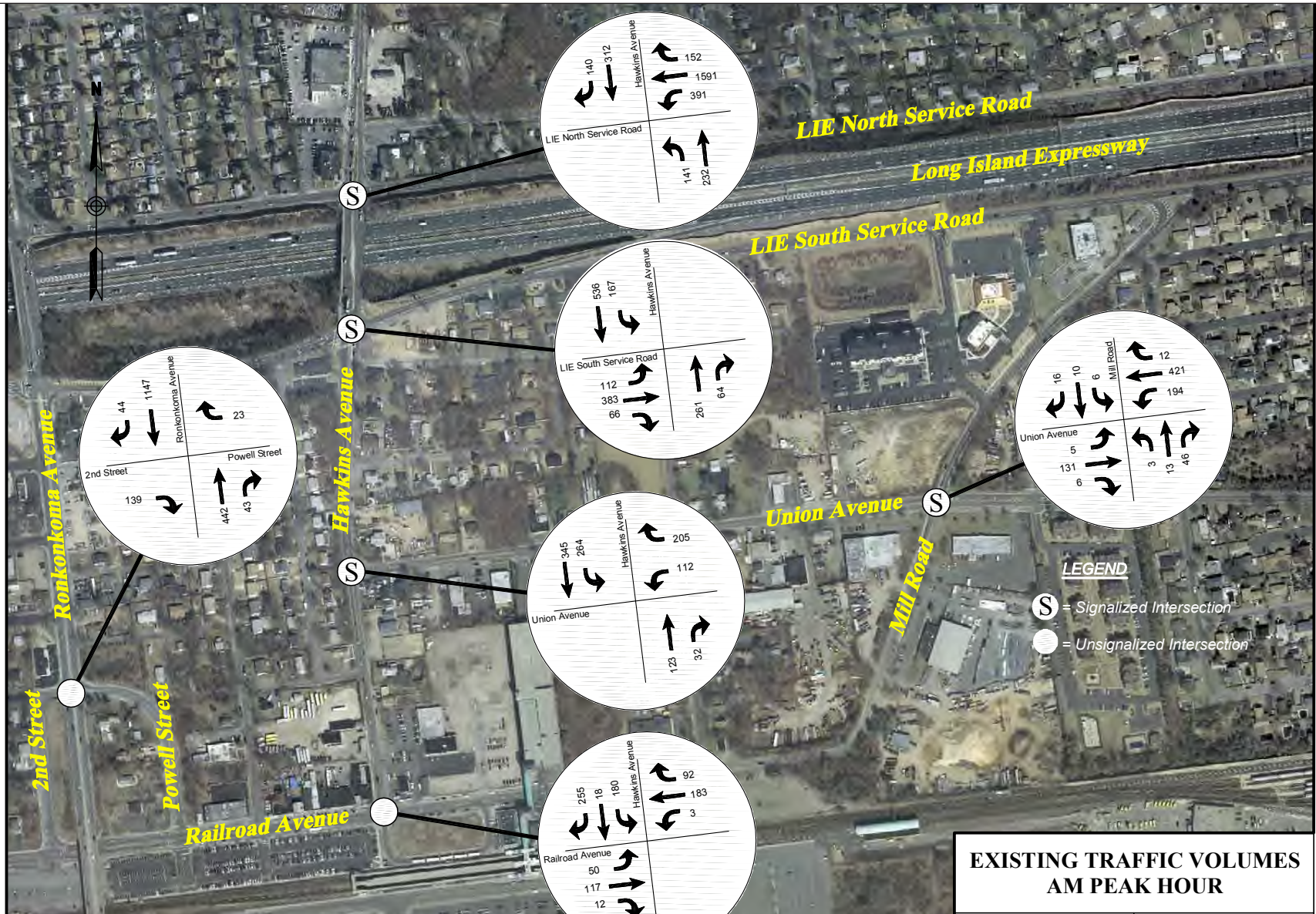
Intersection turning movement counts at the study intersections were manually collected on a typical weekday during the AM and PM peak hours. The counts were performed from 7:00 AM to 9:00 AM and from 4:00 PM to 6:30 PM, respectively. These periods typically reflect the heaviest traffic flows coinciding with commuter activity at the LIRR - Ronkonkoma station. Summaries of the turning movement counts are provided in Appendix A of the Traffic and Parking Analysis (included in Appendix G of this DGEIS).

The existing peak hour traffic volumes for the AM and PM peak hours are shown in Figure 15 – Existing Traffic Volumes – AM Peak Hour and Figure 16 – Existing Traffic Volumes – PM Peak Hour, in the Traffic and Parking Analysis, which is included in Appendix G of the DGEIS.

3.5.4 Accident History

Accident data from the most recent available NYSDOT Accident Location Information System (“ALIS”) records for the three-year period from January 1, 2007 to December 31, 2009 were obtained and tabulated. Table 1 in the Traffic and Parking Analysis presents the accident data by severity and accident type on the principal roadway segments in the TOD District area including the six study intersections that were analyzed in this study. Table 2 of the Traffic and Parking Analysis presents accident data at the study intersections only. The data received from NYSDOT can be found in Appendix B of the Traffic and Parking Analysis. A summary of same follows.

On the segment of Railroad Avenue from Johnson Avenue to Mill Road, during the three-year period from January 1, 2007 to December 31, 2009, there occurred 23 accidents. These include accidents that occurred at the key intersection of Hawkins Avenue and Railroad Avenue (eight accidents). Ten of the 23 accidents involved injuries, 13 involved property damage, and there was one non-reportable accident.

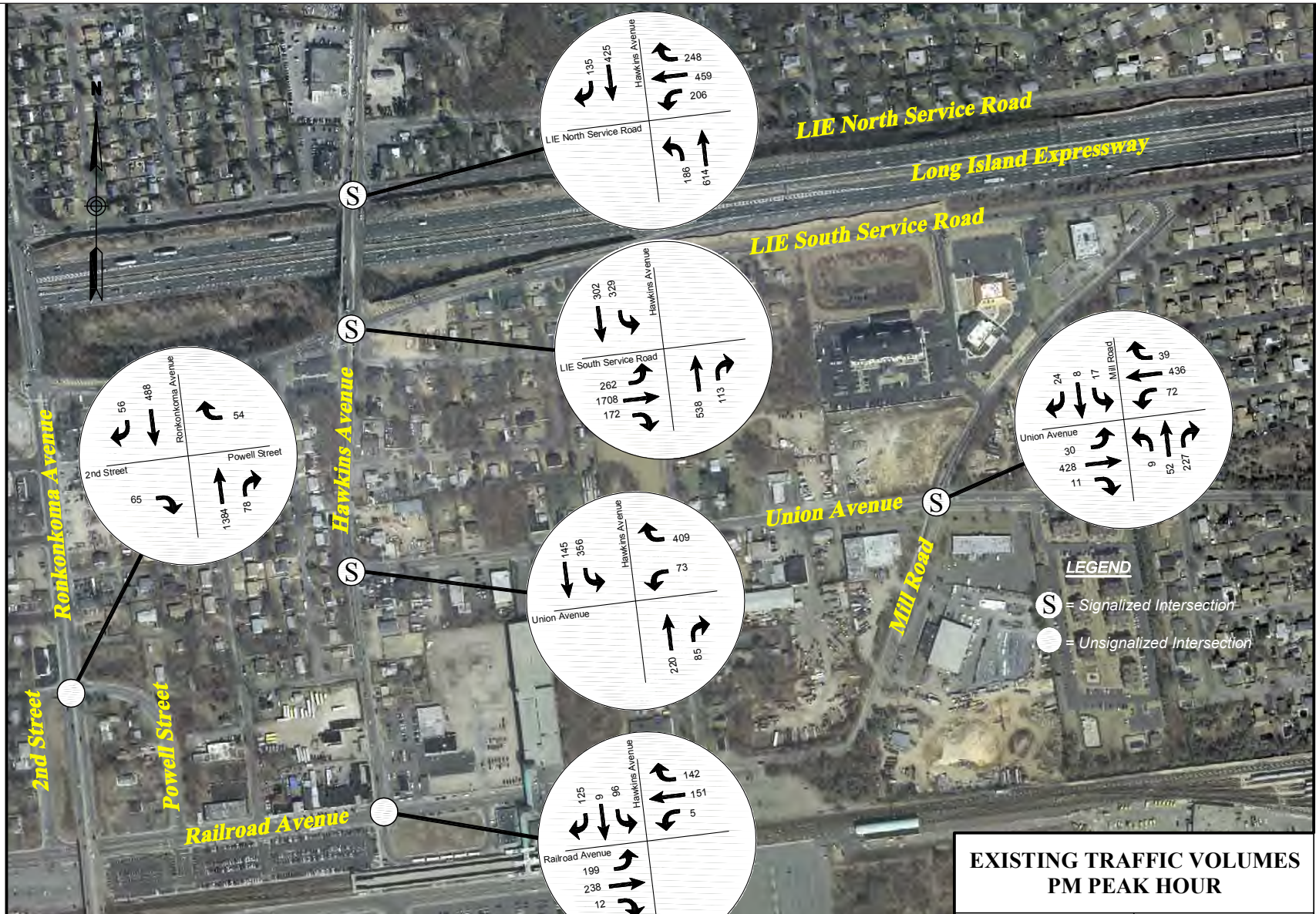


Note: Boundary is approximate



Figure 15
Existing Traffic Volumes – AM Peak Hour

**Ronkonkoma Hub
Transit-Oriented Development**



Note: Boundary is approximate



Figure 16
Existing Traffic Volumes – PM Peak Hour

**Ronkonkoma Hub
Transit-Oriented Development**

On the segment of Hawkins Avenue from Railroad Avenue to Irwin Place, there occurred 59 accidents in the same three-year period. These include accidents that occurred at the key intersections of Hawkins Avenue and Railroad Avenue (eight accidents), Hawkins Avenue and Union Avenue (eight accidents), Hawkins Avenue and LIE South Service Road (19 accidents) and Hawkins Avenue and LIE North Service Road (16 accidents). Thirty-two of the 59 accidents involved injuries and 27 involved property damage.

On the segment of Ronkonkoma Avenue from Waltess Road to Easton Street, there occurred 56 accidents in the same three-year period. These include accidents that occurred at the key intersections of Ronkonkoma Avenue and 2nd Street/Powell Street (one accident). Twenty-eight of the 56 accidents involved injuries, 27 involved property damage, and there was one non-reportable accident.

On the segment of Union Avenue from Hawkins Avenue to Babcock Avenue, there occurred 21 accidents in the same three-year period. These include accidents that occurred at the key intersections of Union Avenue and Hawkins Avenue (eight accidents) and Union Avenue and Mill Road (three accidents). Nine of the 21 accidents involved injuries and 12 involved property damage.

On the segment of Mills Road from Railroad Avenue to LIE South Service Road, there occurred seven accidents in the same three-year period. These include accidents that occurred at the key intersections of Union Avenue and Mill Road (three accidents). Four of the seven accidents involved injuries and three involved property damage.

On the segment of LIE North Service Road from Carroll Avenue to Bay Avenue, here occurred 41 accidents in the same three-year period. These include accidents that occurred at the key intersection of LIE North Service Road and Hawkins Avenue (16 accidents). Twenty-four of the 41 accidents involved injuries and 17 involved property damage.

On the segment of LIE South Service Road from Bay Avenue to Carroll Avenue, there occurred 48 accidents in the same three-year period. These include accidents that occurred at the key intersection of LIE South Service Road and Hawkins Avenue (19 accidents). Twenty-five of the 48 accidents involved injuries, 22 involved property damage, and there was one fatal accident.

The ALIS records show that one fatal accident occurred on the LIE South Service Road. The accident occurred on Sunday, May 4, 2008 at 22:05 hours and was assigned Case # 326060654. The vehicle involved was a Motorcycle, which collided with curbing while merging on to the South Service Road. The record mentions unsafe speed as the apparent factor for the accident.

3.5.5 Parking

A study of the existing parking supply was conducted in November 2007 on five parcels located near the LIRR-Ronkonkoma Station as discussed in the report *Ronkonkoma Hub Planning Study* prepared by VHB in March 2009. The parking supply was established by a field count of the number of striped spaces in each improved parking area and the number of parked vehicles in each unimproved parking area (see Figure 17 – 2007 Parking Inventory).

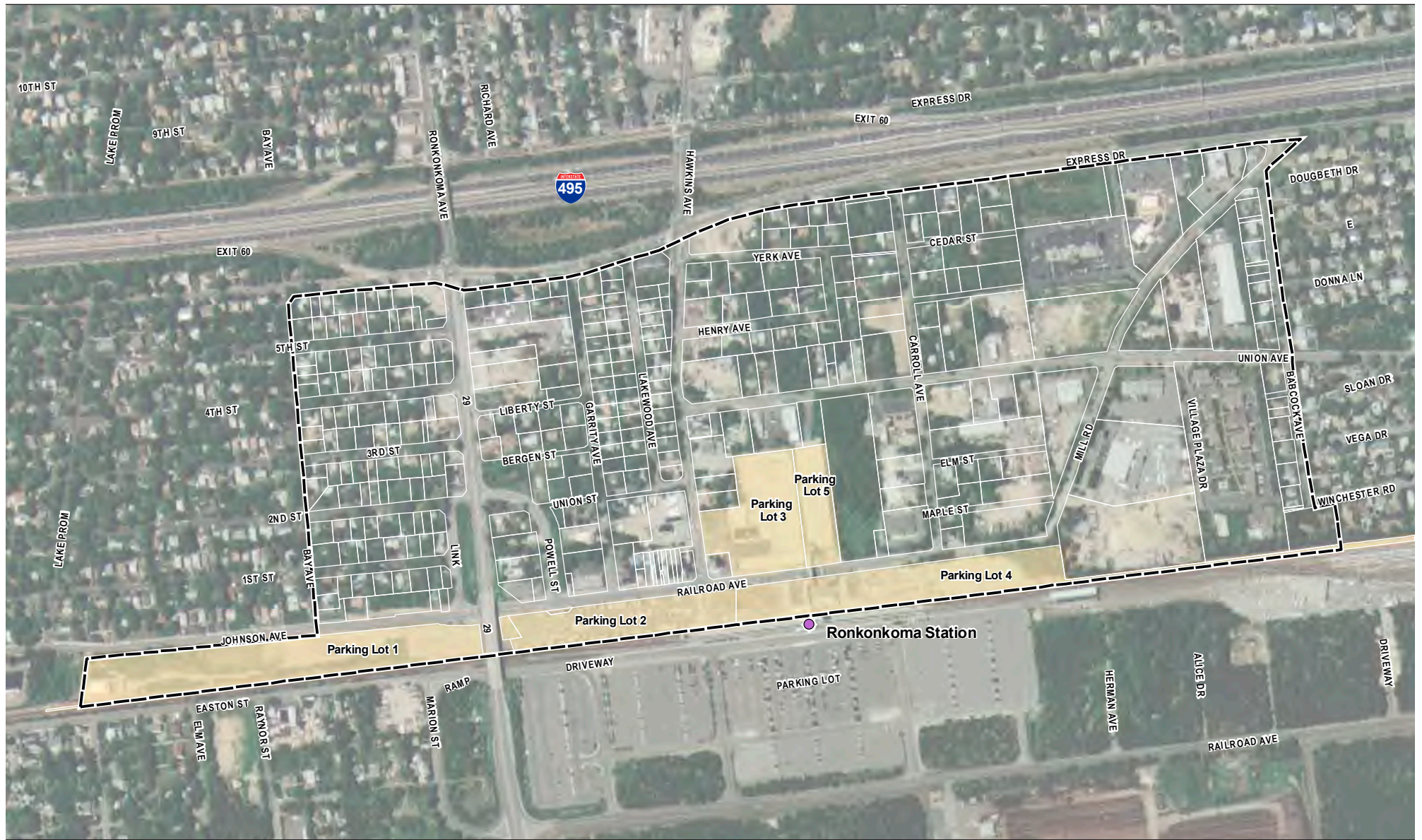
The total existing parking supply was then compared to that reported in a study previously completed by the Metropolitan Transit Authority (MTA).⁹ The MTA calculated an estimate of the parking supply of the unimproved lots by dividing the total parcel area by an assumed parking space area of 350 square feet per parking space, a typical parking standard. The parking study did not calculate new capacity values and used MTA's capacity values for the comparison.

Accumulation data was collected by driving through each individual parking field and counting the number of vehicles present on a Tuesday, a typical day of the work week. The count was conducted at 10:00 AM, considering that by this time most commuters would have already parked. The data were then compared to the MTA/LIRR June 2007 Capacity and Utilization Study.¹⁰ The results of the utilization study of the existing parking supply are shown below in Table 8 – Utilization Data of Existing Public Parking Supply (Brookhaven).



⁹ LIRR Commuter Parking Capacity and Utilization by Lot and Station. Metropolitan Transit Authority, June 22, 2007.

¹⁰ LIRR Commuter Parking Capacity and Utilization by Lot and Station. Metropolitan Transit Authority, June 22, 2007.



Note: Boundary is approximate



Parking Lot Capacity and Utilization

LOT	MTA CAPACITY	MTA UTILIZATION	2007 UTILIZATION
Parking Lot 1	575	480	289
Parking Lot 2	335	335	339
Parking Lot 3	350	214	287
Parking Lot 4	379	378	287
Parking Lot 5	1043	1043	1043



Figure 17
2007 Parking Inventory

**Ronkonkoma Hub
Transit-Oriented Development**

Table 8 – Utilization Data of Existing Public Parking Supply (Brookhaven)

Parking Field	MTA Parcel	SCTM#	MTA Capacity	MTA Utilization	Utilization
			(June 2007 Study)	(June 2007 Study)	(Nov. 13, 2007)
1	111-4; 111-4.1	0200 79900 0200 120000	575	480	289
2	111-1	0200 79900 0300 045001 0200 79900 0300 049000	335	335	339
3	111-7	0200 79900 0400 047001	350	214	287
4	111-12	0200 80000 0100 038000	379**	378	287
5	111-6	0200 80000 0100 036000	1,043	1,043	1,043
Total			2,682**	2,450	2,245
Percent Utilization			N/A	91%	84%

* Lot 4 was recently reconstructed and has a total capacity today of 295 spaces

** Revised 2009 total is 2,598 spaces in Brookhaven.

As shown above, there are 2,598 existing parking spaces available proximate to the LIRR-Ronkonkoma Station for commuter usage. It should also be noted that the parking inventory prepared as part of the *Ronkonkoma Hub Planning Study* indicates that there are approximately 3,206 surface parking spaces in the lots directly to the south in Islip that were not included in the utilization study. The utilization percentage ranged from 84 percent to 91 percent. These data were used to estimate the demand for transit riders. It was assumed that 90 percent of the existing supply is equal to the associated demand for commuters, which is equal to 2,338 parking spaces (90 percent x 2,598) for the parking in Brookhaven only.

3.6 Air Quality

3.6.1 Background

Six principal pollutants have been designated by the United States Environmental Protection Agency (USEPA) as “criteria” pollutants that are proven detriments to public health. These air pollutants include sulfur dioxide, carbon monoxide, ozone (photochemical oxidants), particulate matter less than 10 micrometers (PM₁₀) and less than 2.5 micrometers (PM_{2.5}), nitrogen dioxide and lead. National Ambient Air Quality Standards (NAAQS) have been established for these pollutants.

The 1990 U.S. Clean Air Act Amendments resulted in states being divided into attainment and non-attainment areas, with classifications based upon the severity of their air quality problems. Air quality control regions are classified and divided into one of three categories: attainment, unclassified, or non-attainment depending upon air quality data and ambient concentrations of pollutants. Attainment areas are regions where ambient concentrations of a pollutant are below the NAAQS; non-attainment areas are those where concentrations exceed the NAAQS. An unclassified area is a region where data are insufficient to make a determination. An unclassified area is generally considered as an attainment area for administrative purposes, and a single area can be in attainment of the standards for some pollutants while being in non-attainment for others.

Suffolk County is a “Previous Nonattainment Area” which is no longer subject to the 1-hour ozone standard as of June 15, 2005. As far as the 8-hour ozone status, Suffolk County is designated as a non-attainment area for the 8-hour ozone. Suffolk County is also in non-attainment for PM_{2.5} (for the 2007 standard) as of June 7, 2010. Suffolk County is in “attainment” for all of the remaining criteria pollutants (PM₁₀, lead, nitrogen oxide, and sulfur dioxide) for ambient (outdoor) air.

3.6.2 Air Quality Standards

The USEPA has established NAAQS that set limits on air pollutants considered harmful to public health. The State of New York has adopted similar standards as those set by USEPA, with the exception of lead, total suspended particulates (TSP), particulate matter (PM₁₀, PM_{2.5}), and hydrocarbons (see Table 9). The predominant sources of air pollution would be emissions of CO, VOCs, NO_x, PM₁₀, PM_{2.5}, and GHG.

CO is a product of incomplete combustion. Over 95 percent of CO emissions come from mobile sources. It is a colorless and odorless gas that prevents the lungs from passing oxygen to the blood stream. Brief exposure to high levels of CO can also impair vision, physical coordination, and the perception of time. The air quality analysis evaluated CO.

VOCs and NO_x are important pollutants because of their role in forming ozone, which is also referred to as photochemical smog. Both of these pollutants are emitted from vehicular sources. VOCs are evaporative emissions from unburned fuel. NO_x, a brownish gas with a pungent odor, is a product of high temperature combustion. It is a pulmonary irritant and short exposure may increase susceptibility to acute respiratory disease.

Particulate matter is a term referring to particles found in the air. Some particles are large enough to be seen as dust, soot, or smoke, while others are too small to be visible. The air quality analysis evaluated PM₁₀ and PM_{2.5}. PM₁₀ refers to particulate matter that is 10 micrometers or smaller in size. Similarly, PM_{2.5} refers to particulate matter that is 2.5 micrometers or smaller in size. Small particles can have adverse health effects because of their ability to reach the lower regions of the respiratory tract. Particulate matter comes from a variety of sources. Emissions from highway and non-road vehicles compose approximately 28 percent¹¹ of total PM emissions. Fuel combustion in power plants and industrial processes accounts for another five percent of PM. The largest direct source of PM is fugitive dust from paved and unpaved roads, agricultural and forestry activities, wind erosion, wildfires, and managed burning. PM is also formed indirectly in the atmosphere by the reaction of gaseous pollutants, such as NO_x. Table 9 presents the NAAQS for criteria pollutants.

▼
¹¹ Environmental Protection Agency, *National Air Quality and Emissions Trends Report, 1999*, March 2001.

Table 9 – National (and Federal) State of New York Ambient Air Quality Standards

Pollutant	National (Federal) Standards		State of New York Standards			
	Primary Standards Level	Averaging Time	Secondary Standards Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ¹	None		9 ppm	8-hour
	35 ppm (40 mg/m ³)	1-hour ¹	None		35 ppm	1-hour
Lead	0.15 µg/m ³	Quarterly average	Same as Primary		None ²	
Nitrogen Dioxide	53 ppb (0.053 ppm) ³	Annual (Arithmetic mean)	Same as Primary		0.05 ppm	Annual
	100 ppb	1-hour	None			
Total Suspended Particulates (TSP)	None	12 consecutive months	None		75 µg/m ³	12 consecutive months
	None		None		250 µg/m ³	24-hour
Particulate Matter (PM ₁₀)	150 µg/m ³	24-hour ³	Same as Primary		None ⁴	
Particulate Matter (PM _{2.5})	15 µg/m ³	Annual (Arithmetic Mean) ⁵	Same as Primary		None	
	35 µg/m ³	24-hour ⁶	Same as Primary		None	
Ozone	0.075 ppm (2008 std)	8-hour ⁷	Same as Primary		None ⁸	
	0.08 ppm (1997 std)	8-hour ⁹	Same as Primary		0.08 ppm	8-hour
	0.12 ppm	1-hour ¹⁰	Same as Primary		0.12 ppm	1-hour
Sulfur Dioxide	0.03 ppm	Annual			0.03 ppm	Annual
	0.14 ppm	24-hour ¹	0.5 ppm	3-hour ¹	0.14 ppm	24-hour
	75 ppb ¹¹	1-hour			0.50 ppm	3-hour
Hydrocarbons (non-methane)	None		None		0.24	3-hour (6-9am)

Sources: U.S. Environmental Protection Agency and State of New York Department of Environmental Conservation.

NOTES:

- (1) Not to be exceeded more than once per year.
 - (2) Federal standard for Lead has not yet been adopted by NYS, but is currently being applied to determine compliance status. The 0.15 µg/m³ standard is effective 1/12/2009 & replaces the previous level of 1.5 µg/m³.
 - (3) The 0.100 ppm standard is effective 1/22/2010. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average within an area must not exceed 0.100 ppm.
 - (4) Federal standard for PM₁₀ not yet officially adopted by NYS, but it is currently being applied to determine compliance status. The 0.15 µg/m³ standard is effective 1/12/2009 and replaces the previous level of 1.5 µg/m³.
 - (5) To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.
 - (6) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).
- NOTES: (Cont'd.)
- (7) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 parts per million ("ppm"). (Effective 60 days after publication in the Federal Register)
 - (8) Former NYS Standard for Ozone of 0.08 PPM was not officially revised via regulatory process to coincide with the Federal standard of 0.12 PPM which is currently being applied by NYS to determine compliance status.
 - (9) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.
(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.
 - (10) (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1.
(b) As of June 15, 2005 USEPA revoked the 1-hour ozone standard in all areas except the 8-hour ozone nonattainment Early Action Compact (EAC) Area
 - (11) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75ppb.

3.6.3 Existing Conditions

The NYSDEC maintains an air quality monitoring system that collects concentrations of various pollutants within the State. These monitoring data were used to define the existing air quality levels, or background concentrations, within the site and the study area. Background concentrations are ambient pollution levels from other stationary, mobile, and area sources. The total concentrations that each receptor location would experience under future build conditions include these background concentrations from other emission sources.

The TOD District area is located in NYSDEC's Region 1. The background concentrations within the TOD District area were determined using the monitoring data collected at receptor locations closest to the Ronkonkoma Hub within Region 1. For those pollutants not monitored in Region 1, their background concentrations were determined using the monitoring data collected at the closest receptor locations to the project site from Region 2. The following summarizes the results of the air quality monitoring data within the study area.

For CO, a review of the NYSDEC monitoring data indicates that the closest monitoring site to the TOD District area which monitors CO is "Queens College 2". The latest monitoring data that has been validated is for the year 2009. In the most recent three years available (2007, 2008, 2009), the maximum one-hour and eight-hour average CO concentrations at the "Queens College 2" receptor are 3.1 and 2.0 parts per million ("ppm"), respectively, well below the 35 and 9 ppm NAAQS Standards.

For lead, also known as Pb, the closest monitoring site to the TOD District area is "JHS 126" in Region 2. At this receptor location, the maximum quarterly average background concentration over the most recent available three years (2009, 2008 and 2007) is 0.02 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). This background concentration level of Pb represents approximately one eighth of the maximum lead concentration allowed by the NAAQS, well below the standard.

The closest monitoring site which monitors Nitrogen Dioxide (NO_2) is Eisenhower Park in Region 1. For NO_2 , the maximum annual arithmetic mean background value is 0.018 ppm (18 ppb) for the most recent three years. The existing background concentration level of NO_2 represents approximately one-third of the maximum annual concentration of NO_2 allowed by the NAAQS. The 1-hour NAAQS NO_2 standard, effective in January 2010, is based upon the average of the 98th percentile over the most recent three years. The average 1-hour NO_2 background value over the most recent three years of data (2006-2009) is 0.075 ppm (75 ppb) which is 75 percent of the NAAQS standard.

For PM₁₀, the closest monitoring site to the TOD District area which monitors PM₁₀ is Division Street (Region 2). The 24-hour background value for PM₁₀ over the most recent three years (2007, 2008, 2009) is 50 µg/m³. This existing 24-hour background concentration of PM₁₀ is equivalent to one-third of the maximum 24-hour levels of PM₁₀ allowed by the NAAQS.

For PM_{2.5}, the closest monitoring site to the TOD District area which monitors PM_{2.5} is Babylon (Region 1). The 24-hour PM_{2.5} NAAQS is based upon the average of the 98th percentile over the most recent three years. The average 24-hour PM_{2.5} background value over the most recent three years of data (2006-2009) is 25.7 µg/m³. Similarly, the average annual arithmetic mean background value for PM_{2.5} over the most recent three years is 9.7 µg/m³. The existing 24-hour background concentration level of PM_{2.5} represents approximately 75 percent of the maximum 24-hour concentration of PM_{2.5} allowed by the NAAQS. Similarly, the existing annual background concentration level of PM_{2.5} is equivalent to approximately 65 percent of the maximum PM_{2.5} concentration allowed by the NAAQS for a one year period. As discussed above, Suffolk County is in non-attainment for PM_{2.5} (for the 2006 standard) as of June 7, 2010.

For ozone, the closest monitoring site to the TOD District area is Babylon (Region 1). The 8-hour ozone NAAQS is based upon the average of the 98th percentile of the fourth-highest daily maximum 8-hour concentrations over the most recent three years. The average 28-hour ozone background value over the most recent three years of data (2006-2009) is 0.082ppm, exceeding the NAAQS (0.075ppm for the 2008 standard as well as the 0.080 ppm for the 1997 standard) for an 8-hour concentration period. This exceedance is consistent with the Suffolk County designation as a non-attainment area for the 8-hour ozone. Suffolk County is a "Previous Nonattainment Area" which is no longer subject to the 1-hour ozone standard as of June 15, 2005 and therefore the 1-hour value is not reported.

For sulfur dioxide (SO₂), the closest monitoring site to the TOD District area is Eisenhower Park (Region 1). There are no SO₂ background concentrations available at this time to use as a base for the new June 2010 SO₂ 1-hour standard of 75 ppb. The maximum annual arithmetic mean background value over the most recent three years for SO₂ is 0.005 ppm which is just over 15 percent of the NAAQS standard. Similarly, the maximum 24-hour and 3-hour background value for SO₂ is 0.020 and 0.045 ppm, respectively. These two levels of SO₂ represent less than 15 percent of the maximum concentration levels of SO₂ allowed by the NAAQS during a 24-hour period and the previous 3-hour period standard, respectively.

The background concentrations for all pollutants are summarized in Table 10.

Table 10 – Existing Pollutant Concentrations at Closest Monitoring Sites

Pollutant	Averaging Time	Existing Pollutant Concentration		NAAQS (NYSDEC)	
Carbon Monoxide (CO)	8-Hour	2.0	ppm	9	ppm
	1-Hour	3.1	ppm	35	ppm
Lead (Pb)	Quarterly Avg.	0.02	µg/m ³	0.15	µg/m ³
Nitrogen Dioxide (NO ₂)	Annual	0.018	ppm	0.053 (0.05)	ppm
	1-Hour	75	ppb	100	ppb
Particulate Matter (PM ₁₀)	24-Hour	50	µg/m ³	150	µg/m ³
Particulate Matter (PM _{2.5})	Annual	9.7	µg/m ³	15	µg/m ³
	24-Hour	25.7	µg/m ³	35	µg/m ³
Ozone	8-Hour*	0.082	ppm	0.075 (2008 std) 0.08 (1997 std)	ppm
	1-Hour	No longer applicable			
Sulfur Dioxide (SO ₂)	Annual	0.005	ppm	0.03	ppm
	24-Hour	0.020	ppm	0.14	ppm
	3-Hour	0.045	ppm	0.5	ppm
	1-Hour	Not yet available		75	ppb

Note: Highlighted item(s) represent those NAAQS/NY standards that have been exceeded.

Source: 2009, 2008 and 2007 New York State Ambient Air Quality Reports (http://www.dec.ny.gov/docs/air_pdf)

ppm = parts per million, ppb = parts per billion, µg/m³= micrograms per cubic meter

3.7 Noise

3.7.1 Background

Noise is defined as unwanted or excessive sound. Sound becomes unwanted when it interferes with normal activities such as sleep, work, or recreation. The individual human response to noise is subject to considerable variability since there are many emotional and physical factors that contribute to the differences in reaction to noise.

Sound (noise) is described in terms of loudness, frequency, and duration. Loudness is the sound pressure level measured on a logarithmic scale in units of decibels (“dB”). For community noise impact assessment, sound level frequency characteristics are based upon human hearing, using an A-weighted (“dBA”) frequency filter. The A-weighted filter is used because it approximates the way humans hear sound. Table 11 – Common Outdoor and Indoor Sound Levels presents a list of common outdoor and indoor sound levels. The duration characteristics of sound account for the time-varying nature of sound sources.

Table 11 – Common Outdoor and Indoor Sound Levels

Outdoor Sound Levels	Sound Pressure (μPa) [*]	Sound Level (dBA) ^{**}	Indoor Sound Levels
Jet Over-Flight at 300 m	6,324,555	- 110	Rock Band at 5 m
		- 105	
Gas Lawn Mower at 1 m	2,000,000	- 100	Inside New York Subway Train
		- 95	
Diesel Truck at 15 m	632,456	- 90	Food Blender at 1 m
		- 85	
Noisy Urban Area—Daytime	200,000	- 80	Garbage Disposal at 1 m
		- 75	Shouting at 1 m
Gas Lawn Mower at 30 m	63,246	- 70	Vacuum Cleaner at 3 m
		- 65	Normal Speech at 1 m
Suburban Commercial Area	20,000	- 60	
		- 55	Quiet Conversation at 1 m
Quiet Urban Area—Daytime	6,325	- 50	Dishwasher Next Room
		- 45	
Quiet Urban Area—Nighttime	2,000	- 40	Empty Theater or Library
		- 35	
Quiet Suburb—Nighttime	632	- 30	Quiet Bedroom at Night
		- 25	Empty Concert Hall
Quiet Rural Area—Nighttime	200	- 20	
		- 15	Broadcast and Recording Studios
Rustling Leaves	63	- 10	
		- 5	
Reference Pressure Level	20	- 0	Threshold of Hearing

Source: *Highway Noise Fundamentals*. Federal Highway Administration, September 1980.

* μPA – MicroPascals, which describe pressure. The pressure level is what sound level monitors measure.

** dBA – A-weighted decibels, which describe pressure logarithmically with respect to 20 μPa (the reference pressure level).

Sound level data can be presented in statistical terms to help describe the noise environment. A near infinite variation in sound levels (various intensities and temporal patterns) can be combined into the same value. The equivalent sound level, or L_{eq} , is used as the monitoring and modeled sound level descriptor. The L_{eq} averages the background sound levels with short-term transient sound levels and provides a uniform method for comparing sound levels that vary over time.

The following general relationships exist between noise levels and human perception:

- A one or two dBA increase is not perceptible to the average person;
- A three-dBA increase is a doubling of acoustic energy, but is just barely perceptible to the human ear; and
- A 10-dBA increase is a tenfold increase in acoustic energy, but is perceived as a doubling in loudness to the average person.

3.7.2 FHWA and NYSDOT Impact Criteria

Implementation of the proposed action will result in both vehicular traffic and building operation noise sources. The vehicular traffic sound levels will be compared herein to the Federal Highway Administration (“FHWA”) and the NYSDOT noise impact criteria and the building operations will be compared to the Town of Brookhaven’s noise impact criteria.

Traffic noise can adversely affect human activities, such as communication. The FHWA has established Noise Abatement Criteria (“NAC”) to help protect the public health and welfare from excessive vehicular traffic noise. Recognizing that different areas are sensitive to noise in different ways, the NAC varies according to land use. The NAC are described in Table 12.

Table 12 – Noise Abatement Criteria, One-Hour A-Weighted Sound Levels in Decibels (dBA)

Activity Category	Leq(h)*	Description of Activity Category
A	57 (Exterior)	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purposes.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	--	Undeveloped lands
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

Source: 23 CFR Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise.
 * Leq(h) is energy averaged, one-hour, A-weighted sound level in decibels (dBA).

The NYSDOT has developed noise impact criteria that establish noise thresholds deemed to result in adverse impacts for transportation (motor vehicles) and non-highway projects (building mechanical equipment). It has also established technical procedures for evaluating sound levels and potential impacts from proposed projects. The NYSDOT guidelines, presented in Table 13, set forth appropriate sound levels based upon the contemplated land uses within the TOD District area.

Table 13 – NYSDOT Noise Impact Criteria

Activity Category	Noise Impact Criteria
Overall Sound Level	Approach within one decibel of NAC.
Transportation Projects	Project increases of six (6) or more decibels
Non-highway Projects	Project increases of three (3) or more decibels

Source: New York State Department of Transportation, Environmental Procedure Manual, Chapter 3.1 August 1998.

The NYSDOT endorses the FHWA’s procedures and considers adverse noise impacts to occur when existing or future sound levels approach (within one dBA) or exceed the NAC, or when future sound levels exceed the highest existing sound levels by six dBA or more. For non-highway projects (building mechanical equipment), adverse noise impacts are considered to occur when the future sound levels exceed the existing sound levels by three dBA or more. These guidance criteria are the recommended maximum levels for identifying locations that may be affected by noise and are more stringent than FHWA criteria, which considers future sound level increases of 10 dBA as a noise impact.

3.7.3 Town of Brookhaven Noise Code

The Town of Brookhaven has adopted a noise code, which regulates noise levels from different sources. Chapter 50, Section 5 of the Town of Brookhaven Town Code states that no person shall cause, suffer, allow or permit the operation of any source of sound on a particular category of property or any public land or right-of-way in such a manner as to create a sound level that exceeds the particular sound level limits set forth in Table 14 when measured at or within the real property line of the receiving property, except those acts specifically prohibited in Chapter 50, Section 6 for which no measurement of sound is required.

Table 14 – Town of Brookhaven Noise Criteria: Maximum Permissible A-Weighted Sound Pressure Levels by Receiving Property Category (dBA)

Sound Source Property Category	Receiving Property Category					
	Another Apartment Within Multi-dwelling Building		Residential		Commercial	Industrial
	7:00AM to 10:00 PM	10:00 PM to 7:000AM	7:00AM to 10:00 PM	10:00 PM to 7:000AM	All Times	All Times
Apartment within multidwelling building	45	40	55	50	65	75
Residential	--	--	55	50	65	75
Commercial or public lands or rights-of-way Industrial	--	--	65	50	65	75
Industrial	--	--	65	50	65	75

Source: Chapter 50, Attachment 1 Town of Brookhaven Code (Table I)

The noise analysis assumes that the sound data represents sound pressure levels. The noise analysis uses A-weighted decibels to evaluate project-related sound levels because it approximates the way humans hear sound and is the typical unit used to evaluate public noise exposure.

3.7.4 Existing Noise Levels

The existing noise levels within the TOD District area were evaluated to determine the ambient noise environment. The noise monitoring was conducted during the peak morning commuter hours (6:00 am to 10:00 am) on August 26, 2010. These measurements were conducted in conformance with the FHWA noise monitoring guidelines. The existing sound levels were measured using a Type 1 sound analyzer (Larson-Davis model 824). Monitoring data was collected at five locations within the TOD District area (see Figure 18), as follows:

1. LIRR West Parking Lot ("M1");
2. LIRR East Parking Lot ("M2");



Note: Boundary is approximate
 Measurements conducted: 6:30–9am on 08/26/2010
 Source: Google, 2010.



Legend

- 1: West Parking Lot
- 2: East Parking Lot
- 3: Hawkins Avenue and Railroad Avenue
- 4: Mill Road and Railroad Avenue
- 5: Union Avenue and Carroll Avenue



Figure 18
 Noise Monitoring Locations Map

**Ronkonkoma Hub
 Transit-Oriented Development**

Prepared for the Town of Brookhaven, June 2010

3. Hawkins Avenue and Railroad Avenue (“M3”);
4. Mill Road and Union Avenue (“M4”); and
5. Union Avenue and Carroll Avenue (“M5”).

The five monitoring locations were determined based on the planned land use and to capture noise levels from areas that could be redeveloped with residential uses. M1 and M2 are within Sites 1 and 8, respectively, on the Theoretical Full Build Plan and both of these sites are considered for multi-family residential use. M3 is adjacent to Sites 2 and 3, where mixed-use buildings are being considered. M4 is adjacent to Sites 6 and 7, where restaurant and residential uses are being considered. Finally, M5 is adjacent to Site 5, where residential uses are being considered.

The measured sound level data under existing conditions was dominated by roadway noise. Intermittent train activity affected noise levels. As indicated in Table 15, the average Leq sound levels at the monitoring locations ranged from 60 dBA to 69 dBA during the daytime period.

Table 15- Average Existing Noise Monitoring (Baseline) Sound Levels (dBA)

Receptor Location	Site(s) Represented	Max	Min	Daytime Noise (Leq) 6:00 AM to 10:00 AM
M1 - West Parking Lot	1	83.1	51.5	68
M2 - East Parking Lot	8	82.3	48.1	60
M3 - Hawkins Avenue and Railroad Avenue	2 and 3	84.7	55.3	69
M4 - Mill Road and Union Avenue	6 and 7	85.1	54.5	69
M5 - Union Avenue and Carroll Avenue	5	82.3	52.8	69

LIRR West Parking Lot ("M1")

Noise was monitored at M1 from 6:32 a.m. to 7:02 a.m. Noise observed at M1 can be attributed to a combination of parking lot activity, noise from traffic along Railroad Avenue and County Road 29, people talking, and noise generated by passing trains. Train activity that generated noise (i.e., arriving trains, departing trains and passing trains) occurred at 6:35 a.m. (arriving), 6:39 a.m. (departing), 6:47 a.m. (passing), and 6:56 a.m. (passing). The maximum ambient sound pressure level produced from train activity at M1 was 71± dBA. The maximum ambient sound pressure level observed at M1 was 83.1 dBA, which was attributed to a passing truck on County Road 29. The minimum ambient sound pressure level observed at M1 was 51.5 dBA. The average ambient sound pressure level observed at M1 was 68.1 dBA, which is comparable to the noise expected when standing on a sidewalk next to a roadway.

LIRR East Parking Lot ("M2")

Noise was monitored at M2 from 7:26 a.m. to 7:56 a.m. Noise observed at M2 can be attributed to a combination of parking lot activity and noise generated by passing trains. Train activity that generated noise (i.e., arriving trains, departing trains and passing trains) occurred at 7:31 a.m. (arriving) and 7:51 a.m. (arriving). No noise was observed related to the departure of either of these trains. The maximum ambient sound pressure level observed at M2 was 82.3 dBA, which was attributed to the arrival of a train at 7:31 a.m. The minimum ambient sound pressure level observed at M2 was 48.1 dBA. The average ambient sound pressure level observed at M2 was 60.3 dBA, which is typical of a suburban commercial area. The average noise level at M2 is significantly lower than at the four other monitoring locations as it does not include noise produced by traffic from surrounding roadways (e.g., no roadways exist proximate to M2).

Hawkins Avenue and Railroad Avenue ("M3")

Noise was monitored at M3 from 8:05 a.m. to 8:35 a.m. Noise observed at M3 can be attributed to surrounding development, traffic along Hawkins Avenue and Railroad Avenue, buses servicing the Ronkonkoma Train Station and train activity. The maximum ambient sound pressure level observed at M3 was 84.7 dBA, which was produced by a passing truck on Railroad Avenue. While train activity (an arriving train at 8:27 a.m. and departing at 8:31 a.m.) did generate some noise, noise attributed to train activity was well below the level of noise produced by passing trucks and buses. The minimum ambient sound pressure level observed at this location was 55.3 dBA. The average ambient sound pressure level observed at this location was 69 dBA, which is a typical sound level along a roadway.

Mill Road and Union Avenue (“M4”)

Noise was monitored at M4 from 8:50 a.m. to 9:20 a.m. Noise observed at M4 was entirely related to surrounding development and traffic along Union Avenue and Mill Road. No noise associated with the LIRR operations was observed from this location. The maximum ambient sound pressure level observed at this location was 85.1 dBA, which was produced by a passing truck. The minimum ambient sound pressure level observed at this location was 54.5 dBA. The average ambient sound pressure level observed at this location was 69 dBA, which is a typical sound level along a roadway.

