SUPPLEMENTAL DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT (SDGEIS)

Riverside Sewer District

Hamlet of Riverside, Town of Southampton,
Suffolk County, New York

NPV No. 15128

Prepared for Submission to:
Town of Southampton Town Board
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November 2023

Date Accepted by Lead Agency

_____

Date by Which Comments Must be Submitted

_____

SUPPLEMENTAL DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

RIVERSIDE SEWER DISTRICT

Hamlet of Riverside, Town of Southampton
Suffolk County, New York

SEQRA Classification:	Type I Action
Lead Agency & Project Sponsor:	Town Board Town of Southampton 116 Hampton Road Southampton, New York 11968
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Date the SDGEIS was accepted by the Lead Agency: _____
Written comments on the SDGEIS will be accepted by the Lead Agency until: _____

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SECTION 1.0
DESCRIPTION OF THE PROPOSED ACTION

1.0 DESCRIPTION OF THE PROPOSED ACTION

1.1 Introduction

This Supplemental Draft Generic Environmental Impact Statement (SDGEIS) has been prepared in accordance with Section 8-0109 of the New York State Environmental Conservation Law ("State Environmental Quality Review Act" or "SEQRA"); the implementing standards and procedures of SEQR at 6 NYCRR Part 617; and other applicable regulatory standards and policies of environmental review. The SDGEIS is a supplement to the "Draft Generic Environmental Impact Statement" for the "Riverside BOA, Revitalization Action Plan, and Zoning Amendments" dated October 8, 2015. The content of the current SDGEIS (i.e., this document) is informed by the Long Environmental Assessment Forms Parts 1, 2 and 3/Determination of Significance and the Town's Positive Declaration adopted by the Town Board on July 11, by Resolution 2023-902 **(Appendix A)** as well as the original GEIS.

The previously adopted Generic Environmental Impact Statement (GEIS) and Findings Statement included a thorough analysis of the since-approved Riverside Brownfield Opportunity Area (BOA) Step II Nomination Study, Riverside Redevelopment Action Plan (RRAP), and Riverside Overlay Districts (ROD) based on extensive public and agency outreach. A preliminary conceptual review of the purpose, need, impacts, mitigations, alternatives and benefits of future construction and possible locations for a sewage treatment plant (STP) to serve the Riverside community was also included in the previous planning and environmental review efforts. Construction of an STP was determined by the community, Town officials, and the Town's consultants to be a critical component of the economic growth and revitalization effort and essential to the achievement of the community's goals and vision for its future. Construction of an STP was found to not only support the mix of land uses at appropriate development densities to meet smart growth, sustainability, critical mass, and social and economic objectives, but was considered integral to protecting the health, safety and general welfare of the public, and protecting and sustaining critical natural resources and built environments.

At the time that the previous GEIS was being prepared, details of a future STP and supporting infrastructure were unknown and possible impacts and benefits could not be fully assessed. Therefore, in the interest of environmental protection and public health, and in consideration of the requirements of SEQRA and the conclusions of the Long Environmental Assessment Form (LEAF) and Positive Declaration completed for the subject action, the Town Board, as Lead Agency, determined it necessary to conduct additional environmental analyses in the form of a Supplemental GEIS (SGEIS). This analysis not only fulfills the procedural and environmental review requirements of SEQRA but will also help to ensure that the work is properly planned, and

impacts are avoided or mitigated to the maximum extent practicable. This SGEIS, consisting of the Supplemental Draft and Final GEISs, will consider the proposed creation of the Riverside Sewer District and construction of the STP, leaching facility, the installation of a sewage collection system consisting of conventional sewers and fore mains, where appropriate, and any needed pump stations, in the context of the adopted GEIS and Findings Statement. The SGEIS will focus on addressing additional details and information relating to the proposed Sewer District and its facilities, changes to existing land use and environmental conditions, previously unforeseen impacts, and identification of suitable mitigations for the creation of the Riverside Sewer District and associated infrastructure. Even though the project focuses on the STP and Sewer District, it is reviewed for consistency with prior plans and recommendations and in the context of the prior GEIS with updates to environmental conditions as warranted. Topics to be addressed as determined by the EAF, previous Findings Statement, and 6 NYCRR Part 617 (SEQR) include but are not limited to the following as they relate to the Proposed Action:

- A full description of the Proposed Action, its location(s), background, need, purpose, objectives and benefits, and the permits, approvals and funding necessary to implement the Action;
- Compliance with, and impacts relating to zoning and land use and consistency of the Proposed Action with relevant approved plans;
- Community character, including impacts on visual resources, noise conditions, historic and archaeological resources, impacts from outdoor lighting, and generation of odors;
- Water Resources, including impacts on surface waters, wetlands, groundwater, drainage patterns, flooding/flood zones, and sea level rise;
- Topography and soils, including clearing, grading, erosion and sedimentation, drainage, soil hazards and constraints, and slopes issues;
- Critical Environmental Areas and Natural Resources including Central Pine Barrens Compatible Growth Area (CGA), the Town's Aquifer Protection Overlay District (APOD), Long Island Regional Planning Board's Central Suffolk Special Groundwater Protection Area (SGPA) (South), Article 24 ("Freshwater Wetlands") of the State of New York's Environmental Conservation Law (if determined applicable), and "Peconic Bay and Environs" CEA. Other important environmental districts that are not classified as CEAs but are associated with the proposed Sewer District include a section of the Peconic River classified as a New York State Wild, Scenic and Recreational River (WSRR) adjacent to the west of the proposed Sewer District and the Town's Water Protection Boundary which was established under the 2016 "Southampton Town Water Protection Plan," which is considered an LWRP under the State Coastal Zone Management Program. The portion of the proposed Sewer District located north of SR 24 is also within New York State's Coastal

Boundary Area and may therefore require additional review for coastal consistency if state or federal permits are required.

- Other Environmental Impacts, including unavoidable impacts, irreversible and irretrievable commitments of resources, growth-inducing impacts, construction-related impacts, energy use and conservation and greenhouse gas emissions, and cumulative impacts as relevant; and
- Action alternatives, including:
    - Alternative 1: No-Action Alternative (A scenario where the proposal to construct a community STP to serve existing and future land uses is abandoned and existing and future uses rely exclusively on conventional individual onsite septic systems);
    - Alternative 2: An Alternative Plan that considers the use of land now owned by the Town of Southampton located north of SR 24 and adjacent to the northeast corner of the proposed Sewer District on SCTM Lots 900-119-1-26.1 and 900-118.01-1-3 to create a constructed wetland as a receiving body for treated effluent from the proposed STP and install an improved construction access and force main to deliver treated effluent to the constructed wetland. See **Attached Constructed Wetland Map** showing the general footprint and required clearing for the wetland.
    - Alternative 3: Assessment of an alternative that involves the installation of subsurface injection wells at the proposed STP site rather than using standard sanitary leaching pools or disposing of treated wastewater in a constructed wetland located near the northeast corner of the proposed Sewer District as described above.
    - Alternative 4: Assessment of an alternative where a shared services agreement is executed by the Town of Southampton and Town of Riverhead to allow the Riverside community to connect to Riverhead STP for treatment and disposal of all Riverside wastes.
    - Alternative : Assessment of an alternative where a shared services agreement is executed by the Town of Southampton and Town of Riverhead to expand and upgrade the Riverhead STP to accept only solids from the Riverside STP.

The scope of analysis for the proposed Sewer District, STP, and associated facilities, has also been expanded compared to the original Riverside BOA, RRAP and ROD GEIS due to the detailed information that is now available. The current review now examines alternative locations and system designs for the proposed facilities, as well as the possible use of the nearby Riverhead STP, to ensure that the best plan is chosen to serve the needs of the community, while protecting the area's sensitive environmental resources. The proposed review now includes:

- Assessment of the preferred project which calls for the construction of a Membrane Bioreactor (MBR) or a Sequencing Batch Reactor (SBR), as determined by a final Technical

Design Report, with a maximum effluent discharge goal of 10 mg/l or less. (see **Attached Phase I and Phase II Plans**);

- Assessment of the preferred project which relies on subsurface sewage leaching pools at the proposed STP site on Town owned land on the west side of the Enterprise Subdivision, rather than constructed wetlands near the river with installation of leaching pools installed in two phases based on need;
- Relocation or realignment of the proposed STP on Town owned land within the Enterprise Zone subdivision including the acquisition and incorporation of the adjacent Five Towns property to meet SCDHS setbacks while minimizing STP setback encroachment on adjoining parcels, maximizing distances from nearby drainage areas and wetlands and surface waters to the north, and recharging treated effluent in an area that maximizes depth to groundwater and the groundwater travel time from the leaching area to the Peconic River and Estuary;
- Assessment of a two-phase construction alternative with constructed wetlands on the Town owned land adjacent to the northeast side of the proposed Sewer District identified as SCTM#: 900-118.1-1-32 and 900-119-1-26.1 for any additional future flow;
- Consideration of installation of 12 eight-inch diameter deep injection wells, including redundancy should a well need to be taken off line at the STP site, in lieu of leaching pools or constructed wetlands
- Coordination with applicable agencies that are funding, have permit or final approval authority over the project, or other agencies that are not involved, but may provide valuable input, as well as the general public;
- Environmental review of the proposed plan modifications and updates to the prior SDGEIS as needed to reflect the new plan modifications and alternatives and any significant changes that may have occurred over the past several years such as new Town plans or regulations, new land uses, changed environmental conditions, etc.; and
- Updates to the 2018 Clean Water State Revolving Fund (CWSRF) Engineering Report by Nelson & Pope Engineers, Architects and Land Surveyors, PLLC (N+P) (June 2023 Engineering Report) to address the proposed changes and new alternatives including required clearing for each scenario, system connection phasing, capital and operations and maintenance cost estimates, etc. **(Appendix B)**.

1.1.1 Supplemental GEIS

The Town has determined that an SGEIS is the most appropriate process and format for identifying and assessing potential impacts from the subject action and fulfilling the requirements of SEQRA based on the criteria set forth in 6 NYCRR Part 617, Subsection 617.9(a)(7) (“Supplemental EISs”) of the implementing regulations which states that:

- The lead agency may require a supplemental EIS, limited to the specific significant adverse environmental impacts not addressed or inadequately addressed in the EIS that arise from:
    - changes proposed for the project;
    - newly discovered information; or
    - a change in circumstances related to the project.
- The decision to require preparation of a supplemental EIS, in the case of newly discovered information, must be based upon the following criteria:
    - the importance and relevance of the information; and
    - the present state of the information in the EIS.
- If a supplement is required, it will be subject to the full procedural requirements of this subdivision except that scoping is not required.

1.1.2 Authority

The Town Board is the most appropriate agency to oversee the subject action as it was the:

- Lead Agency for the previous comprehensive environmental review (GEIS, Findings Statement, BOA, RRAP and ROD) which provided the baseline information and context for the current review;
- is primarily responsible for long-range planning and capital improvements studies for the Town;
- is responsible for authorizing capital improvements funding and/or performing or overseeing construction of municipal projects within Town jurisdiction;
- executes essential day-to-day functions and activities of the Town; and
- is most familiar with local conditions and the needs of its citizens.

Nevertheless, several other agencies have been identified as "involved agencies" under SEQRA since they have jurisdiction to issue permits and approvals or provide the funding necessary to implement the project (**Section 1.5** contains a full list of involved agencies and the required reviews, permits, approvals, and funding sources to construct and implement the project.)

The Town Board, as Lead Agency in this matter, is responsible for working closely with these agencies, as well as various "interested agencies," such as community service and utility providers, civic groups and other local organizations, and the general public, to ensure that the requisite reviews and procedures are implemented in accordance with applicable requirements, and potential environmental impacts are mitigated to the maximum extent practicable.

1.1.3 Process

Supplemental Draft Generic Environmental Impact Statement (SDGEIS) Submission, Noticing and Public Outreach and Participation

Once the SDGEIS is submitted and the Lead Agency determines that it is suitable in terms of scope and content to address aspects of the proposed project that may result in one or more moderate or large environmental impacts that were not previously considered or fully examined by the GEIS, it will formally "accept" the SDGEIS for filing, distribution and public and agency review.[1] The Board will then post the required notices in a newspaper of wide distribution in the area and NYSDEC's Environmental Notice Bulletin (ENB), make the document available to the public and involved agencies at Town Hall and on the Town's official website, and schedule and hold a public hearing to solicit comments and recommendations concerning the Proposed Action. Once the public hearing portion of the review is closed, a post-hearing written comment period will be provided to allow agencies and members of the public to submit written comments.

Supplemental Final Generic Environmental Impact Statement (SFGEIS)

After the close of the public hearing, and after the public and interested and involved agencies have had the requisite time to consider the SDGEIS and provide written comments, an SFGEIS will be prepared to respond to all substantive verbal and written comments that were entered into the record during the public participation phase of the review process. After the SFGEIS is submitted, accepted by the Town Board, and filed, a Supplemental SEQRA Findings Statement will be prepared containing all relevant facts, impacts, mitigations, conclusions and findings.

Supplemental Findings Statement

After the SFGEIS phase of the review is completed, a Supplemental Findings Statement will be prepared. The Supplemental Findings Statement will:

a) consider the relevant environmental impacts, facts and conclusions disclosed in the final EIS;
b) weigh and balance relevant environmental impacts with social, economic and other considerations;
c) provide a rationale for the agency's decision;

[1] As per § 617.8 "Scoping" of SEQR (6 NYCRR Part 617), "Scoping is required for all EISs (except for supplemental EISs) and may be initiated by the lead agency or the project sponsor."

d) certify that the requirements of 6 NYCRR Part 617 have been met; and
e) certify that consistent with social, economic and other essential considerations from among the reasonable alternatives available, the action is one that avoids or minimizes adverse environmental impacts to the maximum extent practicable, and that adverse environmental impacts will be avoided or minimized to the maximum extent practicable by incorporating as conditions to the decision those mitigative measures that were identified as practicable.

The Supplemental Findings Statement will also establish any necessary standards, thresholds and mitigation measures to address any environmental impacts related to a detailed review of the proposed Riverside Sewer District and construction, installation and operation of the proposed sewage collection, treatment, and disposal facilities. This will ensure that standards and requirements are in place to address identified issues and avoid or ameliorate potential environmental impacts as implementation of the action takes place. If "positive" SEQRA findings are adopted (i.e., a finding of no significant impact), the Lead Agency may proceed to create the sewer district and authorize the construction of STP improvements.[2]

The Proposed Action will be conducted consistent with Nelson & Pope's June 2023 "Sewage Treatment Plant Engineering Report" **(Appendix B)**, the final facilities design plans for the Subject Action, and the standards and requirements of the previous and pending GEIS, SGEIS and Findings Statements, as applicable. If a modification is made to the plans or its overall concept in the future, and such modification may result in one or more moderate or large impacts, additional environmental review and mitigation may be required. If no such changes are made to the plans, or if only minor changes are made that will not result in one or more moderate or large environmental impacts, no further review under SEQRA will be required.

December 22, 2015 Findings Statement

The December 22, 2015 Findings Statement for the "Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan, and Zoning Map and Code Amendments" established numerous baseline mitigations to address or mitigate the potential impacts from the creation of the Riverside Sewer District and construction of associated sewage collection and treatment facilities. A summary of these mitigations are as follows:

[2] The word "positive" at this stage indicates that the project has met the requirements of SEQRA and after consideration of the FEIS, the project or action can be approved, and the action chosen is the one that minimizes or avoids environmental impacts to the maximum extent practicable. "Positive findings" should not be confused with a "positive declaration" which occurs at the initial stages of the review and identifies the potential for one or more moderate to large impacts triggering the requirement for an EIS.