Union Avenue and Carroll Avenue (“M5”)

Noise was monitored at M5 from 9:28 a.m. to 9:58 a.m. Noise observed at M5 was entirely related to surrounding development and traffic along Union Avenue and Carroll Avenue. No noise associated with the LIRR operations was observed from this location. The maximum ambient sound pressure level observed at this location was 82.3 dBA, which was produced by a passing truck. The minimum ambient sound pressure level observed at this location was 52.8 dBA. The average ambient sound pressure level observed at this location was 69 dBA, which is a typical sound level along a roadway.

The sound level results for monitoring locations M1, M3, M4 and M5 reflect nearby traffic and intermittent rail activity. These sound levels are typical for an urbanized area located adjacent to major roadways and a rail line.

3.8 Socioeconomics

3.8.1 Market Analysis

BBP LLC performed a market analysis to review trends in the residential, retail and office markets in order to identify opportunities for development in the TOD District. The Market Analysis is included in its entirety in Appendix H of this DGEIS.

The Market Analysis includes review of the Theoretical Full Build Plan for the TOD District area to determine whether market trends support the level of development in the Draft Land Use Implementation Plan. The market analysis was developed through the completion of several tasks, including:

- Economic and demographic profile – examination of existing and projected demographic and economic factors for the TOD District area and

surrounding market areas. These factors are interwoven into the residential, retail and office market analysis sections of this report;

- Residential market analysis – evaluation of demand, supply, and opportunities for transit-oriented housing development (e.g. multifamily dwellings);
- Retail and restaurant market analysis – evaluation of demand, supply and opportunities for various types of retail uses and restaurants;
- Office market analysis – assessment of demand, supply and opportunities for office space to accommodate different types of office-based industries; and
- Analysis of development potential – review of the Draft Land Use Implementation Plan and comparison to market opportunities to identify whether market trends support the concept.

Residential Market Analysis

Consistent with the market analysis undertaken in 2008 as part of the *Ronkonkoma Hub Planning Study*, the majority of demand for new housing will emerge from residents of local jurisdictions. An industry rule of thumb states that “between 50 to 75 percent of the buyers or renters in a new development come from the local community” (Urban Land Institute).

Using this reasoning, BBP LLC has defined the primary residential market area for the Ronkonkoma Hub TOD (i.e. the geographic zone from which the majority of demand for new housing will emerge) as the Towns of Brookhaven and Islip. BBP LLC has also identified a secondary study area (i.e. the geographic zone from which the next highest proportion of demand for new housing will emerge) as the remainder of Suffolk County. This zone captures those households that currently drive to the LIRR-Ronkonkoma station and travel toward Manhattan via express rail service.

The target market includes households likely to reside in multi-family housing units near transit. To identify these households, BBP LLC examined the current supply of multi-family housing in the Towns of Brookhaven and Islip, including recently constructed multi-family housing in the TOD District area.

Through a reconnaissance survey of current housing supply, BBP LLC has determined that:

- The majority of rental multi-family housing units are one- and two-bedroom units;
- The average rental rate for a one-bedroom unit was \$1,370, while a two-bedroom unit was \$1,680 as of first quarter 2010;

- Newly constructed rental complexes in Suffolk County have been found to command a premium, with average rental rates roughly one-third higher than average rental rates for all multi-family units (according to the Suffolk County Department of Planning Demographic, Economic and Development Trends report dated November 2008);
- Market rental rates for multi-family housing in the two towns range, on average, from \$1,110 for a studio apartment up to \$2,400 for a three-bedroom unit;
- The majority of new for-sale multi-family housing units have two to three bedrooms;
- List prices for new for-sale condominiums range from approximately \$270,000 to \$470,000;
- The median list price of residential property in the area surrounding the TOD District area was \$380,000 in 2010;
- Households earning approximately \$40,000 to \$100,000 can afford current rental rates, assuming gross monthly housing costs (e.g. monthly rent and utilities) does not exceed 30 percent of gross income; and
- Households earning approximately \$80,000 to \$150,000 can afford currently listed new condominium units, assuming monthly housing costs (e.g. monthly mortgage, taxes, utilities, and HOA fees) do not exceed 30 percent of gross income and assuming a five percent down payment is made.

Given these current conditions, BBP LLC has identified the target market for new multi-family housing in the TOD District area as households earning \$35,000 to \$150,000 annually, which spans the range of households that can afford current rental rates up through current for-sale prices. Based on BBP’s report, the majority of demand within this range will come from the middle two-thirds of the range (approximately \$50,000 to \$130,000).

To evaluate the depth of potential demand for multi-family housing in the TOD District, BBP LLC performed an overview demographic analysis of estimated existing and projected future households in the primary and secondary market areas.

Existing and Future Households

In 2009, there were an estimated 337,000 “target market” households earning \$35,000 to \$150,000 in the primary and secondary market areas. By 2014, total households meeting the target market definition could rise to 342,000 households if households are added at an annual rate of 0.15 percent to 0.45 percent, as current projections suggest (the lower growth rate is projected for the secondary market area, while the higher growth rate is projected for the primary market area). If this annual growth continues at the same pace through 2019, target market households could increase to a total of nearly 348,000 households, as illustrated in the following table.

Table 16 – Existing and Future Households

Existing and Future Households Target Market: Earning \$35,000 to \$150,000 Ronkonkoma Hub TOD Market Areas					
Market Area	Total			Net Increase	
	2009	2014	2019	2009-2014	2014-2019
Primary	191,592	195,973	200,454	4,381	4,481
Secondary	145,111	146,171	147,239	1,060	1,068
Total	336,702	342,144	347,693	5,442	5,550

1/ BBP LLC projected 2019 households using 0.45% annual growth rate for the primary market area, and 0.15% annual growth rate for the secondary market area, in accordance with compound growth rates projected by ESRI for the target market areas from 2009 to 2014
2/ Secondary market area excludes primary market area to avoid double-counting

Source: ESRI Business Information Solutions, BBP LLC, 2010

Given these current growth projections, the TOD District area primary and secondary market areas could add a net 5,442 households earning \$35,000 to \$150,000 from 2009 to 2014 and another 5,550 households earning at this income range from 2014 to 2019. Therefore, the total potential market demand for multi-family housing could be up to 10,991 households.

Retail and Restaurant Market Analysis

A trade area is the geographic area from which the majority of a retail establishment’s customers originate. Trade areas differ based on the type of products offered at the retail establishment. For example, the trade area for a convenience good such as milk is typically smaller than the trade area for a shoppers good, or “comparison” good, such as furniture or apparel. The distance a consumer will travel to buy a gallon of milk is significantly shorter than the travel distance tolerated to buy a new sofa.

Another factor affecting the trade areas for convenience and shoppers goods is comparison shopping. To purchase a gallon of milk, one generally does not need to compare brands or stores. To purchase a piece of furniture, consumers are willing to travel further distances to compare various merchandise.

These factors impact the designation of trade areas for the TOD District area, which currently offers a small cluster of convenience goods oriented to commuters. This current mix of stores does not, however, preclude the TOD District area from eventually adding shoppers goods. Therefore, two primary trade areas have been established for the TOD District:

Convenience goods primary retail trade area – defined as all the land within a three-mile radius of the train station, and roughly equal to an easy five-minute drive of the

train station (which is the typical drawing area of neighborhood-oriented convenience retail establishments, which often include food stores, drug stores, personal service establishments such as dry cleaning and beauty parlors, takeout food businesses, and small sit-down restaurants).

Shoppers goods primary retail trade area – defined as all the land within a five-mile radius of the train station, and roughly equivalent to a 10-minute driving distance (which is the typical drawing area of community-oriented retail destinations, which often include destination restaurants, clothing and apparel stores, home furnishings and specialty stores).

Not all sales to TOD District area retail establishments (both existing and future) will draw from these primary trade areas. Establishments situated around the train station already take advantage of the high volume of commuters that patronize the station, including those that reside beyond a five-mile radius of the station. Most of these commuters reside in eastern areas of Suffolk County. Therefore, Suffolk County may be viewed as a secondary trade area for both convenience and shoppers goods.

Convenience Goods

Residents of the convenience goods primary and secondary trade areas surrounding the TOD District area offer strong disposable income to support convenience retailers. Within a three-mile radius of the station, approximately 27,500 households offer \$439 million in annual convenience goods retail spending potential (\$16,000 per household). Residents of Suffolk County, which total over 488,000, offer a combined nearly \$8 billion in annual convenience goods retail spending potential (\$16,400 per household).

Table 17 – Trade Area Household Spending Profile

Trade Area Household Spending Profile Convenience Goods, 2009				
	Primary Trade Area (3-Mile Radius)		Secondary Trade Area (Suffolk County)	
	Households:	Spending Per Household	Households:	Spending Per Household
	Total Expenditures		Total Expenditures	
Grocery Stores	\$166,000,000	\$6,000	\$3,010,000,000	\$6,200
Specialty Food Stores	\$14,000,000	\$500	\$260,000,000	\$500
Beer, Wine, and Liquor Stores	\$14,000,000	\$500	\$261,000,000	\$500
Health & Personal Care Stores	\$47,000,000	\$1,700	\$870,000,000	\$1,800
Gasoline Stations	\$121,000,000	\$4,400	\$2,197,000,000	\$4,500
Florists	\$2,000,000	\$100	\$36,000,000	\$100
Office Supplies, Stationary, and Gift Stores	\$10,000,000	\$400	\$174,000,000	\$400
Limited-Service Eating Places	\$55,000,000	\$2,000	\$1,000,000,000	\$2,000
Taverns	\$10,000,000	\$400	\$186,000,000	\$400
TOTAL	\$439,000,000	\$16,000	\$7,994,000,000	\$16,400

Source: ESRI, BBP LLC, 2010

Top spending categories of households in both the convenience goods primary and secondary trade areas include: groceries, health and personal care products, gasoline, and limited-service eating places.

These residents' purchasing power may offer potential to support new convenience goods establishments in the TOD District area. Small-scale versions of these stores will be the most appropriate fits for the downtown scale and character envisioned for the TOD District area.

Shoppers Goods

The buying power of households for shoppers goods in the shoppers goods primary and secondary trade areas surrounding the TOD District area is also substantial. The nearly 76,000 households living within a five-mile radius of the train station (the primary trade area) offer a combined nearly \$1.6 billion in annual retail spending potential for shoppers goods (\$21,000 per household). The over 488,000 households in Suffolk County offer an annual potential for \$10.6 billion in shoppers goods expenditures (\$21,500 per household).

Table 18 – Trade Area Household Spending Profile

Trade Area Household Spending Profile				
Shoppers Goods, 2009				
	Primary Trade Area (5-Mile Radius)		Secondary Trade Area (Suffolk County)	
	Households:	75,702	Households:	488,298
	Total Expenditures	Spending Per Household	Total Expenditures	Spending Per Household
Automobile Dealers	\$508,000,000	\$6,700	\$3,418,000,000	\$7,000
Other Motor Vehicle Dealers	\$50,000,000	\$700	\$350,000,000	\$700
Auto Parts, Accessories, and Tire Stores	\$44,000,000	\$600	\$295,000,000	\$600
Furniture Stores	\$65,000,000	\$900	\$441,000,000	\$900
Home Furnishings Stores	\$45,000,000	\$600	\$299,000,000	\$600
Electronics and Appliance Stores	\$106,000,000	\$1,400	\$707,000,000	\$1,400
Building Material and Supplies Dealers	\$114,000,000	\$1,500	\$760,000,000	\$1,600
Lawn and Garden Stores	\$17,000,000	\$200	\$114,000,000	\$200
Clothing Stores	\$121,000,000	\$1,600	\$797,000,000	\$1,600
Shoe Stores	\$15,000,000	\$200	\$97,000,000	\$200
Jewelry, Luggage and Leather Goods Stores	\$16,000,000	\$200	\$108,000,000	\$200
Sporting Goods/Hobby/Musical Instrument Stores	\$24,000,000	\$300	\$156,000,000	\$300
Book, Periodical, and Music Stores	\$15,000,000	\$200	\$102,000,000	\$200
Department Stores	\$46,000,000	\$600	\$306,000,000	\$600
Other General Merchandise Stores	\$104,000,000	\$1,400	\$692,000,000	\$1,400
Used Merchandise Stores	\$4,000,000	\$100	\$28,000,000	\$100
Other Miscellaneous Store Retailers	\$25,000,000	\$300	\$170,000,000	\$300
Full-Service Restaurants	\$184,000,000	\$2,400	\$1,212,000,000	\$2,500
Special Food Services	\$84,000,000	\$1,100	\$554,000,000	\$1,100
TOTAL	\$1,587,000,000	\$21,000	\$10,606,000,000	\$21,500

Source: ESRI, BBP LLC, 2010

Households in both the shoppers goods primary and secondary trade areas offer the most potential spending on the following types of shoppers goods: automobiles, full-service restaurants, clothing, building materials, and other general merchandise.

Office Market Analysis

The TOD District area is located at the western fringes of the Eastern Suffolk County office market area, a broad geography that includes the County east of Central Islip. The TOD District area is also located close to the neighboring Western Suffolk County office market area to the west, and is likely to be influenced by market dynamics in this area as well as Eastern Suffolk County. A new or expanding office-based business considering either the Western or Eastern Suffolk County market areas is likely to consider the Ronkonkoma area as a possible location as well.

Therefore, the primary market area for the office sector has been defined as Suffolk County to include both of these market areas. To include firms that may be seeking a Long Island location and have not identified a requirement for either Nassau or Suffolk County, the secondary market area has been defined as Long Island.

Only a handful of office-based businesses are located in the TOD District area at present. These employers together employ approximately 90 individuals. In surrounding Suffolk County, office-based businesses employ nearly 120,000 employees, and in Long Island as a whole, such businesses employ nearly 280,000 individuals. The most dominant industry in terms of employment is the professional, scientific and technical services industry, which employs the largest proportion of office-based workers in Ronkonkoma Hub, Suffolk County, and Long Island. Finance and insurance is also a top employer in Suffolk County and Long Island, though not well-represented in the TOD District area. Administrative support (which includes back office functions) is a major source of employment in Long Island but less dominant in Suffolk County and the Ronkonkoma Hub.

Table 19 – Office-Based At Place Employment, 2009

Office-Based At Place Employment, 2009			
Industry	TOD District	Suffolk County	Long Island
Information	1	18,637	29,443
Finance & Insurance	1	24,241	60,775
Real Estate, Rental & Leasing	37	13,880	18,951
Professional, Scientific & Technical Services	40	42,780	76,015
Management of Companies & Enterprises	0	447	18,064
Administrative Support, Waste Management	9	19,257	74,373
TOTAL	88	119,242	279,638

1/ 2010 office-based employment estimated based on most recent available employment data and projected rates of growth from NYS Department of Labor

Source: ESRI, NYS Department of Labor, BBP LLC, 2010

To gain a stronger sense of the types of office employers that comprise Long Island’s economy – and thereby learn about the types of businesses that may be candidates for locating in TOD District area, BBP LLC evaluated industry clusters provided by the NYS Department of Labor for the Island. An industry cluster is a grouping of many sub-industries that are highly interrelated in the goods and services they provide. Six industry clusters comprised of at least some office-based industries are located in Long Island. These include: back office and outsourcing; biomedical; communications, software and media services; financial services; front office and producer services; and information technology services.

These industry clusters are represented in varying degrees on Long Island, with some featuring relatively higher levels of employment compared to the industry’s employment nationwide; such industries are identified by higher location quotients. Industry clusters with the highest location quotients on Long Island include:

biomedical; front office and producer services; and communications, software and media services.

The biomedical cluster contains the laboratories and research offices of firms; some of these scientific researchers may opt to locate in specialized office spaces. The front office and producer services cluster includes a variety of business and environmental services (lawyers, accountants, graphic designers, architects, engineers, etc.). This cluster also includes the headquarters of companies and organizational offices of business and professional associations. The communications, software and media services cluster includes businesses and organizations engaged in publishing, broadcasting and telecommunications.

3.8.2 Existing Real Property Tax Revenues

The TOD District area is comprised of 54 individual tax lots. Based on property data on record in the Town of Brookhaven’s Tax Receiver’s Office, the 54 individual parcels and the structures situated on them represent a total assessed valuation of approximately \$206,180 (see Table 20) and generate a total of approximately \$522,376 in total tax revenues (see Table 21).

Table 20 – Total Assessed Value of Existing Parcels within TOD District Area

No.	Suffolk County Tax Map Number	Assessed Value
1	0200 – 799.00 – 03.00 – 032.000	\$1,400
2	0200 – 799.00 – 03.00 – 033.001	\$2,350
3	0200 – 799.00 – 03.00 – 033.002	\$0
4	0200 – 799.00 – 03.00 – 034.000	\$5,000
5	0200 – 799.00 – 03.00 – 035.000	\$1,700
6	0200 – 799.00 – 03.00 – 036.000	\$1,700
7	0200 – 799.00 – 03.00 – 037.000	\$1,710
8	0200 – 799.00 – 03.00 – 038.000	\$1,700
9	0200 – 799.00 – 03.00 – 039.000	\$1,340
10	0200 – 799.00 – 03.00 – 040.001	\$20
11	0200 – 799.00 – 03.00 – 040.002	\$2,200
12	0200 – 799.00 – 03.00 – 041.000	\$1,270
13	0200 – 799.00 – 03.00 – 042.000	\$3,000
14	0200 – 799.00 – 03.00 – 043.000	\$1,170
15	0200 – 799.00 – 03.00 – 044.000	\$8,000
16	0200 – 799.00 – 03.00 – 045.001	\$0
17	0200 – 799.00 – 03.00 – 049.000	\$0
18	0200 – 799.00 – 03.00 – 050.000	\$0
19	0200 – 799.00 – 04.00 – 044.000	\$3,100

No.	Suffolk County Tax Map Number	Assessed Value
20	0200 – 799.00 – 04.00 – 047.001	\$13,400
21	0200 – 799.00 – 04.00 – 048.000	\$2,750
22	0200 – 799.00 – 04.00 – 049.000	\$0
23	0200 – 799.00 – 04.00 – 051.001	\$2,650
24	0200 – 799.00 – 04.00 – 052.000	\$3,500
25	0200 – 799.00 – 04.00 – 053.000	\$2,800
26	0200 – 799.00 – 04.00 – 054.000	\$1,760
27	0200 – 800.00 – 01.00 – 027.001	\$7,425
28	0200 – 800.00 – 01.00 – 028.000	\$0
29	0200 – 800.00 – 01.00 – 031.001	\$4,875
30	0200 – 800.00 – 01.00 – 033.001	\$3,200
31	0200 – 800.00 – 01.00 – 034.000	\$300
32	0200 – 800.00 – 01.00 – 035.007	\$19,300
33	0200 – 800.00 – 01.00 – 035.008	\$2,065
34	0200 – 800.00 – 01.00 – 035.009	\$80
35	0200 – 800.00 – 01.00 – 036.000	\$0
36	0200 – 800.00 – 01.00 – 038.000	\$0
37	0200 – 800.00 – 02.00 – 009.000	\$600
38	0200 – 800.00 – 02.00 – 010.000	\$4,800
39	0200 – 800.00 – 02.00 – 011.000	\$2,300
40	0200 – 800.00 – 02.00 – 012.000	\$2,500
41	0200 – 800.00 – 02.00 – 013.000	\$2,000
42	0200 – 800.00 – 02.00 – 014.000	\$400
43	0200 – 800.00 – 02.00 – 015.000	\$2,200
44	0200 – 800.00 – 02.00 – 016.000	\$2,200
45	0200 – 800.00 – 02.00 – 017.000	\$1,500
46	0200 – 800.00 – 02.00 – 018.000	\$1,200
47	0200 – 800.00 – 02.00 – 019.000	\$420
48	0200 – 800.00 – 02.00 – 020.000	\$2,475
49	0200 – 800.00 – 02.00 – 021.000	\$1,220
50	0200 – 800.00 – 02.00 – 022.000	\$1,800
51	0200 – 800.00 – 02.00 – 023.000	\$16,000
52	0200 – 800.00 – 02.00 – 028.001	\$9,800
53	0200 – 800.00 – 02.00 – 028.003	\$19,000
54	0200 – 800.00 – 02.00 – 028.004	\$36,000
TOTAL		\$206,180

Source: Town of Brookhaven Office of the Assessor. 2009.

Table 21 – TOD District Area – Existing Property Tax Revenues

Taxing Jurisdiction	Total Assessed Value	Tax Rate per \$100 AV	Taxable Projected Tax Revenues
Suffolk County Taxes			
County of Suffolk	\$206,180	2.861	\$5,899
County of Suffolk – Police	\$206,180	33.060	\$68,163
New York State MTA Tax	\$206,180	0.168	\$346
Total Suffolk County Taxes			\$74,408
Town of Brookhaven Taxes			
Town General - Town Wide Fund	\$206,180	4.464	\$9,204
Highway - Town Wide Fund	\$206,180	2.590	\$5,340
Town General - Part Town Fund	\$206,180	1.390	\$2,866
Highway - Part Town Fund	\$206,180	11.436	\$23,579
Total Town of Brookhaven Taxes			\$40,989
School Taxes - Sachem Central School District			
Net School tax	\$206,180	167.127	\$344,583
Net Library tax	\$206,180	10.485	\$21,618
Total School Taxes			\$366,200
Other Taxes			
\$100M Bond Act of 2004	\$206,180	1.588	\$3,274
Fire District - Lake Ronkonkoma	\$206,180	9.431	\$19,445
Lighting District	\$206,180	1.703	\$3,511
Real Property Tax Law - Article 7	\$206,180	0.935	\$1,928
Real Property Tax Law	\$206,180	6.121	\$12,620
Total Other Taxes			\$40,778
		TOTAL	\$522,376

Source: Town of Brookhaven Office of the Assessor. 2009.

As indicated in Table 21 – TOD District Area – Existing Property Tax Revenues, the parcels comprising the TOD District area pay taxes to the following taxing jurisdictions:

- Suffolk County;
- Suffolk County Police;
- New York State Metropolitan Transportation Authority (“MTA”);
- Town of Brookhaven General Fund;
- Town of Brookhaven Highway Fund;
- Sachem Central School District;
- Lake Ronkonkoma Fire District; and
- Lighting District

As indicated in Table 21 – TOD District Area – Existing Property Tax Revenues, the total tax revenue for the existing land uses within the TOD District area, based on the

Statement of Taxes for 2009 – 2010 for each parcel, is approximately \$522,376 annually. The existing land uses in the TOD District area generated \$5,899, \$68,163 and \$346 in tax revenue for Suffolk County, Suffolk County Police and New York State MTA, respectively, equaling a total of \$74,408 to Suffolk County. The Town of Brookhaven received a total of \$40,989, while the Sachem Central School District (“CSD”) received \$366,200. The lighting district and Ronkonkoma Fire District received a total of \$3,511 and \$19,445 in 2009 – 2010 tax revenues, respectively.

3.9 Community Facilities and Services

3.9.1 Fire Protection and Ambulance Services

The TOD District area is located within the jurisdiction of the Ronkonkoma Fire Department. The Ronkonkoma Fire Department maintains one fire house, located at 177 Portion Road, in the hamlet of Lake Ronkonkoma, Town of Brookhaven. The Ronkonkoma Fire Department also provides ambulance services to the area. Correspondence was sent to the Ronkonkoma Fire Department on May 28, 2010 to request information on existing services, operations and equipment (see Appendix I). As no response was received, follow-up correspondence was sent to the Ronkonkoma Fire Department on July 29, 2010. No response has been received.

3.9.2 Health Care Facilities

Brookhaven Memorial Hospital Medical Center (“Brookhaven Hospital”), located at 101 Hospital Road in East Patchogue, is a voluntary, not-for-profit community hospital. Brookhaven Hospital has 321 beds, and is comprised of a main campus, two community multi-disciplinary health centers, and a facility located in downtown Patchogue, which provides a full range of health care services.¹² Brookhaven Hospital is approximately 6.67 miles from the TOD District area.

Stony Brook University Medical Center (“SBUMC”), located on East Loop Road in Stony Brook, is also a viable health care service provider for the TOD District area. SBUMC is Suffolk County’s only tertiary hospital and Level 1 Trauma Center, and is the only academic medical center on Long Island. Certified for 571 beds, with more than 4,800 employees, it is the largest hospital in Suffolk County. SBUMC treats approximately 30,000 inpatients, more than 250,000 outpatients and is where more than 15,000 surgical cases are performed.¹³ SBUMC is approximately 6.45 miles from the TOD District area.

▼
¹² <http://www.brookhavenhospital.org/aboutus/>

¹³ <http://www.stonybrookmedicalcenter.org/regionalresource/>

3.9.3 Police Protection

The TOD District area is within the jurisdiction of the Suffolk County Police Department - Fourth Precinct (“SCPD – Fourth Precinct”). The precinct is located at 345 Old Willets Path in the hamlet of Hauppauge. Correspondence was sent to the SCPD – Fourth Precinct on May 28, 2010 requesting information on existing services. According to correspondence dated June 10, 2010 from William J. English, Principal Management Analyst of the SCPD, the TOD District area is located within Section 405 of the Fourth Precinct (see Appendix I). The SCPD – Fourth Precinct personnel includes approximately 225 sworn officers and nine civilians, with 56 vehicles (i.e., 42 marked, 14 unmarked). While response times are not tracked by the SCPD, Mr. English indicated that there were approximately 8,939 service calls in 2009 (see correspondence in Appendix I). Call data specific to the TOD District area was not provided.

3.9.4 Educational Facilities

The TOD District area is located within the Sachem Central School District (“Sachem CSD”). The Sachem CSD is comprised of 12 elementary schools, four middle schools and two high schools. Correspondence was sent to the Sachem CSD on May 28, 2010 requesting information about existing enrollment and capacity, expenditures, and school bus routes. In a response dated July 1, 2010 (see Appendix I), Ronald G. Sacks, School Business Administrator, advised that the TOD District area is within the service area of the Gatelot Elementary School, Samoset Middle School and Sachem North High School. Enrollment information for these three schools were provided and included in Table 22 – Enrollment of School Properties within Service Area of TOD District Area (as of May 2010).

Table 22 – Enrollment of School Properties within Service Area of TOD District Area (as of May 2010)

Name and Address of School	Enrollment
Gatelot Elementary School 55 Gatelot Avenue Lake Ronkonkoma, New York 11779-2391	578
Samoset Middle School 51 School Street Lake Ronkonkoma, New York 11779-2391	879
Sachem High School North 212 Smith Road Lake Ronkonkoma, New York 11779-2391	2,248

According to information provided by the Sachem CSD, per pupil expenditure for the 2008-2009 school year was \$18,606.50. This figure represents the total of Actual General Fund Expenses, State and Federal Grants, and Special Education Summer School, divided by the average daily attendance.

With respect to the availability of busing in the area, Mr. Sacks indicated that bus routes currently exist that service the three above-mentioned schools.

3.9.5 Solid Waste (Collection and Disposal)

The collection and disposal of solid waste generated by commercial and industrial properties in the TOD District area is performed by licensed, private carters, and not by the Town (which is typical practice for Long Island Towns). Thus, the ultimate disposal locations are at the discretion of the carter. The collection of solid waste generated by private residences is performed by the Town of Brookhaven Department of Waste Management and is carted to the Town of Brookhaven landfill, located between Horseblock Road to the north and Sunrise Highway to the south, east of Sundial Lane, in the hamlet of Yaphank.

The Town of Brookhaven GIS was consulted to determine the number of single-family households as well as the total gross floor area of apartment buildings, automotive facilities, general service facilities, office buildings and industrial/warehouse buildings within the TOD District area. Solid waste generation factors were then applied to these figures in order to determine the total amount of solid waste currently generated by properties within the TOD District area, based on existing land use. As indicated in Table 23 – Existing Solid Waste Generation below, approximately 54.26 tons of solid waste per month is generated by the existing land uses within the TOD District area. It is important to note that for purposes of comprehensive analysis, the existing vacant developed properties were assumed occupied.

Table 23 – Existing Solid Waste Generation

Land Use	Gross Floor Area (square feet) ¹	Solid Waste Generation Factor	Waste Generated (tons/month)
Residential (9 Lots)	16,783.24	4.62 lbs/person/day ²	1.93
Commercial	181,835.21	13 lbs/1,000 sf/day ³	35.95
Office	10,555.35	1 lb/100 sf/day ⁴	1.61
Commercial/Vacant	17,788.16	13 lbs/1,000 sf/day ³	3.52
Residential/Vacant (1 Lot)	1,893.33	4.62 lbs/person/day ²	0.22
Industrial	36,249.37	2 lbs/100 sf/day ⁵	11.03
TOTAL			54.26

1. Based on information from the Town of Brookhaven GIS Database, 2010.

2. Source: U.S. Environmental Protection Agency. *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2007*. November 2008. Assumes 3.06 people per house.

3. Source: Salvato, Joseph A. et al, *Environmental Engineering*, Fifth Edition. 2003. The factor of 13 lbs/1,000 sf/day is for “retail and service facilities,” as published in *Environmental Engineering*, 2003.

4. The factor of 1 lb/100 sf/day is for “commercial office building,” as published in *Environmental Engineering*, 2003.

5. The factor of 2 lbs/100 sf/day is for “industrial/warehouse,” as published in *Environmental Engineering*, 2003.

3.10 A esthetics

The following describes the visual characteristics and architecture of the existing land uses along each of the key corridors within the TOD District area. As identified previously in Section 3.4.1 –Land Use, the TOD District area consists of numerous vacant and unoccupied land and/or buildings as well as large surface parking lots (a number of which are located along Railroad Avenue). Many of the vacant buildings are former retail users or auto-related establishments. Figure 19 – Views of the Project Site District Area presents photographs of the existing land uses, community character and architecture throughout the TOD District area.

3.10.1 Railroad and Ronkonkoma Avenues

Views from the direction of the rail bridge overpass and the easterly side of Ronkonkoma Ave are to the Ronkonkoma Train Station, its surrounding surface parking lots and the one-story commercial uses that form the northern edge of Railroad Avenue. A five-story parking garage is seen in the distance, from Ronkonkoma Avenue, which is the tallest structure in the TOD District area.

The east-west views along Railroad Avenue include the train station and surface parking lots that serve the station. The train station facilities include a covered pedestrian bridge that links the station to the five-story parking structure on the north of Railroad Avenue. Also included in the train station facility are existing plazas and retail uses. The station was designed as a complex of buildings that share a similar architectural style with hip roofs and brick and glass facades. The north side of the street includes older one-story neighborhood-oriented retail with several outdated or vacant storefronts. The vacant buildings are in need of repair and detract from the visual aesthetic of the streetscape. Other buildings in the area show signs of the need for maintenance. Across from the train station (to the north) is a vacant lot that is vegetated and undeveloped. The piece of land west of the station that is within the bus drop-off loop is undeveloped.

The photographs in Figure 19 – Views of the Project Site show that many of the vacant buildings appear to be lacking in maintenance. The vacant lots are generally vegetated. There is a vacant lot that is approximately 0.8 acres located south of Railroad Avenue and west of the train station that contains a grassed land. Along Railroad Avenue there are large surface parking lots that serve the daily commuters taking the train from Ronkonkoma train station. These parking lots are east and west of the existing station.

3.10.2 Hawkins Avenue

Hawkins Avenue includes a mix of one-story retail establishments and a few single family homes. In addition, a taxi company and bus depot are located on the east and west sides of Hawkins Avenue. The bus depot has areas for storing buses on gravel and paved parking lots.

3.10.3 Union Avenue and Northern Portion of the TOD District Area

The northern portion of the TOD District area consists of a large number of automotive uses, specifically located along Union Avenue. Most buildings located within this area are one-to-two stories high with some single-family residential, a number of which are located on Elm and Maple Streets in the center of the TOD District area.

3.10.4 Mill Road

The views on either side of Mill Road include commercial and light industrial uses. The street has areas that are vegetated. The areas adjacent to the road include land that is used for storing materials and/or equipment and machinery. Buildings in this area are commercial office uses that are generally one story in height. Surface parking lots support the uses within this area.



Figure 19
Views of the TOD District Area

Ronkonkoma Hub
Transit-Oriented Development

Prepared for the Town of Brookhaven, June 2010

As identified in Figure 12 – Existing Land Use Inventory, the project site consists of numerous vacant/unoccupied land and/or structures and large surface parking lots, a number of which are located along Railroad Avenue. Many of the vacant buildings are from former retail users or auto-related establishments. The photographs in Figure 19 – Views of the Project Site show that many of the vacant buildings appear to be lacking in maintenance. The vacant lots are generally vegetated. There is a vacant lot that is approximately 0.8 acres located south of Railroad Avenue and west of the train station that contains a grassed land. Along Railroad Avenue there are large surface parking lots that serve the daily commuters taking the train from Ronkonkoma train station. These parking lots are east and west of the existing station.

3.11 Cultural Resources

The New York State Office of Parks, Recreation and Historic Preservation’s (“OPRHP”) GIS map of properties included in the National and State Registers of Historic Places was consulted and no listed properties exist within or adjacent to the TOD District area. This GIS map also indicates that the TOD District area is not situated within an archaeologically-sensitive area. The National Park Service website, which contains a list of properties listed on the National Register of Historic Places, was also examined and no historic properties exist on or adjacent to the TOD District area.

A review of the Town of Brookhaven Historic Landmarks List was conducted and no Town-designated Historic Landmarks are situated within or adjacent to the TOD District area. The Town of Brookhaven Historic District Advisory Committee’s (“HDAC”) list of Town-designated historic districts was also consulted and no historic districts exist within or adjacent to the TOD District area.

4.0

PROBABLE IMPACTS OF THE PROPOSED ACTION

4.1 Soils and Topography

4.1.1 Soils

Redevelopment of properties within the TOD District area would result in the disturbance of soils within the TOD District area for foundation excavation, utility installation, grading, paving, and landscaping. The disturbance of soils for construction and regrading activities increases the potential for erosion and sedimentation. As indicated in the *New York Guidelines for Urban Erosion and Sediment Control*, the erosion potential of a site is determined by five factors: soil erodibility, vegetative cover, topography, climate, and season. Soil erodibility is dependent on the structure, texture and percentage of organic matter in the soil. The presence of vegetation on a site protects soils from the erosive forces of precipitation and overland flow, as top growth vegetation shields the soil surface from precipitation while the root mass holds soil particles in place. Also, grasses limit the speed of runoff and help to maintain the infiltration capacity of the soil. The topography of a site, including slope length and steepness, influences the volume and velocity of surface runoff. Long slopes carry more volume to the base of the slope, and steep slopes increase runoff velocity.

As indicated in Section 3.1.1 of this DGEIS, the predominant soils mapped in the TOD District area are CuB, RdA, and PlA soils. The *Soil Survey* defines potential planning and engineering limitations for soils and these limitations are summarized in Table 3 in Section 3.1.1. However, information contained in the *Soil Survey* is general data that is useful for preliminary assessments and guidelines as to the characteristics of the soil to depths of approximately five feet. For all site-specific applications for redevelopment, actual on-site soil investigations would be required.

As indicated on the *Soil Survey*, CuB soil is mapped in the western third of the TOD District area. CuB soils are mapped in areas that have been substantially altered in grading operations and/or covered with impervious surface, as is characteristic of much of the TOD District area. As indicated in Table 3 – Engineering and Planning Limitations of On-Site Soils in Section 3.1.1 of this DGEIS, there are only slight engineering limitations associated with the development of homesites and sewage disposal fields on CuB soils. According to the *Soil Survey*, which provides general soils information, there are moderate development limitations for roads and streets on CuB soils due to associated slopes. However, all slopes within the TOD District area are within the zero to ten percent range. Also, the road system within the TOD District area has already been established, and thus, the development of new roads would be not required. The *Soil Survey* also notes potentially severe development limitations are associated with lawns and landscaping on CuB soils due to a sandy surface layer. The sandy surface layer allows for the rapid movement of water without the adequate capacity to hold water available for vegetation. However, topsoil is a common method to help address the potential limitation associated with proposed landscaping, as necessary.

RdA soils are mapped in the central third of the TOD District area. RdA soils are noted as having few or no engineering limitations for homesites, lawns, landscaping, streets or parking lots. There is a slight limitation for sewage disposal fields because of the rapidly permeability in the substratum of RdA soils. The substratum in the *Soil Survey* is defined to 65 inches. This limitation is overcome with soil mixing or soil removal and replacement with engineered fill material. It is noted that the Theoretical Full Build Plan does not cite the STP in an area mapped with RdA soils.

PlA soils are mapped in the eastern third of the TOD District area. PlA soils are noted as having few or no engineering limitations for homesites, sewage disposal fields, streets and parking lots. There is a slight limitation for sewage disposal fields and a severe limitation for lawns and landscaping because of rapid permeability and a sandy surface layer. With regard to limitations for sewage disposal fields, as indicated in the Preliminary Feasibility Study for Sewage Treatment and Disposal (see Appendix D of this DGEIS), PlA soils are an ideal type of soil for disposing of sewage treatment plant effluent, because it allows for recharge beyond the minimum leaching rate required by the SCDHS for the disposal of effluent. With respect to the limitations for the establishment of lawns and landscaping, soil mixing and the placement of topsoil is a common method to help address this limitation.

Based on the soil characteristics and the planning and engineering limitations defined in the *Soil Survey*, it is not expected that development of properties would have significant adverse soil impacts. Notwithstanding same, due to the generalities and the potential for actual on-site soils to differ from the *Soil Survey*, actual on-site investigations and mitigation measures, as necessary, would be required for future site-specific development applications.

The disturbance of soils during construction and regrading activities increases the potential for erosion and sedimentation. Any site-specific application for redevelopment within the TOD District area would be required to employ proper erosion and sedimentation controls (e.g., the strategic placement of silt fencing and hay bales to prevent overland runoff and to protect on-site drywells from siltation, maintenance of construction entrances to minimize the transport of sediment on to roadways, placement of appropriate cover over soil stockpiles to protect from wind and precipitation), in accordance with Chapter 86 of the Town Code (see Section 3.2 of this DGEIS).

Dust control measures would also be required, as necessary, during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water with spray adhesives, the use of stone in construction roads, and vegetative cover.

With suitable and proper erosion and sedimentation controls, in accordance with Chapter 86 of the Town Code, it is not expected that site redevelopment would result in significant adverse impacts associated with ground disturbance, regrading and/or construction activities.

4.1.2 Topography

The topography of properties within the TOD District area is relatively flat, and thus, topographic conditions would not be expected to limit potential redevelopment. Moreover, significant regrading would not be required. As such, no significant adverse impacts to topographic features would be expected.

4.2 Water Resources and Sanitary Disposal

4.2.1 Groundwater

The Long Island Comprehensive Waste Treatment Management Plan

The TOD District area is located in Hydrogeologic Zone I, which is characterized as a deep flow, Magothy Recharge Area. In order to ensure the protection of groundwater, future site-specific development applications in accordance with the TOD zoning code will be required to comply with the relevant recommendations of the “Wastewater Management Alternatives” and the “Highest Priority Areawide Alternatives” of the *208 Study*.

1. *Implement “Best Management Practices” to control runoff and remove nitrogen for treatment plants recharging effluent.* The proposed action includes the construction and utilization of a sewage treatment system (see Section 4.2.2 of this DGEIS for sewer analysis) that would address nitrogen. To control runoff, all site-specific applications would be subject to compliance with the Town’s stormwater ordinance (Chapter 86 of the Town Code), which requires a stormwater pollution prevention plan that includes all necessary controls. Thus, the proposed action conforms to this recommendation.
2. *Restrict the use of inorganic fertilizers. Promote the use of low-maintenance lawns.* The amount of fertilizer-dependent vegetation will be minimized and indigenous species will be used, to the maximum extent practicable, to allow for a low-maintenance landscape. Thus, the proposed action complies with this recommendation.
3. *Control stormwater runoff to minimize the transport of nutrients, metals, sediments, organic chemicals.* As stated, development within the TOD District would be subject to compliance with Chapter 86 of the Town Code – Stormwater Management and Erosion Control. It is likely that stormwater will be contained and recharged on the site through the use of drywells and catch basins, which are proper drainage methods. The installation of adequate drainage structures and the regrading of sites to direct stormwater would minimize the transport of sediments, nutrients, metals, organic chemicals and bacteria to ground and surface waters. Thus, the proposed action conforms to this recommendation.

Promote water conservation to reduce overall demand on Long Island's water supply. Water conservation methods would be used to the maximum extent practicable to decrease overall water usage.

Suffolk County Sanitary Code

Article 6

As indicated in Section 3.2 of this DGEIS, Suffolk County promulgated various regulations and standards that are designed to protect the water resources of Long Island. Article 6 of the SCSC specifically governs sanitary wastewater discharges. The TOD District area is situated within Groundwater Management Zone I. Pursuant to Article 6 of the SCSC, the maximum permissible flow for the TOD District area is 600 gallons per day per acre or approximately 32,238 gallons per day (based on 53.73 acres). All sanitary waste generated by new development within the TOD District area is proposed to be accommodated by an STP to be constructed within the TOD District. Thus, the sanitary density limitations are not applicable to the development of the site(s) in conformance with the TOD District.

Article 12

The relevant aspect of Article 12 for site-specific applications for development in the TOD District relates to the storage of fuel oil in above ground or underground storage tanks. All redevelopment of properties within the TOD District area, in accordance with the proposed TOD zoning code, where underground or above ground storage tanks are proposed in quantities with a combined capacity greater than 1,100-gallons, the applicant would be required to secure the appropriate permits under Article 12 from the SCDHS. Compliance with these regulations would help ensure that no significant adverse impacts would occur.

Water Usage

Utilizing the SCDHS design sewage flow rates as the basis for estimating potable water requirements, the domestic water use for the Theoretical Full Build Plan (which includes existing properties to remain) would be approximately 169,000 gpd (see Table 24 below). With an additional 10 percent estimated for irrigation and domestic uses not entering the sanitary system, the total projected potable water demand for the Theoretical Full Build Plan is 186,000 gpd.

Consultations were undertaken with the SCWA to evaluate the available infrastructure in the area and to identify any necessary upgrades required to meet the water demand. In a response letter dated August 30, 2010, the SCWA advised that it can provide water to the proposed TOD District area (see Appendix J).

An estimate of the Needed Fire Flow (NFF) at a representative location within the Theoretical Full Build Plan was computed based on the Insurance Service

Organization (ISO) publication "Guide for Determination of Needed Fire Flow," Edition 05-2008. Site 2, which consists of a five-story mixed use building, was selected as the representative location based on its size and occupancy, two key components considered when estimating the NFF. Based on conceptual plans and uses, the NFF has been determined to be 4,500 gpm. In correspondence dated August 30, 2010, the SCWA indicated that the pressure available from SCWA's system may not be adequate to serve the higher elevations in multi-story buildings and, therefore, a booster pump system should be considered during the design of the project.

Overall, it would not be expected that the proposed action would result in a significant adverse impact to the SCWA.

4.2.2 Sewage Disposal

A Preliminary Feasibility Study for Sewage Treatment and Disposal was prepared by Michael P. Chiarelli Engineer, P.C. (see Appendix D of this DGEIS) to evaluate the feasibility of constructing an STP within the TOD District area to handle sanitary waste from all properties within the TOD District area.

As indicated in Section 3.2 of this DGEIS, the TOD District area is located in Groundwater Management Zone I. In this zone, the maximum allowable sewage flow is 600 gallons per acre per day without formal sewage treatment with nitrogen removal. As will be explained below, the Theoretical Full Build Plan is greater than the 32,328 gpd of allowable flow for this area, and, therefore formal sewage treatment including nitrogen removal is required.

Based on SCDHS design flow rates, the design average daily flow for the Theoretical Full Build Plan, inclusive of existing properties to remain, will be approximately 169,000 gpd (see Table 24 – Projected Sanitary Flow for Theoretical Build Out Plan below). The Theoretical Full Build Plan includes the construction of an STP within the boundaries of the TOD District area.

Table 24 – Projected Sanitary Flow for Theoretical Build Out Plan

Totals	
Site 1	27,675± gpd
Site 2	17,944± gpd
Site 3	27,313± gpd
Site 4	3,000± gpd
Site 5	44,100± gpd
Site 6	3,000± gpd
Site 7	28,125± gpd
Site 8	10,125± gpd
Existing to Remain	7,701± gpd
TOTAL	168,983± gpd

Since future development density of this area is not precisely known, the STP within the TOD District area is being evaluated as a 275,000-gpd plant as part of an overall sewer district to be created. The boundaries of the sewer district would be the TOD District area. The creation of a sewer district will require that the STP accommodate not only the redevelopment of properties identified on the Theoretical Full Build Plan, but all properties within the TOD District area. This 275,000-gallon capacity would accommodate the Theoretical Full Build Plan as well as connection of existing uses to remain and/or redevelopment and connection of parcels not specifically identified in the Theoretical Full Build Plan.

Influent Sewage Characteristics

The influent raw sewage characteristics used for the purpose of designing the proposed STP, as required by SCDHS, are as follows:

- BOD5: 272 mg/l
- SS: 320 mg/l
- TKN: 65 mg/l
- Alkalinity: 250 mg/l

Based on the above influent sewage characteristics and influent flow of 275,000 gallons per day, the influent loads are expected to be as follows:

Lbs. of pollutants = mg/ l pollutant x 8.34 lb./gal. X flow in MGD

272 mg/l x 8.34 lb./gal. X 275,000 gpd x 10-6	=	623.8 lb. BOD5/day
320 mg/l x 8.34 lb./gal. X 275,000 gpd x 10-6	=	733.9 lb. S.S./day
65 mg/l x 8.34 lb./gal. X 275,000 gpd x 10-6	=	149.1 lb. TKN/day
250 mg/l x 8.34 lb./gal. X 275,000 gpd x 10-6	=	573.4 lb. Alk./day

Effluent Requirements

The treated effluent from the STP will be recharged to the ground via subsurface leaching pools. Consequently, the State Pollutant Discharge Elimination System (SPDES) permit will require a daily maximum total nitrogen concentration of 10 mg/l as the limiting value and a pH limit of 5.5 to 8.5 SU. The 30-day arithmetic average flow limit will be the design flow of 275,000 gpd.

The following effluent quality is anticipated:

BOD5	< 10 mg/l
TSS	< 10 mg/l
Total N	< 10 mg/l
pH	5.5 to 8.5 SU

The effluent quality is expected to meet or do better than the effluent requirements.

Treatment Options

Based on density restrictions, formal sewage treatment must be provided for the proposed project. Generally, two options are available:

- Off-Site Treatment; and
- On-Site Treatment.

Off-Site Treatment

Off-site treatment requires that there be an existing STP which:

- Is sufficiently close to the project site to allow for economical transfer of sanitary sewage flow from the project site to the host STP;
- Has sufficient uncommitted excess capacity for the expected proposed and future sanitary sewage flow for this project;
- Is capable of treating the sewage to the required effluent quality; and
- The owner of a host STP must be amenable to accepting sewage from the proposed project.

The following three STP's were investigated for the possibility of receiving sanitary sewage flows generated within the TOD District area and are outlined below as "Name/Permitted Flow/Distance to Proposed District/SPDES Permit No."

1. Browning Hotel/56,000 gpd/1,100 ft. ±/NY 0253162;
2. Waverly Park Condominium/60,000 gpd/3.3 mi. ±/NY 0077381; and
3. Heatherwood House @ Lake Ronkonkoma/30,000 gpd/2.1 mi. ±/NY 0079375.

Review of the above STPs indicates that no nearby STP has enough uncommitted excess capacity to treat an additional 275,000 gpd flow.

In addition, several STPs exist within the Town of Islip, proximate to the TOD District area. These STPs also do not have enough uncommitted excess capacity to treat an additional 275,000 gpd flow. It is also noted that the SCDPW is planning to award Capital Project No. 8185, in which six areas within Suffolk County are to be studied with respect to districting and combining contributing areas for the purpose of sewage treatment. One of those six areas is in a similar area to the TOD District area being analyzed here. However, the study has not yet been implemented. Based upon the above, the off-site treatment option is not viable.

On-Site Treatment

Many treatment plants have been constructed in Suffolk County using the extended aeration process followed by a deep bed Denitrification filter. Some treatment plants use rotating biological contactors ("RBCs") followed by a deep bed Denitrification filter. Other STPs use Sequencing Batch Reactors ("SBR") and the Biologically Engineered Single Sludge Treatment ("BESST") process.

The BESST process is considered to be the best method for the TOD District area because of its process stability and ability to constantly achieve design goals.

Description of BESST Treatment Process:

The BESST Process is a continuous flow modified extended aeration process. Sewage enters first into the anoxic chamber where it mixes with return activated sludge (RAS) from the clarifier. The nitrogen removal process is completed here as nitrite (NO₂-N) and Nitrate (NO₃-N) produced in the aeration zone are converted to Nitrogen gas (N₂). Some of the influent BOD₅ is consumed in this denitrification process. The dissolved oxygen (DO) level is maintained below 0.2 mg/l, and submerged mixers keep MLSS in suspension.

The mixed liquor is transferred by gravity from the anoxic chamber to the far end of the aeration chamber through a submerged transfer pipe. BOD₅ removal and nitrification take place here as the mixed liquor is aerated by fine bubble air diffusers. The aerated mixed liquor then flows into the bottom of the clarifier by means of a uniquely designed baffle.

In the clarifier, solids settle to the bottom as the supernatant flows over the overflow weir and is gravity fed to the micro screen drum filters. Unfiltered sludge and backwash waste are returned to the sludge holding tank. Clean filtered effluent flows by gravity to the effluent leaching pools.

STP Siting

For the Theoretical Full Build Plan, the STP is proposed in the southeast corner of the TOD District area. This parcel is a 5.47± acre site, which will accommodate at least the 275,000 gpd-capacity-STP being proposed, pending analysis of soil characteristics and potential hydrogeological effects of effluent on drinking water supplies. The soil type for this site is Plymouth loamy sand, 0 to 3 percent slopes (PLA), which is a rapidly permeable soil. This is an ideal type of soil for disposing of sewage treatment plant effluent, because it allows for recharge beyond the minimum leaching rate required by the SCDHS for the disposal of effluent. The site is relatively flat, with little concern for grading issues. The site is generally clear, and would require minimal removal of trees to complete the construction of the STP building and the effluent leaching pools. Overall, the soil and site conditions are adequate for development of the STP.

As the proposed action includes the placement of an STP within the TOD District area, such that all sewage will be accommodated and treated prior to discharge, no significant adverse groundwater impacts associated with sewage disposal would be expected.

Nonpoint Source Management Handbook

The *Nonpoint Source Management Handbook* was reviewed as to recommendations related to the proposed action. Discussion of the proposed project's consistency with the relevant recommendations follows:

Land Use

Limit new development, particularly industrial uses, in the deep recharge and critical shallow recharge areas.

Although the subject parcel is located in a deep recharge area, the proposed TOD zoning code does not permit new construction of industrial uses. The purpose of the proposed action is to facilitate the redevelopment of under utilized or vacant parcels within the TOD District with residential, retail, office and restaurant uses. Thus, the proposed project complies with this recommendation.

Limit the removal of natural vegetation and the creation of lawn areas.

The majority of the properties identified for redevelopment on the Theoretical Full Build Plan are sites that are paved or otherwise impervious with weedy vegetation. Other areas of the TOD District are largely comprised of ecological communities that are considered to be demonstrably secure within New York State by the NYNHP, including Mowed Lawn, Mowed Lawn with Trees and Flower Herb Garden. There are all common in the general surrounding area of the site.

There are areas within the TOD District area that contain Successional Southern Hardwoods and Successional Shrubland (see Section 3.3 of this DGEIS). However, both communities exist as a result of past clearing or other anthropogenic disturbance, and support a variety of invasive/non-native vegetation. There is also a small area of Pitch Pine-Oak Forest located on the eastern portion of the TOD District area (see Section 3.3 of this DGEIS). However, due to the small size of the parcel and the presence of invasive/non-native species in perimeter areas, the parcel does not support a large, undisturbed block of interior woodland habitat.

The creation of lawn areas would be limited on most building sites to building perimeters and planting areas along the road frontage and site interiors. The open space area/public plaza would be comprised of native or low maintenance species, as included in the TOD zoning code, to reduce irrigation needs and fertilizer demand. Thus, the proposed project complies with this recommendation.

Stormwater Runoff

Minimize grade changes and site clearing. Preserve swales in their natural state. Avoid disturbance of existing grades, vegetation or soils and the alteration of surface hydrology.

As indicated in Section 4.1 of this DGEIS, the topography of the TOD District area is relatively flat, and thus, the regrading of properties within the TOD would be minimal. Also, the majority of the properties identified for redevelopment on the Theoretical Full Build Plan are sites that are paved or otherwise impervious with weedy vegetation. Overall surface hydrology would not, therefore, significantly change. The redevelopment of properties would require minimal grading to direct stormwater into on-site drainage structures (e.g., drywells). As part of the Town's stormwater ordinance, all stormwater would be required to be contained and recharged on-site. There are no swales within the TOD District area. Overall, while minimal grade changes would be required for site redevelopment, drainage would be provided to minimize potential adverse impacts associated with stormwater runoff. As such, the project complies with the intent of this recommendation.

Provide temporary on-site areas to receive stormwater runoff flows that are generated by construction and other site development activities. Do not allow increased sediment resulting from the construction or operation phase of site development to leave the site or to be discharged into stream corridors, marine or freshwater wetlands. Minimize the amount of soil area exposed to rainfall and the period of exposure. Cover or plant exposed soils as soon as possible.

In accordance with Town's stormwater ordinance requirements, a stormwater pollution prevention plan would be required before any land development activity is undertaken. Pursuant to §86-6(B)(1), the stormwater pollution prevention plan is required to contain, among other things, "temporary and permanent structural and vegetative measures...for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out."

As such, the proposed action complies with this recommendation.

Detain runoff and direct stormwater from road surfaces to sediment basins before discharge to a sump wherever topography limits or precludes on-site recharge.

The topography of the TOD District area is relatively flat. Therefore, on-site leaching structures are feasible methods of stormwater control. Stormwater from road surfaces would continue to be handled with drywell and catch basins. Thus, this recommendation is not applicable to the proposed action, as on-site recharge is feasible.

Stabilize exposed slopes during and after construction by using temporary and/or permanent structural or nonstructural stabilization measures.

The topography of the TOD District area is relatively flat. If on-site topography is proposed to be regraded to create slopes in excess of 10 percent, slope stabilization methods during and after construction would be required in accordance with Town Code. As such, the proposed action complies with this recommendation.

Fertilizer

Retain as much of the natural vegetation of the site as possible. Minimize grade changes and site clearing.

As indicated earlier, the majority of the properties identified for redevelopment on the Theoretical Full Build Plan are sites that are paved or otherwise impervious with weedy vegetation. Other areas of the TOD District are largely comprised of ecological communities that are considered to be demonstrably secure within New York State by the NYNHP, including Mowed Lawn, Mowed Lawn with Trees and Flower Herb Garden. There are areas within the TOD District that contain Successional Southern Hardwoods and Successional Shrubland, although these communities exist as a result of past clearing or other anthropogenic disturbance, and support a variety of invasive/non-native vegetation. There is also an area of Pitch Pine-Oak Forest located on the eastern portion of the TOD District area, but it is small in size and due to the presence of invasive/non-native species in perimeter areas, the parcel does not support a large, undisturbed block of interior woodland habitat.

Grade changes would not be expected to be significant due to existing conditions (i.e., sites are primarily developed and the topography is relatively flat). As such, the project complies with the intent of this recommendation.

Use native plants for the planting of areas that have been disturbed by grading. Consider the use of alternative types of groundcover and other plant materials to avoid or reduce lawn area and the consequent need for fertilizer applications, extensive watering and maintenance.

All lawn and landscaping would to be planted with native or low-maintenance species, as required in the TOD zoning code. As such, the project complies with this recommendation.

4.2.3 Stormwater Runoff

Stormwater Runoff and Management During Construction Activities

As indicated in Section 3.2.2 of this DGEIS, pursuant to §86-6 of the Town's stormwater ordinance, as part of any land development activity, a stormwater pollution prevention plan must be filed and approved by the Town's Stormwater Management Officer.

The required contents of the stormwater pollution prevention plan, pursuant to §86-6(B)(1), include, but are not limited to:

“(c) Site map/construction drawing(s) for the project, including a general location map at a scale not less than one inch equals 2,000 feet. The site map shall be at a scale no smaller than one inch equals 50 feet. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharge(s);

(d) Description of the soil(s) present at the site;

(e) Construction phasing plans describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with the New York Standards and Specifications for Erosion and Sediment Control (i.e., Erosion Control Manual), not more than five acres shall be disturbed at any one time unless pursuant to an approved SWPPP;

(f) Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;

(g) Description of construction and waste materials expected to be stored in on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;

(h) Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out;

(i) A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;

(j) Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;

(k) Temporary practices that will be converted to permanent control measures;

(l) Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;

(m) Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;

(n) Name(s) of the receiving water(s);

(o) Delineation of SWPPP implementation responsibilities for each part of the site;

(p) Description of structural practices designed to divert flows from exposed soil, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable;

(q) Any existing data that describes the stormwater runoff at the site."

Chapter 86 also sets forth required erosion and sedimentation controls. Pursuant to §86-7(A), all land development activities are subject to compliance with the following:

(1) The New York State Stormwater Management Design Manual (New York State Department of Environmental Conservation, or any amendments thereto,...).

(2) New York Standards and Specifications for Erosion and Sediment Control (Empire State Chapter of the Soil and Water Conservation Society, 2004 (most current version)...

Finally, the Town's stormwater ordinance requires construction reports to be filed after land development activities cease, and such reports are to include: *"as built' plans for any stormwater management practices located on-site after final construction is completed. The plans must show the final construction layout for all stormwater management facilities. The plans must also clearly display any alterations made to the*

original approved construction details, sections, and/or plan layout. A professional engineer must certify the as-built plans."

All site-specific applications would be required to comply with the provisions of Chapter 86 of the Town Code, and thus, there would be no significant adverse impacts associated with stormwater runoff or erosion and sedimentation during construction.

Post-Development Stormwater Runoff Management

With respect to post-development management of stormwater, Chapter 86 of the Town Code establishes minimum stormwater management requirements and controls, and, requires that land development activities:

"(3) Minimize increases in stormwater runoff from land development activities in order to reduce flooding, siltation, increases in stream temperature, and stream bank erosion;

(4) Minimize increases in pollution caused by stormwater runoff from land development activities, which would otherwise degrade local water quality;

(5) Minimize the total annual volume of stormwater runoff, which flows from any specific site during and following development to the maximum extent practicable; and

(6) Reduce stormwater runoff rates and volumes, soil erosion and nonpoint source pollution, wherever possible, through stormwater management practices and to ensure that these management practices are properly maintained and eliminate threats to public safety."

As all applications for land development are subject to compliance with Chapter 86 of the Town Code, no significant adverse impacts associated with stormwater runoff or erosion post-development would be expected.

4.2.4 Surface Water, Wetlands and Floodplains

As indicated in Section 3.2 of this DGEIS, there are no wetlands or surface water on or proximate to the TOD District area. The TOD District area is not located within a 100-year or 500-year flood zone. As such, implementation of the proposed action will not impact same.

4.3 Ecology

4.3.1 Vegetation Impacts

As indicated in Section 3.3.1 of this DGEIS, much of the existing vegetation on properties within the TOD District area is comprised of non-native ornamental trees, shrubs and herbaceous plants populating the various lawn/landscaped areas associated with the developed portions of the site. The Theoretical Full-Build Plan includes the clearing of some of these areas, either for development with structures, or replacement with new landscaped areas. The ecological communities that would be most affected (i.e., Mowed Lawn, Mowed Lawn with Trees and Flower Herb Garden) are all common in the general surrounding area of the site and are considered to be demonstrably secure within New York State by the NYNHP. Further, all three communities would continue to exist on properties within the TOD District following the implementation of the Theoretical Full Build Plan, as these communities are associated with developed properties.

The Theoretical Full Build Plan would also include the clearing of some of the Successional Southern Hardwoods and most of the Successional Shrubland located on the northern portion of the TOD District area (see Parcel A in Figure 10). As detailed previously, both communities exist as a result of past clearing or other anthropogenic disturbance, and support a variety of invasive/non-native vegetation. As a result, the overall ecological value of these communities, both to the overall flora of the site and as native wildlife habitat, has been reduced. Further, the two communities are ranked by the NYNHP as “demonstrably secure” and “apparently secure,” respectively, within New York State.

The small area of Pitch Pine-Oak Forest located on the eastern portion of the TOD District area (see Parcel B in Figure 10) would also be cleared as a result of the Theoretical Full Build Plan. However, due to the small size of the parcel and the presence of invasive/non-native species in perimeter areas, the parcel does not support a large, undisturbed block of interior woodland habitat. Further, this community is considered to be “apparently secure” in New York State by the NYNHP and is relatively common in the area to the south and southwest of the site.

Based upon the foregoing observations, the proposed action would not result in significant adverse impacts to local or regional vegetation.

4.3.2 Wildlife Impacts

As detailed in Section 3.3.2 of this DGEIS, due to the developed nature of the TOD District area and general surrounding area, the wildlife species observed or expected on the site are those that are well-adapted to developed and/or disturbed habitats and human presence. Thus, following the construction phase, it is anticipated that suitable habitat will remain for individuals of most displaced wildlife species. It is further anticipated that individuals of most or all of these species will return to the TOD District area post-development.

The removal of Successional Shrubland, Successional Southern Hardwoods and Pitch Pine-Oak Forest will have an impact on the abundance of wildlife using the site. Individuals of a few less mobile wildlife species (i.e., some mammal and reptile species, if present) may suffer direct elimination during clearing of these habitats. More mobile animals (i.e. birds and most mammals) would be forced to emigrate to unaffected habitats, both on the site or in the general surrounding area. In the short term, it is expected that these habitats, will experience a temporary increase in the abundance of some wildlife populations. Subsequently, it is expected that inter- and intra-specific competition for available resources within these habitats will result in a minor net decrease in local population sizes for most species, as a new equilibrium is achieved.

Ultimately, development within the TOD District area would not result in significant adverse impacts to the density and diversity of local or regional wildlife populations.

4.3.3 Rare Species/Habitat Potential

As detailed in Section 3.3.3 of this DGEIS, the NYNHP provided correspondence indicating that seven records (three current and four historic) exist for vascular plant species in the vicinity of the TOD District area. However, none of these species were observed on properties within the TOD District area during the June 17 and July 1, 2010 field inspection, and, given the developed/disturbed habitats that currently comprise the TOD District area, the occurrence of these or other rare species is considered to be unlikely. No other NYNHP records currently exist for rare or State-listed animals, plants, significant natural communities or other significant habitats on or in the immediate vicinity of the TOD District area, and none were observed during the field inspection. Further, all of the ecological habitats supported on properties within the TOD District area are ranked as either demonstrably or apparently secure by the NYNHP.

Based upon the foregoing, no significant adverse impacts to rare species or habitats are anticipated.

4.4 Land Use and Zoning

4.4.1 Land Use

The TOD District area encompasses approximately 53.73± acres, which are comprised of 54 individual parcels. This area is proposed to be rezoned using FBC zoning (described in detail in Section 4.4.2 below), which results in a development vision. The Theoretical Full Build Plan would implement this vision, and includes the redevelopment of key opportunity sites with preferred land uses to achieve the goals and objectives of the visioning and planning process, including significant visual improvements and increased marketability of the land both within and surrounding the TOD District area.

The overall intent of the proposed action is to encourage the efficient use of land, provide for revitalization, and foster a sense of place through development of a new transit-oriented, mixed-use, self-sufficient community. Also, the proposed action encourages development that would enhance the tax base and complement the surrounding communities and uses as well as better utilize existing public transit infrastructure at Ronkonkoma Station through improved access and increased ridership.

The Theoretical Full Build Plan represents a development option for specific portions of the TOD District area (including nine redevelopment sites) that could result upon implementation of the TOD District zoning code, as presented in Figure 2 - Theoretical Full Build Plan. The inclusion of these specific parcels would permit the currently underutilized and partially vacant parcels to be redeveloped into a vibrant Smart Growth community offering an opportunity for a mix of uses, including retail, office, restaurants, and multi-family housing at greater densities that complement the train station by providing goods and services for commuters, workers and residents. The development sites were chosen for redevelopment mostly because they are located on key “gateway” roadways serving the train station (Railroad Avenue, Hawkins Avenue, and Mill Road), where more viable land uses and higher density development are most appropriate and complement existing uses within the TOD District area. Specifically along Railroad Avenue, there is potential frontage for new buildings that could help define the street edge. Also, the development sites are all within a 10-minute walk of the Ronkonkoma Station.

The Theoretical Full Build Plan is a potential redevelopment option that represents overall type and level of development that can take place if the TOD District is adopted and the area rezoned.

The Theoretical Full Build Plan (Figure 2) has been designed to conform to the requirements (e.g., height and setback) set forth in the TOD District zoning (described in Section 4.4.2 below). Table 25, Theoretical Full Build Plan Program provides a summary of the proposed uses by sub-site.

Table 25 – Theoretical Full Build Plan – Summary of Land Uses

Proposed Land Use	Site 1	Site 2	Site 3	Site 4	Site 5	Site 6	Site 7	Site 8	Site 9	Total
Residential	123 units	60 units	66 units	-	196 units	-	125 units	45 units	-	615 units
Retail	-	38,375 sf	22,500 sf	-	-	-	-	-	-	60,875 sf
Restaurant	-	-	-	100 seats	-	100 seats	-	-	-	200 seats
Office	-	24,375 sf	25,000 sf	-	-	-	-	-	-	49,375 sf
Health Club	-	-	30,000 sf	-	-	-	-	-	-	30,000 sf
Parking	164 spaces	252 spaces	300 spaces	1,465 spaces	261 spaces	33 spaces	166 spaces	60 spaces	-	2,701 spaces
Sewer Treatment Plant (STP)	-	-	-	-	-	-	-	-	±5 acres	±5 acres

Sites 1, 2, 3, and 4 make up the TOD core due to the proximity to the Ronkonkoma Station and are anticipated to facilitate a mix of uses including, retail, restaurant, office, health club and multi-family housing. Sites 5, 6, 7, and 8 would be redeveloped into mostly multi-family housing with amenities, a restaurant and parking within walking distance to Ronkonkoma Station. Site 9 would be redeveloped with an STP that would accommodate the wastewater generated by the development as part of the proposed action.

Site 1, which totals approximately 4.40 acres and consists of LIRR surface parking for commuters is partially vacant, and controlled by the MTA. Redevelopment being considered for Site 1 includes 123 residential units in three-to-four story buildings over 164 grade parking spaces. Site 1 is within walking distance of the train station along Railroad Avenue and adjacent to the proposed public open space. Redevelopment of this site would require coordination with the MTA.

Site 2 consists of 2.96± acres and consists of a variety of uses, including a mix of residential and industrial, auto-body repair, and vacant/unoccupied dilapidated commercial properties. Redevelopment being considered for Site 2 includes 38,375 square feet of ground-level retail, 24,375 square feet of office and 60 residential units on the upper floors with 252 structured parking spaces.

Site 3 is an approximately 3.97-acre site that currently consists of a gym and associated surface parking. Considered uses for Site 3 include a 30,000 sf two-story health club, 22,500 square feet of ground-level retail, and 25,000 square feet of office

and 66 residential units on the upper floors. Approximately 300 parking spaces are also included for Site 3.

Site 4, an approximately 3.76-acre site, is centrally located within the TOD District area. This site consists of undeveloped/wooded land and is considered for redevelopment into a 100-seat restaurant and 1,465 spaces of structured parking for patrons of the planned uses, as well as for existing and future commuters using the Ronkonkoma Station.

Site 5, the largest site of all the sites at approximately 6.28 acres, is considered for redevelopment with 196 residential units in multiple three-story buildings over at-grade parking (261 spaces) with a clubhouse and pool. These uses would replace a wide mix of uses, including commercial, office, auto-body repair, and single-family residential.

Site 6 is an approximately 1.8-acre site that consists of office uses. Considered uses for Site 6 include a 100-seat restaurant with 33 surface parking spaces.

Site 7 is approximately 3.0 acres and consists of industrial uses. Considered uses for Site 7 include two, three-story residential buildings over at-grade parking with a total of 125 units and 166 parking spaces.

Site 8 is approximately 1.13 acres located on the eastern end (vacant/undeveloped portion) of a larger site controlled by the MTA. This site currently consists of the train station, surface parking, commercial and vacant land. Uses considered for redevelopment of Site 8 include a four-story residential building over at-grade parking with a total of 45 units and 60 parking spaces. Redevelopment of this site would require coordination with the MTA.

Site 9 is approximately 5.47 acres and is currently partially undeveloped consisting of industrial/manufacturing uses. Site 9 is being considered for the STP.

Under the Theoretical Full Build Plan, the remaining 20.96 acres of the TOD District area would generally consist of properties that remain undeveloped and/or with their current uses (not currently considered for redevelopment), and roadways and/or sidewalks. Additionally, public open space is planned adjacent to the station on a currently underutilized/vacant approximately 0.8-acre site between the station and LIRR parking.

4.4.1.1 Land Use Trends

Based upon November 2008 *Demographic, Economic and Development Trends* report published by the Suffolk County Planning Commission, development, in general, has

remained stable in Suffolk County over the last few years.¹⁴ The population has continued to increase and continues to become more racially diverse. The population age groups of 65 and above and 20 to 24 years old have both increased while young children (ages 0-4 years old) have declined. The average household size in Suffolk County has decreased significantly in recent decades.

While homeownership has remained steady over the years at approximately 80 percent housing prices have declined by 10 percent; however, Suffolk County's housing prices are still 90 percent higher than the national median. The number of homes bought and sold as well as construction of new homes in Suffolk County has slowed significantly.

Overall, Suffolk County has continued to experience stable economic conditions. The office market in Suffolk County remains stable while the industrial market remains very strong. The value of agricultural production in Suffolk County is the highest of any county in New York State. Suffolk County also has a large tourism market especially during the summer months with attractions such as beaches, golfing, wineries, and variety of lodging, including major hotel chains, boutique hotels, Bed and Breakfast (B&Bs)/inns and affordable motels.

Suffolk County is a major retail market and, as of 2007, Suffolk County had 39 million square foot of space in planned shopping centers, and 8 million square feet of space in its downtowns, many of which continue to emerge as strong dining and entertainment centers. Large-scale, mixed-use developments incorporating smart-growth principles appear to be a land use trend that is occurring throughout the region. The proposed TOD redevelopment continues this trend.

4.4.1.2 Community Character

The TOD District area consists of numerous vacant/unoccupied parcels and/or structures and a number of these parcels are located in highly visible locations (i.e., Railroad Avenue). The rundown appearance of buildings as well as large surface parking lots, characterize the TOD District area. The proposed action seeks to transform the TOD District area from a largely underutilized and unkempt area to a vibrant, compact, mixed-use community. As indicated in Section 2.3 of this DGEIS, the conceptual design and layout of the Theoretical Full Build Plan (Figure 2) is based on broader goals and objectives of the proposed TOD District, including the creation of an efficient, transportation-served multi-use environment that mixes employment, shopping and housing.

Specifically, the proposed TOD District currently contains a mix of commercial (auto-body repair; wholesale/distribution; gym), surface parking, office,

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¹⁴Suffolk County Department of Planning, *Demographic, Economic and Development Trends*, November 2008. (website: http://www.co.suffolk.ny.us/upload/planning/pdfs2/reports/2009/demoecon_all_12309.pdf)

industrial/manufacturing, and LIRR-related parking, train station and commercial uses as well as single-family residential. This is proposed to be replaced with TOD development that would provide aesthetic enhancement, new housing and housing type options, and employment opportunities for a vibrant live-work environment. Moreover, the proposed TOD District will help the Town achieve its objectives for upgrading the area as a “gateway” to the Ronkonkoma Station. Accordingly, implementation of the proposed action would improve and enhance community character and aesthetics as opposed to conforming to the existing character of a partially-vacant, underutilized area surrounding the Ronkonkoma Station that the Town has deemed in need of revitalization.

As discussed above in Section 4.4.2, establishing a form-based zoning code for the TOD District allows for the construction of a mixed-use community with a range of building types and land uses including office, housing and retail with focus on their relationships to the streets and streetscapes. The key to sustaining a mix of uses of this type is to employ design control over the scale and urban form of each building regardless of use, and provide a flexible, development framework that can accommodate a range of building types. Unlike the typical suburban development patterns where separate “stand-alone” building form is the norm, in the TOD District, the objective is to create an environment with visual continuity and a user-friendly public realm.

4.4.2 Zoning

4.4.2.1 Overview of Form-Based Code Zoning

The key goal of FBC zoning is to meet community visions not achievable through existing or conventional zoning. Form-based code zoning is different from conventional zoning in that it emphasizes building form and appearance rather than specifying and distinguishing uses or establishing set back, building height, or lot coverage restrictions. Form-based codes commonly include the following elements:

- ▶ **Regulating Plan.** A plan or map of the regulated area designating the locations where different building form standards apply based on clear community intentions regarding the physical character of the area being code.
- ▶ **Public Space Standards.** Specifications for the elements within the public realm (e.g., sidewalks, travel lanes, on-street parking, street trees, street furniture, etc.).
- ▶ **Building Form Standards.** Regulations controlling the configuration, features, and functions of buildings that define and shape the public realm.

- Architectural Standards. Regulations controlling external architectural materials and quality.
- Landscaping Standards. Regulations controlling landscape design and plant materials on private property as they impact public spaces (e.g. regulations about parking lot screening and shading, maintaining sight lines, insuring unobstructed pedestrian movements, etc.).
- Signage Standards. Regulations controlling allowable signage sizes, materials, illumination, and placement.
- Annotation. Text and illustrations explaining the intentions of specific code provisions.¹⁵

These form-based code elements are described in relation to the TOD District below.

4.4.2.2 Proposed TOD District

The new TOD District, as proposed, includes all parcels currently zoned J Business 6 (“J-6”) and LI Industrial (“L-1”) that lie within the TOD District area. In addition, it includes some parcels zoned for neighborhood business (“J-2”) and one that is zoned J Business 4 (Professional and Business Offices [“J-4”] on Mill Road. The TOD District area was drawn to include all areas where TOD-type development would be appropriate. The TOD District follows property lines so that no existing lot is split into two zoning districts. The TOD District area also includes MTA-controlled parking areas along Railroad Avenue to accommodate development in the future in the event that those lots are released as well as the proposed site for the STP (Site 9).

The TOD District includes several provisions that are not part of the existing J-6 zoning district. As an example, for mixed-use projects, residential use is specifically excluded from the ground floor, as the ground floor should be occupied by retail uses and the floors above are to be developed for either residential or office use. Other permitted uses need to be incorporated such as:

- Multi-family dwellings (apartments, duplexes, condominiums, townhouses);
- Service-oriented offices (could be allowed on a street level);
- Civic, cultural and community facilities; and
- Live/work dwelling units.

A portion of the TOD District area includes parcels zoned for L-1. The new zoning does not permit the development of industrial uses, such as manufacturing and warehousing.

More specifically, the following uses are proposed as permitted uses:

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¹⁵ Form-Based Code Institute, *Definition of a Form-Based Code*, Draft Date: February 17, 2009. (website: <http://www.formbasedcodes.org/definition.html>).

16. Townhouses;
17. Duplexes;
18. Multi-family housing;
19. Live/work dwelling units;
20. Mixed use developments;
21. Professional offices such as those of doctors, lawyers, architects and engineers;
22. Retail businesses such as, but not limited to grocery, drug, apparel, variety, furniture, or sporting goods store;
23. Restaurants and eating and drinking establishments where most food and drink is intended to be consumed on the premises at tables, counters, or bars;
24. Personal services such as barber shops, beauty salons, laundry and dry cleaning establishments;
25. Health club;
26. Business services such as banks and other financial institutions, real estate and insurance offices;
27. Accessory buildings and uses;
28. Home occupations;
29. Child care facilities; and
30. Museum and similar cultural facility of a non-commercial nature.

Building heights would range from three to five stories, depending upon where in the district the development would take place. The form-based code governs building form, massing, architectural design, street types, and public spaces. In contrast to a typical zoning ordinance, the form-based code for the TOD District will not specifically establish dimensional regulations for the buildings other than the height limitation. However, certain setbacks may be established to allow for public spaces and to screen parking areas, for example.

The proposed form-based TOD code is annexed as Appendix C.

Regulating Plan

The proposed form-based code includes the Regulating Plan which would be adopted by the Brookhaven Town Board. As shown in Figure 20 – Regulating Plan, the regulating plan establishes two “subzones” – “Main Street” and “Neighborhood.” The Main Street subzone is closer to the train station and would emphasize vertical mixed-use (up to five stories) with retail on the ground floor and residential or commercial above. The “Neighborhood” subzone would encourage medium-to-high residential density and could include some retail and live/work space. These buildings would generally be between two and four stories.

Building Form

The building form standards identify the specific physical and functional character of the district. The form controls on building frontages work together to frame the street-space while allowing greater functional and operational freedom behind their facades. The building form standards aim for the minimum level of control necessary to meet this intent.

Public Space

In a form-based code, the public space includes plazas and open spaces, as well as the streets and sidewalks. It is envisioned that the form-based code delineates two street types, as shown on Figure 21 – Street Types. One which would include Railroad, Ronkonkoma, and Garrity Avenues, would have a right-of-way of approximately 74 feet. The other (for Union, Elm, Maple and Mill Streets, and Union and Carroll Avenues) would have a smaller right-of-way of approximately 50 feet. Typical cross sections and standards for the Type 1 street type are shown in Figure 22 – Street Design (Street Type 1).

Architectural, Landscape, and Signage

Architectural, landscape, and signage standards are specified in the code. This includes the siting of the buildings; location and design of parking areas; pedestrian and bicycle access; pedestrian amenities; building facades; landscape design and plantings; lighting; site furnishings; and the type, size, and materials used for signage.

4.4.2.3 Local Approval Process

The mechanisms for site plan and subdivision approval are laid out in the Town Zoning Code. The Planning Board has jurisdiction over the review and approval of residential and commercial site plans. This would include the architectural, landscaping, signage, lighting, and other details of any proposed development as detailed in the land development standards and the TOD District. In making its decisions, the Planning Board must consider the general health, safety and welfare of the Town, whether the uses are consistent with the approved conceptual development plan and whether the uses are in harmony with and would promote the general purposes and intent of the TOD, among other things.

4.4.2.4 Proposed Impacts of TOD District

As discussed in Section 3.4.2 – Current Zoning, the existing zoning is a mix of several zoning districts with different purposes that does not present a cohesive vision plan for the TOD District area. Land uses typically associated with transit-oriented

development are not specifically permitted within the existing zoning districts. Moreover, the existing zoning allows for industrial development in the area, which is not compatible with the proposed residential and commercial mixed-use environment around the train station. When such an area is rezoned, current uses may continue to exist and become non-conforming uses if they are no longer permitted under the new zoning district. This is a common by-product of rezoning efforts.

The proposed TOD District has been drafted, as presented in Appendix C, to establish the tools necessary for implementing the Vision for the area. This is accomplished by creating opportunities for residential and commercial mixed-use so that people can live, work, shop, and play while having easy access to a major commuter rail line.

The current zoning for each existing zoning district is summarized in Table 4 - Current Zoning and Summary of Permitted Uses within the TOD District Area. A list of allowed uses in the proposed Ronkonkoma TOD District is outlined previously in this section. As illustrated in Table 26 below, there are a number of key differences between the existing mix of zoning districts and the proposed TOD District contemplated for the TOD District area.

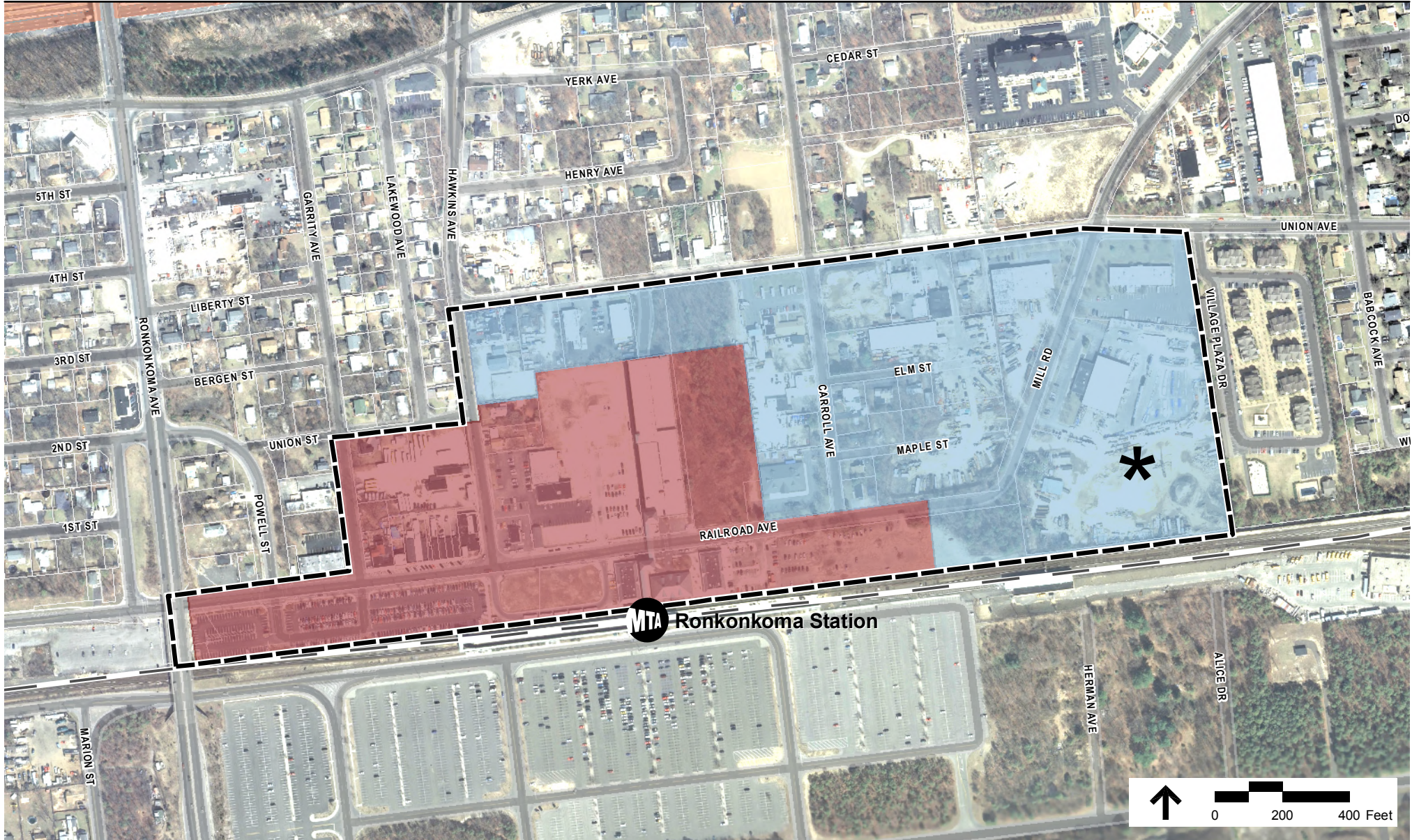
Table 26 – Comparative Assessment: Existing Zoning vs. TOD District

Zoning Provision	Existing Zoning	Proposed Zoning
Zoning districts	J-2, J-4, J-6, and L1	Ronkonkoma TOD District
Allowed uses	Includes a variety of uses; however, they occur in a haphazard manner due to the variety of zoning districts	More specifically delineated list of uses
Mixed-uses	Limited or not allowed in most zoning districts. Allowed by right in the Main Street Business District (J-6)	Allowed by right
Building Height	Up to fifty feet or three stories in most zoning districts. Building height is limited to two stories in J-6	Up to five stories depending upon location
Minimum lot size and setbacks	4,000 sq. ft. in J-6 and larger in L1; variety of setback requirements	No minimum lot size; form-based code regulates building location and form
Accessory uses (i.e. outdoor seating)	Special permit	Allowed by right and written into form-based code in public space standards
Amenities and design standards	Apply to the J-6 zoning district, but not entire TOD District area	Apply throughout the entire area for buildings and streetscapes
Parking	Outdated standards not based on technical studies	Standards based upon the Institute of Traffic Engineers parking manual

If the existing zoning was allowed to remain in place, development around Ronkonkoma Station would continue to occur in a haphazard manner that encourages the proliferation of incompatible land uses. The TOD District as a FBC

implements the community's vision for the area. Not only does the FBC allow for land uses that are appropriate for the area, but it does so in manner that encourages sound architectural design along with streetscape standards that promote pedestrian activity.

The key elements of the Theoretical Full Build Plan, as described in Section 2.0 – Description of the Proposed Action, are incorporated into the components of the proposed form-based code for the TOD District area. The Theoretical Full Build Plan includes land uses not currently allowed in the existing zoning for the area and the form-based zoning emphasizes the design and placement of the buildings and streets over the land use types. While the current zoning for the J-6 district includes design standards, they primarily focus on the design of the buildings and less on the public realm. The TOD District aims to regulate the buildings and the public realm in a more comprehensive manner and, therefore, the code is the tool that is most useful in implementing the community's vision for the Ronkonkoma Hub.



Data sources:
 Assessors Parcels, LIRR and Zoning – Suffolk County GIS
 Basemap – Town of Brookhaven, Long Island, NY
 Land Use – Field verification by VHB, Inc., 2010.