- Future development under the ROD or that exceeds SCSC Article 6 standards must connect to an approved sewage treatment plant (STP) that provides advanced nitrogen treatment.
- Any development opting into the ROD must be connected to a sewage treatment facility that provides tertiary level treatment and which has an effluent concentration of no more than 6 mg/l of nitrogen, or a concentration deemed suitable by the SCDHS Board of Review and SPDES permits.
- A detailed sewer feasibility study should be commissioned to identify which of the identified sites or combination of sites in the ROD is most suitable to serve the area assuming development under the ROD.
- The siting of an STP must be assessed further to ensure that the facility conforms to SCDHS, SCDPW and NYSDEC requirements and that groundwater and surface waters are properly protected. Further study will address the following:
    - Strict compliance with all State Pollution Discharge Elimination System (SPDES) permit requirements for STPs.
    - Additional study of treatment feasibility, project sponsor, location, capacity, engineering and design, plans and specifications, funding, district establishment, permitting and construction will be needed and will be reviewed under SEQRA.
    - Wastewater assessment will be subject to analysis of pre-project and post-project nitrogen loading to the groundwater so that it can be reviewed against the Total Maximum Daily Load limit (TMDL) for nitrogen established for the Peconic River system. (See discussion under Theoretical Development Scenario in Section 1 and discussion of Alternative 3, "Sewage Treatment Plant Options" in the previously adopted GEIS which outlines additional standards and requirements for siting an STP). Nitrogen loading may not exceed the allowable loads based on existing conditions and permitted loads per Suffolk County Sanitary Code for vacant and subdividable lands within the Study Area.
- Drill soil borings at potential sewer facility sites to determine the suitability of soils for drainage, sewage absorption and identification of actual on-site depth to groundwater. Unsuitable soils must be removed and replaced with clean fill material of a texture that complies with SCDHS requirements and has suitable characteristics (i.e., soil texture) to provide the necessary level of permeability and percolation.
- An area dedicated for construction of an STP should be approximately 120 feet by 120 feet to meet the anticipated design needs of the area or conform to the SCDHS Board of Review requirements if the SCDHS finds that a different size is appropriate.
- A minimum of two acres or the minimum required by the SCDHS Board of Review should be set aside for sewage leaching areas.

- The minimum depth to groundwater in leaching areas should be 14 feet or 12 feet with two feet of soil mounded at the surface to ensure adequate groundwater separation unless the SCDHS Board of Review, based on other information, allows or requires a different standard.
- Leaching pools must be a minimum of 150 feet from any private well or greater if required by SCDHS based on the depth of a well unless the SCDHS Board of Review finds another setback is appropriate or necessary. If the 150-foot setback cannot be met, the developer will have to provide public water connections to properties currently relying on private wells within the 150-foot setback, as required by SCDHS. Suffolk County Water Authority provides mains along streets throughout the district.
- Sewage leaching areas should not be in areas with a 0-2-year groundwater time of travel of any public supply well. Based on the distances of existing public wellfields from the ROD and groundwater flow patterns, threats to public water supplies do not appear to be an issue. SCDHS and SCWA will further investigate this matter and provide input to verify conformance before any permits for STP construction are granted.
- Groundwater time of travel to receiving surface waters should be the maximum possible and leaching pools should be installed at locations that maximize this separation distance.
- A minimum of two feet of separation must be maintained between the base of any leaching pool and the seasonally high groundwater table or a depth determined by the SCDHS Board of Review if greater separation is deemed necessary.
- The leaching area must be a minimum of 100 feet from any surface waterbody or wetland unless the SCDHS Board of Review requires a lesser or greater separation distance. Leaching areas should be located away from wetlands and surface waters and comply with any permits that may be issued.
- Sewer mains must be a minimum of 50 feet from any surface water or well or as required by the SCDHS Board of Review.
- Discharge from the STP must comply with the thresholds and performance standards of a State-issued SPDES wastewater permit.
- Odor control technology shall be provided.
- Future facilities must be consistent with all other the SCDHS requirements except as may be modified by the SCDHS Board of Review.
- New sewage treatment facilities should be dedicated to the County and the County should operate and maintain the system(s), including making sure a trained STP professional is available 24/7 to respond to any plant operations and maintenance issues.

Other noteworthy statements in the Findings Statement include:

- Sewage treatment facilities, including but not limited to plant(s), leaching areas, pumps and mains will be paid for by developers and possibly through funding programs. A sewer feasibility study shall be performed to identify the best location for a facility to provide quality service and reduce the potential for environmental degradation.
- Any new STP locations must be capable of accommodating the projected 500,000 gpd of sewage projected for the Theoretical Development Scenario and comply with Suffolk County siting, design, operation, and applicable public health and environmental regulations. Similarly, an existing STP would have to have the capacity to accommodate the additional approximately 500,000 gpd or enough land and suitable environmental conditions to expand to meet this additional demand.
- Alternative 3 (from the previous DGEIS) assumed development under the Subject Action but focused on the identification and preliminary assessment of potential STP sites. As a result, potential impacts and possible benefits were identified due to increased sewage generation, sewage collection needs, and treatment and disposal issues. Removal of existing failing or antiquated cesspools and sanitary systems and replacement with an advanced sewage treatment facility has many benefits, including supporting economic growth and an expanded housing stock with new and diverse housing options, more tax ratable development to offset impacts on community service providers, new employment opportunities to serve an area with a very high unemployment rate, and others, while mitigating impacts to environmental resources to the extent possible.
- As discussed in the FGEIS, nitrogen limitations must be adhered to for the type of discharge, with the goal of reducing nitrogen load within the watershed and conforming to the TMDL established for the Peconic Estuary, as well as Suffolk County Guidance Memo #28. Biological treatment of effluent in created wetlands proximate to surface water may provide multiple benefits of further effluent treatment and nitrogen reduction, and establishment of beneficial wetlands habitat. Additional study of treatment feasibility, sanitary treatment plant locations, capacity, engineering and design, plans and specifications, funding, district establishment, permitting, and construction will be needed and will be reviewed under SEQRA, SC Guidance Memo #28, the TMDL and SPDES permitting requirements (Appendix N).
- Groundwater will also be protected through stormwater controls, the elimination of conventional septic systems and cesspools on redevelopment sites, construction of a sewage treatment plant that meets strict effluent standards, and other mitigation techniques. Nitrogen loading to groundwater shall not exceed the allowable loads based on existing conditions and permitted loads per Suffolk County Sanitary Code for vacant and subdividable lands within the Study Area. This limits the Theoretical Development Scenario residential use to 1,167 units with a flow of 150 gpd/unit (or a limit of 175,050

gpd of residential use connected to a sewage treatment plant) until additional steps are taken to ensure nitrogen loads would not exceed that which would be permitted under existing conditions. These could be achieved in several ways, including sewering of existing unsewered areas in the Study Area, reduction in the number of residential units built under the Theoretical Development Scenario, treatment and discharge of wastewater deep beneath the ground outside of the Study Area, or advanced nitrogen removal technologies.

Finally, it should be noted that numerous other mitigations are included in the previous Findings Statement and this SGEIS to address other issues relating to development and future land uses and land use operations that can degrade water quality and valued natural resources. Examples include but are not limited to the reduction of the use of fertilizers by retaining or utilizing native plant species for landscaping or requirements to adequately address stormwater runoff and control erosion and sedimentation. These other mitigations, in conjunction with the construction of sewers, can have synergistic effects in further reducing water resource impacts. The previous Riverside Revitalization Action Plan, GEIS, and Findings Statement and other related documents are available for review on the Town's official website through a search or at the following web address: https://www.southamptontownny.gov/960/Riverside-Revitalization-Action-Plan-RRA

1.2 Study Area Location and Description

The Hamlet of Riverside is located within the northwestern section of the Town of Southampton, Suffolk County, New York, and is separated from downtown Riverhead by the Peconic River and Estuary. The Riverside Census Designated Place encompasses 5.2 square miles of which 5.1 square miles are uplands and 0.1 square mile is underwater land. A significant portion of this area (mostly outside of the ROD, BOA and proposed Sewer District) is preserved open space. Riverside is an older (non-historic), moderately dense suburban community consisting primarily of single-family residential neighborhoods, three mobile home parks, a scattered mix of mostly small one- to two-story detached commercial and industrial buildings, several scattered institutional uses (churches, a State Police barracks, elementary school, and a Head Start facility), and parklands and nature preserves. Most of the commercial/business uses in the hamlet are located along SR 24 (Flanders Road) or near the two-lane Riverside/Riverhead traffic circle where five State and County arterial roads and one local residential street intersect.

The proposed Sewer District has the same boundaries as the previous BOA/ROD study area. See **Location Map (Figure 1-1)** and **Aerial Photograph (Figure 1-2)**. *Figures are provided at the end of the main text of the SDGEIS before the Appendices section.* The proposed District is 467.5± acres

and contains a total of 542 tax lots, most of which are developed but have redevelopment or additional development potential under existing zoning.

The current Action proposes the benefits and impacts of using a MBR or SBR, as determined by a final Technical Design Report, which preferably involves discharge into leaching pools rather than a constructed wetlands along the river, but explores the possibility of discharge into constructed wetlands adjacent to the northeast corner of the proposed Sewer District, deep injection at the STP, and connection to or other shared service agreements with the nearby Riverhead Sewer District as alternatives. If the two additional lots on the northeast side of proposed Sewer District where the alternative constructed wetlands would be located are included, the total number of tax lots would be 544 and the total area of the district would be 507.8 acres. For the purposes of assessing the preferred action relative to conditions reviewed by the previous GEIS, the Sewer District will be assumed to consist of 542 tax lots and is 467.5± acres.

The Peconic River and beginning of the Peconic Estuary comprise the northerly boundary of the proposed Sewer District. The Little Peconic River, which is a northeasterly flowing tributary of the Peconic River, represents the District's westerly boundary. Land to the south forming the southerly boundary of the District, consists of preserved open space and parklands, including the David A. Sarnoff Preserve, which is a designated Bird Conservation Area and part of one of the largest undisturbed Pine Barrens areas on Long Island. Cranberry Bog Nature Preserve, a wooded area with trails surrounding Swezey Pond and a former cranberry bog, is located to the southwest and forms the southwesterly boundary of the District. An area of woodlands containing three small freshwater ponds, freshwater wetlands, two small brooks, and a tidal creek are located to the east of the Sewer District, and ultimately discharge into the Peconic River to the north, comprise the east border of the Sewer District. The above listed natural resources create a setting that is environmentally rich, potentially sensitive to development, and worthy of the upmost consideration and protection, including the highest level of sewage treatment possible. Despite the presence of these resources, the community that is located in between is economically depressed, blighted, and has experienced a variety of negative socioeconomic conditions to warrant investment and enhancement. Nevertheless, the proposed STP and leaching site are located away from these features and in most instances is down- groundwater-gradient of sensitive surface waters and wetlands. The Peconic Estuary is sufficiently setback from the STP and leaching area is located outside of wetlands jurisdiction and has suitable separation from distances.

Certain locations within the proposed Riverside Sewer District contain sensitive natural resources and, therefore, are more likely to be affected by the proposed action. To the best of the Town's

ability, these sensitive areas are being avoided. Where such areas cannot be avoided, the Town seeks to minimize impacts to these ecosystems by installing the necessary infrastructure within existing road rights-of-way or other areas of existing disturbance.

The locations of proposed improvements are described below:

- The STP and proposed leaching area will be located on vacant land that is owned by the Town which is north of the Phillips Avenue School's recreational field and south of Flanders Road (SR 24) on the west side of the Enterprise Zone Drive industrial subdivision in central Riverside. This property consists of seven adjacent lots identified as SCTM #900-141-1-9.14, 9.17, 9.25, 9.29, 9.30, 9.31 and 9.32 totaling 10.82± acres, and was purchased for the sole purpose of constructing public infrastructure (STP). A section of Enterprise Zone Drive located between the two Town owned lots to the east and the five Town owned lots to the west totaling 0.96± acres will be abandoned and incorporated into the project site bringing the total STP/leaching area property to 11.78± acres. However, a new 0.33± acre section of Enterprise Zone Drive will be constructed on the east sides of the two Town owned lots identified as SCTM#: 900-141-1-9.29 and 9.30 from the main access road to the frontage of a privately owned lot in the subdivision identified as SCTM 900-141-1-9.13 to ensure easy access and circulation throughout the subdivision. Based on this additional roadway the total area of the final STP/leaching site will be **11.45± acres**.
- The proposed STP will be contained within a 201.25± foot by 146.5± foot building that will be 16.5± feet in height. All process tanks, controls, and influent pump station for the proposed sewage treatment plant will be fully enclosed inside a single 29,484± SF masonry block building. The building will house the influent pump station with controls, a laboratory, a mechanical room, an electrical room, and a four-train treatment system that discharges into the ground through leaching pools sited a minimum of two (2) feet above the groundwater table. All process tanks will be made of reinforced concrete. A generator will be included within the enclosure for emergency electrical back up should there be a power failure. The building will be located in order to comply with the required setbacks to adjacent properties. Due to the size and location of the STP and leaching area, every effort was made to minimize the impact on residential and commercial properties to the north and east. Detailed descriptions of the MBR and SBR systems are provided in **Section 1.4**.
- The treated effluent disposal and leaching area will be adjacent to the north and south sides of the STP and will consist of a network of subsurface leaching pools covering an area of 6.6± acres and having an estimated cost of $1,120,000 for both phases ($560,000 for each phase of leaching pool installation).
- Where appropriate a combination of conventional sewer mains may be installed within street rights-of-way throughout the Sewer District. Force mains will be installed across

land located east of the intersection of Pine Street and Old Quogue Road to the proposed STP over portions of SCTM #900-139-2-24 & 26; 900-139-3-10.2 and 23; 900-139-2-25 and 26; and 900-141-1-9.32. A small section of force main will be installed across the street from Pump Station 3 between Riverleigh Avenue and the terminus of Vail Avenue over the south end of SCTM lot #900-139-2-54.1. A gravity main will be installed within an unopened private road right-of-way identified as SCTM #900-139-3-30.2. See **Attached Overall Site Plan and Partial Site Plans** for locations of force mains and gravity mains.

- A maximum of four small (1,225± SF) precast pump houses are proposed. If needed, these pump houses will be located as follows:
    - Pump Station No. 1: North and east of the intersection of Riverhead-Moriches Road/Lake Avenue (CR-63) and Maynard Street on land identified as SCTM #900-138-2-29.1 (Budget Hotel site).
    - Pump Station No. 2: North side of Flanders Road (SR 24) on land owned by the State of New York and used in part for stormwater recharge identified as SCTM #900-118-2-20.2.
    - Pump Station No. 3: West side of Riverleigh Avenue, north of the northeast corner of the Riverwoods community on vacant land identified as SCTM #900-139-2-82.1.
    - Pump Station No. 4: North of the intersection of Old Quogue Road and Ludlam Avenue along the west side of the Ludlam Park baseball field (SCTM #900-140-2-57.1) in an area that was previously cleared. See **Attached Overall Site Plan** for locations of proposed pump stations and typical **Pump Station Plan**.

The proposed Riverside Sewer District and related improvements are also located either partly or entirely within the below listed community service districts or are served by the community facilities described below.

Community Services Districts

- Riverhead Central School District;
- Riverhead Fire District (*District administration*);
- Riverhead Fire Department Service Area (*District firefighting services*);
- Southampton Town Police District Sector A20 (*with headquarters at Jackson Avenue, Hampton Bays*);
- New York State Police Troop L (*with barracks within the Sewer District at 234 Riverleigh Avenue in Riverside*);
- Flanders-Northampton Volunteer Ambulance District (*with headquarters at 641 Flanders Road*);
- National Grid Service Area (*natural gas distribution area*);

- Public Service Electric and Gas Company Service Area (PSE&G Long Island) (*electricity*);
- Suffolk County Bus Routes 90, 92 and 8A;
- Suffolk County Water Authority's Riverside Water District (RSWD);
- Suffolk County Water Authority Flanders Distribution Area (Distribution Area 39); and
- Town of Southampton solid waste transfer station (*the closest being 30 Jackson Avenue, Hampton Bays and 66 Old Country Road, Westhampton*).