Legend

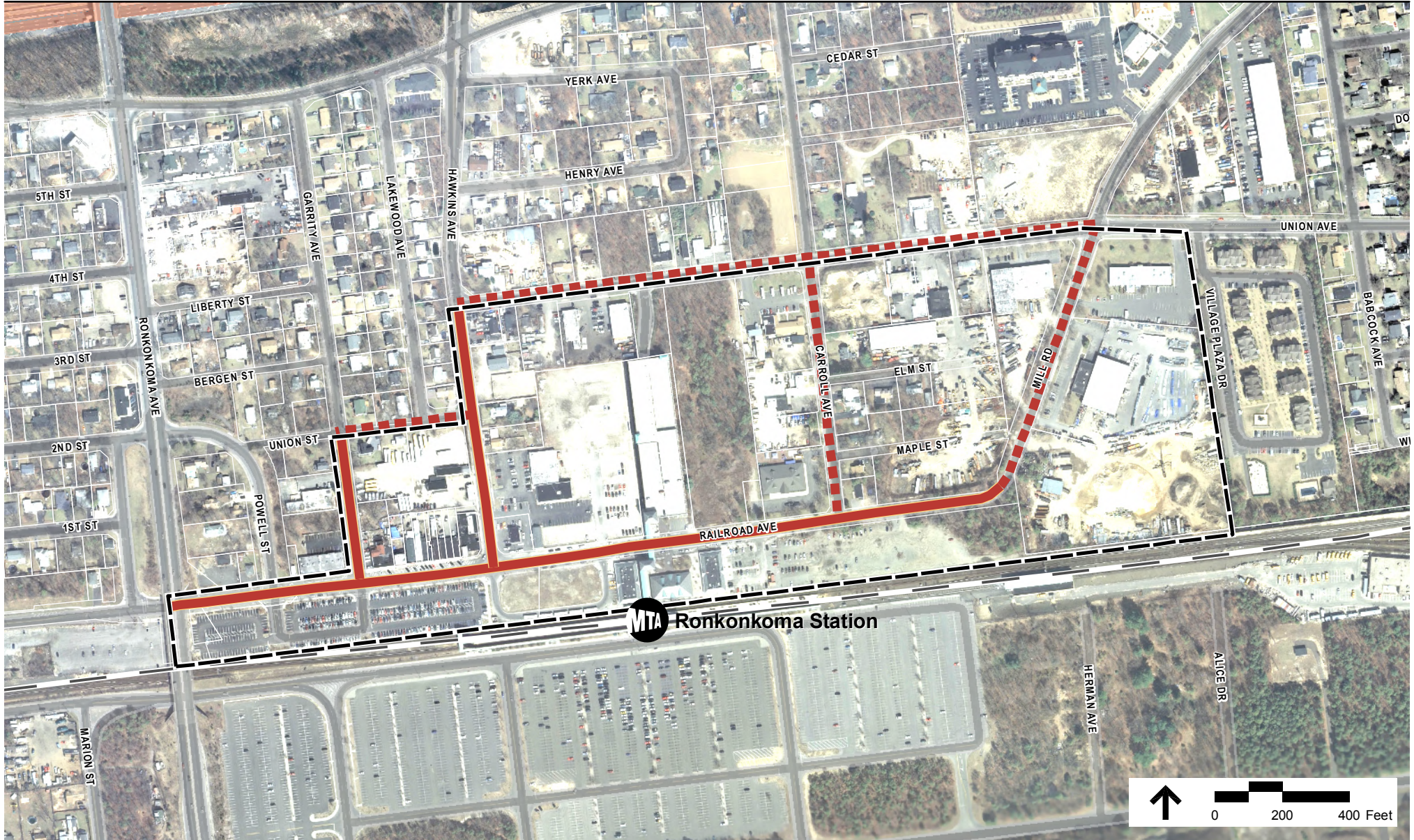
- Main Street Zone
- Neighborhood Zone

* Note that if this site is not used for the Sewage Treatment Plant (STP), it will be developed in conformance with the Neighborhood Zone.



Figure 20
Regulating Plan

Ronkonkoma Hub
Transit-Oriented Development



Data sources:
 Assessors Parcels, LIRR and Zoning – Suffolk County GIS
 Basemap – Town of Brookhaven, Long Island, NY
 Land Use – Field verification by VHB, Inc., 2010.

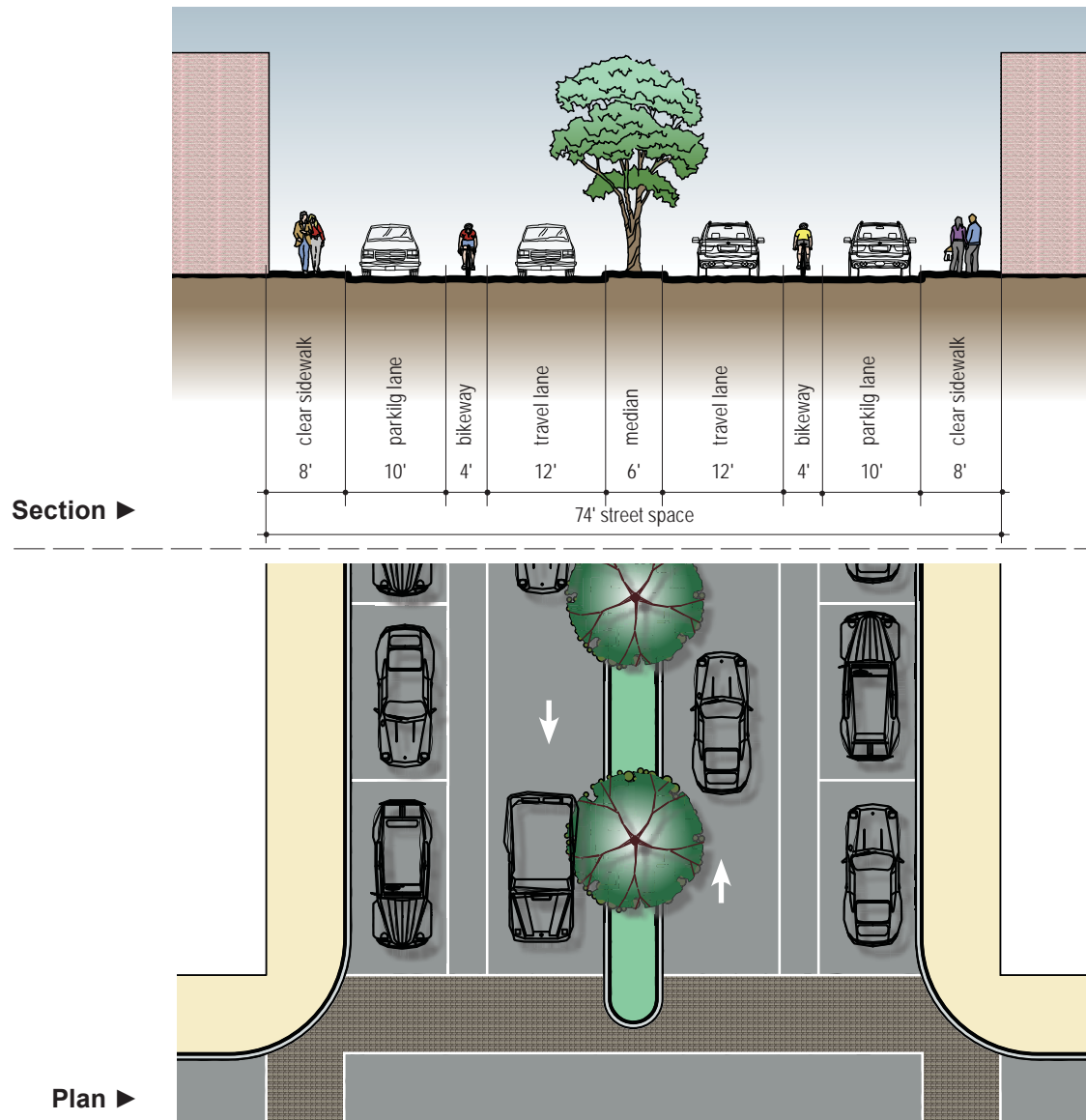
Legend

- Street Type 1
- - - Street Type 2



Figure 21
 Street Types

Ronkonkoma Hub
 Transit-Oriented Development



Street Elements

GENERAL	
Right of Way	74'
Curb-to-Curb Width	58'
TRAVEL LANE	
Number of Lanes	2
Width	12'
BICYCLE LANES	
Number of Lanes	2
Width	4'
PARKING LANES	
Number of Lanes	2
Width	10'
MEDIAN (Y/N)	
Width	Variable – up to 6'
SIDEWALK (Y/N)	
Both Sides (Y/N)	Y
Width	8'



Figure 22
Street Design of Railroad, Garry and Hawkins Ave (Street Type 1)

**Ronkonkoma Hub
Transit-Oriented Development**

Prepared for the Town of Brookhaven, June 2010

4.4.3 Land Use and Implementation Plan

The proposed Land Use and Implementation Plan provides the background and history of the planning process that the Town previously embarked on and includes an overview of the Ronkonkoma Station, and recommended planning and zoning tools (TOD and FBC zoning). As part of the implementation strategy for the proposed action, the proposed Land Use and Implementation Plan outlines the implementation strategy for realizing the vision for Ronkonkoma Hub developed as part of the *Ronkonkoma Hub Planning Study*, including an overview of the rezoning adoption process, an updated market study, and economic incentives to encourage private development. The Land Use and Implementation Plan relies on data, assumptions and conceptual plans developed in Phase 2 of the *Ronkonkoma Hub Planning Study*, as well as a detailed market study conducted in August 2010.

Appendix B includes the proposed Land Use and Implementation Plan.

4.4.4 Relevant Land Use Plans

This section discusses how the proposed action is consistent with relevant comprehensive plans and planning studies, in addition to the Land Use and Implementation Plan developed in support of the proposed action.

4.4.4.1 Ronkonkoma Hub Transit-Oriented Planning Study

As discussed in Sections 2.2.1 – Project History and 3.4 – Land Use and Zoning of this DGEIS, in 2007, the Town of Brookhaven embarked upon a two-phased planning study aimed at revitalizing a multi-block area around the Ronkonkoma Train Station. The goal was to develop a vision that supports compact, mixed use, transit-oriented redevelopment. As previously discussed, the outcome of the *Ronkonkoma Hub Planning Study* was a long-term development strategy that established clear and predictable guidance for the revitalization of the TOD District area.

As part of Phase 2, a Vision Plan was developed that called for the transformation of Railroad Avenue into a community “Main Street” with mixed-use buildings with housing, retail, recreation and office space and defined the street edge as well as pedestrian amenities such as small plazas at key intersections and streetscape improvements along both sides of Railroad Avenue. In summary, the highlights of that Vision Plan included:

- Public plazas at key intersections to provide public spaces for pedestrians and help activate the street;

- Streetscape enhancements including sidewalks, signage, lighting and landscaping along Railroad Avenue, Mill Road and Hawkins Avenue;
- Orient buildings towards the street edge along Railroad Avenue and Hawkins to help define the “Main Street” character;
- Parking at the rear or interior of lots and seek opportunities for shared parking;
- Active pedestrian-oriented uses on the ground floor, particularly along Railroad Avenue between Garrity Avenue and the Station;
- New development on the MTA “bus loop” site;
- Buildings up to 5 stories on Railroad Avenue, up to 4 stories on Mill Road and up to 2.5 stories on Union Avenue;
- Streetscape enhancements to the Station plaza;
- Mix of uses on upper floors;
- Buildings oriented toward the street edge along Mill Road;
- Multi-family buildings oriented toward amenities such as parks or plazas;
- Residential unit types mixed within development sites; and
- Pedestrian connections to Fairfield residential apartments.

The implementation phase, or “Phase 3,” of the *Ronkonkoma Hub Planning Study* incorporated the principles of the aforesaid planning process, including the elimination of the single-family residential areas from any proposed zoning changes or development modifications. As part of the implementation strategy, the Land Use and Implementation Plan (see Appendix B of this DGEIS) presents the criteria and process for implementing new land use legislation designed to result in the revitalization of the area surrounding the Ronkonkoma train station through the TOD District zoning. The Land Use and Implementation Plan relies on data, assumptions and conceptual plans developed in Phase 2 of the *Ronkonkoma Hub Planning Study*, as well as a detailed market study conducted in August 2010.

The Theoretical Full Build Plan (Figure 2) is a potential redevelopment option that illustrates overall type and level of development that could take place with the application of the TOD District – a tool the Town creates to implement the Ronkonkoma Hub Vision. Other types and combinations of mixed use development are possible and allowed. Also, the Theoretical Full Build Plan is a concept plan created for the purpose of evaluating potential impacts associated with the TOD District.

The proposed action – the TOD District and resulting Theoretical Full Build Plan – are consistent with the goals and objectives of the visioning and planning process because it would significantly visually improve the TOD District area and increase marketability of the land both within and surrounding the TOD District area. The TOD District aims to significantly improve land use conditions through the redevelopment of vacant, underutilized and/or blighted properties, encourage the efficient use of land, provide for revitalization, and foster a sense of place through development of a new transit-oriented, mixed use, self-sufficient community. This

development would in turn enhance the tax base, complement the surrounding uses and better utilize existing public transit infrastructure at Ronkonkoma Station.

4.4.4.2 Brookhaven 1996 Comprehensive Land Use Plan

Section 3.4.3.2 - Brookhaven 1996 Comprehensive Land Use Plan describes the 1996 Comprehensive Plan as it relates to the TOD District area. While the 1996 Comprehensive Plan is the current official comprehensive plan for the Town (updates are currently being made as part of the *Draft Brookhaven 2030 Plan* described below), over the last 15 years, land use trends have changed and, therefore, the existing conditions of the Ronkonkoma Hub have been studied. The proposed action responds the more recent land use trends. This section describes those 1996 Comprehensive Plan goals and/or recommendations that are relevant to current conditions.

In general, the 1996 Comprehensive Plan recommends that the Town continue to pursue redevelopment of the Ronkonkoma Hub to take advantage not only of the Hub's location adjacent to the Ronkonkoma rail station, but also its location adjacent to Islip MacArthur Airport. Also, the 1996 Comprehensive Plan recommends that "to promote the goal of creating a 'sense of place' rezonings should be required to meet certain standards."¹⁶

Transportation

As previously discussed, the 1996 Comprehensive Plan identifies the need for an increase in parking capacity at the Ronkonkoma train station. The proposed action would result in new opportunities for parking throughout the TOD District area to accommodate the future development as well as spaces for daily commuters. Each development site as part of the Theoretical Full Build Plan includes on-site parking to meet demand for specific uses. The Theoretical Full Build Plan also includes a parking structure to accommodate those spaces lost on Site 1 and to increase MTA parking capacity.

Roadway improvements such as new sidewalks and other pedestrian accommodations, bike lanes and landscaped medians are proposed for parts of Hawkins Road, Railroad Avenue and Mill Road as gateways to the TOD District area, which is generally consistent with the 1996 Comprehensive Plan.

Land Use and Zoning

As stated in the 1996 Comprehensive Plan, it was envisioned that the Ronkonkoma Hub area would be redeveloped with large attractive office buildings and industrial

▼
¹⁶ *Town of Brookhaven Long Island 1996 Comprehensive Land Use Plan*, Town of Brookhaven, 1996.

development, which would take advantage of the proximity the Long Island MacArthur Airport and Ronkonkoma station. However, the proposed TOD District seeks to take advantage of the Long Island MacArthur Airport and the LIRR-Ronkonkoma Station by promoting a compact, mixed-use community including residential, retail and restaurant uses for a “live.work, play” environment. Access to the LIRR-Ronkonkoma Station allows for railroad commuters to live within the TOD District area to reduce automobile dependence. Since the preparation of the 1996 Comprehensive Plan and based on more recent land use studies, it has been determined that large office buildings and industrial uses would not be consistent with the area or the community vision for the area (TOD uses) and, therefore, are not proposed as part of the TOD District.

4.4.4.3 Draft Brookhaven 2030 Plan

As discussed in Section 3.4.3.2 of this DGEIS, the *Draft Brookhaven 2030 Plan* is being prepared to guide the future of the Town of Brookhaven. The following two key goals of the *Draft Brookhaven 2030 Plan* are consistent with the proposed action:

- Redirect growth to areas served by infrastructure, revitalize downtowns, and establish pedestrian-oriented centers that have a sense of place; and
- Expand the range of transportation options.

Specifically, the *Draft Brookhaven 2030 Plan* calls for the creation of transit-oriented development surrounding Brookhaven’s Long Island Railroad stations. As described herein, the TOD District aims to accomplish the above-referenced goals of the *Draft Brookhaven 2030 Plan* through development of a new transit-oriented, mixed use, self-sufficient community that better utilizes existing public transit infrastructure at Ronkonkoma Station through improved access and increased ridership. The proposed action provides for new housing job opportunities within walking distance of public transit; thereby, expanding the range of alternative transportation options (non-single-occupant vehicle).

4.4.4.4 Long Island 2035 Visioning Initiative Final Report

The Long Island Regional Planning Council is currently drafting the “Long Island 2035 Comprehensive Regional Sustainability Plan,” which is intended to guide sustainable development of Long Island’s economy and social and natural environment of the next 25 years. As an integral first step, a visioning initiative has been undertaken and the “Long Island 2035 Visioning Initiative Final Report” (“2035 Final Report”) has documented these efforts. As part of the visioning initiative, three alternative scenarios were synthesized from public workshops and, to a greater or lesser extent, they all reflect the following preferences that were common to most workshop participants:

- Emphasize redevelopment and multi-family housing over new single-family development;
- Focus housing and commercial activity in existing downtowns;
- Make system-wide improvements to public transportation;
- Preserve as much open space as possible; and
- Avoid new commercial strip development.

One of the three scenarios included “Concentrating Growth Around the Existing Transit Network,” (“The Transit Communities Scenario”)As discussed in Section 3.4 of this DGEIS, one of these alternative scenarios included in the 2035 Final Report included “The Transit Communities Scenario,” which includes commercial, multi-family residential, and retail development within a 10-minute walk of transit centers, such as Long Island Rail Road stations, and downtown areas, particularly in Nassau and western Suffolk County.

The TOD District is an example of the Transit Communities Scenario, as the goals of this District are to:

1. Promote compact, mixed-use development in close proximity to the LIRR – Ronkonkoma Station;
2. Redevelop undeveloped, under-utilized and blighted properties;
3. Develop multi-family residential units, both rental and ownership;
4. Encourage building reuse and infill to create higher densities;
5. Encourage a diverse mix of residential, retail, and restaurant uses for a “live, work, play” community;
6. Encourage a pedestrian-friendly environment;
7. Encourage flexibility in site and architectural design with a Form-Based Code;
8. Construction of a sewage treatment plant to achieve higher densities; and
9. Promote economic development opportunities.

Based on the foregoing, the TOD District represents an example of the type of development recognized in the 2035 Final Report as a desired alternative for development on Long Island.

4.5 Traffic and Parking

4.5.1 Introduction

The Traffic and Parking Analysis in Appendix G of this DGEIS includes an analysis of future traffic conditions, both with and without the proposed action (i.e., “Build” and “No Build” conditions, respectively), to evaluate the potential impact of development within the TOD District area. The No Build condition represents the future traffic conditions that can be expected to occur, without the site-specific developments included on the Theoretical Full Build Plan. The No Build condition serves as a comparison to the Build condition, which represents expected future traffic conditions resulting from both project and non-project-generated traffic. Traffic volumes in the study area were projected to the year 2014, reflecting the year when the proposed action is expected to be completed and operational. An evaluation of the existing parking supply, the demand for parking and appropriate ratios to meet those demands are also included.

4.5.2 No Build Condition

The No Build traffic volumes include all existing traffic and any new traffic due to background traffic growth and any new traffic due to other planned developments in the area.

Background Traffic Growth

To account for increases in general population and background growth not related to the proposed action, an annual growth factor was applied to the existing traffic volumes. Based on the study data and the findings of New York Metropolitan Transportation Council (NYMTC) the growth rate anticipated for Suffolk County of 0.63% per annum. For presenting a more conservative analysis, a growth rate of 0.65% per annum was adopted. A total growth rate of 2.6 percent was applied to the existing traffic data to develop the background traffic based on the anticipated Build year of 2014.

Other Planned Developments

No Other Planned Developments were identified by the Town of Brookhaven that would impact the study intersections in the analysis.

The No Build traffic volumes for the AM and PM peak hours are shown in Figures 5 and 6, respectively, in the Traffic and Parking Analysis in Appendix G of this DGEIS.

4.5.3 Build Condition

To estimate the traffic impact of the site-specific developments include on the Theoretical Full Build Plan, available trip generation data sources were reviewed, including the reference published by the ITE, Trip Generation, 8th Edition. This widely utilized reference source contains trip generation rates for related uses, “Apartments” (Land Use Code #220), “Residential Condos” (Land Use Code #230), “Retail Space” (Land Use Code #820) “General Office Building” (Land Use Code #710), “Health Club” (Land Use Code #492), and “Quality Restaurant” (Land Use Code #931). Table 27 summarizes the trip generation data for the land uses identified on the Theoretical Full Build Plan.

Table 27 – Trip Generation – Build 2014

Project Component	Component Size	AM Peak Hour		PM Peak Hour	
APARTMENTS ITE # 220 Rental Apartment	308 Units	Rate = 0.51 Entering 20% 32 Total = 158	Exiting 80% 126	Rate = 0.62 Entering 65% 124 Total = 191	Exiting 35% 67
RESIDENTIAL ITE # 230 Condos/Townhouses	307 Units	Rate = 0.44 Entering 17% 23 Total = 136	Exiting 83% 113	Rate = 0.52 Entering 67% 107 Total = 160	Exiting 33% 53
RETAIL SPACE ITE # 820 Shopping Center	60,875 SF	Rate = 1.00 Entering 61% 37 Total = 61	Exiting 39% 24	Rate = 3.73 Entering 49% 112 Total = 228	Exiting 51% 116
OFFICE/COMMERCIAL ITE # 710 General Office Building	49,375 SF	Rate = 1.55 Entering 88% 68 Total = 77	Exiting 12% 9	Rate = 1.49 Entering 17% 13 Total = 74	Exiting 83% 61
HEALTH CLUB ITE # 492 Health/Fitness Club	30,000 SF	Rate = 1.38 Entering 45% 19 Total = 42	Exiting 55% 23	Rate = 3.53 Entering 57% 60 Total = 106	Exiting 43% 46
RESTAURANT ITE # 931 Quality Restaurant	200 Seats	Rate = 0.03 Entering 67% 4 Total = 6	Exiting 33% 2	Rate = 0.26 Entering 67% 35 Total = 52	Exiting 33% 17
TOTALS		AM Peak Hour Trips		PM Peak Hour Trips	
		Entering	Exiting	Entering	Exiting
		183	297	451	360
		480		811	

Source: *Trip Generation* (ITE, Eight Edition, 2009). Rates are for weekday AM and PM peak hours of adjacent street traffic. Rates for building areas are per 1,000 square feet.

Transit-Oriented Development

In addition to rail service, the TOD District area is well served by Suffolk Transit Bus Routes S57 (Sayville to Smithhaven Mall), S59 (Sayville to Smithhaven Mall), 6A (Ronkonkoma Railroad to Coram), and 7A (Ronkonkoma Railroad to Patchogue Railroad) with convenient connections to all over Nassau, Suffolk and Queens Counties.

The availability of mass transit helps in reducing vehicle trips, as a large percentage of people would use the train and bus services for their commute to and from work. A good percentage of those that reside in the development would use mass transit to commute to and from work. Similarly, a good percentage of people employed in the retail and office portion of the development would arrive and leave by transit. The residents may choose to shop at the retail stores located within the development, thus reducing the vehicle trips. It is also possible that a percentage of people would both live and work within the development, further reducing the vehicle trips.

To estimate the reduction in vehicle trips in a transit-oriented development, various studies were reviewed. The available studies on transit-oriented developments show a reduction in vehicle trips by almost as high as 50 percent. In order to take a conservative approach, this study assumes only a 25 percent reduction in trip generation. Table 28 shows trip generation factored for transit-orientation.

Table 28 – TOD District Area Trip Generation – Theoretical Full Build Plan (2014)

ITE Trip Generation	AM Peak Hour Trips		PM Peak Hour Trips	
	Entering	Exiting	Entering	Exiting
	183	297	451	360
	480		811	
Trip generation adjusted for Transit Oriented Development at 75% of the normal rate	AM Peak Hour Trips		PM Peak Hour Trips	
	Entering	Exiting	Entering	Exiting
	137	223	338	270
	360		608	

As shown in Table 28, the program mix for the Theoretical Full Build Plan is projected to generate 360 trips during the AM peak hour and 608 trips during the PM peak hour.

Trip Distribution and Assignment

The trips originating from and destined to the TOD District area were assigned to the adjacent roadways based on characteristics of the roadway network. Figure 7, of the Traffic and Parking Analysis in Appendix G of this DGEIS, shows the trip distribution percentages. These distribution percentages were then applied to the site-generated traffic volumes and assigned to the local roadway network. The resulting project-generated traffic volumes for the AM and PM peak hours are shown

in Figures 8 and 9, respectively, of the Traffic and Parking Analysis in Appendix G of this DGEIS.

To determine the future Build traffic volumes, the project-generated trips were added to the No Build traffic volumes at the study intersections. The resulting Build traffic volumes for the AM and PM peak hours are shown in Figures 10 and 11, respectively, of the Traffic and Parking Analysis in Appendix G of this DGEIS.

4.5.4 Traffic Operations Analysis

Measuring existing traffic volumes and projecting future traffic volumes quantifies traffic flow within the study area. To assess quality of traffic flow, roadway capacity analyses were conducted with respect to the Existing condition and No Build and future Build conditions. These capacity analyses provide an indication of the adequacy of the roadway facilities to serve the anticipated traffic demands.

Level of Service and Delay Criteria

The evaluation criteria used to analyze area intersections in this traffic study are based on the 2000 Highway Capacity Manual (“HCM”). The term “level of service” (“LOS”) is used to denote the different operating conditions that occur at an intersection under various traffic volume loads. It is a qualitative measure that considers a number of factors including roadway geometry, speed, travel delay, and freedom to maneuver. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions.

The LOS designations, which are based on delay, are reported differently for signalized and unsignalized intersections. For signalized intersections, the analysis considers the operation of all traffic entering the intersection and the LOS designation is for overall conditions at the intersection. For unsignalized intersections, however, the analysis assumes that traffic on the mainline is not affected by traffic on the side streets. Thus the LOS designation is for the critical movement exiting the side street, which is generally the left turn out of the side street or side driveway.

It should be noted that the analytical methodologies typically used for the analysis of unsignalized intersections use conservative parameters such as long critical gaps. Actual field observations indicate that drivers on minor streets generally accept shorter gaps in traffic than those used in the analysis procedures and therefore experience less delay than reported by the analysis software. The analysis methodologies also do not take into account the beneficial grouping effects caused by nearby signalized intersections. The net effect of these analysis procedures is the over-estimation of calculated delay at unsignalized intersections in the study area.

Cautious judgment should therefore be exercised when interpreting the capacity analysis results at unsignalized intersections.

Level of Service Analysis

LOS analyses were conducted for the Existing condition, No Build and future Build conditions for each of the study intersections.

The results of the capacity analyses for the signalized intersections of LIE North Service Road at Hawkins Avenue, LIE South Service Road at Hawkins Avenue, Hawkins Avenue at Union Avenue, Union Avenue at Mill Road, the signalized Hawkins Avenue at Railroad Avenue for the AM and PM peak hours are summarized in Table 29 and Table 31, respectively. The results for the unsignalized intersections of Hawkins Avenue at Railroad Avenue (in the existing condition) and Ronkonkoma Avenue at 2nd Street/Powell Street for the AM and PM peak hours are summarized in Table 30 and Table 32, respectively. The tables show results for Existing, No Build and Build conditions. The detailed capacity analysis worksheets are contained in Appendix C of the Traffic and Parking Analysis.

Table 29 – Signalized Intersections – Level of Service Summary – AM Peak

Intersection	Movement	Lane Group	EXISTING 2010		NO BUILD 2014		BUILD 2014	
			Delay	LOS	Delay	LOS	Delay	LOS
LIE North Service Road & Hawkins Avenue	WB	L	15	B	15.3	B	16.2	B
		T	26.2	C	28.1	C	29.2	C
		R	9.5	A	9.6	A	9.7	A
		Approach	22.9	C	24.5	C	25.3	C
	NB	L	33.3	C	35.9	D	47.6	D
		T	15.3	B	15.3	B	14.4	B
		Approach	22.1	C	23.1	C	27.5	C
	SB	TR	44.7	D	46.8	D	50.6	D
Approach		44.7	D	46.8	D	50.6	D	
Overall Intersection			26.5	C	28.0	C	29.9	C
LIE South Service Road & Hawkins Avenue	EB	L	18.4	B	18.5	B	18.4	B
		TR	19.4	B	19.7	B	19.6	B
		Approach	19.2	B	19.4	B	19.3	B
	NB	T	25	C	25.2	C	26.5	C
		Approach	25	C	25.2	C	26.5	C
	SB	L	26.3	C	26.8	C	32.3	C
		T	21.9	C	21.9	C	23.4	C
Approach	23.0	C	23.1	C	25.4	C		
Overall Intersection			22.0	C	22.2	C	23.6	C
Hawkins Avenue & Union Avenue	WB	L	35.9	D	37.3	D	37.5	D
		R	3.8	A	3.5	A	3.6	A
		Approach	15.2	B	15.4	B	14.7	B
	NB	TR	10.6	B	10.9	B	13	B
		Approach	10.6	B	10.9	B	13	B
	SB	L	5.6	A	6.3	A	7.5	A
		T	5.3	A	5.9	A	6.6	A
Approach	5.5	A	6.1	A	7.0	A		
Overall Intersection			8.9	A	9.4	A	10.1	B
Union Avenue & Mill Road	EB	L	3.8	A	3.8	A	4.5	A
		TR	3.6	A	3.6	A	4.4	A
		Approach	3.6	A	3.6	A	4.4	A
	WB	L	4.6	A	4.6	A	6.1	A
		TR	4.7	A	4.7	A	6.2	A
		Approach	4.6	A	4.7	A	6.2	A
	NB	LTR	11.8	B	11.9	B	18.4	B
		Approach	11.8	B	11.9	B	18.4	B
	SB	LTR	15.7	B	16.0	B	15.1	B
Approach		15.7	B	16.0	B	15.1	B	
Overall Intersection			5.5	A	5.6	A	7.8	A
Hawkins Avenue & Railroad Avenue	EB	L			11.8	B	11	B
		TR			15.3	B	15.1	B
		Approach			14.3	B	14.2	B
	WB	L			10.2	B	9.2	A
		T			25.5	C	25.5	C
		R			6.5	A	5.1	A
	SB	Approach			19	B	16.8	B
		LT			13.5	B	17.6	B
		R			3.7	A	4.3	A
Approach			8.0	A	11.0	B		
Overall Intersection					12.5	B	13.7	B

The intersection of Hawkins Avenue & Railroad Avenue is not signalized in the Existing Conditions.

Table 30 – Unsignalized Intersections – Level of Service Summary – AM Peak

INTERSECTIONS	CRITICAL APPROACH	EXISTING 2010		NO BUILD 2014		BUILD 2014	
		Delay	LOS	Delay	LOS	Delay	LOS
Hawkins Avenue & Railroad Avenue	SB	14.7	B			Signalized	
Ronkonkoma Avenue & 2nd Street / Powell Street	EB	21.7	C	22.9	C	28.0	D
	WB	10.5	B	10.6	B	11.2	B

Table 31 – Signalized Intersections – Level of Service Summary –PM Peak

Intersection	Movement	Lane Group	EXISTING 2010		NO BUILD 2014		BUILD 2014		
			Delay	LOS	Delay	LOS	Delay	LOS	
LIE North Service Road & Hawkins Avenue	WB	L	19.9	B	20.1	C	22.4	C	
		T	19.6	B	19.8	B	19.8	B	
		R	10.9	B	11.2	B	12.3	B	
	NB	Approach	17.3	B	17.5	B	18.7	B	
		L	22.3	C	23.6	C	24.8	C	
		T	11.6	B	11.6	B	11.5	B	
	SB	Approach	14.1	B	14.4	B	14.9	B	
		TR	27.9	C	28.3	C	29.3	C	
		Approach	27.9	C	28.3	C	29.3	C	
Overall Intersection			18.7	B	19.0	B	19.8	B	
LIE South Service Road & Hawkins Avenue	EB	L	18.4	B	18.5	B	18.5	B	
		TR	133.4	F	147.2	F	167.6	F	
		Approach	119.3	F	131.5	F	149.9	F	
	NB	T	99.5	F	108.8	F	205.2	F	
		Approach	99.5	F	108.8	F	205.5	F	
		L	78.6	E	86.0	F	86.4	F	
	SB	T	11.7	B	11.6	B	13.2	B	
		Approach	46.6	D	50.4	D	45.5	D	
		Overall Intersection			101.8	F	111.8	F	141.0
Hawkins Avenue & Union Avenue	WB	L	32.5	C	32.8	C	33.9	C	
		R	4.8	A	4.8	A	11.6	B	
		Approach	9.0	A	9.1	A	14.8	B	
	NB	TR	10.4	B	10.6	B	13.6	B	
		Approach	10.4	B	10.6	B	13.6	B	
		L	5.9	A	6.2	A	10.4	B	
	SB	T	3.2	A	3.2	A	3.5	A	
		Approach	5.1	A	5.3	A	7.4	A	
		Overall Intersection			7.8	A	8.0	A	11.4
Union Avenue & Mill Road	EB	L	6.5	A	6.7	A	7.5	A	
		TR	8.5	A	8.8	A	10.8	B	
		Approach	8.3	A	8.7	A	10.6	B	
	WB	L	7.2	A	7.5	A	10.8	B	
		TR	10	A	10.5	B	12.5	B	
		Approach	9.6	A	10.1	B	12.2	B	
	NB	LTR	17.8	B	19.3	B	51.2	D	
		Approach	17.8	B	19.3	B	51.2	D	
		LTR	16.8	B	16.8	B	14.0	B	
SB	Approach	16.8	B	16.8	B	14.0	B		
	Overall Intersection			11.5	B	12.2	B	22.5	C
	Hawkins Avenue & Railroad Avenue	EB	L			21.0	C	26.3	C
TR					17.5	B	20.1	C	
Approach					19.0	B	22.3	C	
WB		L			9.7	A	9.0	A	
		T			24.7	C	27.3	C	
		Approach			3.6	A	3.2	A	
SB		Approach			14.3	B	14.8	B	
		LT			15.0	B	21.3	C	
		R			4.4	A	4.9	A	
Overall Intersection					9.3	A	15.9	B	

The intersection of Hawkins Avenue & Railroad Avenue is not signalized in the Existing Conditions.

Table 32 – Unsignalized Intersections – Level of Service Summary – PM Peak

INTERSECTIONS	CRITICAL APPROACH	EXISTING 2010		NO BUILD 2014		BUILD 2014	
		Delay	LOS	Delay	LOS	Delay	LOS
		Hawkins Avenue & Railroad Avenue	SB	37.4	E	Signalized	
Ronkonkoma Avenue & 2nd Street / Powell Street	EB	11.5	B	11.7	B	13.3	B
	WB	20.7	C	21.6	C	32.3	D

The tables show that at all four signalized intersections, LIE North Service Road at Hawkins Avenue, Hawkins Avenue at Union Avenue, Union Avenue at Mill Road, and Hawkins Avenue at Railroad Avenue and at the unsignalized intersection of Ronkonkoma Avenue at 2nd Street/Powell Street, in the two time periods analyzed, the LOS remains satisfactory C or above in the Build Condition. The change from No Build to Build Condition is minimal. The signalized intersection of LIE South Service Road at Hawkins Avenue operates well during AM peak in all three scenarios analyzed, but fails during the PM peak period. Mitigation is proposed for this intersection, as experienced in the next section of this report.

4.5.5 Traffic Mitigation

The LOS at the signalized intersection of LIE South Service Road at Hawkins Avenue fails in the existing condition and worsens in the No Build and Build Conditions. Changes in phase splits are not sufficient to address this, hence the following mitigation measures are recommended.

1. On the South Service Road, an extra through lane should be added. The new eastbound lane configuration would be an exclusive left turn lane, two through, and a shared through and right turn lane;
2. On Hawkins Avenue, an exclusive right turn lane should be added. The new northbound configuration would be two through lanes and an exclusive right turn lane; and
3. Optimize the phase split to suit the new lane configurations. Since the cycle length is tied with the cycle length at the LIE North Service Road and Hawkins Avenue, it is recommended that only the phase split be changed.

The changes were incorporated into the AM and PM models and Table 33 presents the analysis results comparing the Build results to the results with Mitigation.

Table 33 – Mitigation Results & Comparison – Level of Service Summary – AM & PM Peaks

Intersection	Movement	Lane Group	AM PEAK				PM PEAK			
			BUILD 2014		BUILD MITIGATED		BUILD 2014		BUILD MITIGATED	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
LIE South Service Road & Hawkins Avenue	EB	L	18.4	B	18.4	B	18.5	B	22.2	C
		TR	19.6	B	16.3	B	167.6	F	51.1	D
		Approach	19.3	B	16.7	B	149.9	F	47.7	D
	NB	T	26.5	C	27.5	C	205.2	F	53.3	D
		R			27.8	C			42.4	D
		Approach	26.5	C	27.6	C	205.5	F	50.8	D
		L	32.3	C	26	C	86.4	F	53.2	D
	SB	T	23.4	C	22.8	C	13.2	B	12.7	B
		Approach	25.4	C	23.5	C	45.5	D	30.5	C
	Overall Intersection			23.6	C	22.2	C	141.0	F	44.9

Table 33 shows the effectiveness of the mitigation, especially during the PM peak period. The intersection runs at an overall LOS D after the mitigation.

4.5.6 Parking

In order to assess if the available parking can accommodate the associated demand, an analysis of the parking demand versus the supply was performed. The parking demand was estimated using the widely utilized reference published by the ITE known as *Parking Generation*, 3rd Edition. The rates for average peak parking demand are provided in this reference source based on land use and are also presented in Table 34 below. The required parking was calculated based on the proposed TOD parking ratios that were developed for transit oriented developments, which are also shown the table below. The parking provided on the Theoretical Full Build Plan was determined to be equal to the parking demand (based on analyses), and at a minimum, equal to the required parking per the TOD District zoning code.

Table 34 – Average ITE Peak Parking Demand

Use	Average ITE Peak Parking Demand ^{1, 2}	
Residential ³	1.20	spaces/unit (Apartments)
	1.46	spaces/unit (Condo/Townhouse)
Retail ⁴	2.65	spaces/1000 SF
Office	2.84	spaces/1000 SF
Restaurant	1	spaces/3 seats

- Sources: 1) Proposed TOD parking ratios
 2) *Parking Generation* (ITE, 3th Edition, 2004)
 3) Used an average of 1.33 spaces/unit for Residential
 4) Retail rate was applied to Health Club

It should be noted that the average peak parking demand rates are not specifically related to TODs. As such, the parking analysis is conservative because, in actuality, the rates would be lower for a TOD. The ratios provided in the above table were applied to the land use components for the 2014 Build scenario, to obtain the associated required parking and parking demand. As shown in Table 35 below, 1,225 parking spaces are required, based on the proposed TOD shared parking ratios, for the TOD in the 2014 Build scenario. The associated demand for the TOD is equal to 1,266 spaces. The provided parking is equal to the demand (1,266 spaces) and is 41 spaces (1,266 – 1,225) in excess of the shard parking requirement.

Table 35 – Parking Analysis for 2014 Build Condition

Site #	Use	Size		Number of Spaces	
				Shared Parking Requirements	Spaces Provided based on Average Peak Parking Demand (ITE)
1	Residential	123	units	154	164
2	Retail	38,375	SF	115	102
	Office	24,375	SF	73	70
	Residential	60	units	75	80
3	Retail	22,500	SF	68	60
	Office	25,000	SF	75	71
	Residential	66	units	83	88
	Health Club	30,000	SF	90	80
4	Restaurant	100	seats	N/A	33
5	Residential	196	units	245	261
6	Restaurant	100	seats	33	33
7	Residential	125	units	157	166
8	Residential	45	units	57	60
TOTALS				1,225	1,266

As indicated in Section 3.5 of this DGEIS, there are 2,598 existing parking spaces proximate to the LIRR-Ronkonkoma Station for commuter usage. According to the *Ronkonkoma Hub Planning Study*, there are approximately 3,206 surface parking spaces in the lots directly to the south in Islip that were not included in the utilization study. The utilization percentage when the 2007 study was completed ranged from 84 percent to 91 percent. This data was used to estimate the demand for transit riders. It was assumed that 90 percent of the existing supply is equal to the associated demand for commuters, which is equal to 2,338 parking spaces (90 percent x 2,598) for the parking in Brookhaven only.

The total parking demand for the area is equal to the parking demand for the TOD plus the demand for commuters, which is equal to 3,604 spaces (1,266 + 2,338) under the 2014 Build scenario.

After the TOD is constructed, some of the existing parking supply will be affected. The changes that will be made to these parking areas are shown below.

Table 36 – Public Parking Supply

Parking Field	Existing Brookhaven MTA Capacity	Changes to Existing with Introduction of 2014 Build TOD	Theoretical Build Capacity
1 (Brookhaven)	575	0	575
2 (Brookhaven)	335	-335	0
3 (Brookhaven)	350	-350	0
4 (Brookhaven)	295	0	295
5 (Brookhaven)	1,043	0	1,043
Islip Surface Parking Lots	(3,206)	N/A	N/A
New Parking Garage (Located on Site 4, just east of Parking Field 5)	N/A	N/A	+1,465
New Parking Garage (Located on Site 10, south of Max Build study area)	N/A	N/A	N/A
Total	2,598	-685	3,378

The total parking supply for the TOD District area and commuters is equal to the parking provided for the TOD (Table 14) plus the public parking supply in the Build scenario, which is equal to 4,644 spaces (1,266 private for TOD + 3,378 public).

Conclusion

The 2014 Build condition, which includes the construction of the parking structure, would more than accommodate the projected parking demand. By comparing the overall parking supply and demand, there are 1,040 more parking spaces (4,644 – 3,604) provided than are actually needed to accommodate the demand. As such, the proposed parking ratios in the TOD District code would accommodate the demand.

4.6 Air Quality

The air quality assessment included below was performed to evaluate the impacts associated with redevelopment within the TOD, in compliance with the 1990 CAA Amendments, the NYSDOT, and the USEPA policies and procedures. The air quality assessment has reviewed if the project will interfere with the attainment or maintenance of the New York and/or National Ambient Air Quality Standards (NAAQS) established by the 1990 CAAA. The primary pollutants of concern include:

- Ozone;
- Volatile organic compounds;
- Oxides of nitrogen;
- Carbon monoxide;
- Sulfur dioxide;
- Particulate matter;
- Greenhouse gas; and
- Lead.

4.6.1 Short-Term Impacts - Construction/Demolition

Construction and demolition activities associated with redevelopment in accordance with the TOD District will result in a slight, short-term increase in air pollution emissions. The primary source of potential emissions is from fugitive dust resulting from construction operations (e.g., clearing, grading). Fugitive dust consists of soil particles that become airborne when disturbed by heavy equipment operations or through wind erosion of exposed soil after groundcover (either lawn or pavement) is removed. To minimize fugitive dust emissions, a water truck will be kept on construction sites during excavation activities. This construction-related air-quality impact (i.e., fugitive dust) would be of relatively short duration. Also, during construction, emission controls from construction vehicles and machinery would include proper maintenance and reduced idling on-site. Overall, therefore, the impacts on ambient air quality from construction activities associated with site-specific development are not expected to be significant.

Overall, air quality in the TOD District area would not be expected to be substantially affected by redevelopment because of emission control procedures and the temporary nature of construction activities. Emissions from the operation of construction machinery (carbon monoxide [CO], nitrogen oxides [NOx], particulate matter [PM], volatile organic compounds [VOCs], and greenhouse gases) are short-term and not generally considered substantial. With the implementation of the various mitigation measures to minimize construction-related air quality impacts, no significant adverse impacts would be expected.

4.6.2 Long-Term Impacts

The predominant source of air pollution that would be anticipated from development within the TOD District area would be emissions from project-related motor vehicle traffic and building operations. The air quality assessment for motor vehicle traffic included a “hot spot” analysis of the site-specific concentrations of CO, PM₁₀, and PM_{2.5} from vehicles traveling through the study intersections assessed as part of the Traffic and Parking Analysis for this project.

The 2014 No-Build Condition results for all mobile source pollutants (CO, VOC, NO_x, PM₁₀, and PM_{2.5}) will be lower than the Existing Conditions emissions due to the implementation of emission control programs, such as the Federal Motor Vehicle Emission Control Program, the Stage II Vapor Recovery System, and the New York Vehicle Inspection and Maintenance program.

The change in motor vehicle emissions is directly related to the change in traffic parameters. The projected intersection volumes and vehicular delays that are projected under the Build with Mitigation scenario are approximately seven percent higher in volume (vehicles per hour) and approximately 14 percent higher in delay (seconds per vehicle) on a particular movement at the study intersections.