Planning and Environmental Areas

All or parts of the proposed Sewer District are also located within the following areas. It is important to note, however, that the proposed STP, pump stations, force mains, and sewage collection system are at different locations throughout the district, and therefore, are not all within every referenced area. Please refer to the respective maps for detailed boundary locations.

- Town wetlands "critical areas" pursuant to Southampton Town Code § 157-10 B. (3) due to the presence of New York State Department of Environmental Conservation (NYSDEC) wetlands **(Figure 3-2)**;
- A small area at the northwest end of the District is adjacent to the "recreational" section of the Peconic River pursuant to the New York State Wild, Scenic and Recreational Rivers Act and implementing regulations **(Figure 3-4)**.
- Federal Emergency Management Agency (FEMA) X and X-500 Zones and AE Zone el. 7 foot (100-Year Special Flood Hazard Area) **(Figure 3-6)**;
- Town Central Pine Barrens Overlay District (CPBOD), Compatible Growth Area (CGA), and Transfer of Development Rights Receiving Area **(Figure 3-12)**;
- Town Aquifer Protection Overlay District (APOD) **(Figure 3-13)**;
- Central Suffolk Special Groundwater Protection Area (SGPA) **(Figure 3-14)**;
- Suffolk County Department of Health Services Groundwater Management Zone III (300 gpd/acre) and Groundwater Management Zone IV (600 gpd/acre) **(Figure 3-15)**; and
- Town of Southampton Water Protection Boundary pursuant to the 2016 Southampton Coastal Resources Protection Plan (area north of SR 24).

The various planning and environmental areas are described in further detail in **Sections 2 and 3.**

1.3 Project Background, Public Need and Objectives, Project Sponsor Objectives, and Benefits

The proposed Riverside Sewer District and public sewer infrastructure are two of the most important implementation actions identified by the previous long-range planning effort for the

community of Riverside as they are essential to economic growth and revitalization, support greater development density and a more diverse mix of land uses, and offers the necessary incentives for developers to invest in the area. This investment, redevelopment and growth will help to address blight, create new jobs, encourage the building of new affordable housing, and stimulate economic revitalization. This is due to on-site septic system flow limitations established by the Suffolk County Sanitary Code (SCSC) that are necessary to protect public health and the environment, but greatly restrict the type and density of development that is possible, and the critical mass of new development needed to bolster the local economy and provide financial opportunities. Moreover, the many important and environmentally sensitive natural resources in the area and the many physical and environmental constraints posed by these resources can be better addressed and protected by sewage treatment facilities that provide the maximum level of treatment possible. To prevent additional impacts from sewage disposal on the underlying aquifer and nearby Peconic River Estuary, area ponds, brooks, and fresh and tidal creeks and wetlands, limits have also been established on the volume of untreated wastewater that can be generated by ROD development.

Since all existing development in the proposed Sewer District currently relies on on-site septic systems and cesspools and many of these systems are unlikely to fully comply with current SCSC standards, significant improvements in terms of effluent quality and pollutant loading are possible. For example, both the MBR and SBR STP considered for the District are designed to reduce total nitrogen concentrations to less than 10 mg/L **(Nelson & Pope, 2023)**. This is considerably lower than the 40 to 50 mg/L used by **Hantzsche and Finnemore (1992)** in their study of nitrogen loss when effluent from septic systems enters the ground; or the median 44± mg/L of total dissolved nitrogen found in septic systems by **Rosen, Kropf and Thomas (2006)** in its study of nitrogen loading from septic systems; or the 62 mg/L referenced by **Bauman and Schafer (1985)** from their review of more than 20 studies on septic systems throughout the country. Although conventional sanitary systems generally provide some level of nitrogen removal, they are highly ineffective compared to STPs. According to the Center for Watershed Protection's Watershed Treatment Model (WTM) performed for the SDGEIS by NPV, the existing service area contributes approximately 5,976 lbs./year of nitrogen to the Peconic River **(Caraco, Deb, P.E., Center for Watershed Protection, 2013)**.

There has been a collective effort by federal, state, county, and local agencies as well as participation from within the community to protect and preserve the Peconic Estuary. One result of this collaborative effort has been the creation of the Peconic Estuary Partnership (PEP) (formerly the Peconic Estuary Program). The PEP was created in 1992 to help to protect the Peconic ecosystem and allow it to continue to thrive. One of the key goals of this Program and the Peconic Estuary Comprehensive Conservation Management Plan, which is the foundation of

the PEP, is to minimize the total nitrogen (TN) being discharged into these waters (including the Peconic River and its tributaries) to reduce impacts from cultural eutrophication[3], while maintaining the State's minimum dissolved oxygen (DO) concentration standard. In furtherance of this goal, the PEP, in coordination with the US Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC), prepared the "*Total Maximum Daily Load for Nitrogen in the Peconic Estuary Program Study Area, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek and Meetinghouse Creek, Terrys Creek and Tributaries."* The plan called for beneficial re-use of Riverhead STP sanitary effluent for off hours irrigation of the adjacent County owned Indian Island Golf Course. The recommended beneficial re-use project was completed in 2016.

The PEP was designed to achieve a goal of 0.45 mg/l TN in all waters and 0.40 mg/l TN in shallow waters. According to research conducted by NPV as part of the BOA study, the community has a total nitrogen concentration in recharge of 4.58± mg/l, since conventional onsite treatment systems can only provide limited nitrogen treatment and reduction. In order to help improve the health of the estuary and its ecosystem, there needs to be a focus on the quality of discharge to the surface waters. The PEP provides more evidence as to the necessity of nitrogen reduction in the community and its impact on the surrounding areas.

There are some issues associated with continued use of septic systems. First, the nitrogen concentration was analyzed from part of the existing community and was found to almost double the guideline set forth by the Central Pine Barrens Comprehensive Land Use Plan's Guideline 5.3.3.1.3, which is used for evaluating a Development of Regional Significance (DRS). This guideline suggests that a maximum concentration of 2.5 mg/l should be used, which is nearly half of the current measured concentration of 4.83 mg/l. Aside from the existing conditions exceeding the current guidelines for nitrogen concentration, additional development (as proposed by the adopted RRAP and rezonings) would not be permitted to utilize conventional sewage treatment systems as outlined in the ROD.

Another issue is the current restrictions placed on the area that hinder development. Since the goal of the Town is to develop and revitalize the community, as expressed in the RRAP and

[3] Eutrophication is a process or condition whereby water bodies, such as lakes, estuaries, or slow-moving streams receive excess nutrients that stimulate excessive plant growth (algae, periphyton attached algae, and nuisance plants weeds). This enhanced plant growth, and/or algal bloom, reduces dissolved oxygen in the water as dead plant material decomposes and can cause other organisms to die. Nutrients can come from many sources, such as fertilizers applied to agricultural fields, golf courses, and suburban lawns; deposition of nitrogen from the atmosphere; erosion of soil containing nutrients; and sewage discharges.

supported by the community, the Town has also created the ROD to encourage sustainable development. However, since the SCSC enforces a range of sanitary flow from 300 to 600 gallons per day per acre in the area, new development will be unable to develop to their highest potential without the benefit of sewage collection, treatment and disposal.

As stated in the 2013 Flanders Riverside Corridor Sewer Feasibility Study, there are no existing STP's within a mile of the community that can treat the anticipated flow from the area. Therefore, for the goals of the RRAP to succeed and to protect the existing natural resources, it was determined that a collection system and a centrally located STP must be constructed. Since there is no existing available sanitary infrastructure, the Sewer District will be divided into sewer subdistricts for the purposes of collecting and conveying sanitary sewerage to the proposed STP. Each subdistrict will have a dedicated sewage conveyance system and its own remote sanitary pumping station. The STP will therefore be designed to accommodate fluctuating inflow from four pumping stations.

Many benefits are expected to result from the creation of the Riverside Sewer District and construction of the publicly owned proposed collection and treatment facilities. These include both direct benefits (e.g., protection of the environment and public health) and indirect benefits (e.g., fiscal, economic growth, new jobs, long range community sustainability, housing, businesses, increased availability of goods and services, etc.) that may not be possible if the Proposed Action is not implemented.

Direct and indirect benefits that are expected from the Sewer District and collection and treatment facilities include:

- Protection and possible enhancement of the environment and protection of human health;
- The fulfillment of long-established Town and community goals developed through extensive community participation, by helping to reestablish an appropriately scaled, pedestrian-oriented mixed-use hamlet center with a critical mass of development and development density that supports economic growth and community vitality;
- The development and redevelopment of vacant and underutilized properties with a mix of land uses that are compatible and supportive of existing and future land uses in the area;
- The diversification of the community's housing stock by providing additional market rate and Community Benefit Units (50 percent of the total units), significantly increasing affordable workforce housing options for households of various sizes and housing needs;

- The elimination of blight, redevelopment of vacant or abandoned buildings, reuse of vacant and underutilized lots, cleanup of brownfield sites, promotion of infill development, enhancement and revitalization of the community, increased community investment and improved property values;
- The creation of construction jobs as well as more permanent part-time and full-time employment opportunities at future retail, restaurant, office, personal service, hospitality, industrial, recreational, and cultural facilities, and new maintenance positions at multifamily residential buildings;
- The creation of a more walkable multimodal (car, bus, train, taxi, bicycle and pedestrian) transit-oriented community that can best be accomplished with compact growth, and new road improvements through community investment that will mitigate traffic impacts to the maximum extent practicable; and
- Fostering a new sense of place, with increased levels of community interaction through building form, design, site layouts, enhanced streetscapes, an increased level of "eyes on the street" to promote public safety, new pedestrian amenities, attractive architecture and landscaping, and outdoor community spaces and activities, all under a coordinated form-based master plan that cannot be fully achieved without adequate infrastructure to support it.

Anticipated Fiscal Impacts/Benefits from the BOA/RRAP Studies (*All dollar estimates are in **"2015 dollars."***)

- The Riverside Plan will significantly increase taxes generated in the area, resulting in a substantial increase in revenues distributed to each taxing jurisdiction. At full (STP-dependent) build-out, the Proposed Action was projected to generate over $12.6 million in annual taxes (in 2015 dollars). This represents a net increase of over $10.3 million per year when compared to the 2015 site conditions.
- Upon full (STP-dependent) build-out under the RRAP and ROD, the plan would levy over $9.7 million to the Riverhead Central School District. This represents 77.4% of the total taxes projected to be generated by the site.
- The full (STP-dependent) build-out under the RRAP and ROD would levy over $355,000, or 2.8% of the taxes, to the Riverside & Baiting Hollow Library District.
- Under the full (STP-dependent) build-out, over $550,000 or 4.4% of the total tax revenues were projected to be distributed to Suffolk County, which includes the General Fund, the Police Department and Out-of-County Tuition.
- Approximately 5.5% of the tax revenue from the full (STP-dependent) build-out was projected to be levied to the Town of Southampton, which includes the Town/Part Town funds, Highway Tax and the Town-Wide Lighting District. These three line-items combine to total over $690,000 in projected tax revenues.

- The Riverhead Fire District was projected to levy $758,000, or 6% of the total tax revenue generated by the RRAP and ROD under full (STP-dependent) build-out.
- The balance of the 2015 property tax revenue projection was apportioned to various other local taxing jurisdictions including New York State Real Property Tax Law, New York State MTA Tax, Open Space Bonds, and Northampton Ambulance District.
- The 283 school-aged children projected for the full (STP-dependent) build-out were all assumed to be enrolled within public schools in the Riverhead CSD. It was projected that the 283 students will cost the Riverhead CSD approximately $5.2 million in annual expenditures (2105 dollars) upon full buildout and occupancy of the development. It is estimated that the school district would receive over $9.7 million in additional property taxes from the RRAP which would help alleviate an increased burden on other taxpayers throughout the district.

Anticipated Economic Impacts/Benefits: Construction Period ***(in "2015 dollars")***

- The construction period of 10 years for the RRAP and ROD was projected to represent a total of over $636 million in investment in 2015 dollars. This direct output was projected to generate an indirect impact of over $254 million, and an induced impact of over $242 million, bringing the total economic impact on output to over $1.1 billion during the ten (10)-year construction period of 2016-2025.
- It was projected that the full (STP-dependent) build-out construction period would necessitate 306 full-time equivalent (FTE) employees per year, over the course of ten (10) years. Under the Community Benefit Policy, a portion of these jobs would go to residents of the Town, with priority consideration going to residents of Riverside.

Anticipated Economic Impacts/Benefits: Annual Operations ***(in "2015 dollars")***

- It is assumed that the Proposed Action would begin the operational phase of development upon the completion of the first year of the ten (10)-year construction period. For the purpose of the 2015 analysis, construction would occur at a uniform rate each year until completed in 2025. The stabilized year of operations is assumed to occur in the following year, 2026.
- The RRAP and ROD were projected to generate over $56.4 million in annual operational revenues in 2015 dollars, stemming from annual rental income as well as annual sales revenues for each project component.
- The direct operational revenues were projected to generate an indirect impact of over $17 million.
- The induced impact of building operations alone was projected to total $22.6 million. Added to that would be the impact of the expenditures of the new residents, which is quantified only in induced impacts. Residential expenditure impacts would add another

$142.9 million in output in 2015 dollars. Induced impacts of operations and occupancy would total $165.6 million per year. This additional output is generated through round-by-round sales made by households supported by or living in the development at various merchants in other sectors of the regional economy. These include local retailers, service providers, banks, grocers, restaurants, financial institutions, insurance companies, health and legal services providers, and other establishments in the region.

- The sum of the direct, indirect and induced impacts was estimated to result in a total economic impact on output of over $239.0 million during annual operations once the project reaches full buildout.
- The anticipated Development Scenario was projected to generate 678 jobs each year during annual operations. These 678 direct employment positions were projected to result in an indirect impact of 117 jobs, and an induced impact of almost 1,200 jobs throughout the region, bringing the total economic impact of employment to 1,971 jobs during annual operations.
- The RRAP and ROD are anticipated to generate 1,971 full-time equivalent (FTE) employees during annual operations under full (STP-dependent) build-out. Under the Community Benefit Policy, a portion of these jobs must go to residents of the Town, with priority consideration going to residents of Riverside.
- The 1,971 employees were anticipated to earn a total of approximately $88.9 million in collective labor income. This includes the direct labor income of $26.1 million each year, as well as the income of the indirect and induced employment supported by the operations and occupancy.

1.4 Description of the Proposed Action

The Subject Action includes the creation of the Riverside Sewer District; construction and operation of an STP and onsite leaching area; and the installation of sewage collection and delivery system consisting of a combination of conventional sewer mains, force mains, where appropriate, and a maximum of four sewage pump stations. The facilities and capital infrastructure that are necessary to meet the District's needs were assessed in the 2023 report prepared by Nelson & Pope Engineers and Surveyors (N+P) titled, "*Riverside Revitalization Sewage Treatment Plant — Clean Water State Revolving Fund (CWSRF) — Engineering Report.*" As part of this engineering assessment, several available state-of-the-art STP technologies were evaluated to determine the most suitable system for the community. STP technologies considered included the Sequencing Batch Reactor (SBR), Membrane Bio-Reactor (MBR), and Biologically Engineered Single Sludge Treatment (BESST) facility. The conclusion from this investigation was that both the MBR and SBR technologies would be the most appropriate and beneficial for meeting the needs of the Riverside Sewer District and can provide secondary and

tertiary level treatment. Selection of MBR or SBR technology will be based upon a final Technical Design Report. However, final engineering design must conform to a goal establishing maximum 10 mg/l TN threshold.

1.4.1 STP

Both the MBR and SBR technologies are a type of activated sludge system which can be designed to provide tertiary treatment. Advantages of the MBR and SBR processes include:

MBR

- Smaller overall footprint
- Higher biomass concentrations for higher quality treatment
- Longer retention times with less sludge production
  Longer retention times and higher concentrations of the biological elements results in a highly
  efficient treatment process
- High quality effluent

SBR

- The entire process occurs in a single tank which excludes the need for a separate clarifier
- Hydraulic flexibility, cycles are easily adjusted with the controller
- Easily upgradeable to include secondary and tertiary treatment by installing mixers and filters
  respectively
- High quality effluent

The proposed publicly owned and operated STP will be contained within a single 29,850 SF 16-foot-high masonry block building and have a total designed sanitary flow of 800,000 gpd (556 gpm) to easily accommodate the previously projected existing and theoretical flows in the District and have a peak sanitary flow rate of 2,344,000 gpd (1,628 gpm). The land area needed for the proposed STP, including a 100 percent facility expansion area, as required, is estimated to be 201.25± foot by 146.5± foot (29,483± SF) building that will be 16.5± feet in height with a total impervious area including facility parking area, driveway, and new section of Enterprise Zone Drive of 1.45± acres. The leaching area will be re-vegetated with grass and/or seeded ground cover once pools are installed is approximately 8.49± acres and a 25-foot-deep perimeter buffer of natural growth will be retained around the perimeter of the site. The STP building will contain the influent pump station and controls, a laboratory, lavatory, mechanical room, electrical room,

generator room, and treatment system that will discharge into subsurface leaching pools in the adjacent leaching area. Below is a summary of both SBR and MBR components:

STP Description

An MRB System would consist of the following:

- One (1) Influent Pumping Station at the STP Site.
- One (1) Mechanically Cleaned Fine Screen with Bypass Bar Rack.
- Two (2) Influent Equalization Tanks.
- One (1) Influent Splitter Box.
- Four (4) Anoxic Tanks.
- Four (4) Aeration Tanks.
- Four (4) Membrane Tanks.
- Two (2) Aerobic Digesters.
- Diffused Aeration System consisting of four (4) process air blowers, four (4) air scour blowers, one (1) common standby for both process air and air scour, two (2) digester blowers, two (2) influent equalization tank blowers, one (1) common standby for EQ and digesters, and all associated diffusers, valves, and piping.
- Electrical Equipment.
- Chemical Feed System for pH control and supplemental carbon.
- One (1) Stand-by Generator.
- The treated effluent disposal and leaching area will be adjacent to the north and south sides of the STP and will consist of a network of subsurface leaching pools.
- A maximum total of four small (1,225± SF) precast pump houses are proposed; and
- Where appropriate, a combination of low pressure and gravity sewer mains will be installed within street rights-of-way throughout the Sewer District. Force mains will be installed across land located east of the intersection of Pine Street and Old Quogue Road to the proposed STP over portions of SCTM #900-139-2-24 and 26; 900-139-3-10.2 and 23; 900-139-2-25 and 26; and 900-141-1-9.32. A small section of force main will be installed across the street from Pump Station 3 between Riverleigh Avenue and the terminus of Vail Avenue over the south end of SCTM lot #900-139-2-54.1. A gravity main will be installed within an unopened private road right-of-way identified as SCTM #900-139-3-30.2. See **Attached Overall Site Plans** and **Phase I and II Overall Site Plan** for locations of force mains and gravity mains and **Appendix B** for the June 2023 CWSRF Engineering Report.

An SBR System will be a four-train system consisting of the following:

- An Influent Pump Station to convey raw sewage to the mechanical screen;

- One (1) Mechanical Fine Screen;
- Two (2) 128,850-gallon Equalization Tank;
- One (1) Influent Splitter Box;
- Four (4) 402,843-gallon Sequencing Batch reactors;
- Four (4) 165,876-gallon Sludge Holding Tanks;
- Two (2) 85,191-gallon Intermediate Surge Tanks;
- One (1) Effluent Flow Metering Chamber;
- SBR Aeration System consisting of three (3) aeration tank blowers, three (3) sludge holding tank blowers, two (2) influent equalization tank blowers, and all associated diffusers and piping;
- Electrical Equipment;
- Chemical Feed System for pH control and supplemental carbon;
- One (1) Stand-by Generator;
- The treated effluent disposal and leaching area will be adjacent to the north and south sides of the STP and will consist of a network of subsurface leaching pools;
- A maximum total of four small (1,225± SF) precast pump houses are proposed; and
- Where appropriate, a combination of low pressure and gravity sewer mains will be installed within street rights-of-way throughout the Sewer District. Force mains will be installed across land located east of the intersection of Pine Street and Old Quogue Road to the proposed STP over portions of SCTM #900-139-2-24 and 26; 900-139-3-10.2 and 23; 900-139-2-25 and 26; and 900-141-1-9.32. A small section of force main will be installed across the street from Pump Station 3 between Riverleigh Avenue and the terminus of Vail Avenue over the south end of SCTM lot #900-139-2-54.1. A gravity main will be installed within an unopened private road right-of-way identified as SCTM #900-139-3-30.2. See **Attached Overall Site Plans** and **Phase I and II Overall Site Plan** for locations of force mains and gravity mains and **Appendix B** for the June 2023 CWSRF Engineering Report.

All STP equipment and treatment processes, including all process tanks, controls and influent pump station will be fully contained within the proposed STP building The STP will be a public asset, owned by the Sewer District, and the Town Board will be the District Commissioners, who will determine who will run the plant (either Suffolk County or private operator).

Some of the STP components can be phased in over time as revitalization occurs and greater processing capacity is needed. Only two of the four systems would be required for the initial influent flow and the second pair of tanks could be constructed later when the community would require the additional capacity. The layout of the systems will be designed in such a way to allow for the construction of two trains later without negative impact on the existing two trains.

An odor control system will be designed and installed at the STP to further mitigate any potential odor-related issues from the treatment process if needed. The project will also require a State Pollution Discharge and Elimination System (SPDES) Permit, as well as compliance with Central Pine Barrens guidelines, Peconic Estuary Total Maximum Daily Load, and facility setback standards, unless variances are granted. The cycle times for adequate treatment will be adjusted at the controller when the influent flow is modified to accommodate the newly developed areas while maintaining effluent concentration criteria. The STP operator (likely one part-time employee) will monitor all the conditions including the nitrogen loading from system effluent.

The plant and associated facilities will be designed, in accordance with Suffolk County Department of Health Services (SCDHS), Suffolk County Department of Public Works (SCDPW), and U.S. Environmental Protection Agency (USEPA) regulations.

N+P evaluated MBR, SBR and other technologies currently available for wastewater treatment and concluded that the SBR technology would be the best fit for the project from the standpoint of operational flexibility and cost assessment.

1.4.2 Effluent Leaching Area

The proposed sewage discharge and leaching area will require 207,360 SF (4.76 acres) at construction and 103,680 SF (2.38 acres) of land area for future expansion on a total of 8.49± acres located adjacent to the north and south of the proposed STP. In order to meet the County's 200% capacity requirement, 640 (320 x 2) 10-foot diameter leaching pools with a total storage capacity to provide sufficient capacity to fully serve the Riverside community at buildout. The pools will be installed at an effective depth of 8 feet where the groundwater is between 9.4 and 10+ feet below ground surface.

Soils in the proposed leaching area have been identified by the Suffolk County Soil Survey as Carver and Plymouth sands, 0-3% slope (CPA) and Cut and fill land, gently sloping (CuB) soils. The previous Enterprise Zone Subdivision included two soil borings on the proposed STP/leaching site. Test Hole 1 was located near the middle of SCTM 900-141-1-9.25 and included top soil at 0.5 feet below ground surface (bgs), sandy loam down to 3.5 feet bgs, and the rest was loose sand below that[4]. Groundwater was encountered at a depth of 9.5 feet bgs. Test Hole 4 was located in the east-central portion of SCTM 900-141-1-9.31. This test hole contained topsoil to a depth of 2 feet bgs and sand and gravel to a depth of 10 feet bgs. Groundwater was not encountered in Test Hole 4 (see **Appendix C** for the approved 2003 Enterprise Zone Subdivision Map and related soil boring data). Two additional test holes were drilled on the site in May of

[4] The total depth of Test Hole 1 is not shown on the approved site plan but exceeds 10 feet.

2023 (see 2023 Soil Boring Logs in **Appendix D**). Topsoil in SB-1 consisted of dark brown sandy silt (SM on the Unified Soil Classification System), below that was a tan fine-medium sand (SP) to a depth of 13.2 feet bgs and below that was a fine-coarse sand with trace gravel (SW) to the bottom of the boring (15 feet bgs). Groundwater was encountered at 9.4 feet bgs, which, based on season (May 1) and the large rain event that preceded the drilling, is expected to be at or near (±) the seasonally high groundwater level for this site.

SB-2 identified topsoil consisting of dark brown sandy silt (SM) followed by tan fine-medium sand (SP) to the bottom of the boring (15 feet bgs). Groundwater was encountered at a depth of 9.75 feet bgs in this boring. Overall soil conditions are discussed in greater detail in **Section 2** of this SDGEIS.

1.4.3 Pump Stations

A maximum of four pump stations and associated force mains will be necessary to serve the proposed Sewer District. These pump stations can be phased in as needed, if a phased approach is desirable. The pumping stations and force mains will allow the portion of wastewater collected by a combination of gravity pipes, where appropriate, to be pumped from lower elevations within each subsection to a designated location—in this case—the proposed STP. The pumping stations will be located on land that will be owned and controlled by the Town and dedicated for this purpose. Each pump station will be approximately 35 feet by 35 feet (or 1,225± SF) but only Pump Station 3's site will have to be cleared. At Pump Station 3, an estimated 2,069± SF of land will be cleared and graded to accommodate its equipment, controls, accessories and needed surrounding space to access it. The pump stations will include two independent precast concrete stations for two separate subsections, and the other two will be installed in series for the remaining subsections. See **Attached Pump Station Plan**.

1.4.4 Collection System (Sewer Mains and Force Mains)

The proposed collection system is estimated to require 11,825± linear feet (LF) of gravity and/or force main and 5,075 LF of collection system piping along State roads, 5,600± LF of piping along County roads, and 42,500 LF of piping along Town roads within the Sewer District. Diameters of mains are currently unknown subject to detailed system design but are typically four-inch. **Table 1-1** provides a breakdown of the projected LF of force main and collection sewer piping needed by phase.

TABLE 1-1
ESTIMATED FORCE MAIN AND GRAVITY SEWER MAIN NEEDED BY PROJECT PHASE

Force Main and Collection System Piping	Phase I (LF)	Phase II (LF)	Total (LF)	Total (Miles)
Collection System/State Roads	3,750	1,325	5,075	0.96
Collection System/County Roads	4,650	950	5,600	1.06
Collection System/Town Roads	26,925	15,575	42,500	8.05
Total Collection System	**35,325**	**17,850**	**53,175**	**10.07**
Force Main	7,725	4,100	11,825	2.24
Total Force Main and Collection System	**43,050**	**21,950**	**65,000**	**12.31**

1.4.5 Construction Phasing

The STP, leaching area and collection and treatment system will be constructed in two phases. Phase 1 will include construction of the STP and leaching areas; and Pump Stations 1, 2 and 3 and part of the District collection system. Connection, collection and treatment of existing on-site sanitary discharges in the proposed Sewer District will augment plant flow during project start up and all new development after system construction will be required to connect to the collection and treatment system. The second phase of the Proposed Action will involve the construction of Pump Station 4 and installation of the remaining sewer mains to serve the District **(Phase I and Phase II Overall Site Plan)**. The total construction period is expected to take between 12 and 18 months.

1.4.6 Drainage

Drainage is another factor that will be addressed. As with any construction project it will be important to ensure that runoff generated from the proposed STP building, pump stations, STP parking area, new section of Enterprise Zone Drive, and other impervious surfaces are properly managed to capture and recharge stormwater runoff and prevent it from entering adjacent properties or nearby roadways. Roof drains, drywells, catch basins and stormwater leaching pools will be installed as needed to comply with Town requirements for controlling runoff.

1.5 Required Reviews, Permits, Approvals, and Funding

The following is a list of "involved agencies" that are undertaking, funding, and/or are responsible for issuing permits or approvals to create the sewer district and construct and operate the proposed facilities. The list of involved agencies is followed by a list of "interested agencies" that may be interested in reviewing and commenting on the project.

Involved Agencies that are Undertaking or must Permit or Approval the Project

1) Town Board (create Town capital infrastructure project and initiation of sewer district formation subject to a permissive referendum);
2) New York State Department of Environmental Conservation (SPDES wastewater discharge permit, review of STP design, potential for Article 11 permitting for threatened or endangered species in proximity to disturbance areas, potential wetland permits associated with alternative constructed wetlands discharge option, and Wild, Scenic, Recreational Rivers Permit);
3) Southampton Planning Board (site plan review or advisory input);
4) Suffolk County Department of Public Works (mains along County roads, individual sewer connections);
5) New York State Department of Transportation (mains along State Road/SR 24, pump station easement on recharge basin site);
6) Town Highway Department (mains along Town roads);
7) Suffolk County Department of Health Services (individual sewer connections);
8) New York State Environmental Facilities Corporation (funding);
9) Central Pine Barrens Joint Planning and Policy Commission (determination/review of STP and associated improvements within the Compatible Growth Area);
10) New York State Comptroller (creation of the sewer district/determination of need for approval);
11) PSEG Long Island (electrical demand);
12) Suffolk County Water Authority (connection), impacts on water system, impacts on water supplies if any); and
13) Town of Southampton Conservation Board or Town of Southampton Environment Division (installation of sewer mains and Pump Station 2).

Involved Agencies that Are or May be Funding the Project

1) Suffolk County Economic Development and Planning, Water Quality Protection and Restoration Program;
2) Federal Bipartisan Infrastructure Law (BIL); direct Federal member item appropriation;
3) New York Environmental Facilities Corporation (EFC), Environmental Facilities Corporation (EFC), New York State Water Infrastructure Improvement and Intermunicipal Grants (WIIA);
4) New York State Department of Environmental Conservation (NYSDEC), Water Quality Improvement Project funding;
5) Suffolk County Department of Health Services, Suffolk County Sewer Fund;
6) Town Board of Southampton, Southampton Town Community Preservation Fund; and
7) Part of Town General Fund (funding as necessary).

Interested Agencies

1) Peconic Estuary Program;
2) Suffolk County Planning Commission (regional project, within 500 feet of another municipality (Town of Riverhead); installation of mains along/within County Road ROW);
3) Town of Riverhead (adjacent municipality and possible connection to Sewer District as an alternative);
4) Southampton Parks and Recreation (one pump station proposed on the Town's Ludlam Park site);
5) Riverhead Central School District (per request, interested agency); and
6) National Grid (natural gas demand).

SECTION 2.0
TOPOGRAPHY AND SOILS

2.0 TOPOGRAPHY AND SOILS

2.1 Existing Conditions

2.1.1 Topography

Topography in the proposed Riverside Sewer District is generally flat to gently sloping with a gradual decrease in elevation from south to north toward the Peconic River and Estuary. Land surface elevations range from a high of approximately 50 feet above mean sea level (msl) at the southwest corner of the District near the south end of the Riverwoods Residential Community to approximately three or four feet to near sea level (0' el.) along the banks of the Peconic River and Estuary. The steepest slopes are found at the south end of the Riverwoods community, where the rolling hills and moderately steep side slopes of the Ronkonkoma Moraine descend, grading into the more gently sloping outwash plain that underlies the Sewer District and extends toward the river and estuary. Small topographic depressions are found at several locations in the proposed Sewer District, a few of which contain small freshwater wetlands or groundwater fed surface waters bodies. River, stream, and tidal creek channels are also present outside but adjacent to the north, west, and east of the district. **Figure 2-1** shows topography, elevations, and surface landforms in and around the Sewer District.

A summary of existing topographic conditions at locations where sewer improvements are proposed are as follows.