The projected increase in traffic would likely result in only small increases in CO and PM concentrations, which would result in Ronkonkoma TOD project values that would not be expected to exceed the NAAQS. If similar increases are realized in ozone precursor emissions (VOC's and NO_x), then development in accordance with the Theoretical Full Build Plan would have no impact on the ozone NAAQS because the mobile source emissions are small when compared to the total emissions for the entire nonattainment area. Ozone is a regional problem that is addressed over the nonattainment area that is much larger than the proposed project site.

Similarly for the remaining pollutants, the emissions related to the Theoretical Full Build Plan are expected to have unsubstantial increases in relation to the urban nature of the area and the corresponding background concentrations of the various study pollutants. The urban nature is supported with the Ronkonkoma TOD project situated between a major highway to the north and an airport to the south.

The NYSDEC has taken the lead on assessing and potentially mitigating for impacts related to GHG emissions from new developments by establishing a Greenhouse Gas Emissions Policy issued in July 15, 2009. The policy calls for proponents of projects to quantify GHG emissions (mobile, direct, and indirect sources) and to identify measures to avoid, minimize, and mitigate those emissions. With mitigation measures such as the installation of high-efficiency heating, ventilating and air conditioning systems, the mobile source GHG emissions would be expected to meet the NYSDEC GHG policy.

There are no short or long-term air quality impacts expected from development in accordance with the Theoretical Full Build Plan. The primary design intent of the proposed TOD is to create a compact, mixed-use, transit-accessible and walkable community. These types of communities make it possible to live without complete dependence on the automobile for mobility, thus; reducing vehicular emissions within the TOD District area. In addition to the TOD-nature of the project, which in itself reduces vehicular demand for a development, there are transportation-related infrastructure improvements including capacity enhancements at intersections that will reduce vehicular delays. The reduced vehicular delays equate to reduced mobile source emissions.

The TOD project goals that will help to reduce vehicular demand and therefore reduce air quality impacts include:

- Redirected growth to the TOD District are, which is already served by existing infrastructure;
- Expanded transportation choices to reduce automobile dependence;
- Reduced vehicle trips around the station; and
- Compact, mixed-use, transit-accessible, pedestrian-oriented redevelopment.

Site-specific applications for redevelopment may be subject to air discharge permit requirements for fossil fuel burning emission sources, such as heating boilers and emergency diesel generators. Air regulations in the area of the TOD District area are administered through and enforced by the NYSDEC, and thus, all site-specific applications involving such systems would be subject to the review and permitting of the NYSDEC.

Overall, based on the foregoing analysis, no significant adverse long-term air quality impacts would be expected.

4.7 Noise

4.7.1 Introduction

The noise impact analysis considered the mobile and stationary source sound levels to determine the potential change in the existing sound levels for sensitive locations on and in the vicinity of the TOD District. The mobile and stationary source noise analysis typically evaluates daytime and nighttime sound levels. The future No Build and Build sound levels include cumulative impacts from traffic growth over time and increases in traffic from the proposed development and significant other projects in the study area.

The TOD District is located in an urbanized area and, therefore, the existing noise environment is largely affected by sound levels from vehicular traffic on surrounding roadways (the Long Island Expressway, LIE North and South Service Roads, Hawkins Avenue, Ronkonkoma Avenue CR29, Railroad Avenue/Mill Road, Union Avenue, other local roadways), commercial activities, the Islip MacArthur Airport, and the Long Island Railroad.

4.7.2 Mobile Sources

The NYSDOT requires that the proposed action not approach (within one dBA) or exceed the NAC criteria of 66 dBA for a one-hour period and that it not increase sound levels by more than six dBA above existing sound levels. As indicated in Section 3.7 of this DGEIS, monitoring locations M1, M3, M4 and M5 currently experience sound levels that are equal to or exceed the NYSDOT/FHWA highway criteria of 66 dBA or the Town of Brookhaven criteria of 65 dBA (for Residential). The noise levels at these four monitoring locations largely reflect roadway noise, with intermittent rail activity.

It is noted, however, that roadway sound levels are a function of traffic volumes and vehicle speeds. Although traffic volumes on the roadways within the TOD District area are projected to increase under the 2014 Build condition, it is not expected that the proposed action would increase noise levels by more than six dBA above existing noise levels. In fact, it is expected that the 2014 Build Condition sound levels will likely remain unchanged, as compared to the Existing Conditions. As such, it is not expected that the proposed action would result in significant adverse noise impacts.

For applications involving residential components, appropriate noise mitigation measures, including building materials, to mitigate interior noise levels would likely be required. The USEPA recommends a residential interior noise impact criterion of L_{dn} 45 dBA. The existing exterior sound levels ranged from 60 to 69 dBA. Appropriate interior noise mitigation could include double pane glass windows, which can attain a 40 to 55 dBA reduction in noise levels.

4.7.3 Stationary Sources

The proposed action would result in changes in sound levels due to rooftop mechanical equipment and during the nighttime period, which is expected to be the dominant noise source. Properties developed or redeveloped would be required to install rooftop equipment that does not exceed Town noise code standards. Such equipment shall be located in penthouse rooms and/or enclosures, or shall utilize the building height and geometry to create building blockage for receptor locations, and/or install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment.

Thus, no significant adverse noise impacts from stationary sources are anticipated.

4.7.4 Noise Related to Facility Operations

The loading and unloading areas for properties within the TOD District area to be designed and operated to ensure that there would be no adverse noise impacts to the existing residential receptor locations. The loading and service activities for the proposed development would be required to be internally situated or screened to minimize noise associated with loading activities; thus, resulting in no adverse noise impacts to the sensitive receptor locations. In addition, the building operations will be scheduled, to the extent practicable, to minimize noise impacts.

All uses within the TOD District area would be subject to compliance with Section 50 of the Town Code, which states:

“No person shall cause, suffer, allow or permit the following acts:

Loading and unloading: loading, unloading, opening, closing or other handling of boxes, crates, containers, building materials, liquids, garbage cans, refuse or similar objects or the pneumatic or pumped loading or unloading of bulk materials in liquid, gaseous, powder or pellet form or compacting refuse by persons engaged in the business of scavenging or garbage collection, whether private or municipal, between the hours of 10:00 p.m. and 6:00 a.m. and the following day when the latter is a weekday and between the hours of 10:00 p.m. and 7:00 a.m. the following day when the latter is on a holiday, except by permit, when the sound there from creates a noise disturbance across a residential real property line.”

As such, required compliance with the Town’s noise ordinance will minimize the potential for significant adverse noise impacts from facility operations.

4.7.5 Construction-Related Noise

The Town of Brookhaven’s noise code was used as guidance for construction-related noise evaluation. The Town’s Code Section 50-6 *Prohibited Acts* (Part B7) states:

“No person shall cause, suffer, allow or permit the following acts:

Construction: operating or permitting the operation of any tools or equipment used in construction, drilling, earth moving, excavating or demolition work between the hours of 6:00 p.m. and 7:00 a.m. the following day on weekdays or at any time on weekends or legal holidays,”

The NYSDOT has established procedures for evaluating sound levels and potential impacts from construction of proposed projects. These procedures state that “construction noise impact will not normally occur at levels under $L_{eq} = 80$ dBA”.

Construction period activities may temporarily increase nearby sound levels due to the intermittent use of machinery during the construction of the project. The Town’s noise code prohibits construction between the hours of 6:00 PM to 7:00 AM. All exterior construction activities, such as site excavation/grading and new building construction would be limited to the hours of 7:00 AM to 6:00 PM, as specified in the Town of Brookhaven’s Noise Code. All of the daytime construction sound levels are expected to be below 80 dBA. Sound levels would be evaluated at each phase of construction to determine if additional construction noise mitigation measures are necessary.

Equipment likely to be used during each phase of construction include impact pile drivers, front end loaders, grader, bull dozers, backhoes, dump trucks, concrete mixer trucks, concrete pump trucks, cranes, flat bed trucks, pavement scarifier, pavers, and pick-up trucks. However, due to the urban nature of the TOD District area, the study area is not anticipated to experience a noticeable change in sound levels (three dBA or more) from their existing daytime levels due to construction activities.

4.7.6 Summary of Findings

The noise impact analysis considered the impacts of the mobile and stationary source impacts of redevelopment within the TOD District area. The redevelopment of properties, with appropriate mitigation measures, is not anticipated to result in long term adverse noise impacts. In the short term, construction noise is expected to result in temporary increases in ambient noise at some sensitive receptor locations. The future sound levels represent the total sound levels that are expected to occur in the study area and are expected to meet the Town of Brookhaven, NYSDOT, and FHWA noise impact criteria.

4.8 Socioeconomics

4.8.1 Market Analysis

Residential Market Analysis

Living near transit in downtown settings is becoming more desirable in Long Island and throughout the nation. This desirability is emerging in part from demographic trends, including the aging of baby boomers and the preference of younger adults for

mixed-use environments.¹⁷ These trends are borne out in Long Island, where most downtowns are comprised of slightly more baby boomers (residents over age 55) and more young adults (residents aged 25-34).¹⁸

The success of recent housing development at the Ronkonkoma Hub area bodes well for future transit-oriented, multi-family housing around the station. When Fairfield at Ronkonkoma was constructed in 2007, the project was quickly leased, and occupancy has remained high through 2010, indicating strong demand for multi-family housing in the area (particularly luxury rental housing).

The LIRR-Ronkonkoma station is also the busiest commuter train stations in Long Island, offering the easternmost express trains to Manhattan on the Main Line. These commuters should be targeted as one market segment for multi-family housing at the TOD District area.

Demographic trends in the Towns of Brookhaven and Islip and Suffolk County suggest households in the target market (i.e. those earning \$35,000 to \$150,000) will grow over the next five and ten year periods. Growth of these households could serve as a key source of demand for multi-family housing in the station area.

Given the strong commuter activity at the TOD District area, the recent successful multi-family housing development in the area, and the growth of households in surrounding towns and Suffolk County, there are strong opportunities for new multi-family housing at the TOD District area.

As indicated in the Market Analysis included in Appendix H of this DGEIS, to support the 615 residential units identified in the theoretical full build plan, the TOD District area will need to capture a modest six percent of the household growth that occurs in the primary and secondary market areas over the next ten years. In order to do so, based on the demographic profiles and market demands, it is recommended that these units include a balanced mix of rental and owner-occupied units. To offer a competitive edge and appeal to target households, new units and the surrounding TOD District area should provide a rich array of amenities. According to the Urban Land Institute, households interested in transit-oriented lifestyles seek amenity-rich living environments couples with the convenience of proximity to transit. Households prefer: neighborhoods with urban-style amenities (even in suburban settings); proximity to restaurants, shops, and cultural and sporting venues; historic or architecturally unique buildings; and smaller lots.

The TOD District area already offers several community amenities found in innovative new housing developments, including auto care and daycare services. Additional services and retail offerings would enhance the appeal of the area to new residents. Destination shops and restaurants in particular are a type of use not well-

▼
¹⁷ Urban Land Institute, "Higher-Density Development: Myth and Fact," 2005.
¹⁸ *Places to Grow*, January 2010.

represented in the area that would complement the existing convenience retail stores and services in the area.

The TOD District area offers a strong opportunity for multi-family housing development oriented to transit. Market trends in the surrounding towns and county are favorable, with short- and long-term household growth of the target demographic (e.g. households earning \$35,000 to \$150,000) projected through 2014, and from 2014 to 2019. Such growth should fuel demand for new housing units focused around the transit station in the TOD District area.

Key findings from the housing demand and opportunities analysis include:

- ▶ The TOD District area is situated within a primary and secondary market area: the Towns of Brookhaven and Islip (the primary market) and Suffolk County (the secondary market). It is assumed that the majority of demand for new housing will emerge from the primary market area, with the next largest source of demand coming from the secondary market area.
- ▶ The target market of households most likely to prefer multi-family housing near transit includes households earning \$35,000 to \$150,000. This income range includes households that can afford current market rate rents and purchase prices. The Market Analysis estimates that the majority of demand will emerge from the middle two-thirds of this range (households earning between approximately \$50,000 to \$130,000).
- ▶ There were an estimated 337,000 target market households in the primary and secondary study areas in 2009. By 2019, it is projected that nearly 11,000 households will be added in these areas.
- ▶ Top tapestry segments (i.e. socioeconomic groups) in the market areas include "Pleasant-ville," "Sophisticated Squires," "Wealthy Seaboard Suburbs," and "Up and Coming Families." These groups are similar in that most households are relatively affluent; consists of married couples; are headed by empty nesters, couples without children, and baby boomers; live in older single-family homes; commute; and enjoy shopping, dining out, and outdoor activities.
- ▶ The TOD District area could capture a modest 6 percent of household growth in the primary and secondary market areas through 2014. Such capture would support the development of the 615 residential units identified in the Theoretical Full Build Plan.
- ▶ To appeal to the target demographic, new units should offer a broad range of amenities. These include both in-unit amenities (e.g. architecturally distinctive features, private entries, gourmet kitchens, etc.) and community/station area amenities (e.g. convenient services such as child

care, pet care, and auto care, as well as destination shops and restaurants).

- Developers of new housing units may look to the proximate Fairfield at Ronkonkoma development, a rental townhouse community situated to the east of the transit station, as a model for relatively higher density housing catering to the needs and preferences of target market households. This community offers a variety of amenities, including recreational facilities, landscaping, optional detached garages, and gourmet kitchen and designer bath features. The development has enjoyed an extremely high occupancy rate and high rental rates (in the range of \$1,875 to \$2,480), which suggest demand is strong for this type of housing near the train station.

Retail and Restaurant Market Analysis

Convenience Goods

In addition to existing households, future households offer potential to support new retail establishments in the TOD District area. Based on recent demographic trends, by 2014 there will be 27,250 households located within a three-mile radius of the LIRR station (which does not take into account other, additional households that may locate in the TOD District area). With a median projected income of over \$94,000 in 2014, future residents offer potential to spend an average of \$17,100 annually on convenience retail goods and services for a combined total of \$463 million annually.

In 2014, there are projected to be nearly 490,000 households in Suffolk County with a median projected income of nearly \$92,000. These households, bring with them potential annual spending of \$17,600 per household on convenience retail goods and services for a total of over \$8.6 billion per year. Such increase in potential spending offers potential to support new convenience goods establishments in the TOD District area.

Shoppers Goods

Projected increases in buying power for shoppers goods may also offer support for new shoppers goods businesses in the TOD District area. By 2014, households in the primary goods shoppers goods trade area (five-mile radius surrounding the train station) are projected to spend nearly \$1.7 billion per year on shoppers goods. Households in the secondary trade area (Suffolk County) are projected to spend nearly \$11.4 billion per year.

Table 37 – Trade Area Household Spending Profile

Trade Area Household Spending Profile				
Shoppers Goods, 2014				
	Primary Trade Area (5-Mile Radius)		Secondary Trade Area (Suffolk County)	
	Households:	75,670	Households:	489,782
	Total Expenditures	Spending Per Household	Total Expenditures	Spending Per Household
Automobile Dealers	\$542,000,000	\$7,200	\$3,669,000,000	\$7,500
Other Motor Vehicle Dealers	\$53,000,000	\$700	\$376,000,000	\$800
Auto Parts, Accessories, and Tire Stores	\$47,000,000	\$600	\$317,000,000	\$600
Furniture Stores	\$69,000,000	\$900	\$473,000,000	\$1,000
Home Furnishings Stores	\$48,000,000	\$600	\$321,000,000	\$700
Electronics and Appliance Stores	\$113,000,000	\$1,500	\$759,000,000	\$1,500
Building Material and Supplies Dealers	\$122,000,000	\$1,600	\$816,000,000	\$1,700
Lawn and Garden Stores	\$18,000,000	\$200	\$122,000,000	\$200
Clothing Stores	\$129,000,000	\$1,700	\$855,000,000	\$1,700
Shoe Stores	\$16,000,000	\$200	\$104,000,000	\$200
Jewelry, Luggage and Leather Goods Stores	\$17,000,000	\$200	\$116,000,000	\$200
Sporting Goods/Hobby/Musical Instrument Stores	\$26,000,000	\$300	\$167,000,000	\$300
Book, Periodical, and Music Stores	\$16,000,000	\$200	\$109,000,000	\$200
Department Stores	\$49,000,000	\$600	\$328,000,000	\$700
Other General Merchandise Stores	\$111,000,000	\$1,500	\$743,000,000	\$1,500
Used Merchandise Stores	\$4,000,000	\$100	\$30,000,000	\$100
Other Miscellaneous Store Retailers	\$27,000,000	\$400	\$182,000,000	\$400
Full-Service Restaurants	\$196,000,000	\$2,600	\$1,301,000,000	\$2,700
Special Food Services	\$90,000,000	\$1,200	\$595,000,000	\$1,200
TOTAL	\$1,693,000,000	\$22,300	\$11,383,000,000	\$23,200

Source: ESRI, BBP LLC, 2010

The level of retail space that may be supported in the TOD District area is a function of how many sales can be captured from the retail spending of residents in the primary and secondary trade areas. In conducting the analysis of supportable retail space based on this function, the Market Analysis committed several types of retail goods that were not consistent with the types of fine-grain uses contemplated for the downtown area. These include: gasoline stations, automobile dealers, other motor vehicle dealers, and department stores. All of these uses require larger spaces than those envisioned for the area.

Given the downtown character of the TOD District area, small-scale specialty shops and sit-down restaurants may be the most appropriate means through which to capture a portion of the spending power of primary and secondary trade area households. These types of businesses can fit within a downtown scale and character more appropriate than, for instance, large automobile dealers or department stores.

Convenience Goods

Retail spending in the primary and secondary trade areas is projected to total nearly \$6.6 billion in retail store group categories by 2014, consistent with Ronkonkoma's downtown character. Such spending would support nearly 19.2 million square feet of convenience space in the primary and secondary trade areas.

Shoppers Goods

In the shoppers goods category, retail by 2014 is projected to total over \$8 billion. Such spending would support over 31.8 million square feet of shoppers goods space in the primary and secondary trade areas.

The Theoretical Full Build Plan includes 80,875 square feet of retail space (including restaurant space). Future retail spending patterns could support over 51 million square feet in the primary and secondary market areas, as based on spending projections for 2014. The TOD District area would therefore need to capture a modest 0.16 percent of this total supportable space to support the 80,875 square feet identified in the plan. Given strong current visitation by transit riders, the Market Analysis finds that such modest capture rates are possible, and will only be further supported by the addition of new residents and employees to the area.

New retailers at the TOD District area can take advantage of the spending power of primary and secondary trade area residents, and even with very modest capture rates, such new businesses can be successful. However, it is important to note that these new stores will compete with other retailers in the trade areas. Given this issue, the Market Analysis included an evaluation of retail supply, focusing on retail leakage in the trade areas (i.e. retail sales that are "leaked" beyond the trade areas) to understand which categories of retail are underrepresented, indicating unmet

demand for retail goods and services. This analysis is meant to help focus in on which types of retail may be best positioned to succeed in the TOD District area given their underrepresentation elsewhere.

Convenience Goods

As illustrated in Table 38, convenience goods are well-represented in most categories in the primary trade area, with retail sales exceeding retail spending in most categories. However, leakage does appear in three categories: beer, wine and liquor stores (\$4 million in spending is leaked beyond this trade area); office supplies, stationary and gift stores (\$3 million in spending is leaked); and taverns (\$3 million in spending is leaked). These three categories may offer relatively stronger potential for success in the TOD District area given their underrepresentation in the primary trade area.

In the convenience goods secondary trade area, more sales are leaked in almost every category, indicating that residents are underserved in many retail categories. Since this trade area was drawn to capture the residence locations of commuters from around Suffolk County that patronize the TOD District area, this leakage indicates that convenience goods at the TOD District area catering to commuters should be expanded to take advantage of the relative undersupply of such goods near the homes of many commuters.

Shoppers Goods

In the shoppers goods category, several categories of retail sales are being leaked beyond the primary trade area. These underserved retail store groups include: auto parts, accessories and tire stores (\$3 million leaked); furniture stores (\$22 million leaked); clothing stores (\$60 million leaked); shoe stores (\$7 million leaked); jewelry stores (\$6 million leaked); book, periodical and music stores (\$4 million leaked); used merchandise stores (\$1 million leaked); full-service restaurants (\$71 million leaked); and special food services (\$27 million leaked).

In the shoppers goods secondary trade area, the same categories that are underrepresented in the primary trade area are undersupplied, with substantial retail sales being leaked beyond the trade area. Such leakage of these categories in both trade areas suggests their introduction in the TOD District area may prove more successful than other shoppers goods store types since they would fulfill an unmet need in the trade areas. However, it is important to note that many of these types of goods benefit from critical mass of co-location. For example, having several stores offering similar goods - such as clothing, shoes and jewelry - located together will have stronger collective drawing power for customers, since the area will become known as a destination for finding those items.

Based on the evaluation of the current retail competition in the convenience goods and shoppers goods trade areas, we have identified a set of retail categories that have

better chances for success in the TOD District area given their undersupply in the trade areas. These retail store groups are identified in the following table.

Table 38 – Retail Categories with Strong Potential for Success Given Current Retail Leakage

Retail Categories with Strong Potential for Success Given Current Retail Leakage
<i>Convenience Goods, 2014</i>
Beer, Wine, and Liquor Stores
Office Supplies, Stationary, and Gift Stores
Taverns
<i>Shoppers Goods, 2014</i>
Auto Parts, Accessories, and Tire Stores
Furniture Stores
Clothing Stores
Shoe Stores
Jewelry, Luggage and Leather Goods Stores
Book, Periodical, and Music Stores
Used Merchandise Stores
Full-Service Restaurants
Special Food Services

Source: BBP LLC, 2010

Additionally, retail leakage is but one indicator of the potential success of future stores. Other factors, including quality of products, customer service, marketing, and the experience offered to customers also impact the odds of success. For these reasons, a savvy entrepreneur could still open a shop in a retail category that is already well-represented in the trade areas surrounding the TOD District area (and thus faces more competition) but succeed because of the superior products, service, marketing and/or experience offered in the store.

Finally, the above analysis does not take into account the retail spending potential presented by future households of the multi-family units recommended for the study area as based on the residential analysis, nor does it include future office employees or additional transit riders generated by new development in the study area. BBP has omitted these potential sources of demand to ensure the future retail uses will be self-sufficient (and not reliant on other new uses for their success). That being said, the presence of new residents, employees and additional transit riders that could be located in the study area could provide substantial benefits to retailers in terms of an additional local source of retail sales, thereby further encouraging retail success.

Strong opportunities exist for new retail goods and services in the TOD District. Trends in the primary and secondary trade areas are positive, with household spending projected to increase by 2014.

Key findings from the analysis of retail demand and opportunities include:

- ▶ Two classifications of retail goods and services may be offered at the TOD District area: convenience (e.g. food stores, limited service eating places, etc.) and shoppers goods (e.g. clothing, home furnishings, etc.). The TOD District is situated within four associated trade areas: the convenience goods primary trade area (three-mile radius, roughly equal to a 5-minute drive), the convenience goods secondary trade area (Suffolk County), the shoppers goods primary trade area (five-mile radius, roughly equal to a ten-minute drive), and the shoppers goods secondary trade area (Suffolk County).
- ▶ Retail spending in each trade area is strong and projected to grow as disposable income rises.
- ▶ Estimated 2009 retail spending levels on convenience goods were as follows: \$439 million in the convenience goods primary trade area and nearly \$8 billion in the convenience goods secondary trade area. By 2014, these figures are projected to increase to \$463 million in the primary trade area and \$8.6 billion in the secondary trade area.
- ▶ In 2009, shoppers goods retail spending levels were as follows: nearly \$1.6 billion in the shoppers goods primary trade area and over \$10.6 billion in the shoppers goods secondary trade area. By 2014, spending is projected to rise to nearly \$1.7 billion in the primary trade area and \$11.4 billion in the secondary trade area.
- ▶ Future retail spending could support over 51 million square feet of convenience and shoppers goods retail space in the primary and secondary trade areas (in retail store group categories conducive to downtown development). The TOD District area could capture a modest 0.16 to 0.22 percent of this supportable space over the next nine years. Such capture would support the development of the 80,875 square feet identified in the theoretical full build plan or the 112,275 square feet identified in the maximum build out plan.
- ▶ New retailers in the TOD District area will face competition from other retailers currently located in the trade areas. An analysis of retail leakage was undertaken to understand which categories of retail are underrepresented, as illustrated by retail sales “leaked” beyond the trade area, indicating unmet demand for goods and services. Such retail types may offer relatively stronger potential for success in the TOD District area given their underrepresentation elsewhere.

- Retail store groups with current sales leakage include: beer, wine and liquor stores; office supplies, stationary, and gift stores; taverns; auto parts, accessories and tire stores; furniture stores; clothing stores; shoe stores; jewelry, luggage and leather goods stores; book, periodical and music stores; used merchandise stores; full-service restaurants; and special food services.
- Factors beyond retail leakage will impact the odds of success of any particular store, including quality of products, customer service, marketing, and the experience offered to customers. A savvy entrepreneur that offers superior products, service, marketing and/or experience may succeed in opening a type of store that is already well-represented in the trade areas by being a strong competitor.
- Future households, employees and transit riders generated by new development in the study area will also offer potential sources of demand for retail, but have been omitted from the analysis because it is important that the future retail uses are self-sufficient (and not reliant on the success of other types of new development). These other sources of demand instead should be viewed as an important additional source of sales that will enhance their opportunity to thrive, but not be the primary reason for such success.

Office Market Analysis

Employment growth in office-based industries is an important factor contributing to demand for new office space. Long Island is projected to add office-based jobs over the next six years at an annual rate of less than 1 percent, although some office-based industries will grow more rapidly than others (and some will shrink as businesses downsize).

The most job growth is projected in the administrative support industry, which is part of the back office cluster (one of the six office-based clusters present in Long Island). Professional, scientific and technical service jobs are also projected to increase; this industry is part of several of Long Island's office-based clusters: biomedical, financial services, front office and producer services, and information technology. Real estate, rental and leasing and management of companies are projected to add jobs as well. Both of these industries are represented in the financial services cluster; the management industry is also represented in the front office and producer services cluster.

Table 39 – Projected Changes in Office Employment by Industry Sector, Long Island, 2006 to 2016

Projected Changes in Office Employment by Industry Sector, Long Island, 2006 to 2016				
Industry	Employment (2006)	Projected Employment (2016)	Total Employment Change	Annual Rate of Change
Information	29,740	28,760	(980)	-0.33%
Finance & Insurance	61,450	59,230	(2,220)	-0.37%
Real Estate, Rental & Leasing	18,110	21,070	2,960	1.53%
Professional, Scientific & Technical Services	74,040	80,830	6,790	0.88%
Management of Companies & Enterprises	17,420	19,660	2,240	1.22%
Administrative Support, Waste Management	71,000	82,880	11,880	1.56%
TOTAL	271,760	292,430	20,670	0.74%

Source: NYS Department of Labor, BBP LLC, 2010

Assuming Suffolk County and Long Island add jobs at the rates identified by the NYS Department of Labor, over the next four years each area will add office-based jobs, including over 3,800 jobs in Suffolk County and nearly 8,300 jobs in Long Island.

Table 40 – Projected Changes in Office Employment by Industry Sector, 2009 to 2014

Projected Changes in Office Employment by Industry Sector, 2009 to 2014				
Industry	Suffolk County Employment (2014)	Employment Change (2009-2014)	Long Island Employment (2014)	Employment Change (2009-2014)
Information	18,327	(310)	28,953	(489)
Finance & Insurance	23,799	(442)	59,667	(885)
Real Estate, Rental & Leasing	14,971	1,091	20,442	1,201
Professional, Scientific & Technical Services	44,699	1,919	79,424	2,739
Management of Companies & Enterprises	475	28	19,190	906
Administrative Support, Waste Management	20,806	1,549	80,355	4,822
TOTAL	123,077	3,835	288,031	8,295

Source: ESRI, NYS Department of Labor, BBP LLC, 2010

Based on the office-based employment growth projected over the next five years, Suffolk County could support the net addition of over 900,000 square feet of office space, while Long Island as a whole could support the net addition of over 1.9 million square feet of office space.

Table 41 – Supportable Office Space, 2014

Supportable Office Space, 2014				
Industry	Suffolk County		Long Island	
	Total Space	Net New Space	Total Space	Net New Space
Information	3,665,472	0	5,790,676	0
Finance & Insurance	4,759,819	0	11,933,498	0
Real Estate, Rental & Leasing	2,994,281	218,281	4,088,324	240,219
Professional, Scientific & Technical Services	8,939,719	383,719	15,884,785	547,840
Management of Companies & Enterprises	94,974	5,574	3,838,013	181,288
Administrative Support, Waste Management	4,161,159	309,759	16,070,947	964,410
TOTAL	24,615,424	917,333	57,606,243	1,933,757

Source: ESRI, NYS Department of Labor, BBP LLC, 2010

Of course, office-based employment growth projections are but one source of future estimates of space. Another method of projecting future space in Suffolk County and Long Island involves using projections of new supply that could be added based on past trends in the marketplace. REIS, a company which monitors commercial real estate in Long Island as well as across the nation, provides such projections. By 2014, REIS has projected that Suffolk County could add a net nearly over 350,000 square feet of office space, while Long Island could add over 900,000 net square feet of office space.

Table 42 – Projected Growth of Office Inventory, 2009 to 2014

Projected Growth of Office Inventory, 2009 to 2014				
Year	Suffolk County		Long Island	
	Total Space	Cumulative Net New Space	Total Space	Cumulative Net New Space
2009	17,760,000	-	43,494,000	-
2010	17,760,000	0	43,494,000	0
2011	17,760,000	0	43,514,000	20,000
2012	17,881,000	121,000	43,815,000	321,000
2013	18,002,000	242,000	44,115,000	621,000
2014	18,117,000	357,000	44,396,000	902,000

Source: REIS, BBP LLC, 2010

The Theoretical Full Build Plan includes 49,375 square feet of office space. To support this level of development, the TOD District area must capture two percent of the office space growth supportable in the primary and secondary areas as based on employment growth, or 4 percent of the office space growth supportable in the primary and secondary areas as based on supply growth. The Market Study concludes that these relatively modest capture rates are achievable for TOD District area given the area’s strengths as a busy commuter hub (with access to a large labor

force), and that such office development opportunities will only be further supported by the introduction of new housing, retail and restaurant choices that will make the area an even better place to conduct business.

Employment growth projections tell us that real estate, rental, leasing, professional, scientific, technical, management, and administrative support firms all may grow in the next several years. These types of businesses also happen to be compatible with downtown settings, as many firms in these industries are small in scale. Therefore, such businesses should be considered potential targets for new office spaces in the TOD District area.

Employment (demand) and supply trends in the TOD District area's primary and secondary market areas show promise for office development opportunities over the next several years. The TOD District area could be a participant in such office growth.

Key findings from the analysis of the office market include:

- ▶ A new or expanding business considering Suffolk County or Long Island is likely to consider Ronkonkoma; therefore the primary and secondary market areas have been defined as Suffolk County and Long Island, respectively.
- ▶ Existing office uses are few within the TOD District area, and represent a very small proportion of the office uses present in Suffolk County and Long Island.
- ▶ Top industry clusters in Long Island include: back office and outsourcing; biomedical; communications, software and media services; financial services; front office and producer services; and information technology services.
- ▶ Office-based employment and associated demand for office space is projected to grow in Suffolk County and Long Island by 2014.
- ▶ Office supply is also projected to grow based on past trends in supply.
- ▶ To support the 49,375 square feet of office space called for in the Theoretical Full Build Plan, the TOD District area will have to capture either 2 percent of the office space supported by office employment trends or 4 percent of the office space supported by supply trends.
- ▶ Businesses in growth industries that are compatible with downtown settings should be considered targets for office space in the TOD District area. Such industries include: real estate, rental and leasing; professional, scientific and technical services; management; and administrative support.

Conclusions

The market analysis revealed a number of key findings by market sector, as follows.

Residential Market Key Findings

- The TOD District area is situated within a primary and secondary market area: the Towns of Brookhaven and Islip (the primary market) and Suffolk County (the secondary market). It is assumed that the majority of demand for new housing will emerge from the primary market area, with the next largest source of demand coming from the secondary market area.
- The target market of households most likely to prefer multi-family housing near transit includes households earning \$35,000 to \$150,000. This income range includes households that can afford current market rate rents and purchase prices. The Market Analysis estimates that the majority of demand will emerge from the middle two-thirds of this range (households earning between approximately \$50,000 to \$130,000).
- There were an estimated 337,000 target market households in the primary and secondary study areas in 2009. By 2019, it is projected that nearly 11,000 households will be added in these areas.
- Top tapestry segments (i.e. socioeconomic groups) in the market areas include “Pleasant-ville,” “Sophisticated Squires,” “Wealthy Seaboard Suburbs,” and “Up and Coming Families.” These groups are similar in that most households are relatively affluent; consists of married couples; are headed by empty nesters, couples without children, and baby boomers; live in older single-family homes; commute; and enjoy shopping, dining out, and outdoor activities.
- The TOD District area could capture a modest six percent of household growth in the primary and secondary market areas through 2019. Such capture would support the development of the 615 residential units identified in the Theoretical Full Build Plan.
- To appeal to the target demographic, new units should offer a broad range of amenities. These include both in-unit amenities (e.g. architecturally distinctive features, private entries, gourmet kitchens, etc.) and community/station area amenities (e.g. convenient services such as child care, pet care, and auto care, as well as destination shops and restaurants).
- Developers of new housing units may look to the proximate Fairfield at Ronkonkoma development, a rental townhouse community situated to the east of the transit station, as a model for relatively higher density housing

catering to the needs and preferences of target market households. This community offers a variety of amenities, including recreational facilities, landscaping, optional detached garages, and gourmet kitchen and designer bath features. The development has enjoyed an extremely high occupancy rate and high rental rates (in the range of \$1,875 to \$2,480), which suggest demand is strong for this type of housing near the LIRR station.

Retail and Restaurant Market Key Findings

- ▶ Two classifications of retail goods and services may be offered at the TOD District area: convenience (e.g. food stores, limited service eating places, etc.) and shoppers goods (e.g. clothing, home furnishings, etc.). The TOD District area is situated within four associated trade areas: the convenience goods primary trade area (three-mile radius, roughly equal to a five-minute drive), the convenience goods secondary trade area (Suffolk County), the shoppers goods primary trade area (five-mile radius, roughly equal to a ten-minute drive), and the shoppers goods secondary trade area (Suffolk County).
- ▶ Retail spending in each trade area is strong and projected to grow as population increases and disposable income rises.
- ▶ Estimated 2009 retail spending levels on convenience goods were as follows: \$439 million in the convenience goods primary trade area and nearly \$8 billion in the convenience goods secondary trade area. By 2014, these figures are projected to increase to \$463 million in the primary trade area and nearly \$8.6 billion in the secondary trade area.
- ▶ In 2009, shoppers goods retail spending levels were as follows: nearly \$1.6 billion in the shoppers goods primary trade area and over \$10.6 billion in the shoppers goods secondary trade area. By 2014, spending is projected to rise to nearly \$1.7 billion in the primary trade area and \$11.4 billion in the secondary trade area.
- ▶ Future retail spending could support over 51 million square feet of convenience and shoppers goods retail space in the primary and secondary trade areas (in retail store group categories conducive to downtown development). The TOD District area could capture a modest 0.16 percent of this supportable space over the next nine years. Such capture would support the development of the 80,875 square feet identified in the Theoretical Full Build Plan.
- ▶ New retailers in the TOD District area will face competition from other retailers currently located in the trade areas. An analysis of retail leakage was undertaken to understand which categories of retail are underrepresented, as illustrated by retail sales “leaked” beyond the trade area, indicating unmet demand for goods and services. Such retail types

may offer relatively stronger potential for success in the TOD District area given their underrepresentation elsewhere.

- Retail store groups with current sales leakage include: beer, wine and liquor stores; office supplies, stationary, and gift stores; taverns; auto parts, accessories and tire stores; furniture stores; clothing stores; shoe stores; jewelry, luggage and leather goods stores; book, periodical and music stores; used merchandise stores; full-service restaurants; and special food services.
- Factors beyond retail leakage will impact the odds of success of any particular store, including quality of products, customer service, marketing, and the experience offered to customers. A savvy entrepreneur that offers superior products, service, marketing and/or experience may succeed in opening a type of store that is already well-represented in the trade areas by being a strong competitor.
- Future households, employees and transit riders generated by new development in the study area will also offer potential sources of demand for retail, but have been omitted from the analysis because it is important that the future retail uses are self-sufficient (and not reliant on the success of other types of new development). These other sources of demand instead should be viewed as an important additional source of sales that will enhance their opportunity to thrive, but not be the primary reason for such success.

Office Market Key Findings

- A new or expanding business considering Suffolk County or Long Island is likely to consider Ronkonkoma; therefore the primary and secondary market areas have been defined as Suffolk County and Long Island, respectively.
- Existing office uses are few within the TOD District area, and represent a very small proportion of the office uses present in Suffolk County and Long Island.
- Top industry clusters in Long Island include: back office and outsourcing; biomedical; communications, software and media services; financial services; front office and producer services; and information technology services.
- Office-based employment and associated demand for office space is projected to grow in Suffolk County and Long Island by 2014.
- Office supply is also projected to grow based on past trends in supply.
- To support the 49,375 square feet of office space called for in the Theoretical Full Build Plan, the TOD District area will have to capture either two percent

of the office space supported by office employment trends or four percent of the office space supported by supply trends.

- ▶ Businesses in growth industries that are compatible with downtown settings should be considered targets for office space in the TOD District area. Such industries include: real estate, rental and leasing; professional, scientific and technical services; management; and administrative support.

Health Club Key Findings

- ▶ A health club in the TOD District area will provide synergies to support other development. From a market analysis perspective, the health club is considered an added amenity for future residents and employees, and could bring additional visitors to the area who may then patronize retail shops and restaurants. The demand for same is supported by the development within the TOD District area.

4.8.2 Projected Population

With the addition of the new residential units, the proposed TOD District will revitalize the TOD District area and create positive growth by attracting more businesses, residents, and visitors to the area. The Theoretical Full Build Plan is estimated to generate a population of 1,058 residents.

Table 43 - Projected Residential Population (Theoretical Full Build Plan)

Type of Unit	# of Units	Persons Per Units	Total Persons
Ownership	308	1.77	545
Rental	307	1.67	513
			1,058

Source: Development Impact Assessment Handbook, Urban Land Institute, 1994.

4.8.3 Projected Property Tax Revenues

Consistent with fiscal impact methodology¹⁹, the property tax revenues have been determined by considering what would be generated if the proposed development were completed and occupied today. This approach recognizes that development often requires several years to be completed and that inflation will increase costs and

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¹⁹ The Fiscal Impact Handbook, Robert Burchell and David Listokin, 1978

revenues over time. It assumes that the rising costs of public services will be matched by an essentially comparable increase in revenues through increases in the tax rate, all other things held constant.

The proposed project would result in the conversion of 54 underutilized parcels in the rezoning area into a mixed-use TOD. The increased market value of the project area with these improvements would result in an increase in property tax revenues. The proposed development is, therefore, expected to generate higher revenues to various taxing jurisdictions in Suffolk County and the Town of Brookhaven.

The Theoretical Full Build Plan would introduce 615 Residential Units (1,000 square feet in size; 50 percent rental and 50 percent ownership); 60,875 square feet of retail; 49,375 square feet of office; a 30,000 square feet health club; and a 200 seat restaurant.

Tax revenues to the various taxing jurisdictions into which the proposed project falls will take the form of increased property tax revenues. In order to estimate the project's assessed value, the assessed value of comparable new commercial and residential properties in the Town of Brookhaven were reviewed. For the purpose of this analysis, and based on the market study for the project area (see Appendix H), it is assumed that the 308 for sale units would each have a purchase price of approximately \$250,000, and the 307 rental apartment units would rent for approximately \$1,600 per month. For the purpose of projecting assessed value of the retail component, an average market rent of \$25 per square foot²⁰ is assumed, with 10 percent of total annual rent discounted for maintenance costs. The asking rent for office space in Suffolk County ranges from \$20 per square foot to \$30 per square foot.²¹ Therefore for the purposes of this analysis an average office rent of \$25 per square foot has been used. An estimated capitalization rate of 9 percent²² has been applied, along with the Town of Brookhaven's 2009 equalization rate of 0.77 percent. Therefore, the total projected future assessed value of the proposed development in the project area would be \$977,704.

Table 44 summarizes the projected property tax revenues and net increase in property taxes generated by the Theoretical Full Build Plan. The projected revenues presented are based on 2009 tax rates. With no changes in assessments, these rates are likely to increase over time.

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²⁰ Retail rent per square foot based on current retail trends in the project area - <http://www.loopnet.com/New-York/Suffolk-County-Commercial-Real-Estate/>
²¹ Demographic, Economic and Development Trends, Suffolk County, New York, prepared by the Suffolk County Department of Planning, April 2005, Page 7; and Grubb & Ellis Office Trends Report – Third Quarter 2009 <http://www.grubb-ellis.com/SitePages/GetFileFromDB.ashx?type=9&id=313>
²² Capitalization rate from the Town of Brookhaven Receiver of Taxes

Table 44 – Projected Property Tax Revenues, Town of Brookhaven (Theoretical Full Build Plan)

Taxing Jurisdiction	2009 Tax Rate (per \$100 AV)	Projected Taxable Value	Projected Taxes	Net Increase
<i>Suffolk County</i>				
County of Suffolk	2.861	\$977,704	\$27,972	\$22,073
County of Suffolk - Police	33.060	\$977,704	\$323,229	\$255,066
New York State MTA Tax	0.168	\$977,704	\$1,643	\$1,296
Total taxes paid to Suffolk County			\$352,843	\$278,435
<i>Town of Brookhaven</i>				
Town General - Town Wide Fund	4.464	\$977,704	\$43,645	\$34,441
Highway - Town Wide Fund	2.590	\$977,704	\$25,323	\$19,982
Town General - Part Town Fund	1.390	\$977,704	\$13,590	\$10,724
Highway - Part Town Fund	11.436	\$977,704	\$111,810	\$88,231
Total taxes paid to the Town of Brookhaven			\$194,367	\$153,379
<i>School taxes – Sachem CSD</i>				
Net School tax	167.127	\$977,704	\$1,634,007	\$1,289,424
Net Library tax	10.485	\$977,704	\$102,512	\$80,894
Total taxes paid to the South Country CSD			\$1,736,519	\$1,370,319
<i>Other Taxes</i>				
\$100M Bond Act of 2004	1.588	\$977,704	\$15,526	\$12,252
Fire District – Lake Ronkonkoma	9.431	\$977,704	\$92,207	\$72,762
Lighting District	1.703	\$977,704	\$16,650	\$13,139
Real Property Tax Law - Article 7	0.935	\$977,704	\$9,142	\$7,214
Real Property Tax Law	6.121	\$977,704	\$59,845	\$47,225
Total Other Taxes			\$193,370	\$152,592
Total Existing Property Tax Revenues			\$2,477,100	\$1,954,725

Sources: Town of Brookhaven Receiver of Taxes, 2009; Assessed value calculated by VHB Engineering, Surveying and Landscape Architecture, P.C.

Projected Property Tax – Town and County

The estimated net increase between the total current tax revenues generated by the project area for Suffolk County (\$74,408±) and the total future project-generated tax revenues for the Theoretical Full Build Plan (\$352,843±) is projected to be approximately \$278,435, or just under four times the tax revenues generated currently by the property.

The estimated net increase between the total current tax revenues generated by the project area for the Town of Brookhaven (\$40,989±) and the total future project-generated tax revenues for the proposed development (\$194,367±) is projected to be approximately \$153,379, also just under four times tax revenues generated currently by the property.