Sewage Treatment Plant Site and Leaching Areas

The proposed STP for the district will be located on vacant land that is owned by the Town. This property is located south of Flanders Road (SR 24), mostly west of Enterprise Zone Drive, and north-northwest of the Phillips Avenue School building in central Riverside. The land to be used for the proposed STP and leaching areas consists of seven adjacent Town owned lots identified as SCTM #900-141-1-9.14, 9.17, 9.25, 9.29, 9.30, 9.31 and 9.32 which have a total combined land area of 10.82± acres plus a section of Enterprise Zone Drive in between totaling 0.96± acres which will be abandoned and the pavement removed for a total contiguous Town owned land area of 11.78± acres. However, a new section of Enterprise Zone Drive will be constructed on the east side of the Town owned lots 9.29 and 9.30 to replace the abandoned section bringing the total STP and leaching area to 11.45± acres. Surface elevations at the proposed STP and leaching site range between 12± feet above msl to 24± feet above msl.

Sewer Mains and Force Mains

A combination of gravity sewer and force mains will be installed in accordance with a final Technical Design Report. The sewers will be installed within road rights-of-way which are

generally flat or gently sloping in the Riverside Sewer District. Topography west of the proposed STP site to Riverleigh Avenue where force mains are proposed is also generally flat to gently sloping with no significant topographic constraints.

Pump Station Sites

Upon completion of the required final Technical Design Report, a maximum of four (4) pump stations may be required. The proposed pump stations may include two independent precast concrete stations for two separate subsections of the Sewer District, and the other two may be installed in series for the remaining subsections. Each precast pump station has a footprint of 1,225± SF. Only one pump station site (Pump Station 3) will require clearing to accommodate its equipment, controls and accessories. The pump stations were sited/distributed based on land ownership, with a preference for publicly owned Town or State land, site elevations, topography, existing clearing, and need. Although topography in the Sewer District is generally flat to gently sloping, some very small areas of moderately steep slopes are present along the edges of roadbeds; however, since the pump houses require such little space there is considerable flexibility in locating them far enough from the road that slopes are not a significant issue. Therefore, little to no grading will be needed at the pump station sites based on site selection, the minimal land area needed to accommodate these structures, and flexibility with siting.

2.1.2 Soils

Soils in the Study Area consist of a mix of native upland soils, urban fill, and dredge spoil (along the river in the northeast corner of the Study Area) at the location of the proposed constructed wetlands. The most common soil types in the proposed Sewer District, from a land area perspective, are "Cut and fill land, gently sloping" (CuB),[1] "Carver and Plymouth sands, 0 to 3 percent slopes (CpA)," and "Urban land" (Ur). These soil types are commonly associated with past soil disturbance and development activities involving the placement of fill, the mixing of native and non-native soils, and site grading for improved development and drainage. The characteristics of these soils are generally variable depending on their source and are therefore mostly undefined by the Soil Survey.

Native soils in the area are identified by the Soil Survey of Suffolk County, New York as components of the "Plymouth-Carver Association." These soils are deep, coarse textured excessively drained sands and gravels. Even though the Plymouth-Carver Association tends to be associated with glacial moraines, it appears based on area terrain (gently sloping topography), the specific native soil type at the proposed STP/leaching facility (CpA), and a more geographically focused analysis of individual soil types by the Soil Survey, that the soils within the Sewer District may consist of glacial outwash materials that were deposited near the side slopes of a glacial moraine. Native upland soils within the proposed Sewer District are specifically identified as

[1] Soils that are underlined will be directly affected by future sewer improvements.

"Carver and Plymouth sands, 0 to 3 percent slopes" (CpA) and "Carver and Plymouth sands, 3 to 15 percent slopes," "Plymouth loamy sand, 0 to 3 percent slopes" (PlA), "Plymouth loamy sand, 8 to 15 percent slopes" (PlB), "Deerfield sand" (De), and "Walpole sandy loam" (Wd).

Also found within the Sewer District are several hydric soil types[2], including "Wareham loamy sand" (We), "Atsion sand" (At), "Tidal marsh" (Tm), and "Berryland mucky sand" (Bd). These soil types exist primarily on the north side of SR 24 and are associated with the Peconic River, its floodplain, and its fresh and tidal wetlands and marshes; however, a few small areas containing hydric soils do exist south of SR 24. These include a narrow floodplain or freshwater wetland paralleling the Little Peconic River tributary, and a few very small and isolated ponds, wetlands, and/or shallow poorly drained topographic depressions. No hydric soil area is expected to be affected by the preferred project.

The last grouping of soils identified in the area is "Filled land dredged material" (Fd) (in this case, dredge spoil deposits from the river) which is found in the northeast corner of the study area/sewer district along the south bank of the Peconic River. This area is the location of the contemplated constructed wetlands that is being considered as an alternative wastewater discharge facility in the "Alternatives" section of this DEIS **(Section 9)**.

Figure 2-2 shows the locations, distribution, and the geographic area covered by each soil type in the proposed Sewer District. **Table 2-1** lists the types of soils that will be directly disturbed by the construction and installation of sewer infrastructure and facilities.

TABLE 2-1
SOIL TYPE AT BY LOCATION OF IMPROVEMENT

Capital Improvement Location	Soil Unit Symbol	Soil type
Sewage Treatment Plant and Leaching Areas	CpA CuB	Carver and Plymouth Sands, 0 to 3 percent slopes at STP site & Phase I leaching area & Cut and Fill Land, Gently Sloping on proposed Phase II leaching area Lot 9.17 (f/k/a Five Towns), as well as Lots 9.29 and 9.30
Pump Station #1	CuB	Cut and Fill Land, Gently Sloping
Pump Station #2	CuB	Cut and Fill Land, Gently Sloping
Pump Station #3	CuB	Cut and Fill Land, Gently Sloping
Pump Station #4	CpA	Carver and Plymouth Sands, 0 to 3 percent slopes
Force Main from Pine Street to STP	CpA CuB	Carver and Plymouth Sands, 0 to 3 percent slopes Cut and Fill Land, Gently Sloping

[2] Hydric soils are soils that have formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

Capital Improvement Location	Soil Unit Symbol	Soil type
Force Main between Riverleigh Avenue & Vail Avenue	CpA CuB	Carver and Plymouth Sands, 0 to 3 percent slopes Cut and Fill Land, Gently Sloping
Sewer and Force Mains in Street ROWs	CuB	Cut and Fill Land, Gently Sloping

Source: Warner, et al., 1975 and USDA, 2019

Specific soil types that are mapped by the Suffolk County Soil Survey within the Sewer District that would affect or be directly affected by construction and installation of required sewer improvements are as follows:

Urban Soils

Cut and fill land, gently sloping (CuB): This series consists of areas that have been previously cut and filled for nonfarm uses (in the current case, street rights-of-way affected by past or present land development). These areas are generally large, but some areas may be about five (5) acres in size or roughly follow street rights-of-way. This soil type is comprised of flat to moderately sloping areas that have been graded for building sites and streets. Slopes typically range between 1 and 8 percent. CuB soils have only slight limitations when it comes to their use for sewage disposal fields, house lots, and streets and parking lots and have few, if any, limitations for building construction. However, the Soil Survey indicates that CuB soils can have severe constraints for pipeline installation due to soil stability issues. This concern refers to the tendency of the soils to slough in a ditch that is six (6+) feet deep, but limitations are less restrictive for shallower ditches. The sandy surface layer of this soil restricts the ability to establish landscaping when the vegetation is not adapted to dry or well-drained soil conditions. Areas containing CuB soils that will be disturbed by the construction and installation of the proposed sewer improvements include the leaching area north of the proposed STP (f/k/a Five Towns site and the area for the proposed Phase II leaching area), the two easterly Town owned lots that will accommodate the new section of Enterprise Zone Drive, sites identified for Pump Station Nos. 1, 2 and 3 and sections of sewer and force mains that will be installed within street rights-of-way **(see Attached Overall Site Plan)**.

Native Soils

Carver and Plymouth sands, 0 to 3 percent slopes (CpA): The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found mainly on outwash plains; but can also be found on some flatter hilltops and intervening draws on moraines. The hazard for erosion is slight.

Portions of the proposed Sewer District that contain these soils include most of the areas that currently support undisturbed/undeveloped native pine barrens and where the proposed STP

and some of the STP leaching area is located. Carver and Plymouth sands, 0 to 3 percent slopes are described by the Suffolk Soil Survey as forming on outwash plains. The soil profile of this soil typically consists of fine-to-coarse sand to a depth of approximately 2 feet and coarse sand to gravelly sand in the substratum to a depth of about 5 feet. The soils tend to have severe constraints for pipeline use due to soil stability issues but only slight limitations when it comes to their use for sewage disposal fields, house lots, streets and parking lots. The concern over pipeline installation has to do with the tendency of these soils to slough in ditches that are six (6+) feet deep, but limitations are less restrictive for shallower ditches. The sandy surface layer also often limits the establishment of landscaping that is not specifically adapted to dry (xeric) conditions. Carver and Plymouth sands are identified as the primary native soil type in the Sewer District based on total land coverage. The proposed STP, Phase I leaching area, Pump Station No. 4, part of a section of the force main to extend between the easterly terminus of Pine Street to the STP, and part of a property located between Riverleigh Avenue and the terminus of Vail Avenue where a section of force main is proposed, are all located in areas containing CpA soils.

Carver and Plymouth sands, 3 to 15% slopes (CpC): The Carver series consists of deep, excessively drained coarse-textured soils. This soil type is found primarily on rolling moraines but also exists on the side slopes of drainageways on outwash plains. It is found on the Ronkonkoma moraine and its slopes are described as rolling and complex. This unit can be made up entirely of Carver sand, entirely of Plymouth sand, or of a combination of the two soil types. The hazard for erosion is slight to moderate and these soils are considered droughty with low natural fertility. In some locations, slopes may be a limitation and these soils tend to pose severe constraints for pipeline use. The concern over pipeline installation has to do with the tendency of these soils to slough in ditches that are six (6+) feet deep, but limitations are less restrictive for shallower ditches.

Deerfield Sands (De): The Deerfield series consists of deep, moderately well-drained, coarse-textured soils that formed in sand or loamy sand over deep layers of sand or sand and gravel. This soil type is found between areas of somewhat poorly drained soils and well drained or excessively well drained soils at slightly higher elevations. Slopes are typically three (3) percent or less and are slightly concave in places. The hazard of erosion is slight.

Deerfield sands pose moderate constraints to development including construction of buildings, streets and parking lots and the installation of sewage disposal systems due to seasonally high water tables that are typically 1.5 to 2 feet below the surface. The soils present severe limitations to lawns and landscaping that are not adapted to sandy soils and dry conditions and for installing pipelines. The concern over pipeline installation has to do with the tendency of these soils to slough in ditches that are six (6+) feet deep, but limitations are less restrictive for shallower ditches. The proposed preferred sewer improvements do not cross any areas containing De soils. See alternative Constructed Wetlands discussion in **Section 9**.

Walpole Sandy Loam (Wd): The Walpole series consists of deep, somewhat poorly drained and poorly drained, moderately coarse textured soils that formed in a mantle of sandy loam or fine sandy loam over coarse sand or sand and gravel. Walpole soils are typically found on the sides of tidal marshes and creeks, or it is in low-lying areas between poorly drained and somewhat poorly drained soils and well drained soils on uplands. Slopes are 3 percent or less. The hazard of erosion is slight but severe for sewage fields, homesites, and pipeline locations due to shallow depth to groundwater which may be between 0 and one-half foot below the surface. None of the proposed improvements will be within Wd soils but a force main between SR 24 and the alternative constructed wetlands discussed in **Section 9** may be within an area containing Wd soils.

Dredge Spoil

Fill land, dredged material (Fd): These areas were filled with material that was removed mainly to widen or deepen waterways or to create new channels. The fill material generally consists of organic materials, sand, gravel and seashells. Areas may be dry, have low fertility and have a high salt content which limits plant growth. The soils present severe limitations for installing pipelines. The concern over pipeline installation has to do with the tendency of these soils to slough in ditches that are six (6+) feet deep, but limitations are less restrictive for shallower ditches. None of the preferred action's facilities will be located in areas of dredge spoils. See alternative Constructed Wetlands discussion in **Section 9**.

(Warner, et al., 1975)

Detailed Soil and Depth to Groundwater Conditions at or Near the Proposed STP Site

A review of the approved subdivision "Map of Southampton Enterprise Zone" (i.e., former drive-in site and current Enterprise Zone Industrial Subdivision provides additional information about soil conditions and depth to groundwater at and near the location of the proposed STP and sewage leaching area, based on data retrieved from five separate soil test holes. These data reveal the presence of a topsoil layer ranging between one and two feet and sand and gravel in the substratum in test holes 2 through 4 which were excavated in January of 2002. Groundwater was not encountered in three of the four holes that were dug to depths of between 10 and 14 feet but was identified at a depth of 12 feet in Test Hole 5 which was located near the center of the subdivision, and at 9.5 feet below ground surface (bsg) in Test Hole 1. Test Hole 1 was completed in August of 2001 and was located on the west side of the subdivision on land owned by the Town which is part of the site of the proposed STP (SCTM 900-141-1-9.25). The soil log from this test hole identified topsoil to a depth of 0.5 feet bgs, sandy loam from 0.5 feet to 3.5 feet bgs and loose tan sand for the rest of its depth.

Test Hole 4 was also located within the area proposed for the STP within the east-central portion of SCTM 900-141-1-9.32. This test hole contained topsoil to a depth of 2 feet bgs and sand and gravel to a depth of 10 feet bgs. Groundwater was not encountered in Test Hole 4. This test hole

contained topsoil to a depth of 2 feet bgs and sand and gravel to a depth of 10 feet bgs (the depth of the test hole). Groundwater was not encountered in Test Hole 4.

Data from the Long Island Depth to Water Viewer indicates that groundwater on the Town owned land proposed for the STP and leaching areas range from 9 feet bgs to 15 feet bgs **(USGS, 2010)**.

Two additional soil borings were drilled on the proposed STP and leaching field site on May 1, 2023 following two days of torrential rain. One boring (SB-1) was located on the north side of the property and the other (Boring SB-2) was installed on the south side of the property. Both borings were drilled to a depth of 15 feet bgs.

SB-1: Topsoil consists of dark brown sandy silt (SM on the Unified Soil Classification System), below that is a tan fine-medium sand (SP) to a depth of 13.2 feet bgs and below that is a fine-coarse sand with trace gravel (SW) to the bottom of the boring (15 feet bgs). Groundwater was encountered at 9.4 feet bgs, which, based on season (May 1) and the large rain event that preceded the drilling, is expected to be at or near (±) the seasonally high groundwater level for this site.

SB-2: Topsoil consists of dark brown sandy silt (SM) followed by tan fine-medium sand (SP) to the bottom of the boring (15 feet bgs). Groundwater was encountered at a depth of 9.75 feet bgs.

2.2 Anticipated Impacts

2.2.1 Topography

Topography at the STP and effluent discharge area is generally flat to gently sloping. As such, significant slope disturbance and grading is not anticipated. As previously noted, sites proposed for pump stations were carefully selected based on elevations, slopes, existing clearing, presence of sensitive environmental resources, land ownership, and need. While some short moderately steep slopes were identified along the shoulders of some streets near pump stations, the actual sites have been selected to avoid these areas and areas that are in undisturbed parts of the pine barrens. The precast concrete pump stations will also have a limited footprint (1,225 SF) and no clearing except at Pump Station 3 where a total estimated 2,069± SF of clearing will be necessary. Minimal grading is expected for all of the proposed facilities. As discussed in detail below, various soil erosion, sedimentation, soil stabilization and dust control measures are available to mitigate slope and soil related impacts and required drainage. A SWPPP may be required for the STP leaching area site as needed.