Projected Property Tax – School and Library

The projected tax revenues presented are based on current 2009-2010 tax rate for the Sachem CSD. With no changes in assessments, these rates are likely to increase over time. The net increase between the total current school and library tax revenues (\$366,200±) for the Sachem CSD generated by the project area and the total future project-generated school tax revenues (\$1,736,519±) for the project are projected to be approximately \$1,370,319 or just under four times the level of school tax revenues generated currently by the project site.

Projected Property Tax – Other Special Districts

The future tax revenues generated by the project area for the Lake Ronkonkoma Fire District and Lighting District are projected to be approximately \$92,207± and \$16,650±, respectively. The net increase between the total current tax revenues generated by the project area for the Lake Ronkonkoma Fire District (\$19,445±) and the total future project-generated tax revenues from the proposed project (\$92,207±) is projected to be approximately \$72,762±, or just under four times the tax revenues generated currently by the property. The net increase between the total current tax revenues generated by the site for the Lighting District (\$3,511±) and the total future project-generated tax revenues from the proposed project (\$16,650±) is projected to be approximately \$13,139± or just under four times tax revenues generated currently by the property.

4.8.4 Conclusion

As shown in Table 20 above in Section 3.8, the current taxable valuation (Assessed Value) of the project/rezoning area is \$206,180, and the entire area generates a total of \$494,760 in real property taxes, including taxes for Suffolk County.

The above estimation of future property tax generation (as shown in Table 21) resulting from the implementation of the conceptual development plan in the rezoning area will clearly result in the creation of significantly greater taxable assessed value, representing a significant positive impact of the Proposed Action.

Ultimately, as rezoning development parcels are assembled, and changes or improvements are made in the form of buildings, parking garages, and private and public amenities, the Town of Brookhaven's Tax Assessors Office would be responsible for determining the taxable valuation of these improvements based on the prevailing methodologies in use at the time of assessment. The tax levy would then be calculated based on applicable equalization and real property tax rates, as well as any special assessments. Further, potential for tax abatements, tax credits, or payments in lieu of taxes ("PILOTS"), or other factors that may affect tax revenue cannot be predicted at this time. The estimation of such taxes should be conducted as part of the assessment of individual applications.

The Proposed Action is expected to dramatically improve the economic conditions of the TOD District area, and improve the overall economic conditions of the Town of Brookhaven and Suffolk County as a whole. The increased number of jobs made possible as a result of the project, as well as on- and off-site spending by the TOD's new residents and employees is expected to have a substantial positive effect on Ronkonkoma's businesses, and there is an expected increase in the generation of sales taxes resulting from increased resident and consumer spending resulting from the proposed action. The increase in property values resulting from the proposed action would be expected to generate substantial new property tax revenues for the Town and County. In sum, economic benefits would be expected to result as a consequence of implementing the proposed action.

4.9 Community Facilities and Services

4.9.1 Fire Protection and Ambulance Service

The TOD District is located within the jurisdiction of the Ronkonkoma Fire Department. In order to ensure that there will be no significant adverse impacts to the Ronkonkoma Fire Department, all development plans would be required to ensure compliance with New York State building and fire codes, and also be reviewed by the Brookhaven Fire Marshal. As indicated in Section 4.2 of this DGEIS, the greatest NFF has been calculated at 4,500 gpm, which is not considered to be a significant flow rate.

An analysis of the potential impacts on fire and ambulance services is included in the table below

Table 45 - Impact on Community Services and Facilities

Public Safety Service	Demand Projection Rate	Projected Increased Demand for 1,512 persons
Ambulance Services		
Calls per year	36.5 per 1,000 population	55.19
Vehicles	1 per 30,000 population	0.05
Full-time Personnel	1 per 30,000 population	0.05
Fire Protection Services		
Personnel	1.65 per 1,000 population	2.49
Vehicles	0.2 per 1,000 population	0.30
Facilities	250 square feet per 1,000 population	378.00
Police Services		
Personnel	2 per 1,000 population	3.02
Vehicles	2 per 1,000 population	3.02
Facilities	200 square feet per 1,000 population	302.40

Source: ULI, *Development Impact Assessment Handbook*, 1994

Based on published factors by the Urban Land Institute (*Development Impact Assessment Handbook*, 1994), the projected demand on fire, ambulance and ambulance services is determined by the projected increase in population. As indicated in Section 4.8 of this DGEIS, the Theoretical Full Build Plan is projected to increase population by 1,512 persons. Published factors indicate that for a population of this size, there is a potential demand for less than three full-time equivalents for fire and ambulance services. An additional 55± ambulance calls per year is also projected. The potential increased demand for vehicles includes approximately three for fire services and less than one for ambulance services. There is a minimal impact on resultant facilities needs for fire protection (i.e., 378± square feet). However, fire and ambulance services are already provided to the TOD District area, and thus, it is not expected that the proposed action would require additional personnel, vehicles or facility improvements. Also, pursuant to a telephone conversation on September 1, 2010, Chief Vincent Diaz advised that the Department has a new 100-foot ladder truck that can accommodate the multi-story buildings within the TOD District area (see electronic mail confirmation in Appendix J). According to the tax revenue analysis in Section 4.8 of this DGEIS, approximately \$72,762 is the estimated annual net increase (from existing conditions) to the Ronkonkoma Fire Department.

Overall, the proposed action and the future redevelopment of the TOD District in accordance with same would not be expected to result in significant adverse impacts to fire protection and ambulance services, which are provided by the Ronkonkoma Fire Department.

4.9.2 Health Care Facilities

There are health care facilities available to residents and patrons to uses within the TOD District. It is expected that many of the potential residents of the proposed development would be existing residents of the Town of Brookhaven or nearby municipalities. As both Brookhaven Hospital and Stony Brook University Medical Center are health care facilities that already serve this community, it is not anticipated that the proposed development would adversely impact health care services in the area.

4.9.3 Police Protection

The Fourth Precinct of the Suffolk County Police Department currently services the TOD District area. As indicated in Section 3.9 of this DGEIS, correspondence dated June 10, 2010 from William J. English, Principal Management Analyst of the SCPD, indicated that there were approximately 8,939 service calls in 2009 (see correspondence in Appendix I). However, call data specific to the TOD District area was not provided.

As indicated in Table 45 above, there is a potential demand for three additional personnel and vehicles to serve a population of 1,512 persons. It is important to note that the TOD District area is an existing developed area that has been served by the Fourth Precinct and there is an existing patrol that covers the TOD District area. There is a minimal impact on resultant facilities needs for fire protection (i.e., 303± square feet). As such, it is not expected that the proposed action would require additional police personnel to serve the TOD District area.

According to the tax revenue analysis in Section 4.8 of this DGEIS, approximately \$255,066 is the estimated annual net increase (from existing conditions) to the Suffolk County Police Department.

Overall, it is not expected that redevelopment of the TOD District area would result in a demand that causes significant adverse impacts to police services.

4.9.4 Educational Facilities

The 615 residential units included in the Theoretical Full Build Plan could potentially generate 68 school-aged children (see Table 46 – Projected School-Aged Children Population below) that would attend public school. Based on published data (www.schooltree.org), the school enrollment is 15,311 children. Therefore, the additional 68 school-aged children would represent only a 0.4 percent increase in total enrollment.

Table 46 – Projected School-Aged Children Population

Type of Unit	# of Units	School-aged children per unit	Total School-aged children
Multifamily - ownership	308	0.14	43
Multifamily – rental	307	0.08	25
Total School-aged Children			68

Sources: Rutgers University, Center for Urban Policy Research - Residential Demographic Multipliers, Estimates of the Occupants of New Housing.

With respect to the availability of busing in the area, Mr. Sacks indicated that bus routes currently exist that service the three above-mentioned schools. However, the school district is unable to determine at this time whether additional bus routes would be needed to serve the TOD District area.

Based on correspondence received from Sachem CSD’s School Business Administrator Ronald G. Sacks, per pupil expenditure in the district was \$18,606.50 for the 2008-2009 school-year. Therefore, while the total cost to the Sachem CSD for the 68 additional children would be \$1,265,242, the Theoretical Full Build Plan would generate \$1,634,007 annually to the school district (see the tax revenue analysis in Section 4.8 of this DGEIS). Therefore, an estimated \$368,765 would be a net annual benefit to the school district.

Overall, it is not expected that the proposed action would result in significant adverse impacts to the Sachem CSD.

4.9.5 Solid Waste (Collection and Disposal)

As indicated in Table 47 below, the Theoretical Full Build Plan would generate approximately 124.14 tons of solid waste per month. As indicated in Section 3.9.5 of this DGEIS, the existing properties within the TOD District area generate approximately 54.26 tons of solid waste per month.

Table 47 – Projected Solid Waste Generation (Theoretical Full Build Plan)

Use	Area (sf)	No. Units	Occupancy ¹	Solid Waste		Total (lbs/day)
				per day	Unit	
Residential/Rental	<1200 sf	307	1.67	4.62	lbs/capita ²	2,368.63
Residential/Condo	<1200 sf	308	1.77	4.62	lbs/capita	2,518.64
subtotal		615				4,887.27
Retail	60,875			13.00	lbs/1000sf ³	791.38
Restaurant	200 seats			2.00	lbs/meal ⁴	1,600.00
Health Club	30,000			13.00	lbs/1,000sf ⁵	390.00
subtotal						2,781.38
Office	49,375			1.00	lbs/100sf	493.75
				TOTAL (lbs/day)		8,162.40
				TOTAL (tons/month)		124.14

Notes:

1. Rutgers coefficients of occupancy used for residential population.
2. Environmental Protection Agency. "Municipal Solid Waste in the United States: 2007 Facts and Figures." November 2008.
3. Salvato et al. Environmental Engineering, Fifth Edition. 2003. Solid waste generation factor for "Retail and Service."
4. Salvato et al. Environmental Engineering, Fifth Edition. 2003. Solid waste generation factor for "Restaurant." Assumes full occupancy (200 seats) for two seatings at lunch, and two seatings at dinner. Total meals = 800.
5. Salvato et al. Environmental Engineering, Fifth Edition. 2003. Solid waste generation factor for "Retail and Service."

As indicated in Section 3.9.5 of this DGEIS, the collection and disposal of solid waste generated by commercial properties (including the retail, office, and restaurant uses included on the Theoretical Full Build Plan) is performed by licensed, private carters, (which is typical practice for Long Island Towns). Also, the collection and disposal of solid waste from private, multi-family residential developments would also be performed by licensed, private carters. Thus, the ultimate disposal locations are at the discretion of the carter and would not be expected to result in significant adverse impacts to the Town's waste management facilities.

4.10 Aesthetics

4.10.1.1 Architectural Features and Streetscape Elements

A key objective of the TOD District FBC is to locate buildings close to streets and to each other as opposed to separate structures with large front and side yard areas. Parking would be in one of several forms, including; structured parking as part of the buildings, located behind the buildings and/or at the rear of lots, or on-street along the key gateway streets such as Railroad Avenue. This approach to orienting buildings and entrances towards the street and the provision of on-street parking

would give definition to the street as a public space, and create a comfortable sense of place for pedestrians. The goal is to create a development pattern that avoids the fragmented look of large-format “big-box” buildings sitting within the middle of a site, surrounded by a sea of parking. Instead, the emphasis is on visual continuity between the buildings and streets.

The proposed structures would respect the scale and massing of existing development outside of the TOD District area by transitioning down in height at the northern district boundary. However it will allow greater density, building type variety and interruptions in roof forms and skyline treatment that would enhance the visual interest within the TOD District area. The variation of building heights is part of the diversity of many attractive urban centers. There will be selected opportunities for taller signature building elements/design features that would be allowed to extend above surrounding buildings as prominent visual features within the community fabric.

High quality streetscape design and landscaping, including a landscaped median in the gateway streets is an important feature for this type of urban-style neighborhood where the public street space becomes, in effect, the place for the social interactions that builds a sense of community. The proposed public open space south of Railroad Avenue will blend with the more urban aspects of the design, to create a visually diverse community. Additionally, the form-based code contains provisions that call for landscaping of the redeveloped properties in such a way as to create visual relief and interest, provide shade for pedestrians, and to screen the parking and loading areas. The public realm street design standards will also provide for trees along the roadway in addition to the landscaped median.

The Theoretical Full Build Plan situates the STP at the southeast corner of the TOD District area, and in this location, it would not be visible from Railroad Avenue or Mill Road. All of the tanks are sub-grade and any STP control building would be only approximately 10 feet in height with a pitched roof. Also, landscaping at the building, within the STP site and along the road frontage will provide some visual buffering.

4.10.1.2 Visual Assessment

Two viewpoints were chosen to describe the general character and scale of the future development potential in the TOD District area, as depicted in Figure 23 – Renderings of Railroad Avenue and Mill Road. The first viewpoint is taken along Railroad Avenue looking east towards Hawkins Avenue. The second viewpoint is located along Mill Road looking southwest towards Railroad Avenue. The character sketches are meant for illustrative purposes only and are meant to convey broad goals and objectives that relate to building placement, height, form and a general sense of the potential public realm.

4.10.1.3 Railroad Avenue

The character sketch along Railroad Avenue depicts numerous design elements that contribute towards creating an active community “main street” (see Figure 23 – Renderings of Railroad Avenue and Mill Road). Buildings along Railroad Avenue are located close to the street to help define the street edge and public realm. Buildings in this area are generally four-to-five stories in height. The ground floors of buildings on the north side of the street could potentially contain active uses such as restaurants and retail uses, and hence would have storefronts. The upper-level stories could accommodate a mix of uses such as housing and office. The corner of Hawkins Avenue and Railroad Avenue is targeted for an urban plaza or public space that could accommodate outdoor sitting areas, outdoor dining, and public art. South of Railroad Avenue is targeted as a public space with a gazebo-like structure and landscaped areas. This area could accommodate outdoor functions such as a farmers market, or small gatherings for outdoor venues.

4.10.1.4 Mill Road

The character sketch along Mill Road depicts a residential street with sidewalks, landscaping, and buildings that have small front yard setbacks (see Figure 23 – Renderings of Railroad Avenue and Mill Road). The two-lane road would have on-street parking and a landscaped median strip in the middle of the road. The buildings along Mill Road front the street. Entrées to the buildings are oriented towards the street as well. Buildings in this area are generally up to four stories tall. The conceptual land use plan for this portion of the TOD District area contemplates that some buildings would have parking at the ground level with residential uses above. If parking is included at the ground floor of buildings, landscaping and architectural treatments of the lower parking level will be included in the form-based code to limit (or mask) views to the lower level parking areas.

Based on the renderings, and the analyses presented above, the creation of the TOD District and the redevelopment of properties in accordance with the TOD District zoning code would result in beneficial impacts to the visual character of the area.

4.11 Cultural Resources

As indicated in Section 3.10, there are no cultural resources (historic or archaeological) resources on or adjacent to the TOD District. As such, the redevelopment of properties within the TOD District would not result in any adverse to cultural resources.



Railroad Avenue



Mill Road



Figure 23
Renderings of Railroad Ave and Mill Road

**Ronkonkoma Hub
Transit-Oriented Development**

5.0

PROPOSED MITIGATION MEASURES

5.1 Soils and Topography

- Parcels developed or redeveloped within the TOD District area would employ proper erosion and sedimentation controls, in accordance with Chapter 86 of the Town Code.
- Parcels to be developed or redeveloped would implement dust control measures during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.

5.2 Water Resources and Sanitary Disposal

- Sanitary waste from newly-developed/redeveloped parcels within the TOD District area would be accommodated by the proposed STP and, therefore, would conform to the prevailing regulations of the Suffolk County Sanitary Code. Moreover, the NYSDEC will establish discharge limits in accordance with the permit ultimately issued for the STP. These measures will help mitigate potential impacts to groundwater.

- Parcels developed or redeveloped within the TOD District area would be required to implement water conservation measures, including low-flow fixtures, low-flow toilets, and/or drip irrigation.
- Parcels developed or redeveloped within the TOD District area would be required to comply with Chapter 86 of the Town Code, which is the Town's stormwater ordinance.
- Parcels developed or redeveloped within the TOD District area would be required to use native or low maintenance plantings, as included in the TOD zoning code, to reduce irrigation needs and fertilizer demand. These measures will mitigate potential impacts to water quantity and quality.

5.3 Ecology

There are no significant adverse impacts expected to result from the proposed action. However, to minimize habitat impacts, development/redevelopment would incorporate native or low maintenance species into the landscaping plan.

5.4 Land Use and Zoning

- The proposed TOD District includes the establishment of zoning criteria and design guidelines to minimize potential adverse impacts, including the following:
 1. Regulating Plan – The regulating plan establishes two “subzones” – Main Street and Neighborhood. The Main Street subzone is closer to the train station and would emphasize vertical mixed-use (up to five stories) with retail on the ground floor and residential or commercial above. The Neighborhood subzone would encourage medium-to-high residential density and could include some retail and live/work space. Development/redevelopment would be required to conform to the Regulating Plan.
 2. Public Space Standards - The public space includes plazas and open spaces, as well as the streets and sidewalks. The form-based code delineates two street types. One, which would include Railroad, Ronkonkoma, and Garrity Avenues, would have a right-of-way of approximately 74 feet. The other (for Union, Elm, Maple and Mill Streets, and Union and Carroll Avenues) would have a smaller right-

of-way of approximately 50 feet. All improvements conducted as part of development/redevelopment would comply with the Public Space Standards.

3. Building Form Standards - The building form standards identify the specific physical and functional character of the TOD District. The form controls on building frontages work together to frame the street-space while allowing greater functional and operational freedom behind their facades. All development/redevelopment would conform to the Building Form Standards.
4. Architectural, Landscaping and Signage Standards - Architectural, landscape, and signage controls are specified in the TOD District zoning code and includes the siting of the buildings; location and design of parking areas; pedestrian and bicycle access; pedestrian amenities; building facades; landscape design and plantings; lighting; site furnishings; and the type, size, and materials used for signage. All development/redevelopment would conform to the Architectural, Landscaping and Signage Standards.

5.5 Traffic and Parking

To address impacts to the signalized intersection of LIE South Service Road at Hawkins Avenue, the following mitigation measures are necessary:

- On the South Service Road, a new eastbound lane configuration would be an exclusive left turn lane, two through, and a shared through and right turn lane;
- On Hawkins Avenue, a new northbound configuration would be two through lanes and an exclusive right turn lane; and
- Modification of the phase split to suit the new lane configurations.

To address potential parking losses should Sites 1 and 8 be redeveloped, alternative commuter parking locations must be identified, if determined that same is required by the MTA.

5.6 Air Quality

- During construction within the TOD District area, emission controls for construction vehicle emissions would be employed and should include, as appropriate, proper maintenance of all motor vehicles, machinery, and equipment associated with construction activities, such as, the maintenance of manufacture's muffler equipment or other regulatory-required emissions control devices.
- Parcels to be developed or redeveloped would implement dust control measures during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.
- Regular sweeping of pavement of adjacent roadway surfaces during construction would be conducted to minimize the potential for vehicular traffic to create airborne dust and particulate matter.

5.7 Noise

- Parcels developed or redeveloped with residential land use components would be required to implement mitigation strategies such that interior noise levels do not exceed 45 dBA.
- Parcels developed or redeveloped would be required to install rooftop equipment that does not exceed Town noise code standards. Such equipment shall be located in penthouse rooms and/or enclosures, or shall utilize the building height and geometry to create building blockage for receptor locations, and/or install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment.
- Loading and service activities on parcels to be developed or redeveloped will be internally situated or screened to minimize noise associated with loading activities from the surrounding residential areas.
- Construction equipment would be required to have appropriate noise muffler systems. Excessive idling of construction equipment engines would be prohibited.

5.8 Socioeconomics

As there are no significant adverse demographic or economic impacts associated with the proposed action, no mitigation measures are required.

5.9 Community Facilities and Services

- ▶ Parcels developed or redeveloped will comply with New York State building and fire codes.
- ▶ All development/redevelopment applications would be required to be reviewed by the Brookhaven Fire Marshal, and would comply with all Fire Marshal requirements.
- ▶ Parcels developed or redeveloped will provide proper egress and ingress for emergency service providers.

5.10 Aesthetics

- ▶ Architectural, landscape, and signage controls are specified in the FBC Code. This includes the siting of the buildings; location and design of parking areas; pedestrian and bicycle access; pedestrian amenities; building facades; landscape design and plantings; lighting; site furnishings; and the type, size, and materials used for signage. All development/redevelopment must conform to the Architectural, Landscaping and Signage Standards.

5.11 Cultural Resources

There have been no historic or archaeological resources identified within or adjacent to the TOD District area, and thus, mitigation measures are not required.

6.0

UNAVOIDABLE ADVERSE EFFECTS

The environmental impacts associated with the implementation of the proposed action have been described in Section 4.0 of this DGEIS, and mitigation measures for most of these impacts have been discussed in Section 5.0. Those impacts that cannot be either entirely avoided or fully mitigated are described below.

6.1 Short-Term Impacts

The proposed adoption of a Land Use and Implementation Plan, creation of the TOD District, and the rezoning of the properties therein to TOD, would not have any physical short-term impacts. However, development within the TOD District area, in accordance with the TOD zoning district, will have several temporary construction-related impacts that cannot be completely mitigated. These impacts are associated with the site preparation and development (including demolition, grading, excavation, installation of utilities and construction of building and parking facilities). It is anticipated that these impacts will cease upon completion of the construction. Specific impacts are identified below:

- ▶ Soils will be disturbed by grading, excavation, and mounding activities during construction and ultimate site development;
- ▶ Despite the use of extensive and strategically-placed erosion control devices, minor occurrences of erosion may occur;
- ▶ During demolition and construction, there is the potential for minor releases of fugitive dust during dry periods;

- There may be a temporary impact to roadways due to the movement of construction vehicles associated with site development activities;
- Slight increases in noise levels at the site boundary may result from construction activities; and
- Temporary increases in noise levels and vibrations may result during demolition activities.

It is anticipated that these impacts will be of short duration, that is, they will cease upon project completion.

6.2 Long-Term Impacts

Several long-term impacts associated with development/redevelopment in accordance with the TOD District zoning code have been identified. Mitigation measures have been proposed to reduce or eliminate most of these long-term adverse impacts. Those adverse long-term impacts, which cannot be fully mitigated, are set forth below, namely:

- Redevelopment activities would potentially increase the area of impervious surfaces (buildings and pavement), which would increase runoff on the subject properties. However, stormwater will be contained and recharged within property boundaries, as required by Chapter 86 of the Town Code;
- Although the traffic study has determined that the surrounding roadways can accommodate the increases in traffic that will result from implementation of the proposed action, with the implementation of mitigation measures, additional vehicle trips will result from this action;
- There will be an increase in sanitary discharge within the TOD District area. However, a new STP would accommodate all sanitary waste; and
- There will be an increase in the amount of potable water used within the TOD District area.

7.0

CONDITIONS/CRITERIA UNDER WHICH FUTURE ACTIONS WILL BE UNDERTAKEN OR APPROVED INCLUDING REQUIREMENTS FOR SUBSEQUENT SEQRA COMPLIANCE

6 NYCRR §617.10(c) and (d) state, in pertinent part:

“(c) Generic EISs...should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQRA compliance...”

(d) When a final generic EIS has been filed under this part:

- (1) No further SEQRA compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions in the generic EIS or its findings statement;*
- (2) An amended findings statement must be prepared if the subsequent proposed action was adequately addressed in the generic EIS but was not addressed or was not adequately addressed in the findings statement for the generic EIS;*
- (3) A negative declaration must be prepared if a subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action will not result in any significant environmental impacts;*

- (4) *A supplement to the final generic EIS must be prepared if the subsequent proposed action was not addressed or was not adequately addressed in the generic EIS and the subsequent action may have one or more significant adverse environmental impacts."*

Based on the analyses contained in this DGEIS, the following represent the proposed conditions and thresholds, which, if met, would allow full development of the TOD District area within the Town of Brookhaven without the need for further SEQRA compliance:

- To address the impacts to the signalized intersection of LIE South Service Road at Hawkins Avenue, mitigation measures are necessary, including (1) on the LIE South Service Road, construction of a new eastbound lane configuration to function as an exclusive left turn lane, two through, and a shared through and right turn lane; (2) on Hawkins Avenue, construction of a new northbound configuration to provide two through lanes and an exclusive right turn lane; and (3) modification of the phase split to suit the new lane configurations. Developers would be required to contribute a fair share to the required improvements.
- All developers must construct or fund required off-site roadway improvements (including drainage), and streetscape enhancements (including, but not limited to sidewalks, lighting, landscaping), as set forth in the design guidelines of the TOD District zoning code, contiguous to the parcels being considered for development. In addition to said improvements, a monetary contribution to the Town of Brookhaven Highway Department may be required for roadway and related infrastructure improvements (e.g., drainage, landscaped median, bike paths, etc.).
- To address potential parking losses should Sites 1 and 8 be redeveloped, the developer(s) of Sites 1 and 8 must identify alternative commuter parking locations, if determined that same is required by the MTA.
- The traffic analysis determined that 573 additional vehicle trips during the AM peak hour (458 trips for the Theoretical Maximum Build Plan + 115 trips for Scenario 1 [Cumulative Impacts]) and 925 additional vehicle trips during the PM peak hour (787 trips for the Theoretical Maximum Build Plan + 138 trips for Scenario 1 [Cumulative Impacts]) could be accommodated without significant adverse impacts to the roadways. In the event that development/redevelopment is proposed that would exceed this trip generation, additional traffic evaluation must be conducted. As necessary, mitigation measures would then have to be identified and employed.
- The design capacity of the STP is 275,000 gpd. Thus, sanitary discharge associated with development/redevelopment within the TOD District area

cannot exceed this amount. In the event that development/redevelopment is proposed that would cause this capacity to be exceeded, additional evaluation must be conducted and additional sewage capacity (either within or outside the TOD District area) must be secured to support the additional development.

- All developers would be required to contribute a fair-share contribution to the SCWA infrastructure improvements within the TOD District area.
- All development/redevelopment of multi-story buildings must demonstrate adequate water pressure for the higher elevations in the buildings, and, where necessary, install a booster pump system.
- Parcels developed or redeveloped within the TOD District area would be required to implement water conservation measures, including low-flow fixtures, low-flow toilets, and/or drip irrigation.
- All development must demonstrate compliance with Section 16-4.2 of the Town Code (energy efficiency) and must incorporate energy conservation measures.
- All development must demonstrate compliance with Chapter 86 of the Town Code for stormwater management and erosion control.
- All development must implement dust control measures during dry or windy periods. The appropriate methods of dust control would be determined by the surfaces affected (i.e., roadways or disturbed areas) and would include, as necessary, the application of water, the use of stone in construction roads, and vegetative cover.
- All development must incorporate native or low maintenance plantings in to the landscaping plans, as provided in the TOD District zoning code, to reduce irrigation needs and fertilizer demand.
- Parcels developed or redeveloped for residential purposes within the TOD District area would be required to comply with the Long Island Workforce Housing Act.
- All development/redevelopment would be required to conform to the Regulating Plan, Public Space Standards, Building Form Standards, Architectural Standards, Landscaping Standards, and Signage Standards.
- All developers must construct and/or contribute to the construction of the public open space/plaza.

- During construction, regular sweeping of pavement of adjacent roadway surfaces must be conducted to minimize airborne dust and particulate matter.
- Parcels developed or redeveloped with residential land use components will be required to implement mitigation strategies such that interior noise levels do not exceed 45 dBA. A noise study demonstrating that such noise levels can be achieved must be submitted to the Town.
- Parcels developed or redeveloped must incorporate mitigation measures and demonstrate that rooftop equipment does not exceed Town noise code standards. Such equipment shall be located in penthouse rooms and/or enclosures, or shall utilize the building height and geometry to create building blockage for receptor locations, and/or install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment.
- Loading and service activities on parcels to be developed or redeveloped will be required to be internally situated or screened to minimize noise associated with loading activities from the surrounding residential areas.

In the event that any of the above conditions are proposed to be exceeded by future development, additional SEQRA compliance would be necessary in accordance with 6 NYCRR §617.10(d)(2), (3) or (4), as would be appropriate, given the actual development plan proposed and the associated potential environmental impacts associated therewith.

8.0

ALTERNATIVES AND THEIR IMPACTS

This section of the DGEIS evaluates the following alternatives to the proposed action:

- No Action; and
- Theoretical Maximum Build Out Plan.

A comparative analysis of the Theoretical Full Build Plan, Theoretical Maximum Build Out Plan and the No-Action Alternative is included below.

Table 48- Comparative Analysis of the Theoretical Full Build Plan, Theoretical Maximum Build Out Plan and the No-Action Alternative

	No Action Plan	Full Build Plan	Max Build Out Plan	
Land Use	Residential; Office; Automotive; Restaurant; Warehouse; General Service (Commercial and Industrial); LIRR parking areas (surface and structured); and Vacant/Unoccupied.	615 Residential Units; 60,875 square feet – Retail; 49,375 square feet – Office; 30,000 square feet – Health Club; 200 seats – Restaurant Use (Total); Sewage Treatment Plant; and Plaza area for outdoor public use.	802 Multi-family residential units; Six townhouses; 102,275 square feet – Retail Space; 49,375 square feet – Office Space; 30,000 square feet – Health Club; 100 seats – Restaurant; and Sewage Treatment Plant.	
Sanitary Generation (gallons per day)	13,068±	169,000±	213,000±	
Water Usage (gallons per day)	14,375±	186,000±	223,000±	
Solid Waste Generation (tons per month)	54.26±	124.14±	143.54±	
Additional Vehicular Trips (during AM and PM peak hours)	N/A	360 (AM peak hour)/608 (PM peak hour)	458 (AM peak hour)/787 (PM peak hour)	
Total Public Parking Inventory	2,598	4,063	5,985	
Additional Projected Residential Population	N/A	1,058	1,397	
Additional School Aged Children	N/A	68	91	
Property Tax Revenue	County	\$74,408	\$352,843	\$424,132 (Brookhaven)/ \$17,368 (Islip)
	Town	\$40,989	194,367	\$233,638 (Brookhaven)/ \$5,575 (Islip)
	School	\$366,200	\$1,736,519	\$2,087,366 (Brookhaven)/ \$98,886 (Islip)
	Other Special Districts	\$40,778	\$193,370	\$232,439 (Brookhaven)/ \$10,229 (Islip)

8.1 No-Action Alternative

This section examines the SEQRA-mandated No-Action alternative, which involves leaving the TOD District area in its present state. While the implementation of this alternative would leave the TOD District area unchanged and would not result in any additional environmental impacts, the Town's desire to revitalize the TOD District area would not be realized. Specifically, the No-Action alternative would result in the possible continuation of an area that consists of vacant, underutilized and/or blighted properties. The No-action alternative would also allow the TOD District area to continue with unplanned, uncoordinated development.

The TOD District area has been the subject of planning studies and community involvement since 2007. The goal of the *Ronkonkoma Hub Planning Study* completed in March 2009, was to develop a vision that includes compact, mixed-use redevelopment of underutilized land that supports and expands on the high ridership of and recent improvements made to the train station. Subsequent to the *Ronkonkoma Hub Planning Study*, the Town moved forward with the implementation phase, (i.e., adoption of a Land Use and Implementation Plan for the TOD District area, TOD code and the associated rezoning of properties within the TOD District area). The intent of the TOD District is to encourage the efficient use of land, be a catalyst for revitalization, and foster a sense of place through development of a new transit-oriented, mixed use, pedestrian-friendly community.

As such, implementation of the No-Action alternative would be in contravention of the Town's stated goals and the community's desire to revitalize the area, as evidenced by the visioning process. Furthermore, the projected tax and employment benefits, the introduction of new multi-family housing, and the economic benefits associated with the proposed action would not occur under the No-Action alternative.

8.2 Theoretical Maximum Build-Out Plan

An alternative plan is being evaluated that considers the inclusion of property to the south of the LIRR tracks, within the Town of Islip, that is currently used for parking. This alternative would include the development of retail space, structured parking and an STP within the Town of Islip. Thus, for this alternative, the boundary of the TOD District area includes the 52.16± acres to the south of the LIRR tracks, within the Town of Islip. The "Theoretical Maximum Build Out Plan" (see Figure 24 – Theoretical Maximum Build Out Plan), includes the following within the overall 105.89±-acre area (Towns of Brookhaven and Islip):

- 802 Multi-family residential units;
- Six townhouses;
- 102,275 square feet – Retail Space;
- 49,375 square feet – Office Space;
- 30,000 square feet – Health Club;
- 100 seats – Restaurant; and
- Sewage Treatment Plant.

The Theoretical Maximum Build Out Plan would result in additional development and land uses when compared to the Theoretical Full Build Plan, including:

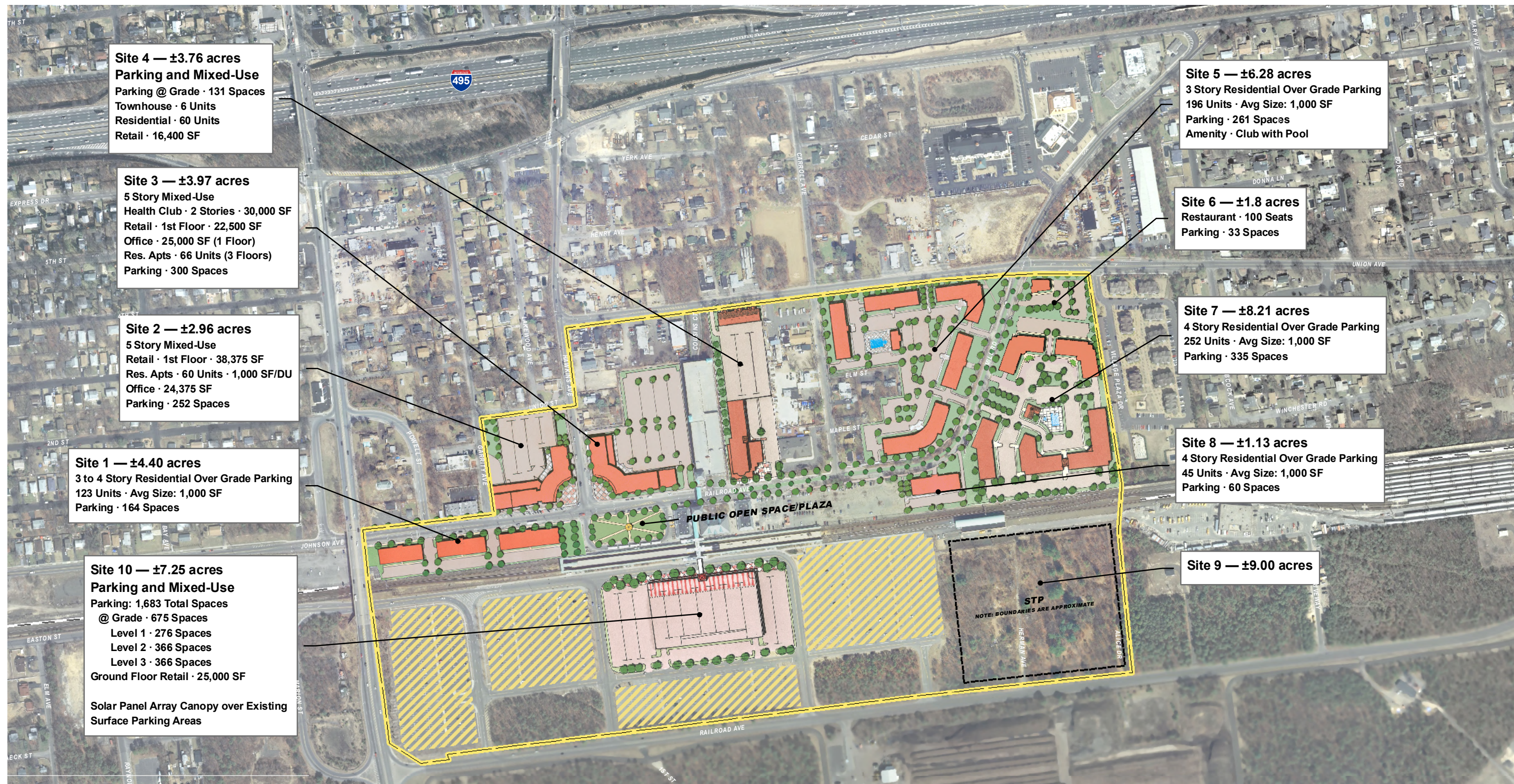
- An additional 25,000 square feet of ground-floor retail and 1,683 structured parking spaces on the new Site 10 (Town of Islip);
- A relocated Sewage Treatment Plant (south of the LIRR train tracks within the Town of Islip);
- An additional 66 units of residential (townhouses and apartments) and 16,400 square feet of retail as well as reduced parking (131 spaces) on Site 4 (Town of Brookhaven);
- An additional 127 residential units and 169 parking spaces on Site 7 (Town of Brookhaven); and
- Solar panel array canopies above all existing surface lot parking surrounding Site 4B within the Town of Islip.²³

Because the Town of Brookhaven does not have the authority to implement a TOD District in the Town of Islip, it would be at the discretion of the Town of Islip to either approve the proposed redevelopment under the existing zoning, rezone the parcels, or adopt Brookhaven’s proposed form-based code (with appropriate modification) for the property within the Town of Islip. Under the Islip Zoning Ordinance, parking and certain retail uses are permitted by special permit from the Planning Board after a public hearing.²⁴



²³ This component is not proposed as part of the Theoretical Maximum Build Out Plan, but is a planned action by Suffolk County.

²⁴ Town of Islip, *Town of Islip Zoning Ordinance*, Article XXV, § 68-340.1.



Legend

- Study Area
- Long Island Rail Road
- Solar Panel Array Canopy

Note: Parking based on ITE parking generation rates as follows:

- Res:** 1.33 Spaces/Unit
- Office:** 2.84 Spaces/Unit
- Retail:** 2.65 Spaces/Unit
- Restaurant:** 1 Space/3 Seats

Note: Study Area totals are as follows...

- Brookhaven:** 53.73 Acres
- Islip:** 52.16 Acres

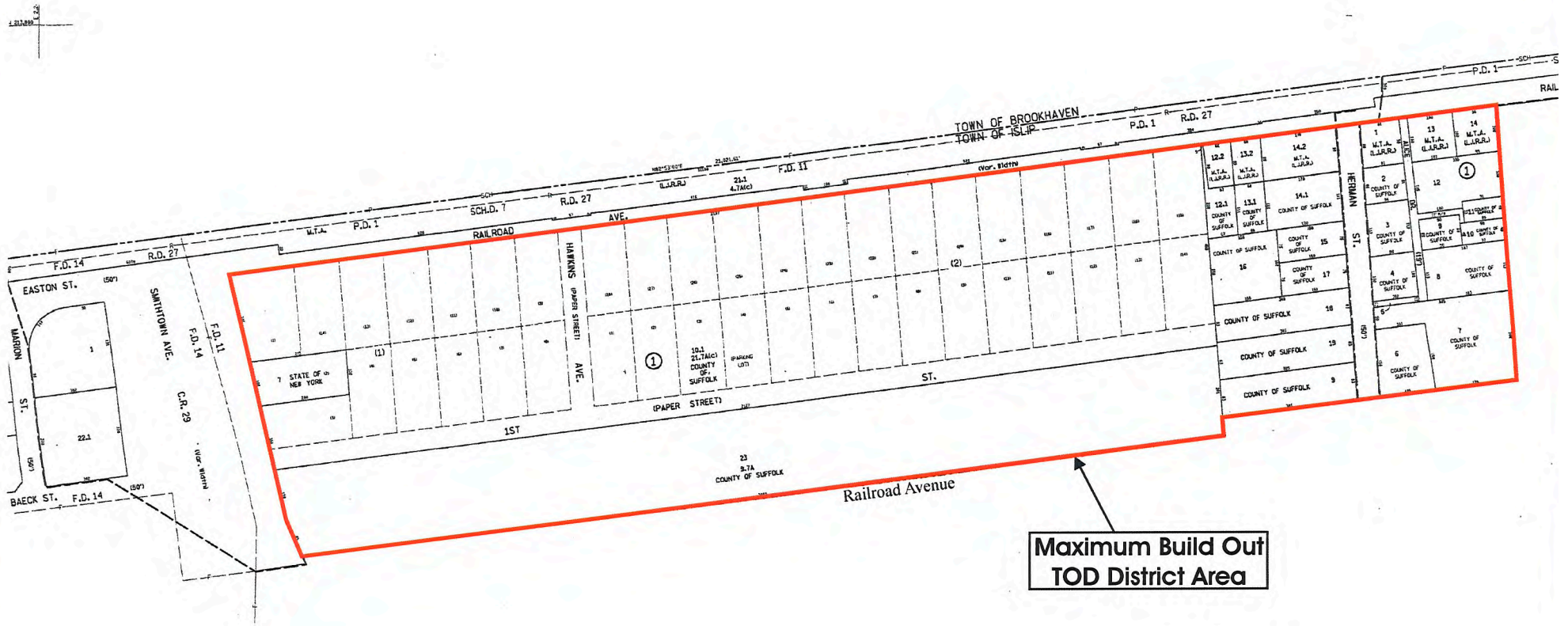


Data sources:
Aerial Imagery – New York State Geographic Information Systems
Assessors Parcels, LIR Rail, Land Use and Zoning – Suffolk County GIS Basemap, Town of Brookhaven, Long Island, NY



Figure 24
Theoretical Maximum Build Out Plan

Ronkonkoma Hub
Transit-Oriented Development



Note: Boundary is approximate
 Source: County of Suffolk Real Property Tax Service Agency, District 500, Sections 064. Last Revised March 2, 2001.



Figure 25
 Suffolk County Tax Map—Town
 of Islip Parcels
Ronkonkoma Hub
Transit-Oriented Development

8.2.1 Soils and Topography

The Theoretical Maximum Build Out Plan includes development on properties on the south side of the LIRR railroad tracks. The 9.0±-acre area where the STP has been cited is undeveloped. The *Soil Survey* maps the soils within the 9.0±-acre STP area as RdA and PIB soils (see As indicated in Figure 26 – Soils Type Map for Islip Area – Theoretical Maximum Build Out Plan). As indicated in Table 3 – Engineering and Planning Limitations of On-Site Soils in Section 3.1 of this DGEIS, RdA and PIB soils are noted as having slight limitations for sewage disposal fields because of rapid permeability. As indicated in the Preliminary Feasibility Study in Appendix D of this DGEIS, these are ideal types of soils for disposing of sewage treatment plant effluent, because they allow for recharge beyond the minimum leaching rate required by the SCDHS for the disposal of effluent. As such, on-site soils are suitable for the placement of the STP.

The *Soil Survey* maps the soils within the Town of Islip-parking area as RdA, which have slight or no engineering limitations for development. As such, on-site soils are suitable for the development of structured parking with retail uses on the ground floor within the existing Town of Islip parking lot.

The disturbance of soils during construction and regrading activities increases the potential for erosion and sedimentation. However, proper erosion and sedimentation controls (e.g., the strategic placement of silt fencing and hay bales to prevent overland runoff and to protect on-site drywells from siltation, maintenance of construction entrances to minimize the transport of sediment on to roadways, placement of appropriate cover over soil stockpiles to protect from wind and precipitation) would minimize impacts. Also, dust control measures during dry or windy periods, including the application of water, the use of stone in construction roads, and/or vegetative cover, would minimize wind erosion. As such, with suitable and proper erosion and sedimentation controls, it is not expected that site redevelopment would result in significant adverse impacts associated with ground disturbance, regrading and/or construction activities.

The topography of the TOD District area as well as the areas proposed for redevelopment in the Town of Islip is relatively flat, with little concern for grading issues.

Overall, the Theoretical Maximum Build Out Plan would result in a greater area of land disturbance due to the inclusion of the 9.0±-acre site and the Town of Islip surface parking area. However, there would be no significant adverse impacts associated with on-site soils or topography. Moreover, with proper erosion and sedimentation controls, there would be no significant adverse impacts associated with land disturbance.

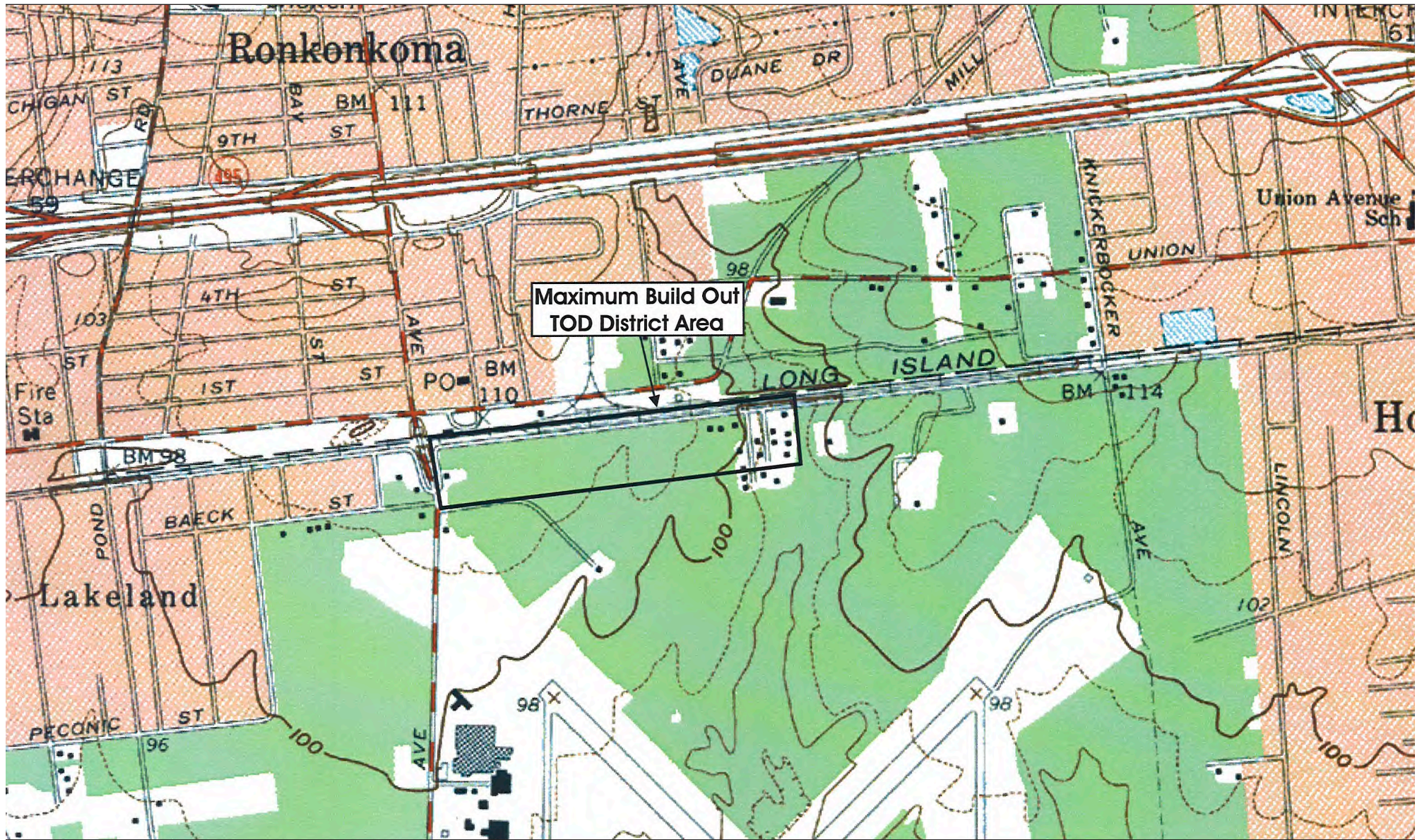


Map Unit Information		Map Legend	Map Information
Map Unit Symbol	Map Unit Name	TOD District Area Boundary for the Maximum Build Out	Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: UTM Zone 18N NAD83 This product is generated from the USDA-NRCS certified data as of the version date(s) listed below. Soil Survey Area: Suffolk County, New York Survey Area Data: Version 7, Dec 11, 2006 Date(s) aerial images were photographed: 7/31/2006 The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.
CuB	Cut and fill land, gently sloping	Area of Interest (AOI)	
PIA	Plymouth loamy sand, 0 to 3 percent slopes	Soil Map Units	
PIB	Plymouth loamy sand, 3 to 8 percent slopes	Rails	
RdA	Riverhead sandy loam, 0 to 3 percent slopes	Major Roads	
		Local Roads	

Note: Boundary is approximate



Figure 26
 Soils Type Map for Islip Area– Theoretical
 Maximum Build Out Plan
Ronkonkoma Hub
Transit-Oriented Development



Note: Boundary is approximate
 Source: USGS Topographic Map (Patchogue Quadrangle). Earthvisions, Inc. 1996.



Figure 27
 USGS Topographic Map for Islip
 Area—Theoretical Maximum Build Out Plan
 Ronkonkoma Hub
 Transit-Oriented Development

8.2.2 Water Resources and Sanitary Disposal

Groundwater

Water Usage

The domestic water use (utilizing SCDHS design sewage flow rates as the basis for estimating potable water requirements) for the Theoretical Maximum Build Out Plan scenario is approximately 203,000 gpd (see Table 49 below). With an additional 10 percent estimated for irrigation and domestic uses not entering the sanitary system, the total projected water demand for the Theoretical Maximum Build Out Plan is approximately 223,000 gpd. As indicated in Section 4.2 of this DGEIS, the total projected potable water demand for the Theoretical Full Build Plan is 186,000 gpd. As such, this alternative would increase water usage by 37,000 gpd.

Table 49 – Projected Sanitary Flow for Theoretical Maximum Build Out Plan

Totals	
Site 1	27,675± gpd
Site 2	17,944± gpd
Site 3	27,313± gpd
Site 4	16,366± gpd
Site 5	44,100± gpd
Site 6	3,000± gpd
Site 7	56,700± gpd
Site 8	10,125± gpd
Site 10	1,625± gpd
Existing to Remain	7,701± gpd
TOTAL	212,548± gpd

In a response letter dated August 30, 2010, the SCWA advised that it can provide water to the proposed TOD District area (see Appendix J). However, the SCWA advised that distribution infrastructure improvements would be required in order to have the water available in the project area.

It is also noted that the SCWA indicated that the pressure available from SCWA's system may not be adequate to serve the higher elevations in multi-story buildings included on Theoretical Full Build and Maximum Build Out Plans and, therefore, the need for a booster pump system must be evaluated during the individual project design process.

Sanitary Disposal

As indicated in Section 4.2 of this DGEIS, a Preliminary Feasibility Study for Sewage Treatment and Disposal was prepared by Michael P. Chiarelli Engineer, P.C. (see Appendix D of this DGEIS) to evaluate the feasibility of constructing a sewage treatment plant within the TOD District area to handle sanitary waste from all properties within the TOD District area. Since future development density is not precisely known, the proposed STP capacity will be 275,000 GPD.

The Theoretical Maximum Build Out Plan includes the 52.16± acres on the south side of the LIRR tracks, within the Town of Islip within the sewer district. Under this scenario, the TOD District area would be expanded to 105.89± acres to include the area utilized by the STP and the LIRR Station parking lot. If this plan is followed, the design average daily flow required will be approximately 213,000 GPD, inclusive of existing properties to remain (see Table 49 – Projected Sanitary Flow for Theoretical Maximum Build Out Plan below).

For the Theoretical Maximum Build Out Plan, the STP will be sited within the Town of Islip. Alternatively, this parcel, and the parcel containing the parking garage and shops on the Islip side would expand the sewer district and sewage flow. This parcel is a 9.00± acre site, which will accommodate the 275,000 gpd capacity STP being proposed, pending analysis of soil characteristics and potential hydrogeological effects of effluent on drinking water supplies. As indicated earlier, the soil types for this site are ideal for disposing of sewage treatment plant effluent, because they allow for recharge beyond the minimum leaching rate required by the SCDHS for the disposal of effluent. The site is relatively flat, with little concern for grading issues. The site is generally wooded, and would require clearing of the existing trees to allow for the construction of the STP building as well as placement of the subsurface leaching pools.

In comparing the two alternatives (Theoretical Full Build Plan and Theoretical Maximum Build Out Plan), both sites are generally similar. The basic differences include the size of each parcel (5.47± Ac. vs. 9.00± Ac.) and the existing terrain of each parcel (generally cleared vs. generally wooded). The primary site (Town of Brookhaven) is within the proposed TOD District area, and the alternative site would either be outside the sewer district or would require the expansion of the sewer district to 106± acres.

Also, the alternative site is significantly larger than the primary site (i.e., 9.00± acres vs. 5.47± acres), offering greater opportunity for expansion of the STP in the future to accommodate, for example, increased development in the Town of Islip.

Stormwater Runoff

The Theoretical Maximum Build Out Plan would result in a greater area of land disturbance due to the inclusion of the 9.0±-acre site and the Town of Islip surface

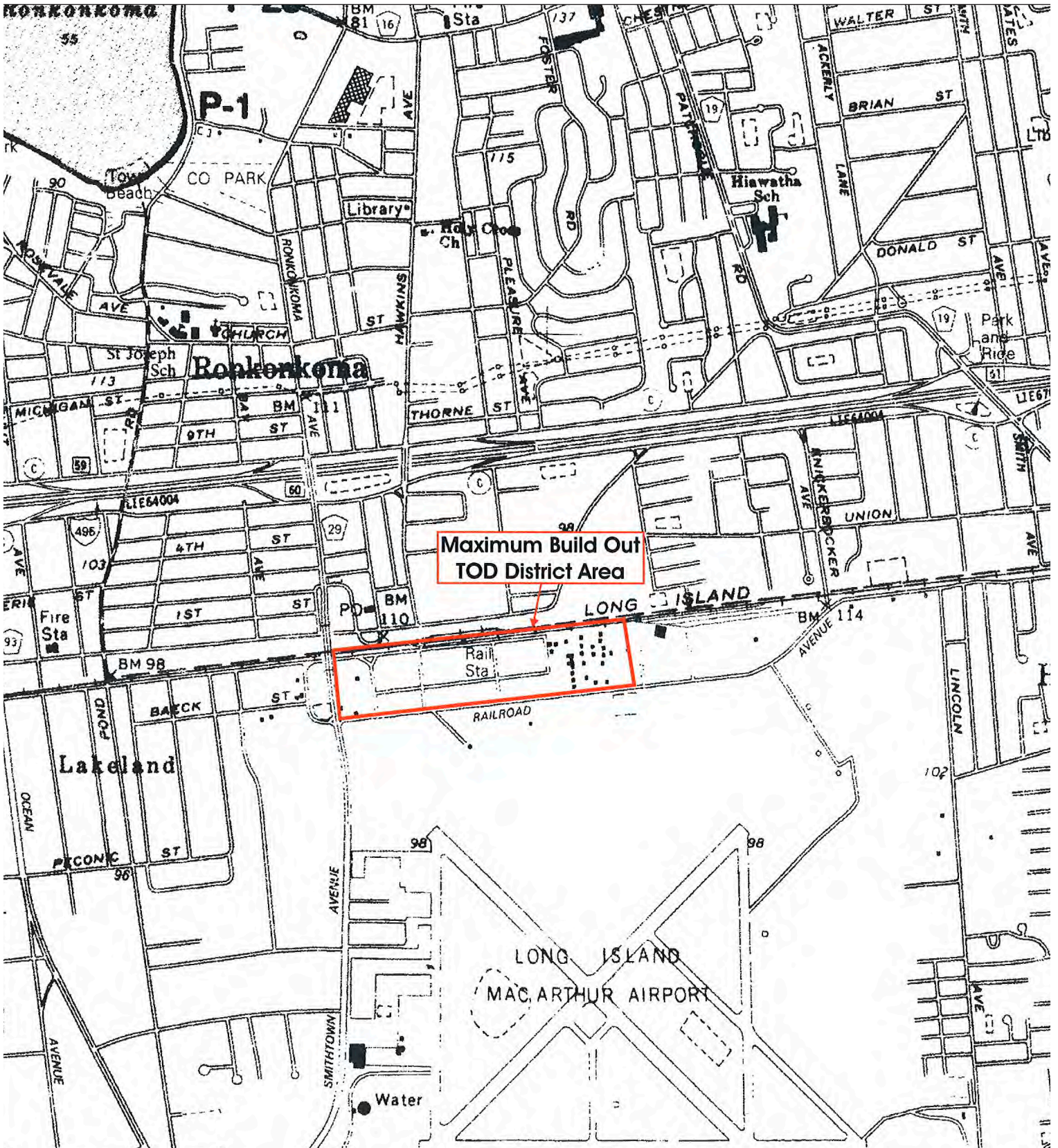
parking area. However, there would be a very small area of impervious cover associated with the STP site and the structured parking with retail space would be constructed within an existing paved parking lot. As such, the development on the Town of Islip side would be expected to result in only minor increases in impervious surface area. Notwithstanding, all applications would be required to comply with the provisions of Chapter 86 of the Town Code (Stormwater Runoff and Erosion Control), and thus, no significant adverse impacts associated with stormwater runoff or erosion post-development would be expected. It is expected that all applications for development within the Town of Islip would also be subject to the Town's local stormwater ordinance. Overall, therefore, it would not be expected that implementation of the Theoretical Maximum Build Out Plan would result in significant adverse impacts associated with stormwater runoff.

Surface Waters

There are no wetlands or surface water on or proximate to the TOD District area (see Figure 28 – Excerpt of NYSDEC Freshwater Wetlands Map for Islip Area – Theoretical Maximum Build Out Plan and Figure 29 – Excerpt of National Wetlands Inventory Map for Islip Area – Theoretical Maximum Build Out Plan). As such, implementation of the proposed action will not impact same.

8.2.3 Ecology

A detailed description of the existing ecological conditions and the potential impacts of the Theoretical Full Build Plan have been provided in Sections 3.3 and 4.3 of this DGEIS. As this alternative plan includes the improvements of properties on the south side of the LIRR tracks, within the Town of Islip, the existing ecological conditions on the Town of Islip property (hereinafter referred to as the “southern property”) were evaluated and are as follows.



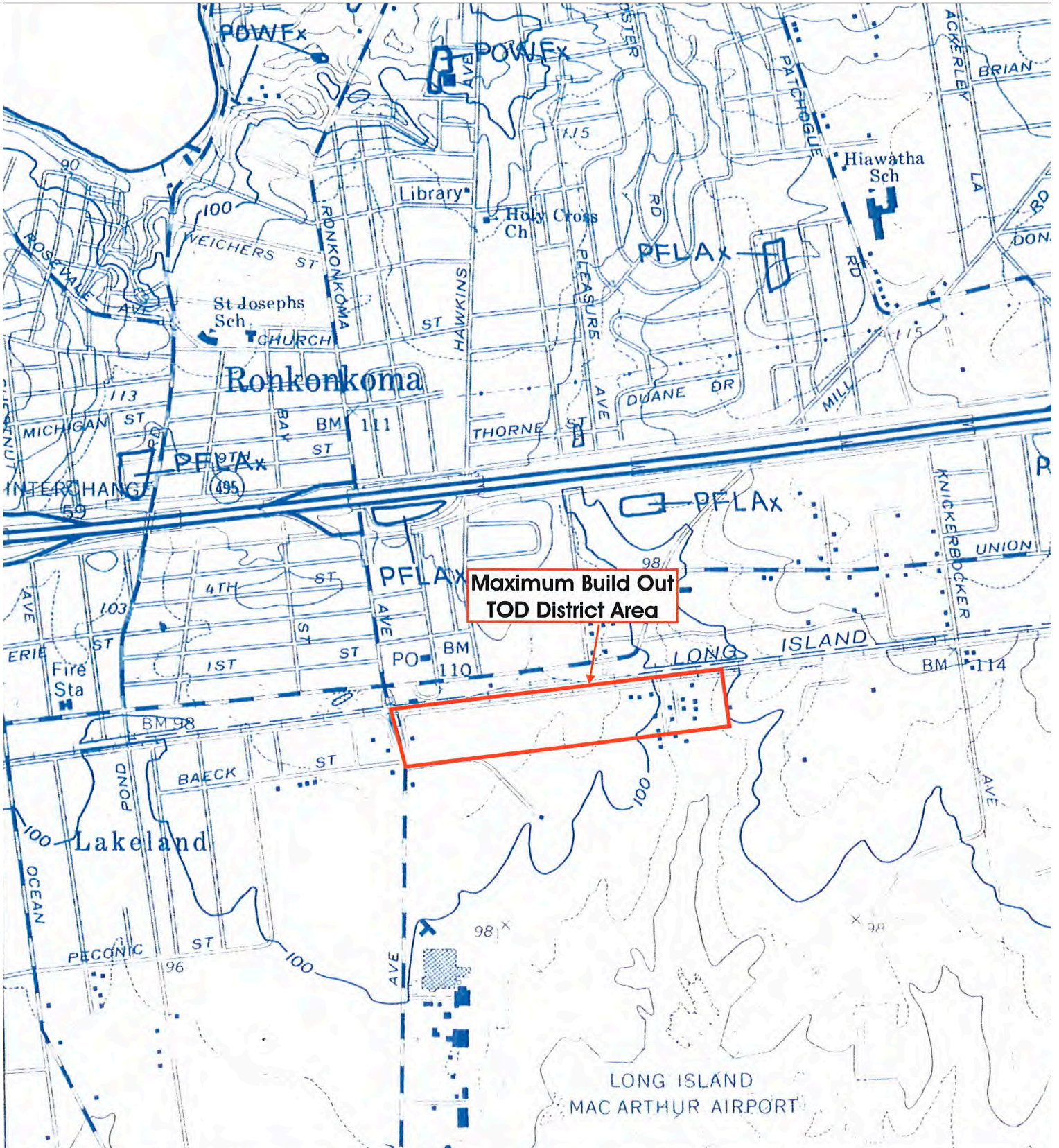
Note: Boundary is approximate
 Source: NYSDEC Freshwater Wetlands Map (Patchogue Quadrangle), 1991.



Figure 28
 Excerpt of NYSDEC Freshwater Wetlands Map for
 Islip Area – Theoretical Maximum Build Out Plan
Ronkonkoma Hub
Transit-Oriented Development



not to scale



Note: Boundary is approximate
 Source: USFWS National Wetlands Inventory Map (Patchogue Quadrangle). 1994.



Figure 29
 Excerpt of National Wetlands Inventory Map for
 Islip Area – Theoretical Maximum Build Out Plan
Ronkonkoma Hub
Transit-Oriented Development



Vegetation

The majority of the Town of Islip-owned property is comprised of paved parking areas associated with the LIRR station. The Town of Islip's area supports four NYNHP ecological communities: Paved Road/Path, Railroad, Mowed Lawn and Mowed Lawn with Trees. Vegetation in these areas is comprised primarily of ornamental trees, shrubs and herbaceous plants (including grasses), as well as common "weed" species.

The eastern portion of the southern property (see Parcel C in Figure 30 – Existing Habitats – TOD District Area – Theoretical Maximum Build Out Plan) is presently undeveloped and is comprised primarily of Successional Southern Hardwoods. A variety of native and non-native trees species are co-dominant within this community, including Norway maple, black locust, Russian olive, big-tooth aspen, black cherry and American basswood (*Tilia americana*). The shrub stratum is generally sparse, except in perimeter areas. Trumpet creeper vine and poison ivy are prevalent throughout much of the shrub, groundcover and canopy strata within this community. Evidence of prior residential development is apparent on the northern and central portions of Parcel C (see Figure 30) in the form of fences, driveways, columns and patches of ornamental plantings, including lilies (*Lilium* spp.) lily-of-the-valley (*Convallaria majalis*) and English ivy (*Hedera helix*). Scattered patches of Successional Shrubland are present throughout the interior of the parcel, and also along portions of the perimeter areas. Dominant species in these patches include multiflora rose, raspberries (*Rubus* sp.), smooth sumac (*Rhus glabra*) goldenrods, mullein, sowthistles (*Sonchus* spp.), Queen Anne's lace (*Daucus carota*), poison ivy and Japanese honeysuckle. Similar to Parcel A, some scattered remnants of pre-disturbance Pitch Pine-Oak Forest tree species amid atypical (non-native) shrub and groundcover species remain on the southern portion of the parcel.

The NYNHP considers the six communities described above to be either "demonstrably secure" or "apparently secure," within New York State.



Note: Boundary is approximate
 Source: Google, 2010.



Legend

Parcel A: Successional southern hardwoods and successional shrubland

Parcel B: Pitch pine-oak forest

Parcel C: Pitch southern hardwoods and successional shrubland

All Other Areas: Paved road/path, urban structure exterior, railroad, mowed lawn
 mowed lawn with trees, and flower/herb garden



Figure 30

Existing Habitats–TOD District
 Area–Theoretical Maximum Build Out Plan
Ronkonkoma Hub
Transit-Oriented Development

Prepared for the Town of Brookhaven, June 2010

The vegetative species observed on the southern property is markedly similar to that observed on the Town of Brookhaven side (or “northern property”) (see the Plant Species list included in Section 3.3.1 of this DGEIS). The following additional species were also observed.

Trees

American basswood	<i>Tilia americana</i>
American holly	<i>Ilex opaca</i>
northern white cedar	<i>Thuja occidentalis</i>
Norway spruce	<i>Picea abies</i>
pin oak	<i>Quercus palustris</i>
red mulberry	<i>Morus rubra</i>
silver maple	<i>Acer saccharinum</i>

Shrubs and Vines

English ivy	<i>Hedera helix</i>
summer grape	<i>Vitis aestivalis</i>
sweet pea	<i>Lathyrus latifolius</i>

Herbaceous Plants

daisy fleabane	<i>Erigeron strigosus</i>
hemp dogbane	<i>Apocynum cannabinum</i>
Japanese knotweed	<i>Polygonum cuspidatum</i>
lilies	<i>Lillium spp.</i>

The STP, if constructed, would involve the clearing of some Successional Southern Hardwoods and Successional Shrubland. However, both communities exist as a result of past clearing or other anthropogenic disturbance, and support a variety of invasive/non-native vegetation. As a result, the overall ecological value of these communities has been diminished. Further, the two communities are ranked by the NYNHP as “demonstrably secure” and “apparently secure,” respectively, within New York State, and thus, removal of same on the 9.0±-acre parcel would not result in significant adverse ecological impacts.

Wildlife

Given that all of the ecological communities observed on the southern property are also supported on the northern property, as well as in proximity of these two areas, the wildlife species expected on both are anticipated to be similar (see Section 3.3.2 of this DGEIS and Appendix F).

With respect to observed wildlife, the same species assemblage of birds observed on the northern property was also observed on the southern property, with the

exception of song sparrow and red-winged blackbird. One mammal species, (eastern gray squirrel) was observed within the Successional Southern Hardwoods community on the eastern portion of the southern property. Similar to the northern property, no herpetofauna were observed on the southern property.

The removal of Successional Shrubland and Successional Southern Hardwoods during the clearing/construction phase of the proposed STP expansion would have a direct impact on the abundance of wildlife using these areas. Individuals of a few less mobile wildlife species (i.e., some mammal and reptile species, if present) may suffer direct elimination during clearing of these habitats. More mobile animals (i.e. birds and most mammals) will be forced to emigrate to unaffected habitats, both on the southern property or in the general surrounding area. In the short term, it is expected that these habitats will experience a temporary increase in the abundance of some wildlife populations. Subsequently, it is expected that inter- and intra-specific competition for available resources within these habitats will result in a minor net decrease in local population sizes for most species, as a new equilibrium is achieved. As detailed previously, due to the developed/disturbed conditions on the southern property and in the general surrounding area, the wildlife species observed or expected are those that are well-adapted to developed and/or disturbed habitats and human presence. Thus, following construction of the STP, it is anticipated that suitable habitat will remain for individuals of most displaced wildlife species. Therefore, it is further anticipated that individuals of most or all of these species will return to the southern parcel. Ultimately, no significant adverse impacts are anticipated for the density and diversity of local or regional wildlife populations are expected as a result of construction activities on the southern parcel.

Rare Species/Habitat Potential

As both the northern and the southern properties were included in VHB's June 14, 2010 request letter to the NYNHP (see Section 3.3.3 of this DGEIS and Appendix F), the NYNHP's June 30, 2010 response letter is also applicable to the southern property. As such, three current and four historic NYNHP records exist for rare vascular plants in the vicinity of the southern property. Although limited areas of potentially-suitable habitat for these plants exist on portions of the southern property, none of the seven species were observed during the field inspection. Given the nature of the ecological communities observed on the southern property during the field inspection (i.e., paved, landscaped or successional habitats in various stages of recovery from anthropogenic disturbance), the occurrence of these or other rare plant species on the southern is considered to be unlikely. According to the NYNHP response letter, no other records currently exists for rare or State-listed animals, plants, significant natural communities or other significant habitats on or in the immediate vicinity of the southern property.

8.2.4 Land Use and Zoning

Land Use and Zoning

The Theoretical Maximum Build Out Plan builds on the Theoretical Full Build Plan by expanding the TOD District south of Ronkonkoma Station and the LIRR tracks to include Suffolk County-controlled parcels within the Town of Islip. For the portion of the TOD District area within Brookhaven, the proposed form-based code would be implemented resulting in generally the same development plan as for the Theoretical Full Build Plan with the exception of Sites 4, 7 and 9, as described below.

The Theoretical Maximum Build Out Plan, as presented in Figure 2, situates development for specific portions of the expanded TOD District area (ten development sites total). The inclusion of these specific parcels, including parcels within the Town of Islip, would permit currently underutilized and partially vacant parcels as well as surface parking to be redeveloped into a cohesive transit-oriented community.

The Theoretical Maximum Build Out Plan would result in additional development and land uses when compared to the Theoretical Full Build Plan (see Table 25 – Theoretical Full Build Plan – Summary of Land Uses), including:

- An additional 60 units of residential (six townhouses and 60 apartments) and 16,400 square feet of retail as well as reduced parking (131 spaces) on Site 4;
- An additional 127 residential units and 169 parking spaces on Site 7;
- A new Site 10 with an additional 25,000 square feet of ground-floor retail and 1,683 at-grade and structured parking spaces in three levels (located south of the LIRR train tracks within the Town of Islip); and
- Relocation of the STP to the south of the LIRR train tracks within the Town of Islip.

Like the Theoretical Full Build Plan, the overall intent of this alternative is the efficient use of land to serve as a catalyst for revitalization, to foster a sense of place through development of a new transit-oriented, mixed use, self-sufficient community. Redevelopment under this alternative is expected to encourage development that would enhance the tax base, in this case for two municipalities – Brookhaven and Islip – and complement the surrounding communities and uses as well as better utilize existing public transit infrastructure at the LIRR Ronkonkoma Station through improved access and increased ridership.

The expanded TOD District area boundaries were drawn to include all areas where TOD-type development would be appropriate. The TOD District area, as proposed, includes parcels currently zoned J-2, J-4, J-6, and L-1 by the Brookhaven Zoning Code. Parcels zoned Industrial 1 District (Ind. 1) by the Islip Zoning Code also lie within the expanded TOD District area for this alternative.

Because the Town of Brookhaven does not have the authority to implement a TOD District in the Town of Islip, it would be at the discretion of the Town of Islip to either approve the proposed redevelopment under the existing zoning, rezone the parcels, or adopt Brookhaven's proposed form-based code (with appropriate modification) for the property within the Town of Islip. Under the Islip Zoning Ordinance, parking and certain retail uses are permitted by special permit from the Planning Board after a public hearing.²⁵

8.2.5 Traffic and Parking

The Traffic and Parking Analysis in Appendix G of this DGEIS evaluated the Theoretical Maximum Build Out Plan, including the projected number of vehicular trips it may generate, the impact on the surrounding roadways, the impact on the available public parking supply and on-site required parking to accommodate the land uses included in the program mix.

Trip Generation

Table 50 summarizes the trip generation data for the proposed land uses.

▼
²⁵ Town of Islip, *Town of Islip Zoning Ordinance*, Article XXV, § 68-340.1.

Table 50 – Trip Generation – Maximum Build 2019 Program Mix

Project Component	Component Size	AM Peak Hour		PM Peak Hour	
APARTMENTS ITE # 220 Rental Apartment	401 Units	Rate = 0.51 Entering 20% 41 Total =	Exiting 80% 164 205	Rate = 0.62 Entering 65% 162 Total =	Exiting 35% 87 249
RESIDENTIAL ITE # 230 Condos/Townhouses	407 Units	Rate = 0.44 Entering 17% 31 Total =	Exiting 83% 149 180	Rate = 0.52 Entering 67% 142 Total =	Exiting 33% 70 212
RETAIL SPACE ITE # 820 Shopping Center	102,275 SF	Rate = 1.00 Entering 61% 63 Total =	Exiting 39% 40 103	Rate = 3.73 Entering 49% 187 Total =	Exiting 51% 195 382
OFFICE/COMMERCIAL ITE # 710 General Office Building	49,375 SF	Rate = 1.55 Entering 88% 68 Total =	Exiting 12% 9 77	Rate = 1.49 Entering 17% 13 Total =	Exiting 83% 61 74
HEALTH CLUB ITE # 492 Health/Fitness Club	30,000 SF	Rate = 1.38 Entering 45% 19 Total =	Exiting 55% 23 42	Rate = 3.53 Entering 57% 60 Total =	Exiting 43% 46 106
RESTAURANT ITE # 931 Quality Restaurant	100 Seats	Rate = 0.03 Entering 67% 2 Total =	Exiting 33% 1 3	Rate = 0.26 Entering 67% 17 Total =	Exiting 33% 9 26
TOTALS	AM Peak Hour Trips		PM Peak Hour Trips		
	Entering	Exiting	Entering	Exiting	
	224	386	581	468	
		610		1,049	

As done in the 2014 Build conditions section, the ITE estimates were adjusted for the Transit Oriented Development with a reduction of 25 percent. Table 51 shows trip generation factored for transit-orientation.

Table 51 – TOD Trip Generation – Proposed Mix 2019

ITE Trip Generation	AM Peak Hour Trips		PM Peak Hour Trips	
	Entering	Exiting	Entering	Exiting
	224	386	581	468
	610		1,049	
Trip generation adjusted for Transit Oriented Development at 75% of the normal rate	AM Peak Hour Trips		PM Peak Hour Trips	
	Entering	Exiting	Entering	Exiting
	168	290	436	351
	458		787	

As shown in Table 51, the 2019 program mix for this alternative plan is projected to generate 458 trips during the AM peak hour and 787 trips during the PM peak hour.

Capacity Analysis

A capacity analysis was performed for the Theoretical Maximum Build Out Plan. The results of the capacity analyses for the signalized intersections of LIE North Service Road at Hawkins Avenue, LIE South Service Road at Hawkins Avenue, Hawkins Avenue at Union Avenue, Union Avenue at Mill Road and Hawkins Avenue at Railroad Avenue for the AM and PM peak hours are summarized in Table 52. The results for the unsignalized intersection of Ronkonkoma Avenue at 2nd Street/Powell Street for the AM and PM peak hours are summarized in Table 53. The detailed capacity analysis worksheets are contained in Appendix C of the Traffic and Parking Analysis.

Table 52 – Signalized Intersections Level of Service Summary – Maximum Build Out 2019

Intersection	Movement	Lane Group	MAX BUILD 2019			
			AM PEAK		PM PEAK	
			Delay	LOS	Delay	LOS
LIE North Service Road @ Hawkins Avenue	WB	L	18.1	B	22.0	C
		T	43.3	D	20.4	C
		R	11.0	B	13.1	B
		Approach	36.3	D	19.0	B
	NB	L	44.1	D	55.9	E
		T	11.6	B	10.3	B
		Approach	25.1	C	22.4	C
	SB	TR	48.5	D	29.9	C
		Approach	48.5	D	29.9	C
Overall Intersection			36.6	D	22.7	C
LIE South Service Road @ Hawkins Avenue	EB	L	18.5	B	22.6	C
		TR	16.6	B	61.8	E
		Approach	17.0	B	57.2	E
	NB	T	27.7	C	57.9	E
		R	27.4	C	41.1	D
		Approach	27.6	C	54.4	D
	SB	L	26.4	C	59.6	E
		T	22.5	C	12.1	B
		Approach	23.4	C	33.4	C
Overall Intersection			22.2	C	51.8	D
Hawkins Avenue @ Union Avenue	WB	L	37.8	D	34.5	C
		R	3.6	A	12.1	B
		Approach	14.8	B	15.3	B
	NB	TR	13.2	B	13.8	B
		Approach	13.2	B	13.8	B
	SB	L	7.9	A	11.7	B
		T	6.7	A	3.5	A
		Approach	7.2	A	8.4	A
	Overall Intersection			10.3	B	12.0
Union Avenue @ Mill Road	EB	L	4.7	A	10.4	B
		TR	4.7	A	14.8	B
		Approach	4.7	A	14.5	B
	WB	L	6.5	A	17.8	B
		TR	6.6	A	17.0	B
		Approach	6.5	A	17.1	B
	NB	LTR	21.0	C	41.3	D
		Approach	21.0	C	41.3	D
	SB	LTR	14.9	B	11.9	B
Approach		14.9	B	11.9	B	
Overall Intersection			8.5	A	23.0	C
Hawkins Avenue @ Rail Road Avenue	EB	L	11.4	B	22.7	C
		TR	15.1	B	18.1	B
		Approach	14.2	B	19.9	B
	WB	L	9.8	A	9.2	A
		T	25.3	C	24.8	C
		Approach	5.7	A	5.3	A
	SB	Approach	16.3	B	13.7	B
		LT	15.9	B	19.5	B
		R	4.1	A	4.7	B
Approach	9.9	A	14.2	A		
Overall Intersection			12.9	B	16.3	B

Table 53 – Unsignalized Intersection Level of Service Summary – Maximum Build Out 2019

INTERSECTIONS	CRITICAL APPROACH	AM PEAK		PM PEAK	
		Delay	LOS	Delay	LOS
Ronkonkoma Avenue & 2nd Street / Powell Street	EB	28.4	D	13.3	B
	WB	11.3	B	28.4	D

As indicated in Table 52, the overall LOS is a C or better during the two peak periods analyzed at the signalized intersections of Hawkins Avenue at Union Avenue, Union Avenue at Mill Road and Hawkins Avenue at Railroad Avenue,. The signalized intersection of LIE North Service Road at Hawkins Avenue shows a LOS D during the AM Peak period and LOS C during the PM Peak period. The signalized intersection of LIE South Service Road at Hawkins Avenue shows LOS C during the AM Peak period and a LOS D during the PM Peak period.

Table 53 shows that at the unsignalized intersection of Ronkonkoma Avenue at 2nd Street/Powell Street, the eastbound approach shows a LOS D during the AM Peak period and a LOS B during the PM Peak period. The westbound approach shows a LOS B during the AM peak period and a LOS D during the PM Peak period.

Table 54 and Table 55 show a comparison between the Build 2014 Condition, Build 2014 Mitigated Condition and Theoretical Maximum Build Out 2019 Condition for the AM and PM peak periods, respectively, for the signalized intersections, and Table 56 and Table 57 show the same comparison for the unsignalized Ronkonkoma Avenue and 2nd Street/Powell Street for AM and PM peak periods, respectively.

Table 54 – Signalized Intersections Level of Service Summary Comparison – AM Peak

Intersection	Movement	Lane Group	BUILD 2014		BUILD MITIGATED 2014		MAX BUILD 2019	
			Delay	LOS	Delay	LOS	Delay	LOS
LIE North Service Road @ Hawkins Avenue	WB	L	16.2	B			18.1	B
		T	29.2	C			43.3	D
		R	9.7	A			11	B
		Approach	25.3	C			36.3	D
	NB	L	47.6	D			44.1	D
		T	14.4	B			11.6	B
		Approach	27.5	C			25.1	C
	SB	TR	50.6	D			48.5	D
Approach		50.6	D			48.5	D	
Overall Intersection			29.9	C			36.6	D
LIE South Service Road @ Hawkins Avenue	EB	L	18.4	B	18.4	B	18.5	B
		TR	19.6	B	16.3	B	16.6	B
		Approach	19.3	B	16.7	B	17	B
	NB	T	26.5	C	27.5	C	27.7	C
		R			27.8	C	27.4	C
		Approach	26.5	C	27.6	C	27.6	C
	SB	L	32.3	C	26	C	26.4	C
		T	23.4	C	22.8	C	22.5	C
		Approach	25.4	C	23.5	C	23.4	C
		Overall Intersection			23.6	C	22.2	C
Hawkins Avenue @ Union Avenue	WB	L	37.5	D			37.8	D
		R	3.6	A			3.6	A
		Approach	14.7	B			14.8	B
	NB	TR	13	B			13.2	B
		Approach	13	B			13.2	B
	SB	L	7.5	A			7.9	A
		Approach	6.6	A			6.7	A
Overall Intersection			10.1	B			10.3	B
Union Avenue @ Mill Road	EB	L	4.5	A			4.7	A
		TR	4.4	A			4.7	A
		Approach	4.4	A			4.7	A
	WB	L	6.1	A			6.5	A
		TR	6.2	A			6.6	A
		Approach	6.2	A			6.5	A
	NB	LTR	18.4	B			21	C
		Approach	18.4	B			21	C
	SB	LTR	15.1	B			14.9	B
Approach		15.1	B			14.9	B	
Overall Intersection			7.8	A			8.5	A
Hawkins Avenue @ Rail Road Avenue	EB	L	11	B			11.4	B
		TR	15.1	B			15.1	B
		Approach	14.2	B			14.2	B
	WB	L	9.2	A			9.8	A
		T	25.5	C			25.3	C
		Approach	5.1	A			5.7	A
	SB	Approach	16.8	B			16.3	B
		LT	17.6	B			15.9	B
		R	4.3	A			4.1	A
Overall Intersection			11	B			9.9	A
Overall Intersection			13.7	B			12.9	B

No mitigation was necessary at Intersections 1, 3, 4 & 5 in Build 2014 Condition are therefore left blank in the Build Mitigated 2014 Column.

Table 55 – Signalized Intersections Level of Service Summary Comparison – PM Peak

Intersection	Movement	Lane Group	BUILD 2014		BUILD MITIGATED 2014		MAX BUILD 2019		
			Delay	LOS	Delay	LOS	Delay	LOS	
LIE North Service Road @ Hawkins Avenue	WB	L	22.4	C			22.0	C	
		T	19.8	B			20.4	C	
		R	12.3	B			13.1	B	
	Approach		18.7	B			19.0	B	
		NB	L	24.8	C			55.9	E
			T	11.5	B			10.3	B
	Approach		14.9	B			22.4	C	
	SB	TR	29.3	C			29.9	C	
		Approach	29.3	C			29.9	C	
Overall Intersection			19.8	B			22.7	C	
LIE South Service Road @ Hawkins Avenue	EB	L	18.5	B	22.2	C	22.6	C	
		TR	167.6	F	51.1	D	61.8	E	
		Approach	149.9	F	47.7	D	57.2	E	
	NB	T	205.2	F	53.3	D	57.9	E	
		R			42.4	D	41.1	D	
		Approach	205.5	F	50.8	D	54.4	D	
	SB	L	86.4	F	53.2	D	59.6	E	
		T	13.2	B	12.7	B	12.1	B	
		Approach	45.5	D	30.5	C	33.4	C	
Overall Intersection		141.0	F	44.9	D	51.8	D		
Hawkins Avenue @ Union Avenue	WB	L	33.9	C			34.5	C	
		R	11.6	B			12.1	B	
		Approach	14.8	B			15.3	B	
	NB	TR	13.6	B			13.8	B	
		Approach	13.6	B			13.8	B	
	SB	L	10.4	B			11.7	B	
		Approach	7.4	A			8.4	A	
Overall Intersection		11.4	B			12.0	B		
Union Avenue @ Mill Road	EB	L	7.5	A			10.4	B	
		TR	10.8	B			14.8	B	
		Approach	10.6	B			14.5	B	
	WB	L	10.8	B			17.8	B	
		TR	12.5	B			17.0	B	
		Approach	12.2	B			17.1	B	
	LTR		51.2	D			41.3	D	
		Approach	51.2	D			41.3	D	
	SB	LTR	14.0	B			11.9	B	
Approach		14.0	B			11.9	B		
Overall Intersection		22.5	C			23.0	C		
Hawkins Avenue @ Rail Road Avenue	EB	L	26.3	C			22.7	C	
		TR	20.1	C			18.1	B	
		Approach	22.3	C			19.9	B	
	WB	L	9.0	A			9.2	A	
		T	27.3	C			24.8	C	
		R	3.2	A			5.3	A	
	Approach		14.8	B			13.7	B	
		SB	LT	21.3	C			19.5	B
			R	4.9	A			4.7	B
Approach	15.9		B			14.2	A		
Overall Intersection		18.0	B			16.3	B		

No mitigation was necessary at Intersections 1, 3, 4 & 5 in Build 2014 Condition are therefore left blank in the Build Mitigated 2014 Column.

Table 56 – Unsignalized Intersection Level of Service Summary Comparison – AM Peak

INTERSECTIONS	CRITICAL APPROACH	BUILD 2014		BUILD MITIGATED 2014		MAX BUILD 2019	
		Delay	LOS	Delay	LOS	Delay	LOS
Ronkonkoma Avenue & 2nd Street / Powell Street	EB	28.0	D			13.3	B
	WB	20.7	C			32.3	D

Table 57 – Unsignalized Intersection Level of Service Summary Comparison – PM Peak

INTERSECTIONS	CRITICAL APPROACH	BUILD 2014		BUILD MITIGATED 2014		MAX BUILD 2019	
		Delay	LOS	Delay	LOS	Delay	LOS
Ronkonkoma Avenue & 2nd Street / Powell Street	EB	13.3	B			13.3	B
	WB	32.3	D			28.4	D

Conclusion

The traffic volumes in the 2019 Max Build are reduced on Hawkins Avenue and Railroad Avenue due to the placement of the parking structure in the Town of Islip. However, the traffic volumes on Ronkonkoma Avenue increase as commuters find additional spaces on the Town of Islip-portion of the LIRR station. The traffic impacts were, however, similar for the 2014 Build and 2019 Max Build conditions.

Also, the analysis shows that the change in operations from No Build to Build Condition is minimal. Four of the five signalized intersections included in the study and the one unsignalized will operate at a LOS C or better in the 2014 Build Condition. The signalized intersection of LIE South Service Road at Hawkins Avenue operates at an acceptable LOS during AM peak but is a LOS F in the PM peak period. Mitigation has been proposed for this intersection. With the proposed mitigation measures, this intersection will operate in the 2014 Build Condition at an overall LOS of D. The analysis for the 2019 Max Build condition showed similar operational conditions as the 2014 Build condition and the same level of mitigation would be required. Overall, with the mitigation measures outlined in Section 4.5 of this DGEIS, the Theoretical Maximum Build Out Plan would not result in significant adverse traffic impacts.

8.2.5.1 Parking

The available parking supply, current utilization, and potential changes in the supply and demand have been evaluated for this alternative. As indicated in Table 58, under the 2019 Max Build condition, there is a parking surplus of 761 spaces (7,584 – 6,823) for transit riders. As such, this alternative would not result in significant adverse parking impacts.