2.2.2 Soils

The proposed STP and sewage leaching area is located primarily within areas containing Cut and fill land, gently sloping" (CuB) and Carver and Plymouth sands, 0 to 3 percent slopes (CpA) soils and dark brown sandy silt (topsoil) (SM), a tan fine-medium sand (SP) and fine-coarse sand with trace gravel (SW) soils under the Unified Soil Classification System. These soils are generally considered satisfactory for the proposed use but as previously noted, there are potential severe constraints for pipeline installation due to soil stability issues. Site specific engineering analyses will be conducted prior to main installation and if soil related issues are identified, soil will be removed and replaced with soil having suitable physical properties to minimize impacts. Topsoil in the area is also sandy and can restrict the establishment of nonnative vegetation thereby potentially requiring periodic watering, possible applications of fertilizers, and maintenance, unless native pine barrens species or suitably adapted drought tolerant nonnative species are specified. This will be of particular relevance at the STP site and especially the proposed leaching areas which must remain open/unvegetated except for stabilizing groundcovers such as grass. Specifying a native species or a seed mix would also provide some consistency with the Central Pine Barrens Comprehensive Land Use Plan.

According to the Soil Survey of Suffolk County, NY, CpA soils have only slight constraints for use as sewage leaching fields and considering actual soil texture and anticipated leaching rates, these soils are expected have sufficient permeability for leaching of treated wastewater. The proposed leaching facilities must be designed in accordance with SCDHS standards to ensure, among other things, an adequate volume and separation distance between the bases of leaching pools and the water table (minimum two feet), and that soil around and beneath each leaching pool is suitable to support proper functioning and disposal without environmental ramifications. As with proposed force, and gravity mains, if unsuitable soil is encountered during leaching pool installations (e.g., a compacted and/or clay layer), this soil will be removed and replaced with clean sand having suitable texture and quality to maximize function and efficiency.

There is a potential for soil erosion, offsite migration via stormwater runoff, sedimentation of lower lying areas, and dust if not properly controlled. Several steps will be taken to ensure that adverse soil related impacts do not occur. This includes implementation of standard erosion and sediment control measures including silt fencing, drain inlet protection, stabilized construction entrances, retaining soil onsite including the use of soil to mound leaching areas to provide ample groundwater separation, construction, reseeding and planting as soon as possible after clearing and the minimal grading necessary and wetting soils if dust becomes in issue. The project should include a Stormwater Pollution Prevention Plan (SWPPP) and Erosion Control Plan to address these issues, as well as drainage and other stormwater controls as needed in accordance with Town engineering specifications.

2.3 Proposed Mitigation

- Additional fill or grading may be required in leaching areas can be provided if and as needed where groundwater is shallowest to maximize the separation distances between the base of subsurface leaching pools and the water table to maximize wastewater storage, filtration and treatment potential.
- Soils are generally sandy onsite but if slowly drained soils or hardpan soils are encountered, these soils can be easily removed and replaced with clean sand to ensure adequate drainage.
- Prepare and implement a SWPPP and provide necessary drainage at the STP site to address roof and paved area runoff. If possible, utilize the six existing catch basins and leaching pools located along the section of Enterprise Zone Drive to be eliminated and incorporated into the STP site and supplement if and as needed. Install necessary drainage along the new section of Enterprise Zone Drive in accordance with Town engineering standards and specifications to ensure adequate control of runoff from the Town's design storm.
- A stabilized construction entrance will be provided off of Enterprise Zone Drive and a concrete washout pad will be provided to remove dust and sediment from existing construction vehicles to minimize the tracking of soil on to public streets.
- Erosion controls including identification of limits of disturbance, work area perimeter fencing to prevent unnecessary encroachment into the proposed minimum 25-foot-deep perimeter buffers. Install silt fencing, designate internal site stockpile areas, if necessary, enclosed by silt fencing, and provide drainage inlet protection around all grated drainage inlets that may be affected, to prevent sediments from entering and settling within any subsurface drainage structures that may be affected.
- Material staging areas and designated stockpile locations bordered by silt fencing will be provided onsite as needed to help address potential erosion, sedimentation, and dust.
- Native pine barrens plants or species that are suitably adapted to site soil conditions, mulching and "xeriscaping" will help to overcome minor issues associated with excessively drained soils. Grass or a species mix that can survive without fertilization or watering after establishment is recommended in the STP leaching areas to further support the reduction in nitrate loading and conserve water.
- Drainage infrastructure will be installed onsite, along the new section of Enterprise Zone Drive as needed. The drainage will comply with the design and capacity requirements of the Town and will be modified to address any concerns or recommendations that the Town Engineer may have.
- The advanced tertiary level of treatment that will be provided, and control of stormwater infrastructure that complies with all applicable standards and specifications of the Town, will help to reduce or eliminate potential soil, groundwater and subsurface impacts. This

coupled with the removal and replacement of any unsuitable subsurface soils if restrictive layers are encountered will help to protect groundwater quality.

- Site grading operations will be undertaken in a manner that supports the reincorporation of excavated material back into the proposed leaching area.
- A SWPPP and Erosion Control Plan and Erosion Control Details will be prepared. These plans will assist in managing stormwater generated on the site during construction, as well as for post-construction stormwater management. The Planning Board and Town Engineer will review the plans and all plans will be approved prior to construction.
- Fugitive dust and/or off-site soil transport will be controlled by wetting soil, if necessary, installation of washout stations and a stabilized construction entrance to remove soil from truck tires, drainage inlet protection (if drains may be affected), establishment of suitable internal construction staging areas and retention of a 25-foot-deep naturally vegetated buffer will be retained around the perimeter of the property. These measures will minimize disturbance and potential soil related issues during construction to the extent practicable. Onsite construction vehicle speeds will be kept to a minimum to prevent unnecessary raising of dust, and reseeding and landscaping as soon as possible after ground disturbance to stabilize soils. Construction activities will be scheduled in accordance with permissible construction hours established under Chapter 235 “Noise” of the Southampton Town Code.
- The proposed sewer facilities will allow development, redevelopment and additional development density within the Riverside Sewer District. Future development or redevelopment within the Sewer District shall comply with all applicable environmental mitigations, standards and requirements identified in the adopted December 22, 2015 GEIS Findings Statement for the Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan and Zoning Map and Code Amendments.

SECTION 3.0
WATER RESOURCES

3.0 WATER RESOURCES

3.1 Existing Conditions

This section provides an inventory and assessment of the existing nature, conditions, and quality of water resources in and around the proposed Riverside Sewer District and the locations of proposed sewer infrastructure and facilities. It focuses on the identification of existing physical and environmental conditions as it relates to the Subject Action, surface waters (i.e., lakes, ponds, creeks, streams, and rivers), as well as NYSDEC and National Wetland Inventory (NWI) tidal and freshwater wetlands, and Federal Emergency Management Agency (FEMA) floodplains, including "Special Flood Hazard Areas" within or adjacent to the Sewer District. It also considers possible issues and implications relating to sea level rise. **Section 3.1.1** focuses on those surface water features and wetlands that are more likely to be impacted such as those that are closest to the proposed sewage collection and treatment facilities. It also evaluates those water resources that have been identified by the Town and others as being especially sensitive or significant such as the Peconic River and Estuary, and considers applicable plans, laws, standards and thresholds that seek to protect these resources.

This section also assesses existing groundwater resources and current conditions including depth to groundwater, general direction of groundwater flow, groundwater travel times, and groundwater quality based on water quality monitoring data from Suffolk County Water Authority's (SCWA) Riverside Water District (Flanders Distribution Area 39) **(Figure 3-1)**. This evaluation allows for ambient water quality conditions to be considered and potential impacts to critical groundwater resources can be fully evaluated and addressed if needed, to ensure long term sustainability. The availability of the water supply and district drinking water infrastructure and facilities are discussed and it is noted that the proposed STP and associated infrastructure are expected to have very low demand on water.

Water resources are important for many reasons including environmental, ecological, recreational, economic, and aesthetic purposes, and play a role in public health, quality of life, and long-range community sustainability. Unfortunately, the quality of these resources can be easily degraded thereby causing limitations and restrictions or precluding desired or essential uses. Once the integrity of a water resource is adversely affected, its restoration to pre-contamination conditions is often difficult and the costs and timeframe for remediation can be considerable. For these reasons, it is of critical importance that the presence, condition, and overall value of all water resources be identified and assessed. Once this is determined, any potential adverse impacts to these essential resources stemming from the proposed action can be fully evaluated, so that they may be avoided or suitably mitigated, so that essential water resources can be used and enjoyed by existing and future generations.

3.1.1 Surface Waters, Wetlands and Drainage

Surface Waters

There are several surface waterbodies in the area, the most significant of which is the Peconic River and Estuary and associated tidal and freshwater wetlands which together comprise the northern boundary of the proposed Sewer District, between the Towns of Southampton and Riverhead within the southerly Peconic River/ Flanders Bay watershed **(Figures 3-2 and 3-3)**.

The Peconic River's headwaters are in the Town of Brookhaven, just west of Brookhaven National Laboratory (BNL), which is approximately 16 miles west of the proposed Sewer District. The Peconic River meanders through a portion of Brookhaven, generally in an easterly direction from its intermittent/seasonal headwaters and where it discharges into Flanders Bay and the Peconic Estuary, in the communities of Riverside in the Town of Southampton and Downtown Riverhead in the Town of Riverhead. The Peconic River is considered a shallow, slow-flowing, warm-water, naturally acidic, and nutrient-poor freshwater stream and ecosystem throughout most of its length. The river becomes tidally influenced and brackish east of Grangebel/Milton Burns Park and Peconic Avenue, along the northerly boundary of the proposed Sewer District. Over its length, the riverbed descends from an elevation of approximately 52 feet above msl at BNL to sea level at the Peconic Estuary. The tidally influenced portion of the Peconic River (lower/tidal Peconic, its nearby tributaries (Meetinghouse Creek, Terry Creek, and the mouth of Sawmill Creek), and western Flanders Bay, which border the northerly part of the proposed Sewer District, have a New York State saline surface water classification of "SC" indicating its best or highest use is for fishing. These areas must be maintained as suitable for fish propagation and survival and primary and secondary contact recreation, although other factors may limit their use for these purposes.

The New York State Section 303(d) "List of Impaired/TMDL Waters" identifies those waters that do not support appropriate uses and where a Total Maximum Daily Load (TMDL) for nitrogen must be developed. The most recent available 303(d) list (2018) published by NYSDEC in June of 2020 was examined and was determined that lower/tidal Peconic River is NOT on this list but is listed on the NYSDEC's list of "Other Impaired Waterbody Segments Not Listed: List of Integrated Report (IR) Category 4a/b/c Waters – June 2020" **(NYSDEC, 2020a)**. There are three (3) categories of justification for not including an impaired waterbody on the Section 303(d) List:

- Category 4a Waters - TMDL development is not necessary because a TMDL has already been established for the segment/pollutant.
- Category 4b Waters - A TMDL is not necessary because other required control measures are expected to result in restoration in a reasonable period of time.

- Category 4c Waters - A TMDL is not appropriate because the impairment is the result of pollution, rather than a pollutant that can be allocated through a TMDL.

Based upon review of the aforementioned criteria, the Peconic River is not listed as it is classified as Category 4a Waters, for which a Nitrogen TMDL was prepared and adopted in 2007, to address the cultural eutrophication and dissolved oxygen issues caused by nutrient inputs into the lower Peconic River and western Flanders Bay. The analyses, conclusions and recommendations that preceded the TMDL are available in a multiagency report entitled "Total Maximum Daily Load for Nitrogen in the Peconic Estuary Program proposed Sewer District, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: The Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terrys Creek and Tributaries" **(Tetra Tech, Inc. *et. al.*, 2007)**. A summary of nutrient loading and impact reduction strategies for the Peconic/Flanders Bay nitrogen TMDL is as follows:

- Better regional controls of atmospheric deposition (lower emission standards for NO_x and CO_2, adoption of regional greenhouse gas initiatives, establishing a collaborative renewable energy strategy);
- Preserve open space;
- Enhance agricultural fertilizer management;
- Maintain (periodically pump) existing septic systems;
- Provide centralized sewers with enhanced treatment capabilities;
- Upgrade treatment capabilities at the Riverhead, Sag Harbor and BNL STPs;
- Cluster development to limit the establishment of lawns;
- Control development density;
- Reduce vehicle miles driven by allowing mixed use developments;
- Proper turf management including limiting fertilizer use and/or loss to groundwater;
- Ensure proper stormwater erosion and sedimentation controls; and
- Eliminate illegal or illicit discharges.

Some sources to water quality are related to discharges from the Town of Riverhead STP and the Long Island Aquarium. However, the TMDL indicates that discharges from numerous septic systems and expected substandard cesspools on small lots in the watershed significantly affect water quality as well, with groundwater contributing more than 50% of nitrogen loads to the lower Peconic River. Stormwater runoff, wildlife contributions, atmospheric deposition, and possibly application of domestic fertilizers on some properties on the north and south sides of the river are also expected to contribute to water quality impacts.

Further review of the "Other Impaired Waterbody Segments" list it has determined that the lower Peconic River and tidal tributaries are classified as SC waters and are impaired with regard to oxygen demand, nutrients, and algal/weed growth due to urban stormwater **(NYSDEC, 2020b)**. The oxygen demand and nutrient impairments are classified under Category 4b above and the algal/weed growth is classified based on Category 4c. Much of the impairment from stormwater is likely from the north side of the river in Riverhead, which is urbanized, densely developed and has significant impervious land cover contributing runoff to the river system, compared to the south side of the river, north of Flanders Road (SR 24) in Riverside, which is mostly wooded or wetlands along the river, including several large vacant town-owned lots.

The Peconic River is significant in many respects and has the following important distinctions:

A. Sections of the river are designated as a State Wild, Scenic and Recreational River and are candidates for a Federal Wild, Scenic, and Recreational River (WSRR) designation. The State "Recreation" designation extends along a section of the freshwater portion of the river, east to the Grangebel Park dam, south to SR 24, east to the traffic circle, south along Lake Avenue (CR 63), east along Maynard Street and south to encompass the property containing a small undisturbed forest and pond to the south of the Maynard Street within the proposed Sewer District (see **Figure 3-4**). Therefore, a small portion of the proposed Sewer District is located within the WSRR; this area includes the developed residential neighborhood west of Lake Avenue and east of the Little Peconic River, County owned land and adjacent woodlands and wetlands located south of Maynard Street. The Pegs Lane/ Woodhull Avenue subdivision and a few lots located south of Maynard Street are the only lots within a WSRR. These lots are located on the west side of the proposed Sewer District and are upstream of the STP and effluent recharge sites.
B. The Peconic River is a major freshwater tributary of the Peconic Estuary which is considered by the NYSDEC to be a "Significant Coastal Fish and Wildlife Habitat" (SCFWH) **(Figure 3-5)**. Portions of the proposed Sewer District within or adjacent to a SCFWH include the freshwater portion of the river corridor, west of the Grangebel Park dam which is upstream and outside of the proposed Sewer District (Peconic River SCFWH) and another SCFWH in the estuary that is east of and adjacent to the proposed Sewer District. Further descriptions regarding SCFWH are provided in **Section 5.1** of this Draft GEIS.
C. The U.S. Fish and Wildlife Service considers the Peconic River to be a "priority" wetland under the Federal Emergency Wetlands Resources Act.
D. The Nature Conservancy and the NYSDEC Natural Heritage Program have identified several locations in the Peconic River/Central Pine Barrens Complex as "Sites for Diversity" (Actual ecological conditions within the proposed Sewer District based on

field inventories and agency outreach are assessed separately under **Section 4.0** of this Supplemental DGEIS).

E. The larger Peconic system has been placed on a list of "Last Great Places" by the Nature Conservancy.
F. The Peconic River is the longest river on Long Island and has the distinction of being the longest, groundwater-fed river in the State of New York **(Cashin Associates, 2004)**.
G. The Peconic Estuary (east of Peconic Avenue) is classified as a Critical Environmental Area (CEA) known as the "Peconic Estuary and Environs" CEA (see **Section 5** of this DEIS for a discussion of Critical Environmental Areas and Other Regulated Environmental Districts and Plans).