Table 58 - Parking Supply (Theoretical Maximum Build Out Plan)

Parking Field	Number of Parking Spaces				
	Existing MTA Capacity	Changes to Existing with Introduction of 2014 Build TOD	Theoretical Build Capacity ¹	Changes to Existing with Introduction of 2019 Max Build TOD	2019 Max Build Capacity ²
1 (Brookhaven)	575	0	575	-685	870
2 (Brookhaven)	335	-335	0		
3 (Brookhaven)	350	-350	0		
4 (Brookhaven)	295	0	295		
5 (Brookhaven)	1,043	0	1,043	0	1,043
Islip Surface Parking Lots	3,206	N/A	N/A	-675	2,531
New Parking Garage (Located on Site 4, just east of Parking Field 5)	N/A	N/A	+1,465	N/A	N/A
New Parking Garage (Located on Site 10, south of Max Build study area)	N/A	N/A	N/A	+1,683	1,541
Total	5,804	-685	4,063	323	5,985

Note: The parking supply for the new parking garage in the 2014 Build scenario was determined to be its maximum capacity (1,683 spaces) with a deduction of 75 spaces for the retail located on Site 10 and a deduction of 67 spaces for the residences on Site 8.

- 1) Only Includes Brookhaven spaces
- 2) Includes Brookhaven and Islip spaces

Similar to that of the Theoretical Full Build Plan, the construction-related impacts for this alternative would be short term. Construction and demolition activities will result in a slight short-term increase in air pollution emissions. The spraying of water during excavation activities would minimize fugitive dust emissions. This construction-related air-quality impact (i.e., fugitive dust) would be of relatively short duration. Also, during construction, emission controls from construction vehicles and machinery would include proper maintenance and reduced idling on-site. Overall, with the implementation of the various mitigation measures to minimize construction-related air quality impacts, no significant adverse impacts would be expected.

Emissions from project-related motor vehicle traffic and building operations would include mobile source pollutants (CO, VOC, NO_x, PM₁₀, and PM_{2.5}). As stated in Section 4.6 of this DGEIS, the change in motor vehicle emissions is directly related to the change in traffic parameters. The projected intersection volumes and vehicular delays associated with the Theoretical Maximum Build Out Plan are similar to that of the Theoretical Full Build Plan, and thus, would not be expected to result in significant increases in CO and PM concentrations. As indicated in Section 4.6 of this DGEIS, motor vehicle traffic emissions would not be expected to exceed the NAAQS. If similar increases are realized in ozone precursor emissions (VOC's and NO_x), then development in accordance with the Theoretical Maximum Build Out Plan would have no impact on the ozone NAAQS because the mobile source emissions are small when compared to the total emissions for the entire nonattainment area.

Similarly for the remaining pollutants, the emissions related to the Theoretical Maximum Build Out Plan are expected to have unsubstantial increases in relation to the urban nature of the area and the corresponding background concentrations of the various study pollutants.

Also, site-specific applications for redevelopment may be subject to air discharge permit requirements for fossil fuel burning emission sources, such as heating boilers and emergency diesel generators. Air regulations in the area of the TOD District area are administered through and enforced by the NYSDEC, and thus, all site-specific applications involving such systems would be subject to the review and permitting of the NYSDEC.

Overall, based on the foregoing analysis, the impacts associated with the Theoretical Maximum Build Out Plan are similar to that of the Theoretical Full Build Plan, As such, no significant adverse long-term air quality impacts would be expected.

8.2.7 Noise

Similar to the Theoretical Full Build Plan, the Theoretical Maximum Build Out Plan would be expected to comply with the Town of Brookhaven and Town of Islip noise ordinances, as well as the NYSDOT and FHWA noise impact criteria. It is also important to note that development within the Town of Islip, as shown on the Theoretical Maximum Build Out Plan, would not adjoin any sensitive receptors (e.g., residential properties).

The NYSDOT requires that the proposed action not approach (within one dBA) or exceed the NAC criteria of 66 dBA for a one-hour period and that it not increase sound levels by more than six dBA above existing sound levels. As indicated in Section 3.7 of this DGEIS, monitoring locations M1, M3, M4 and M5 currently experience sound levels that are equal to or exceed the NYSDOT/FHWA highway criteria of 66 dBA or the Town of Brookhaven criteria of 65 dBA (for Residential). The noise levels at these four monitoring locations largely reflect roadway noise, with intermittent rail activity. Although traffic volumes on the roadways within the TOD District area are projected to increase under the 2019 Build condition, it is not expected that the Theoretical Maximum Build Out Plan would increase noise levels by more than six dBA above existing noise levels. As such, it is not expected that this alternative would result in significant adverse noise impacts.

The dominant stationary noise source has been determined to be rooftop mechanical equipment. However, proper design to reduce noise to meet the local, state and federal impact criteria, including the use of locating rooftop mechanical equipment in penthouse rooms and/or enclosures, locating rooftop mechanical equipment to utilize the building height and geometry in order to create building blockage for receptor locations, and install, as necessary to attenuate noise, screening around the externally-located rooftop mechanical equipment. Thus, no significant adverse noise impacts from stationary sources are anticipated.

In the short term, construction noise is expected to result in temporary increases in ambient noise at some sensitive receptor locations. Sound levels would be evaluated at each phase of construction to determine if additional construction noise mitigation measures are necessary.

Overall, no significant adverse noise impacts would be expected if the Theoretical Maximum Build Out Plan were implemented.

8.2.8 Socioeconomics

BBP LLC performed a market analysis to review trends in the residential, retail and office markets in order to identify opportunities for development in the TOD District area. The Market Analysis (see Appendix H) included review of the Theoretical Maximum Build Out Plan to determine whether market trends would support the level of development included in the program mix.

Residential Market Analysis

In 2009, there were an estimated 337,000 “target market” households earning \$35,000 to \$150,000 in the primary and secondary market areas. By 2014, total households meeting the target market definition could rise to 342,000 households if households are added at an annual rate of 0.15 percent to 0.45 percent. If this annual growth continues at the same pace through 2019, target market households could increase to a total of nearly 348,000 households.

Given the current growth projections, the primary and secondary areas could add a net 5,442 households earning \$35,000 to \$150,000 from 2009 to 2014 and another 5,550 households earning at this income range from 2014 to 2019. Therefore, the total potential market demand for multi-family housing could be up to 10,991 households.

Therefore, based on the market analysis, the TOD District area would capture seven percent of the projected household growth in the primary and secondary market areas through 2019 to support the 808 residential units identified in the Theoretical Maximum Build Out Plan. The market analysis concluded that these relatively modest capture rates are achievable given the area’s many strengths identified as part of the residential market assessment.

Retail and Restaurant Market Analysis

As indicated in Section 4.8 of this DGEIS, future retail spending patterns could support over 55 million square feet in the primary and secondary market areas. As such, the 112,275 square feet of retail space (including restaurant space) included in this alternative plan, which represents only 0.22 percent of this total supportable space of 55 million square feet, can be achieved.

Office Market Analysis

This alternative plan calls for the same area of office space as that of the Theoretical Full Build Plan (i.e., 49,375 square feet). As indicated in Section 4.8 of this DGEIS, this area of office space can be supported based on projected employment growth and demand for office space.

8.2.8.1 Population Projection

With the addition of the new residential units, the Theoretical Maximum Build Out Plan is estimated to generate a population of 1,397 residents. As indicated in Section 3.8 of this DGEIS, the Theoretical Full Build Plan is estimated to generate 1,058 residents. As such, the maximum build-out plan would generate 339 additional residents.

Table 59 - Projected Residential Population (Theoretical Maximum Build Out Plan)

Type of Unit	# of Units	Persons Per Units	Total Persons
Ownership	401	1.77	710
Rental	401	1.67	670
Townhomes	6	2.83	17
Total			1,397

Source: Development Impact Assessment Handbook, Urban Land Institute, 1994.

8.2.8.2 Property Tax Analysis

For the purposes of estimating the assessed value of the Theoretical Maximum Build Out Plan, it is assumed that the 401 for sale units would each have a purchase price of approximately \$250,000, while the six town houses would have a purchase price of \$300,000, and the 401 rental apartment units would rent for approximately \$1,600 per month. For the purpose of projecting assessed value of the retail component, an average market rent of \$25 per square foot²⁶ is assumed, with 10 percent of total annual rent discounted for maintenance costs. The asking rent for office space in Suffolk County ranges from \$20 per square foot to \$30 per square foot.²⁷ Therefore, for the purposes of this analysis, an average office rent of \$25 per square foot has been used. An estimated capitalization rate of 9 percent²⁸ has been applied, along with the Town of Brookhaven's 2009 equalization rate of 0.77 percent and the Town of Islip's equalization rate of 10.3 percent. Therefore, the total projected future assessed value of the Theoretical Maximum Build Out Plan would be \$1,818,990 (\$1,175,240 would be the assessed value of the development in the Town of Brookhaven, while \$643,750 would be the assessed value of the development in the Town of Islip).

Table 60 below summarizes the projected property tax revenues and net increase in property taxes generated by the Theoretical Maximum Build Out Plan.

▼
²⁶ Retail rent per square foot based on current retail trends in the project area - <http://www.loopnet.com/New-York/Suffolk-County-Commercial-Real-Estate/>

²⁷ Demographic, Economic and Development Trends, Suffolk County, New York, prepared by the Suffolk County Department of Planning, April 2005, Page 7; and Grubb & Ellis Office Trends Report – Third Quarter 2009 <http://www.grubb-ellis.com/SitePages/GetFileFromDB.ashx?type=9&id=313>

²⁸ Capitalization rate from the Town of Brookhaven Receiver of Taxes

Table 60 – Projected Property Tax Revenues, Town of Brookhaven (Theoretical Maximum Build Out Plan)

Taxing Jurisdiction	2009 Tax Rate (per \$100 AV)	Projected Taxable Value	Projected Taxes	Net Increase
<i>Suffolk County</i>				
County of Suffolk	2.861	\$1,175,239	\$33,624	\$27,725
County of Suffolk - Police	33.060	\$1,175,239	\$388,534	\$320,371
New York State MTA Tax	0.168	\$1,175,239	\$1,974	\$1,628
Total taxes paid to Suffolk County			\$424,132	\$349,724
<i>Town of Brookhaven</i>				
Town General - Town Wide Fund	4.464	\$1,175,239	\$52,463	\$43,259
Highway - Town Wide Fund	2.590	\$1,175,239	\$30,439	\$25,099
Town General - Part Town Fund	1.390	\$1,175,239	\$16,336	\$13,470
Highway - Part Town Fund	11.436	\$1,175,239	\$134,400	\$110,822
Total taxes paid to the Town of Brookhaven			\$233,638	\$192,649
<i>School taxes – Sachem CSD</i>				
Net School tax	167.127	\$1,175,239	\$1,964,142	\$1,619,560
Net Library tax	10.485	\$1,175,239	\$123,224	\$101,606
Total taxes paid to the South Country CSD			\$2,087,366	\$1,721,166
<i>Other Taxes</i>				
\$100M Bond Act of 2004	1.588	\$1,175,239	\$18,663	\$15,389
Fire District	9.431	\$1,175,239	\$110,837	\$91,392
Lighting District	1.703	\$1,175,239	\$20,014	\$16,503
Real Property Tax Law - Article 7	0.935	\$1,175,239	\$10,988	\$9,061
Real Property Tax Law	6.121	\$1,175,239	\$71,936	\$59,316
Total Other Taxes			\$232,439	\$191,661
Total Existing Property Tax Revenues			\$2,977,575	\$2,455,199

Sources: Town of Brookhaven Receiver of Taxes, 2009; Assessed value calculated by VHB Engineering, Surveying and Landscape Architecture.

Table 61 – Projected Property Tax Revenues, Town of Islip (Theoretical Maximum Build Out Plan)

Taxing Jurisdiction	2009 Tax Rate (per \$100 AV)	Projected Taxable Value	Projected Taxes	Net Increase
<i>Suffolk County</i>				
County of Suffolk	0.221	\$643,750	\$1,423	\$1,423
County of Suffolk - Police	2.477	\$643,750	\$15,946	\$15,946
Total taxes paid to Suffolk County			\$17,368	\$17,368
<i>Town of Islip</i>				
Town General	0.555	\$643,750	\$3,573	\$3,573
Town - Excluding Villages	0.030	\$643,750	\$193	\$193
Combined Highway	0.281	\$643,750	\$1,809	\$1,809
Total taxes paid to the Town of Islip			\$5,575	\$5,575
<i>School Taxes – Sachem CSD</i>				
Net School tax	14.63	\$643,750	\$94,181	\$94,181
Net Library tax	0.731	\$643,750	\$4,706	\$4,706
Total taxes paid to the South Country CSD			\$98,886	\$98,886
<i>Other Taxes</i>				
NYS Real Property Tax	0.43	\$643,750	\$2,768	\$2,768
Lakeland Fire District	0.812	\$643,750	\$5,227	\$5,227
Street Lighting District	0.095	\$643,750	\$612	\$612
Town Water	0.04	\$643,750	\$258	\$258
Townwide Water Supply	0.212	\$643,750	\$1,365	\$1,365
Total Other Taxes			\$10,229	\$10,229
Total Existing Property Tax Revenues			\$132,059	\$132,059

Sources: Town of Brookhaven & Town of Islip Receiver of Taxes, 2009; Assessed value calculated by VHB Engineering, Surveying and Landscape Architecture, P.C.

Projected Property Tax – Town and County

The estimated net increase between the total current tax revenues generated by the project area for Suffolk County (\$74,408±) and the total future project-generated tax revenues for the Theoretical Maximum Build Out Plan (\$441,500±) is projected to be approximately \$367,092, or five times the tax revenues generated currently by the property.

The estimated net increase between the total current tax revenues generated by the project area for the Town of Brookhaven (\$40,989±) and the total future project-generated tax revenues for the Theoretical Maximum Build Out Plan (\$243,205±) is projected to be approximately \$202,216, also five times tax revenues generated currently by the property.

Projected Property Tax – Sachem Central School District and Connetquot School District

The projected revenues presented are based on current 2009-2010 tax rate for the Sachem CSD. With no changes in assessments, these rates are likely to increase over time. The net increase between the total current school tax revenues (\$366,200±) for the Sachem CSD generated by the project area and the total future project-generated school tax revenues (\$2,087,366±) for the project are projected to be approximately \$1,721,166 or five times the level of school tax revenues generated currently by the project site.

The Theoretical Maximum Build Out Plan would generate \$98,886 in tax revenues to the Connetquot UFSD.

Projected Property Tax – Other Special Districts

The future tax revenues generated by the project area for the Lake Ronkonkoma Fire District and Lighting District is projected to be approximately \$115,376± and \$20,834±, respectively. The net increase between the total current tax revenues generated by the project area for the Lake Ronkonkoma Fire District (\$19,445±) and the total future project-generated tax revenues from the Theoretical Maximum Build Out Plan (\$115,376±) is projected to be approximately \$95,931±, or five times the tax revenues generated currently by the property. The net increase between the total current tax revenues generated by the site for the Lighting District (\$3,511±) and the total future project-generated tax revenues from the Theoretical Maximum Build Out Plan (\$20,834±) is projected to be approximately \$17,323± or five times tax revenues generated currently by the property.

Overall, similar to that of the Theoretical Full Build Plan, the Theoretical Maximum Build Out Plan is expected to dramatically improve the economic conditions of the TOD District area, and improve the overall economic conditions of the Town of Brookhaven and Suffolk County as a whole. The increase in property values resulting from the proposed action would be expected to generate substantial new property tax revenues for the Town and County. In sum, economic benefits would be expected to result as a consequence of implementing the proposed action.

8.2.9 Community Facilities and Services

Fire Protection and Ambulance Services

The Town of Islip portion of the LIRR-Ronkonkoma Station is within the service area of the Holbrook Fire Department, which also provides ambulance service. This alternative plan situates a STP and structured parking with ground-level retail space on the Town of Islip property. This type of development is not expected to create a significant demand for fire and ambulance services.

Using published factors (Urban Land Institute), the projected demand on community services and facilities has been estimated.

Table 62 - Impact on Community Services and Facilities (Theoretical Maximum Build Out Plan)

Public Safety Service	Demand Projection Rate	Projected Increased Demand for 1,937 persons
Ambulance Services		
Calls per year	36.5 per 1,000 population	70.70
Vehicles	1 per 30,000 population	0.06
Full-time personnel	1 per 30,000 population	0.06
Fire Protection Services		
Personnel	1.65 per 1,000 population	3.20
Vehicles	0.2 per 1,000 population	0.39
Facilities	250 square feet per 1,000 population	484.25
Police Services		
Personnel	2 per 1,000 population	3.87
Vehicles	2 per 1,000 population	3.87
Facilities	200 square feet per 1,000 population	387.40

Source: ULI Development Impact Assessment Handbook, 1994

As indicated in Table 62, the Theoretical Maximum Build Out Plan is projected to increase population by 1,937 persons. Published factors indicate that for a population of this size, there is a potential demand for less than four full-time equivalents for fire and ambulance services. An additional 71± ambulance calls per year is also projected. The potential increased demand for vehicles includes approximately three for fire services and less than one for ambulance services. There is a minimal impact on resultant facilities needs for fire protection (i.e., 485± square feet). However, the TOD District area is currently developed and serviced by the Holbrook Fire Department and Ronkonkoma Fire Department.

This alternative plan increases the land use density on the Town of Brookhaven portion of the LIRR-Ronkonkoma Station, including an additional 66 units of residential (townhouses and apartments) and 16,400 square feet of retail on Site 4, and an additional 127 residential units on Site 7. Each of the buildings will be constructed in accordance with New York State building and fire codes. As indicated in Section 4.2 of this DGEIS, the greatest NFF for both plans (i.e., Theoretical Full Build and Maximum Build Out Plans) have been calculated at 4,500 gpm, which is not considered to be a significant flow rate.

As indicated in Table 60 and Table 61 above, the estimated benefit to the

Ronkonkoma Fire Department and Holbrook Fire Department is \$110,837 and \$5,227, respectively. Overall, this alternative plan would not be expected to result in significant adverse impacts to fire protection and ambulance services.

Health Care Facilities

Brookhaven Memorial Hospital Medical Center and Stony Brook University Medical Center are the health care facilities proximate to the TOD District area. Implementation of the Theoretical Maximum Build Out Plan would not result in a significant demand for services.

Police Protection

Properties within the Town of Islip are under the jurisdiction of the Fifth Precinct of the Suffolk County Police Department. As the Theoretical Maximum Build Out Plan places structured parking with 25,000 square feet of retail space in the ground level and a STP on the east side of the surface parking area, no significant demand for service from the Fifth Precinct would result. The alternative plan situates an additional 66 units of residential (townhouses and apartments) and 16,400 square feet of retail on Site 4, and an additional 127 residential units on Site 7.

As indicated in Table 62 above, there is a potential demand for four additional personnel and vehicles to serve a population of 1,937 persons. It is important to note that the TOD District area is an existing developed area that is served by the Fourth Precinct (Town of Brookhaven) and Fifth Precinct (Town of Islip). As such, it is not expected that the proposed action would require additional police personnel to serve the TOD District area. There is a minimal impact on resultant facilities needs for police protection (i.e., 388± square feet).

As seen in Tables 60 and 61 above, the proposed project would generate \$404,480 in property tax revenues to Suffolk County Police, a net increase of \$336,317± over existing revenues generated by the project site. This additional revenue could be used to augment the Department's capabilities, if necessary.

Based on the above, it is not expected that the Theoretical Maximum Build Out Plan would result in significant adverse impacts to the Suffolk County Police Department.

Educational Facilities

Properties within the Town of Islip are situated within the Connetquot Union Free School District ("UFSD"). There are no uses within the Theoretical Maximum Full Build Plan that would generate school-aged children for attendance at the Connetquot UFSD. The alternative plan includes an additional 193 residential units in the Town of Brookhaven, which would potentially generate, in total, 91 number of school-aged children. Based on published data (www.schooltree.org), the school enrollment is 15,311. Therefore, the additional 91 school-aged children would

represent only a 0.6 percent increase in total enrollment.

Of the \$3,109,634 in annual property tax revenues generated by the Theoretical Maximum Build Out Plan, \$2,087,366, is the estimated revenues to the Sachem CSD and \$98,886 to the Connetquot UFSD. This represents a net increase of \$1,721,166 to the Sachem CSD and \$98,886 to the Connetquot UFSD.

Solid Waste

As indicated below, the program mix for the Theoretical Maximum Build Out Plan would generate approximately 143.54 tons of solid waste per month. As compared to the Theoretical Full Build Plan (i.e., 124.14 tons per month), this alternative plan would generate approximately 20 additional tons of solid waste per month.

Table 63 – Solid Waste Generation (Theoretical Maximum Build Out Plan)

Use	Area (sf)	No. Units	Occupancy ¹	Solid Waste		Total (lbs/day)
				per day	Unit	
Residential/Rental	<1200 sf	401	1.67	4.62	lbs/capita ²	3,093.88
Residential/Condo	<1200 sf	401	1.77	4.62	lbs/capita	3,279.14
Residential/Condo	>1200 sf	6	1.88	4.62	lbs/capita	52.11
Subtotal		808				6,425.11
Retail	102,275			13.00	lbs/1,000sf ³	1,329.58
Restaurant	100 seats			2.00	lbs/meal ⁴	800.00
Health Club	30,000			13.00	lbs/1,000sf ⁵	390.00
Subtotal						2,519.58
Office	49,375			1.00	lbs/100sf	493.75
				TOTAL (lbs/day)		9,438.44
				TOTAL (tons/month)		143.54

Notes:

1. Rutgers coefficients of occupancy used for residential population.
2. Environmental Protection Agency. "Municipal Solid Waste in the United States: 2007 Facts and Figures." November 2008.
3. Salvato et al. Environmental Engineering, Fifth Edition. 2003. Solid waste generation factor for "Retail and Service."
4. Salvato et al. Environmental Engineering, Fifth Edition. 2003. Solid waste generation factor for "Restaurant." Assumes full occupancy (100 seats) for two seatings at lunch, and two seatings at dinner. Total meals = 400.
5. Salvato et al. Environmental Engineering, Fifth Edition. 2003. Solid waste generation factor for "Retail and Service."

The Towns of Brookhaven and Islip provide municipal carting services to single-family residential properties. However, private carters are contracted for retail, commercial and private multi-family residential developments. As such, the development/redevelopment within the TOD District area would rely on private, licensed carters and not municipally-provided carting services. Overall, therefore, solid waste generation from the TOD District area would not result in adverse

impacts to the Town's handling and disposal facilities.

8.2.10 Aesthetic Resources

As with the Theoretical Full Build Plan, this alternative would allow for greater density, building type variety and diversity in roof forms and skyline treatment that would enhance the visual interest and is a key characteristic to of many attractive urban centers.

Visually, the Theoretical Maximum Build Out Plan would not adversely affect abutting parcels within the Town of Islip. The three-story parking structure would be visible along Railroad Avenue and County Road 29, but neither roadway has residences or businesses in the immediate vicinity. The STP would not be visible from Railroad Avenue. All of the tanks are sub-grade and any STP control building would be only approximately 10 feet in height with a pitched roof. Also, landscaping at the building, within the STP site and along the road frontage will provide some visual buffering. Railroad Avenue in Islip abuts Islip MacArthur Airport property and there no residences or businesses are located in the vicinity that could be visually impacted.

This alternative would alter Sites 4 and 7 within the Town of Brookhaven, as the structured parking and STP would be situated south of the LIRR tracks, within the Town of Islip. However, the building design, architectural design, building heights, landscaping, and signage, would be consistent with the TOD District form-based code. This alternative, as it would be consistent with the design guidelines and zoning criteria set forth in the proposed TOD District zoning code would not result in significant adverse visual impacts.

8.2.11 Cultural Resources

There have been no historic or archaeological resources identified within or adjacent to the TOD District area, including areas within the Town of Islip. As such, the Theoretical Maximum Build-Out Plan would not result in any adverse impacts to cultural resources.

9.0

CUMULATIVE IMPACTS

The Theoretical Full Build Plan situates new development on the key opportunity sites identified in the *Ronkonkoma Hub Planning Study*. However, it is recognized that properties within the TOD District area that are not specifically identified for redevelopment could be redeveloped in accordance with the TOD District at some point in the future. Therefore, this section evaluates the potential cumulative impacts of the development of properties not identified on the Theoretical Full Build or Maximum Build Out Plans.

Parcels Currently Not Identified for Redevelopment

Of the 54 parcels located within the TOD District area, the following 22 parcels have not been specifically identified for redevelopment:

Table 64 – Properties Not Identified for Redevelopment in TOD District Area

Suffolk County Tax Map Number	Observed Land Use¹	Estimated Acreage²
0200 – 799.00 – 04.00 – 048.000	Commercial	0.25±
0200 – 799.00 – 04.00 – 049.000	Single-Family Residential	0.25±
0200 – 799.00 – 04.00 – 051.001	Single-Family Residential	0.66±
0200 – 799.00 – 04.00 – 052.000	Commercial (Auto-Body Repair)	0.24±
0200 – 799.00 – 04.00 – 053.000*	Commercial	0.13±
0200 – 799.00 – 04.00 – 054.000	Single-Family Residential	0.60±
0200 – 800.00 – 01.00 – 027.001	Commercial (Auto-Body Repair)	0.96±
0200 – 800.00 – 01.00 – 028.000	LIRR Parking	0.46±
0200 – 800.00 – 01.00 – 031.001	Commercial (Wholesale Distribution)	1.38±
0200 – 800.00 – 01.00 – 033.001	Mixed Use Commercial and Residential	0.60±
0200 – 800.00 – 01.00 – 034.000	Commercial (Auto-Body Repair)	0.45±
0200 – 800.00 – 01.00 – 035.007	Commercial	0.92±
0200 – 800.00 – 01.00 – 035.008	Wooded (Vacant)	3.40±
0200 – 800.00 – 01.00 – 036.000*	LIRR Parking	1.82±
0200 – 800.00 – 01.00 – 038.000*	LIRR Mixed Use (Train)	6.40±
0200 – 800.00 – 02.00 – 015.000	Single Family Residential (Vacant)	0.23±
0200 – 800.00 – 02.00 – 016.000	Single Family Residential	0.23±
0200 – 800.00 – 02.00 – 017.000	Single Family Residential	0.33±
0200 – 800.00 – 02.00 – 018.000	Single Family Residential	0.37±
0200 – 800.00 – 02.00 – 019.000	Commercial	0.70±
0200 – 800.00 – 02.00 – 020.000	Single Family Residential	0.14±
0200 – 800.00 – 02.00 – 021.000	Commercial	0.20±
	ESTIMATED TOTAL AREA	21.0±

Notes:

1. Observed land uses based on field survey in June 2010.
 2. Parcel acreage based on Town of Brookhaven Tax Bills, 2010.
 3. Land use descriptions are as defined by Town of Brookhaven Assessor's Office, 2010.
- *Acreage based on Suffolk County Tax Map.

The land use components and density of future development applications cannot be identified at this time as same will be determined by, among other things, market demand, and the intentions of property owners. As land uses and land use density cannot be specifically predicted, for the purposes of evaluating the potential cumulative impacts, assumptions had to be made on the potential build out of these parcels. For purposes of evaluating the cumulative impacts, the following two development scenarios have been identified:

- Scenario 1: Redevelopment includes all residential; or
- Scenario 2: Redevelopment includes retail, office and residential.

For this analysis, it has been determined that the limiting factor in the redevelopment of the TOD District area will be STP capacity. As indicated in Section 4.2 of this DGEIS and in the Preliminary Feasibility Study for Sewage Treatment and Disposal included in Appendix D, the STP is being planned at 275,000 gpd. Therefore, it is the size of the STP and the ability to accommodate sanitary waste that will limit the size and type of land uses on properties that may be proposed by landowners for redevelopment at a future date.

As evaluated in Section 7.2 of this DGEIS and in the Preliminary Feasibility Study for Sewage Treatment and Disposal (see Appendix D), the Theoretical Maximum Build Out Plan (which includes a greater density than the Theoretical Full Build Plan) would generate approximately 203,000 gpd. As such, the STP would have an excess capacity of 72,000± gpd for the remaining parcels within the TOD District area. An analysis of the potential yield of the two scenarios follows.

Soils and Topography

The soil types within the TOD District area have been identified and evaluated in Sections 3.1 and 4.1 of this DGEIS, respectively. As indicated in Section 4.1, on-site soils, as mapped on the *Soil Survey*, do not present planning or engineering limitations that cannot be overcome from a cumulative perspective. Other than an increase in the area of soils to be disturbed, there would be no qualitative differences in cumulative soils impacts. Also, all applications for redevelopment on parcels currently not identified for redevelopment would be subject to the review and approval by the Town of Brookhaven, and the implementation of appropriate mitigation measures (e.g., erosion and sedimentation controls). Overall, therefore, no significant adverse impacts to soils and topography would be expected.

Water Resources

Water Demand

As indicated in Section 4.2 of this DGEIS, the maximum potential water demand, should the STP be developed to capacity, would be approximately 302,500 gpd. Both of these scenarios assume the TOD District area is developed to the capacity of the STP and the 10 percent additional volume of domestic water for irrigation. The SCWA provided a service availability letter confirming supplies for both the Theoretical Full Build Plan and the Theoretical Maximum Build Out Plan, which is projected to require approximately 223,000 gpd. For the build-out of parcels that are not currently occupied, any additional water use that may be required would represent a net increase (i.e., these sites are already being supplied with potable water). Also, all applications for redevelopment on parcels currently not identified for redevelopment would be subject to the review and approval by the Town of Brookhaven, and confirming the availability of adequate water supply and suitable infrastructure, and the implementation of appropriate mitigation measures (e.g., water conservation measures). As such, the build-out of the remaining parcels would not be expected to result in significant adverse water usage impacts.

Stormwater Runoff

All applications would be required to comply with the provisions of Chapter 86 of the Town Code (Stormwater Runoff and Erosion Control), and thus, no significant adverse impacts associated with stormwater runoff or erosion post-development would be expected.

Land Use and Zoning

The cumulative land use impacts of Scenarios 1 and 2 would be an increased number of residential units, and retail and office space (Scenario 2 only). All applications for redevelopment would be subject to compliance with TOD District zoning code, and thus, would be consistent in building design, among other things. As the intent of the proposed action is to revitalize the area by promoting redevelopment in the TOD District area, the additional development as part of Scenarios 1 or 2 would be consistent with the Town's goals. Overall, therefore, no significant adverse impacts associated with new land uses on these remaining parcels or the character of the TOD District will result.

Traffic and Parking

As indicated in Table 65, Scenario 1 (320 multi-family residential units) would generate 115 trips in the AM Peak Hour and 138 trips in the PM Peak Hour.

Table 65 – Scenario 1: Trip Generation (Cumulative Impacts)

Project Component	Component Size	AM Peak Hour		PM Peak Hour	
APARTMENTS ITE # 220 Rental Apartment	160 Units	Rate =	0.51	Rate =	0.62
		Entering	Exiting	Entering	Exiting
		20%	80%	65%	35%
		16	66	65	35
		Total =	82	Total =	100
RESIDENTIAL ITE # 230 Condos/Townhouses	160 Units	Rate =	0.44	Rate =	0.52
		Entering	Exiting	Entering	Exiting
		17%	83%	67%	33%
		12	59	56	28
		Total =	71	Total =	84
TOTALS		AM Peak Hour Trips		PM Peak Hour Trips	
		Entering	Exiting	Entering	Exiting
		28	125	121	63
		153		184	
		AM Peak Hour Trips		PM Peak Hour Trips	
Trip generation adjusted for Transit Oriented Development at 75% of the normal rate		Entering	Exiting	Entering	Exiting
		21	94	91	47
		115		138	

Cumulatively, in 2014, for the PM Peak Hour, Scenario 1 would result in a 23 percent increase over the 2014 Build Condition. In 2019, also for the PM Peak Hour, Scenario 1 would result in an 18 percent increase over the 2019 Max Build trips. These increases would have a slight impact on traffic conditions, but would be expected to be absorbed without roadway mitigation.

As indicated in Table 66, the parking demand, based on the TOD District parking ratio of 1.33 spaces per unit, as set forth in the TOD District zoning code, would be 426 spaces.

Table 66 – Scenario 1: Parking Demand (Cumulative Impacts)

Project Component	Component Size	Rate	Peak Parking Demand
RESIDENTIAL ITE # 220 & 230 Rental Apartment & Condo/Townhouses	320 Units	1.33 per unit	426

As indicated in Table 67, Scenario 2 (280 multi-family residential units, 100,000

square feet of retail space and 100,000 square feet of non-medical office space) would generate 292 trips in the AM Peak Hour and 512 trips in the PM Peak Hour.

Table 67 – Scenario 2: Trip Generation (Cumulative Impacts)

Project Component	Component Size	AM Peak Hour		PM Peak Hour	
APARTMENTS ITE # 220 Rental Apartment	140 Units	Rate = 0.51 Entering 20% 14 Total = 72	Exiting 80% 58	Rate = 0.62 Entering 65% 57 Total = 87	Exiting 35% 30
RESIDENTIAL ITE # 230 Condos/Townhouses	140 Units	Rate = 0.44 Entering 17% 11 Total = 62	Exiting 83% 51	Rate = 0.52 Entering 67% 49 Total = 73	Exiting 33% 24
RETAIL SPACE ITE # 820 Shopping Center	100,000 SF	Rate = 1.00 Entering 61% 61 Total = 100	Exiting 39% 39	Rate = 3.73 Entering 49% 183 Total = 373	Exiting 51% 190
OFFICE/COMMERCIAL ITE # 710 General Office Building	100,000 SF	Rate = 1.55 Entering 88% 136 Total = 155	Exiting 12% 19	Rate = 1.49 Entering 17% 25 Total = 149	Exiting 83% 124
TOTALS		AM Peak Hour Trips		PM Peak Hour Trips	
		Entering	Exiting	Entering	Exiting
		222	167	314	368
		389		682	
Trip generation adjusted for Transit Oriented Development at 75% of the normal rate		AM Peak Hour Trips		PM Peak Hour Trips	
		Entering	Exiting	Entering	Exiting
		167	125	236	276
		292		512	

Cumulatively, in 2014, for the PM Peak Hour, Scenario 2 would result in a 90 percent increase over the 2014 Build Condition. In 2019, also for the PM Peak Hour, Scenario 2 would result in a 65 percent increase over the 2019 Max Build trips. This projected increase in traffic would likely result in significant adverse traffic impacts, and thus,

would require either traffic mitigation or a reduction in density.

As indicated in Table 68, the parking demand, based on the TOD District parking ratios set forth in the TOD District zoning code, would be 922 spaces.

Table 68 – Scenario 2: Parking Standard (Cumulative Impacts)

Project Component	Component Size	Rate	Peak Parking Demand
RESIDENTIAL ITE # 220 & 230 Rental Apartment & Condo/Townhouses	280 Units	1.33 per unit	373
RETAIL SPACE ITE # 820 Shopping Center	100,000 SF	2.65 per thousand SF	265
OFFICE/COMMERCIAL ITE # 710 General Office Building	100,000 SF	2.84 per thousand SF	284
TOTAL			922

Socioeconomic Impacts

The Market Analysis in the Appendix H evaluated the future demands for retail, office and residential space in the primary and secondary areas. As indicated in Section 4.8 of this DGEIS, in 2014 and 2019, the following market trends were identified:

- By 2019 future retail spending could support over 51 million square feet of convenience and shoppers goods retail space in the primary and secondary trade areas (in retail store group categories conducive to downtown development). Therefore Scenario 2, which includes an additional 100,000 square feet of retail space, for a total of 202,275 square feet of retail space

could be supported by the Ronkonkoma TOD's market area.

- Based on the office-based employment growth projected over the next five years, Suffolk County could support the net addition of over 900,000 square feet of office space, while Long Island as a whole could support the net addition of over 1.9 million square feet of office space. Therefore Scenario 2, which includes an additional 100,000 square feet of office space, for a total of 149,375 square feet of office space could be supported by the Ronkonkoma TOD's market area.
- Given the current growth projections, the primary and secondary areas could add a net 5,442 households earning \$35,000 to \$150,000 from 2009 to 2014 and another 5,550 households earning at this income range from 2014 to 2019. Therefore, the total potential market demand for multi-family housing could be up to 10,991 households.

As indicated above, based on the market analysis, the additional residential, retail and office uses could be supported.

Community Facilities and Services

Fire, Ambulance and Police Protection

The build-out of the remaining parcels would increase the demand for services from the Ronkonkoma Fire Department as well as the Fourth Precinct of the Suffolk County Police Department. It is important to note that many of the parcels that could be redeveloped are already occupied with functioning businesses or residential uses. Thus, the demand for services would not be new to the TOD District area.

To mitigate the impacts on the Ronkonkoma Fire Department, all new buildings will comply with the current NYS building and fire codes. All applications will be reviewed for adequate internal circulation to provide appropriate access and movement on-site for emergency equipment.

Overall, the build-out of the remaining parcels within the TOD District area would not be expected to result in significant adverse impacts to the local fire and police departments.

Educational Services - School-aged children

As indicated below, Scenarios 1 and 2 would be expected to generate 36 and 32 school-aged children, respectively. This projected increase is not considered to be substantial. However, consultations with the Sachem CSD would be required as part of any site-specific application to advise of a projected increase in school-aged children. The Theoretical Maximum Build Out Plan is projected to generate 91 school-aged children. As such, the total number of school-aged children, including

Scenarios 1 and 2, would be 127 and 123, respectively. Based on published data (www.schooltree.org), the school enrollment is 15,311. Therefore, the additional 127 and 123 school-aged children for Scenarios 1 and 2, respectively, would represent only a 0.8 percent increase in total enrollment.

Table 69 – School-Aged Children Generation (Cumulative Impacts)

Type of Unit	# of Units	School-aged children per unit	Total School-aged children
Scenario 1:			
Multifamily – ownership	160	0.14	23
Multifamily - rental	160	0.08	13
Total	320		36
Scenario 2:			
Multifamily – ownership	140	0.14	20
Multifamily – rental	140	0.08	12
Total	280		32

Sources: Rutgers University, Center for Urban Policy Research - Residential Demographic Multipliers, Estimates of the Occupants of New Housing.

Solid Waste

Solid waste generation would increase with the build-out of parcels. However, it is important to note that many of the parcels that could be redeveloped are already occupied with functioning businesses or residential uses. Thus, solid waste is already being generated. As indicated below, the projected volume of solid waste associated with Scenarios 1 and 2 would be 38.7 and 68.8 tons per month, respectively. The Theoretical Maximum Build Out Plan is projected to generate 143.54 tons per month. As such, the total volume of solid waste, including Scenarios 1 and 2, would be 182.2 and 212.3 tons per month, respectively.

Table 70 – Solid Waste Generation (Cumulative Impacts)

Use	Area (sf)	No. Units	Occupancy	Solid Waste	Total (lbs/day)
Scenario 1:					
Residential/Rental	<1200 sf	160	1.67	4.62 lbs/capita/day	1,234± lbs/day
Residential/Condo	<1200 sf	160	1.77	4.62 lbs/capita/day	1,309± lbs/day
Total		320			2,543 lbs/day (38.7 tons/month)
Scenario 2:					
Residential/Rental	<1200 sf	140	1.67	4.62 lbs/capita/day	1,080± lbs/day
Residential/Condo	<1200 sf	140	1.77	4.62 lbs/capita/day	1,145± lbs/day
Retail	100,000 sf			13.00 lbs/1000sf/day	1,300 lbs/day
Office	100,000 sf			1.0 lb/100 sf/day	1,000 lbs/day
Total					4,525 lbs/day (68.8 tons/month)

All solid waste from the retail, office and multi-family residential properties would be handled by private carters hired by building managers or tenants. As such, the increase in solid waste would not result in significant adverse impacts on the Town's waste disposal facilities.

10.0

IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

The redevelopment of properties within the TOD District area in accordance with the Land Use and Implementation Plan and TOD District zoning code, would preclude other uses of the property (e.g., industrial use, which is not a permitted use in the TOD District). Also, the limited areas of Successional Shrubland, Successional Southern Hardwoods, and Pitch Pine-Oak Forest would likely be removed in their entirety from within the TOD District area property to accommodate proposed development.

Certain additional resources related to the construction aspects of the development would be committed. These resources include, but are not limited to, concrete, asphalt, lumber, paint and topsoil. Mechanical equipment resources would be committed to assist personnel in the construction at the property. The operation of construction equipment will require electricity, water resources and fossil fuels. Furthermore, the construction phase of the proposed project would require the commitment of manpower resources, as well as time.

11.0

GROWTH-INDUCING IMPACTS

Growth-inducing aspects are generally described as the long-term secondary effects of the proposed action. The TOD District is proposed by the Town of Brookhaven to encourage the efficient use of land, be a catalyst for revitalization, and foster a sense of place through development of a new transit-oriented, mixed use, self-sufficient community. This development would in turn enhance the tax base and complement the surrounding uses as well as better utilize existing public transit infrastructure at Ronkonkoma Station through improved access and increased ridership. In essence, the proposed TOD District will facilitate growth.

The proposed action contemplates the construction of a 275,000-gpd STP, which, if the Theoretical Maximum Build Out Plan were constructed would offer 72,000 gpd in excess capacity. The excess capacity of the STP would be a growth-inducing component for the TOD District area.

With the addition of the new residential units, retail and office space, and restaurants, the proposed TOD District will revitalize the Ronkonkoma Hub area and create positive growth by attracting more businesses, residents, and visitors to the area. The Theoretical Full Build Plan is estimated to generate a population of 1,058 residents, with approximately 314 persons (30 percent) being between the ages of 25 and 44.

Also, as discussed in Sections 3.8 and 4.8 of this DGEIS, the Theoretical Full Build Plan would provide approximately 454 permanent jobs²⁹ to local residents, based on the proposed square footage of the development. In addition, the permanent jobs that would be generated would create more secondary jobs in and around the TOD district. Thus, employment opportunities will be created for professionals, young adults, part-time workers, college students, senior citizens and those who wish to

▼
²⁹ One employee per 400 sf of retail space; one employee per 250 sf of office space; one employee per 1,000 sf of community space and one employee per 25 residential units – Based on the Urban Land Institute's Development Impact Assessment Handbook, 1994.

supplement a current salary.

It is important to note that, as a portion of the TOD District area is currently developed, the potential growth associated with the proposed action would be through in-fill and redevelopment. As such, the potential growth-inducing aspects of the proposed action are consistent with the Town's objectives for revitalization.

12.0

USE AND CONSERVATION OF ENERGY

Currently, the Long Island Power Authority (“LIPA”) and National Grid provide electricity and natural gas service, respectively, to the TOD District area, and would continue to do so under the proposed redevelopment. As the proposed redevelopment would increase the demand for both electricity and natural gas, consultations were undertaken with LIPA and National Grid for review of the both plans. In correspondence dated August 19, 2010, LIPA confirmed its ability to provide electric service to the properties within the TOD District area. By electronic mail on August 26, 2010, National Grid confirmed its ability to supply natural gas to the properties, based on the Theoretical Full Build Plan and Theoretical Maximum Build Out Plan (see correspondence from LIPA and National Grid in Appendix J).

For all site-specific applications under the TOD District, both LIPA and National Grid would be consulted to confirm service availability and to identify potential site improvements. Also, the Town of Brookhaven has energy conservation standards that will be required for the multi-story residential buildings. Pursuant to the Section 16-4.2 of the Town Code,

“..no building permit shall be issued for any multiple-family dwelling, PRC or PRCHC in buildings more than three stories in height, or more than four units, or where the units share a common egress unless a NYS licensed architect or engineer certifies that the plans submitted demonstrate compliance with:

- A. *The thermal envelope requirements (R-values and U values only); and*
- B. *The electrical savings and ventilation requirements; and*
- C. *The equipment efficiency requirements of the Long Island Power Authority Builder Option Package prescriptive standards. No third-party verification or field-testing shall be required under this method.*

All site-specific residential applications including dwelling units in buildings more than three stories in height or where four or more units are proposed (as contemplated on the Theoretical Full Build Plan and the Theoretical Maximum Build

Out Plan), compliance with Section 16-4.2 of the Town Code would be required. As such, it would not be expected that the proposed action would result in a significant adverse impact due to increased energy demands.



13.0

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