There are several small freshwater ponds and streams in the Proposed Riverside Sewer District; one pond is located east of Lake Avenue and south of Maynard Street within an undeveloped, wooded, publicly owned property, while two additional very small surface water features (likely used for drainage recharge or as a wet/detention pond) are located near the Riverwoods/ MacLeod mobile home park in the southwest corner of the proposed Sewer District. A small freshwater surface feature is located just east of the Riverwoods community on the west side of Riverleigh Avenue. Finally, a south to north flowing tidal/estuarine creek, which discharges into the Peconic River is east of the proposed Sewer District. These surface water features, along with the Peconic River and several other surface waterbodies in the surrounding area, provide insight into the drainage patterns, surface hydrology, and relationship between groundwater and surface water in the area **(Figures 3-2 and 3-3)**.

Several small ponds and groundwater-fed topographic depressions, as well as a large perennial 66-acre surface water body known as Wildwood Lake (which is located approximately 0.83 miles to the southwest and upstream of the proposed Sewer District, are nearby waterbodies that also define the area's drainage patterns and hydrology. Wildwood Lake serves as the headwaters of the northeasterly-flowing Little Peconic River which flows through Cranberry Bog Preserve which is outside but along the outer edge of the western boundary of the proposed Sewer District to its confluence at the Peconic River at Grangebel Park, just west of the proposed Sewer District. Also, outside and to the east of the proposed Sewer District are 90 acres of land containing two ponds collectively referred to as "Flanders Ponds" by the Central Pine Barrens Joint Planning and Policy Commission (CPBJPPC). These two ponds are considered by the CPBJPPC to be within a Central Pine Barrens Critical Resource Area and drain into a tidal creek that discharges into the tidal portion of the Peconic River just west of Cross River Drive (CR 105). These natural features are located several hundred feet east of Ludlam Avenue, over 1,000 feet east of any potential development identified by the RRAP, are not near any proposed sewage facilities, and are within a large tract of protected land. The tidal creek discharges into the river adjacent to, but outside to the east of the proposed Sewer District.

The tidal portion of the lower Peconic River, along the edge of the northerly boundary of the Proposed Riverside Sewer District, discharges into Flanders Bay which is the westernmost reach of the greater Peconic Estuary. The Peconic Estuary is identified as one of 28 estuaries within U.S. territory that are included in the National Estuary Program (Section 320 of the Clean Water Act). In 2001, the United States Environmental Protection Agency (EPA) sponsored the Suffolk County Department of Health Services (SCDHS) Peconic Estuary Comprehensive Conservation and Management Plan (CCMP) to establish a master planning strategy to protect and manage the Estuary and its many resources **(Peconic Estuary Program, 2001)**. The CCMP, and its 2020 update, includes substantial information on the Estuary's water quality and identifies agreed upon goals, objectives, and strategies for preserving and protecting this critical natural resource. The updated CCMP indicates that the western portion of the Peconic Estuary, including the tidally influenced segment of the Peconic River, have degraded water quality due to the surrounding anthropogenic land uses and activities. Of particular concern in this area are high nitrogen concentrations, low levels of dissolved oxygen (hypoxia), and the presence of pathogenic organisms at levels that have forced the closure of the Peconic River and Flanders Bay to shellfishing.

Wetlands

Topography along the south bank of the Peconic River/north side of the proposed Sewer District can be characterized as generally flat-to-gently sloping with generally limited topographic relief **(Figure 2-1)**. Land adjacent to the south bank of the river contains a mosaic of high marsh, intertidal marsh, and freshwater wetlands that are regulated by the NYSDEC. Some areas of freshwater wetlands extend south toward SR 24 including along the northeasterly boundary of the proposed Sewer District and another area south to the NYSDOT recharge basin. The above-described wetlands comprise portions of the river's southern floodplain where depth to groundwater is shallow and the land is within a FEMA AE el. 7 ft. Special Flood Hazard Area **(Figure 3-6)**. Some wetlands that once existed along the south side of the river in the northeast corner of the proposed Sewer District were apparently filled by dredge spoils taken from the river long ago. (**Figure 3-2** provides an illustration of the NYSDEC designated wetlands in the area; **Figure 3-3** shows NWI wetlands; and **Figure 2-2** is a soils map shows areas containing dredge spoil which are denoted as "filled Land, dredge material" (Fd)).

Other NYSDEC and National Wetlands Inventory (NWI) wetlands in the proposed Sewer District include:

- A narrow fringing forested and shrub freshwater wetlands along the banks of the Little Peconic River adjacent to but outside of the western boundary of the proposed Sewer District;

- A small pond and associated pond shore and forested freshwater wetlands on a wooded lot south of Maynard Street and east of Lake Avenue (CR 63);
- Two very small ponds and fringing freshwater wetlands southeast of Pond Drive and west of Riverleigh Avenue (CR 104); and
- An area of forested and emergent freshwater wetlands adjacent to but outside the eastern boundary of the proposed Sewer District along White Brook Drive.

The Town also regulates freshwater and tidal wetlands within its jurisdictions that are sometimes not mapped by the NYSDEC or NWI. Pursuant to Section 325-7B(17), the installation of utilities greater than 75 feet from unbulkheaded wetland boundaries are eligible for an Administrative Wetlands Permit. Moreover, structures located greater than 25 feet from an unlined, man-made recharge basin which contain wetland vegetation, are also eligible for an Administrative Wetlands Permit, pursuant to Section 325-9 (Standards for issuing a permit) of the Town Code. Therefore, installation of the sewer mains and construction of proposed Pump House 2 will be subject to an Administrative Wetlands Permit, pursuant to Section 325-7B(12) of the Town Code. In the event that the location of existing underground utilities precludes the installation of sewer mains less than 75 feet from wetlands, the Town can seek relief from the Town of Southampton Conservation Board.

It should be noted that there is also an unmapped, possibly man-made, drainage swale to the north at the southwest corner of the Suffolk Federal Credit Union property. This feature contains some limited facultative red maples, non-hydric Carver Plymouth (CpA) soils, contained no standing water during site inspections, and has a minimum depth to groundwater of 5+ feet at its lowest ground elevation **(Warner, 1975 and USDI/USGS, 2019)**.

Sewer District Drainage

Natural drainage, including overland runoff and underflow from natural infiltration or by direct recharge of water through dry wells and leaching pools is expected to flow in a generally north to north-northeasterly direction toward the Peconic River. Existing development, including streets, highways and parking lots, utilize stormwater catch basins, leaching pools, drywells or natural infiltration practices such as bioswales, rain gardens or pervious surfaces to manage drainage. The State also owns and operates a stormwater recharge basin on the north side of SR 24 northwest of Suffolk Community Credit Union which serves SR 24. Other designated recharge areas in the proposed Sewer District include:

- Town-owned land identified as SCTM# 900-141-1-9.25 located within the Southampton Enterprise Zone industrial subdivision, where currently, no recharge basin exists, and where the proposed force main connecting to the proposed STP will pass;
- land located along the west side of Pebble Way identified as SCTM# 900-142-1-1.41; as well as
- a lot owned by the school district which is located between Phillips Avenue and Ludlam Avenue and is identified as SCTM# 900-141-2-36.1.

As previously noted, there are six catch basins along the section of Enterprise Zone Drive to be abandoned and there is also a drainage swale near Suffolk Federal Credit Union that drains to the north toward SR 24 and freshwater wetlands on the north side of the road. The proposed STP leaching field is over 450 feet from this NYSDEC freshwater wetland and therefore is far outside its 100-foot regulatory jurisdiction.

The proposed Sewer District contains a number of stormwater catch basins, drainage leaching pools, outfalls, drainage swales, recharge basins and piping that serve area streets and highways and mitigate existing stormwater impacts. As illustrated in **Figure 3-7**, there are State, County and Town drainage systems which have positive conveyance to surface waters. County systems include three outfalls within the proposed Sewer District. The first consists of inlets along Lake Avenue which direct stormwater to an outfall that discharges to the lake within the Sarnoff Preserve. The second County outfall includes inlets which collect stormwater along Nugent Drive which discharge to an outfall in the Peconic River, which is located just west of the proposed Sewer District boundary. The final County outfall includes inlets along Peconic Avenue which discharge to an outfall located along the northern boundary of the proposed Sewer District, on the east side of Peconic Avenue. State positive drainage systems include a Vortex unit which ultimately discharges to an outfall located along the northern shoreline of the proposed Sewer District. **Figure 3-7** also shows the locations of seven Town drainage structures that are associated with the section of Enterprise Zone Drive to be removed and replaced.

Watersheds and Pollutant Loading

As previously described, it is recognized that the Peconic River is currently impaired by high concentrations of nitrogen which ultimately cause eutrophication and harmful algal blooms that can reduce dissolved oxygen concentrations in water, potentially affecting aquatic organisms. Another issue is the presence of pathogens. Stormwater runoff from surrounding land uses is a key cause of the impairment of the Peconic River, although subsurface groundwater flow and discharge that may be affected by septic systems and cesspools, may also discharge to the river via underflow, bank seepage, and groundwater upwelling at the groundwater/river interface. To

evaluate the pollution contribution of the Riverside hamlet to the river and to further define areas of stormwater runoff, sub watersheds were delineated as part of the previous GEIS work, utilizing Suffolk County Light Detecting and Ranging (LiDAR) data. A total of 23 small subwatershed areas were defined that intersect the proposed Sewer District **(Figure 3-8)**. The watersheds were then clipped to the proposed Sewer District so that only the contribution of runoff from the proposed Sewer District could be further defined.

Pollutant contributions from the proposed Sewer District was modeled utilizing the Center for Watershed Protection's Watershed Treatment Model (WTM). The model considers land use, septic input, livestock (if any), soil type, rainfall and current management practices, and utilizes referenced values for pollutant runoff for nitrogen, phosphorus, sediment and coliforms (an indicator of the presence of pathogens). Utilizing land use values for 2015, the model was run for each subwatershed. A copy of the results is provided in Appendix E of the original GEIS. As illustrated by the model's results, Subwatershed 3 is the largest contributor of pollutants to the river (701 lbs./year of nitrogen and 20,698 billion/year of fecal coliforms). This watershed represents the core area of commercial development in proximity to the CR 94 Roundabout off Center Drive, west of the Riverside/Riverhead traffic circle. Subwatershed 21 provides the smallest pollutant contribution to the river (4 lbs./year of nitrogen and 21 billion/year of fecal coliform; however, this watershed is located directly along the shoreline and is comprised of natural areas. The proposed STP and onsite leaching area is located within Subwatersheds 4 and 6 **(Figure 3-8)**. In total, based on surface water modeling using the TWM, the Sewer District was found (2015) to contribute 5,975 lbs./year of nitrogen, and 158,387 billion/year fecal coliforms. This finding underscores the need to address pollutant loading from stormwater, wastewater and other inputs.

3.1.2 FEMA Flood Zones, Climate Change and Sea Level Rise

Based on a review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), approximately 44 acres located along the south bank of the Peconic River, north of SR 24, are within a FEMA-designated AE (100-year) Special Flood Hazard Area (SFHA).[1] A narrow band of X500[2] ("500-year" flood zone) is also present adjacent and to the south and inland of the AE zone, especially near the traffic circle, around the Suffolk Federal Credit Union and in the area containing old dredge spoil deposits (FEMA flood zones are depicted in **Figure 3-6**). The X500 zones comprise areas that are at minimal risk due to flooding from a principal water body in the area (i.e., the Peconic River). Nevertheless, land and structures at these locations

[1] A 100-year storm is defined as a storm with a magnitude having a one percent chance of occurring during the course of any given year.
[2] The X500 zone is defined as the area located between the 100-year flood zone and the 500-year flood zone. The DGEIS FEMA map identifies this as the X-0.2% annual chance of flood hazard.

can be affected by severe storms, particularly if the area is poorly drained and stormwater controls, siting of buildings, final elevations, and other factors are inadequate. All other land within the Sewer District is within FEMA's X (upland or non-flood zones) and is therefore rarely or very unlikely to be affected by flooding. A narrow "A" Flood Zone exists along the Little Peconic River. The Little Peconic generally follows the western boundary of the proposed Sewer District and affects only a very small portion of the District within the rear setback of a few of the existing developed single-family lots and poses no significant issues or concerns relating to proposed sewer infrastructure. **Figure 3-6** shows areas within FEMA AE el. 7 feet SFHA on the north side of SR 24, X500 (0.2% chance of flooding in any given year), and X flood zones (less than 0.2% chance of flooding, annually, in this area. All proposed primary infrastructure (STP, leaching area, pump stations, and identified critical force mains and sewers are in upland areas or FEMA X Zones (Areas of Minimal Flood Hazard) except for Pump Station 2 and few stretches of force main and sewers along SR 24 which are in the X 0.2% annual chance of flood (500-year zone).

The Riverside community is located south of the Peconic River and Estuary and is adjacent to east of the Little Peconic River which flows in a north-northeasterly direction along the proposed District's westerly boundary to the freshwater portion of the Peconic River. Tidal Creeks fed by upper freshwater tributaries are also present to the east of the proposed Sewer District and various tidal and freshwater wetlands at scattered locations in the area. Based on the area's surface hydrology, the generally low-lying elevation of the Riverside community, and presence of a FEMA AE Special Flood Hazard Area north of SR 24, conditions associated with future sea level rise and storm surge must be considered.

3.1.3 Groundwater

Groundwater on Long Island is entirely derived from precipitation. Precipitation entering the soils as groundwater recharge passes through the unsaturated zone to a level below which all strata are saturated, the surface of which is known as the water table. The groundwater table is equal in elevation to sea level along the north and south shores of Long Island and is at or near sea level along the banks of the tidal Peconic River and Peconic Estuary and rises in elevation toward the center of the Island. The high point of the parabola is referred to as the groundwater divide. Groundwater flow south of the Peconic Estuary in Riverside within the proposed Sewer District is generally north or northeast toward the river; therefore, on the south side of the river within the Sewer District, flow is generally to the north or north-northeast and the time of travel of groundwater to the Peconic River and Estuary ranges between days immediately adjacent to the river to as much as 10 to 25 years at the south end of the proposed Sewer District near the intersection of Ludlam Avenue and Pebble Way **(Figure 3-9)**. Depth to groundwater from the ground surface is variable within the proposed Sewer District, depending on ground surface elevations or topography **(Figure 2-1)** and how near or far from the river depth to water is

measured due to increased groundwater surface elevations farther to the south in the Sewer District.

Even though groundwater surface elevations tend to rise to the south within the Sewer District, ground surface elevations and topography also tend to rise more significantly toward the south leading to increased depths to groundwater the farther south one goes within the District[3] **(Figure 3-10)**. Based on available water table data compiled by the County, presented graphically by the Town in **Figure 3-10**, depth to groundwater in the proposed Sewer District ranges from near zero at the river's edge to approximately 35 feet at the south end of the proposed Sewer District between Oak Court and Elm Court in the Riverwoods Community. Projected depth-to-groundwater zones are shown in **Figure 3-11**.

Groundwater beneath the Central Pine Barrens of Suffolk County including the area south of Flanders Road (SR 24) is contained in three water bearing geologic units called aquifers. These units include, in descending order, the Upper Glacial Aquifer formed during the Pleistocene Epoch of the Quaternary Period, and the Magothy and Lloyd Aquifers of the Cretaceous Period all of which overlie Precambrian-aged, metamorphosed bedrock (gneiss and schist) **(Nemickas and Koszalka, 1982)**.

The Lloyd aquifer is very deep (el. -1,000± feet below msl in Riverside) on the east end of Long Island and is saline and thus not used as a water supply on the east end of Long Island **(Smolensky, D.A., Buxton, H.T., and Shernoff, P.K., 1989)**. Otherwise, groundwater in the two shallower aquifers is more easily extracted and more vulnerable to contamination, but of generally good quality; although localized areas of degradation do exist, especially in the Upper Glacial Aquifer which is closest to the surface. Sources of known or suspected contamination in the Peconic River and Peconic Estuary Watersheds include but are not limited to agricultural fields (agricultural activities-none of which are in the proposed Sewer District) and lawn and garden maintenance (i.e., fertilizers and pesticides), leaking underground fuel storage tanks (e.g., gasoline from filling stations), certain industrial operations (industrial chemicals, solvents, fuels, metals, etc.), hazardous materials spills, and septic systems and cesspools (pathogens and nutrients). Stormwater is also noted as a major source of surface water and groundwater contamination; however, runoff is more of a pollutant conveyance and delivery mechanism than an actual source of contamination. That is, stormwater runoff does not inherently contain significant concentrations of contaminants but is very effective at "washing" them from streets, parking lots, sidewalks, concrete pads, outdoor materials storage areas, lawns, gardens, and other surfaces, mobilizing both soluble and non-soluble materials, and transporting them to

[3] An exception, however, is where, for example, a topographic depression is present, and a pond or wetland exists (i.e., depth to groundwater is zero) such as at the small pond on the southwest side of the Sewer District across from Pegs Lane which is owned by the County and dedicated for wildlife preservation.

areas of deposition by point and nonpoint discharges where they accumulate in groundwater and surface waters.

The quantity of groundwater available for use (assuming potable quality) is largely a function of the thickness and areal extent of an aquifer and the texture, sorting and degree of consolidation or compaction of the geologic materials comprising the source media. Long Island's freshwater aquifers (primarily the Upper and Magothy Aquifers) are generally considered to contain a significant volume of potable water, especially within deep recharge areas in the Central Pine Barrens, Town APOD and the region's Special Groundwater Protection Area (SGPA), where the underlying groundwater reservoirs are very thick/deep and contain considerable loose coarse-grained sand and gravel with significant water storage capacity.

All of Nassau and Suffolk Counties' land uses rely on groundwater for drinking and other uses. Since groundwater is the only source of potable water on Long Island, the EPA has designated the Island's groundwater supply as a "sole source aquifer" pursuant to the Federal Safe Drinking Water Act (SDWA). This designation, along with ongoing population growth, increasing water demands, and threats of groundwater contamination from urbanization and suburbanization, all point to the obvious need to protect this vital resource for current and future generations. For these reasons, various State, regional, and local agencies have expended considerable effort in identifying the best ways to protect groundwater resources, and in so doing have commissioned numerous studies that have culminated in a variety of plans, policies, and standards for regulating activities that may jeopardize groundwater quality including those strategies promulgated by the **Nassau-Suffolk Regional Planning Board (NSRPB), 1978; Long Island Regional Planning Board (LIRPB), 1992; CPBJPPC, 1995; and various sections of SCDHS' Sanitary Code**. Substantial planning and regulatory efforts have also been undertaken by the Town of Southampton to ensure the protection of its groundwater resources including the enactment of Chapter 330, Article XIII, "Aquifer Protection Overlay District" and Chapter 330, Article XXIV "Central Pine Barrens Overlay District."

Land located south of the SR 24 (except for a small area of land located at the northwest corner of the traffic circle) in the proposed Sewer District, including the Proposed STP, three pump stations, and sewer and force mains are within the following groundwater management zones:

- Central Pine Barrens Compatible Growth Area **(CPBJPPC, 1996) (Figure 3-12)**;
- Town of Southampton Central Pine Barrens Overlay District, Chapter 330, Article XXIV (CPBOD) (which serves to implement the regional Central Pine Barrens Plan in the Town of Southampton) **(Figure 3-12)**;
- Town of Southampton Aquifer Protection Overlay District Chapter 330, Article X III (APOD) **(Figure 3-13)**;

- Central Suffolk Special Groundwater Protection Area (South) (SGPA) **(LIRPB, 1992) (Figure 3-14)**; and
- Suffolk County Groundwater Management Zone III **(SCDHS, 2004) (Figure 3-15)**.

Land located north of SR 24 which would include the location of the alternative constructed wetlands and one pump station is within Groundwater Management Zone IV and is not within SGPA.

Based on a review of the Riverhead Quadrangle topographic map and more recent LiDAR topography, the ground surface elevation within the Sewer District ranges between roughly sea level at the land/river interface, to 50± feet above mean sea level (MSL) in an existing residential neighborhood at the southwest end of the proposed Sewer District. Areas that are targeted for development and redevelopment pursuant to the adopted RRAP and ROD and will be sewered, tend to have more intermediate surface elevations and exhibit a topographic profile that is relatively flat to gently sloping. A review of a depth to groundwater map for the proposed Sewer District prepared by the Town's Geographic Information Systems (GIS) Division **(Figure 3-10)**, available water table contour information published by the SCDHS and the USGS **(Figure 3-11)**, and topographic and depth to groundwater data prepared by the USGS **(Figure 2-1)**, depth to groundwater in areas to be contain primary sewer infrastructure are as follows:

Pump Station 1: 10 feet bgs
Pump Station 2: 6-8 feet bgs
Pump Station 3: 14-15 feet bgs
Pump Station 4: 8 feet bgs
STP Site and Leaching Area: 9-15 feet bgs
Force main west of STP to Old Quogue Road: 13-16 feet bgs
SR24 ROW within district: 6-16 feet bgs

The previous Enterprise Zone Subdivision included two soil borings on the proposed STP/leaching site. Test Hole 1 was located near the middle of SCTM 900-141-1-9.25 and included top soil at 0.5 feet below ground surface (bgs), sandy loam down to 3.5 feet bgs, and the rest was loose sand below that[4] **(Appendix C)**. Groundwater was encountered at a depth of 9.5 feet bgs. Test Hole 4 was located in the east-central portion of SCTM 900-141-1-9.31. This test hole contained topsoil to a depth of 2 feet bgs and sand and gravel to a depth of 10 feet bgs. Groundwater was not encountered in Test Hole 4. Two additional test holes were drilled in May of 2023 (see Soil Boring Logs in **Appendix D**). Groundwater was encountered in test hole SB-1 at a depth of 9.4 feet bgs, which, based on season (May 1) and the large rain event that preceded the drilling, is

[4] The total depth of Test Hole 1 is not shown on the approved subdivision map but exceeds 10 feet.

expected to be at or near (±) the seasonally high groundwater level for this site. Groundwater was encountered at a depth of 9.75 feet bgs in SB-2.

Water Balance and Groundwater Quality

The area is served with potable drinking water by the SCWA Riverside Water District (RSWD) which is part of the SCWA Flanders Distribution District (Distribution Area 39) **(Figure 3-1)**. The District has an estimated total population of 1,860 and the County serves approximately 620 of these people **(SCWA, 2023)**. Water quality from a wellfield drawing from the Upper Glacial Aquifer (Long Island's shallowest aquifer) can be affected by nearby land use activities, environmental conditions, well depths, and hydrogeologic characteristics upgradient of those wellfields.

SCWA does not have any well fields within a 1,500-foot radius of the proposed Sewer District. The nearest SCWA facility is the Oak Avenue well field located approximately 1.6 miles southeast of the proposed Sewer District. This wellfield contains one active well installed to a depth of 118 feet below grade with the screened portion of the well is between elevations -1.23 to -31.23 feet below msl. Groundwater within the sewer district flows in a northerly direction away from this wellfield, not toward it. The proposed Sewer District is also outside of any of SCWA public water supply capture zones and any Water Supply Sensitive Areas. The Riverside Revitalization Area is located roughly 4,300 feet (0.81 miles) from the nearest Riverhead municipal water district supply well, which is near the southwest corner of the intersection of Pulaski Street and Raynor Avenue on the opposite (north) side of the Peconic River from the proposed Sewer District. Groundwater beneath the Riverhead wellfield flows in a southerly direction toward the Peconic River converging with northerly flowing groundwater at the river.

Currently, threats to groundwater in Riverside include sanitary wastewater discharge from septic systems and cesspools, including some areas where depth to groundwater is limited; stormwater runoff recharged into groundwater from recharge basins, drywells, and leaching pools; use, generation, handling, storage, spills, leaks, and/or disposal of hazardous materials at junkyards, auto repair shops, filling stations, small light industrial operations, etc.); and to a lesser extent, the possible application of fertilizers and/or pesticides on some properties. Common groundwater contaminants of concern in any groundwater supply commonly include nutrients (mainly nitrogen), pathogens, volatile organic compounds (VOCs) including gasoline, solvents, some industrial chemicals, etc.; and synthetic organic compounds (SOCs) such as pesticides and some industrial chemicals, etc.

Drinking water from public supply wells is routinely monitored by SCWA (and the nearby Town of Riverhead Water District) in accordance with federal, state and local standards and

requirements. The 2022 SCWA Drinking Water Quality Report (for calendar year 2021) was reviewed for the most recent available water quality data for SCWA's Riverside Water District (RSWD). A total of 121 separate water quality parameters were tested for in 2021, including 44 inorganic constituents (150 tests), 24 volatile organic compounds (VOCs) (240 tests), 8 per- or polyfluoroalkyl synthetic organic compounds (SOCs) (16 tests), 13 SOCs (26 tests), 16 pesticide or herbicide and pharmaceutical, personal care or other SOCs (32 tests), 15 water disinfectants or disinfectant byproducts (170 tests), and 3 radiological parameters (3 tests). In total, 637 individual tests were performed on RSWD drinking water in 2021. There were no detections of any SOC or VOC and no exceedances or violations of any established maximum contaminant level (MCL) or maximum contaminant level goal (MCL") **(Appendix E)**.

Nitrate is an inorganic compound of local concern as it can impact drinking water and in very high concentrations can cause health effects in infants.[5] Nitrate concentrations from just two nitrate tests included in the 2021 data ranged from a low of 0.06 mg/L to a high of 0.09 with an average of 0.07 mg/L, which is well below the 10.0 mg/L MCL for this inorganic parameter and a sign of excellent quality based on this constituent **(Appendix E)**. Sources of nitrate primarily include fertilizers, sanitary system and stormwater discharges, animal wastes including both pets and wildlife and atmospheric deposition.

As far as the remaining parameters that were monitored for in RSWD throughout 2020, they were either not detected or detected at concentrations far below the respective MCLs. Disinfection and disinfection/chlorination by products were also well below the applicable standards for the eight parameters tested for (one of the parameters, chlorate, does not have an MCL).

The full set of 2021 water quality data for RSWD is provided in **Appendix E**. Based on a review of these data, the water quality within the groundwater contributing area of RSWD wells during 2021 was good.

The groundwater budget for an area is expressed in the hydrologic budget equation, which states that recharge equals precipitation minus evapotranspiration plus overland runoff. This indicates that not all rain falling on the land is recharged. Loss in recharge is represented by the sum of evapotranspiration and overland runoff. The equation for this concept is expressed as follows:

R = P - (E + Q)
where: **R** = recharge

[5] High concentrations of nitrogen can also cause water quality and environmental issues in coastal waters including increased algae production and reduction of dissolved oxygen concentrations in tidal waters that may lead to hypoxia (low oxygen) or anoxia (no oxygen) causing fish kills.

P = precipitation
E = evapotranspiration
Q = overland runoff

Nelson, Pope & Voorhis, LLC (NPV) has utilized a microcomputer model developed for its exclusive use in predicting both the water budget of a site and the concentration of nitrogen in recharge. The model, referred to as "**SONIR**" (**S**imulation **O**f **N**itrogen **I**n **R**echarge), utilizes a mass-balance approach to determine the nitrogen concentration in groundwater recharge. Critical in the determination of nitrogen concentration is a detailed analysis of the various components of the hydrologic water budget, including recharge, precipitation, evapotranspiration and overland runoff. The basis for this method of nitrogen budget analysis is well established, and similar techniques have been used to simulate nitrogen in recharge as published by the New York State Water Resources Institute, Center for Environmental Research at Cornell University, Ithaca, New York (BURBS - A Simulation of the Nitrogen Impact of Residential Development on Groundwater). The SONIR model includes four sheets of computations: 1) Data Input Field; 2) Site Recharge Computations; 3) Site Nitrogen Budget; and 4) Final Computations. There are a number of variables, values and assumptions concerning hydrologic principles, which are discussed in detail in the user manual developed for the SONIR Model and provided in **Appendix F-1**.

The model was run to obtain the existing water budget and nitrogen concentration in recharge. The run was based on 2015 site conditions and land use coverages since this was used in the DGEIS and provides the best baseline from which to examine the ultimate difference from the Theoretical Buildout Scenario. Based on SONIR, the prior Study Area i.e., the proposed Sewer District had an estimated recharge of 474.07 million gallons per year (MGY). The portion of the proposed Sewer District within the Central Pine Barrens had a recharge of 399.48 MGY. The results of these analyses are presented in **Appendix F-2**.

A detailed assessment of the existing concentration of nitrogen in site-generated recharge can be made by calculating the total nitrogen input to groundwater, diluted by the total volume of recharge water. The basis for this simulation was established in the Long Island Regional Planning Board's (LIRPB) "208 Study" and was further developed by the Cornell University, Water Resources Program. SONIR uses these basic methodologies to establish a mass-balance analysis of the concentration of nitrogen in recharge. SONIR was utilized to determine the existing 2015 nitrogen concentration in recharge; the results are presented in **Appendix F-3**. The estimated nitrogen concentration in recharge generated within the existing proposed Sewer District is 4.58 milligrams per liter (mg/l). The estimated nitrogen concentration for the portion of the proposed Sewer District within the Central Pine Barrens is 4.83 mg/l.

The concentration of nitrogen emanating from the Study Area is relatively high for an aquifer that discharges to a sensitive surface water body such as the Peconic River. In addition, the portion of the site within the Central Pine Barrens was analyzed separately in order to compare the concentration of nitrate-nitrogen in recharge for comparison to the Pine Barrens guideline of 2.5 mg/l (Guideline 5.3.3.1.3) for a Development of Regional Significance (DRS). As will be discussed and referenced in the Critical Environmental Area section (Section 5) of this SDGEIS, the Proposed Action is being considered as a DRS in order to comprehensively address the Theoretical Development Scenario (TDS) against applicable standards and guidelines of the Central Pine Barrens CLUP as though the TDS was constructed and the community is sewered. It should be noted that new development promoted by this revitalization effort required the Town to adopt the proposed overlay zoning to facilitate redevelopment, which was adopted in 2015, after which it is not known when or if the TDS will be fully achieved due to land ownership, owner preferences, market conditions and other factors. Nevertheless, a comprehensive approach to review of applicable land use regulations is important to ensure that SEQRA requirements are complied with, issues and impacts are identified, mitigation can be examined, and conditions and thresholds established as a result of this DSGEIS and the subsequent Final SGEIS and Supplemental Statement of Findings. As noted, the proposed Sewer District within the Central Pine Barrens currently has a concentration of nitrogen in recharge of 4.83 which exceeds the nitrate-nitrogen goal of 2.5 mg/l. As a result, the goal of redevelopment within the Central Pine Barrens portion of the proposed Sewer District is to not cause an increase in the concentration of nitrate-nitrogen as compared with existing conditions and seek a Hardship Exemption to achieve this improvement in water quality and meet the many other goals of the ROD, RRAP and proposed Sewer District.

3.2 Anticipated Impacts

3.2.1 Surface Waters, Wetlands and Drainage

The closest down gradient open surface water from the proposed STP is the Peconic River Estuary which is 1,130± feet due north of the proposed STP leaching area and the closest NYSDEC freshwater wetland is 610± feet north of this location. Groundwater time of travel to the river from the STP is almost 2 years, and depth to groundwater varies at the project site from roughly 9 feet below ground surface to the north (bgs) to 15 feet bgs to the south. The proposed STP will provide tertiary level wastewater treatment far exceeding the current effluent quality of septic systems and cesspools operating in the area, including some areas that are densely developed and have a relatively shallower depth to groundwater. All stormwater at the STP site will be controlled and recharged into the ground and stormwater and erosion and sedimentation controls will be consistent with Town standards.

3.2.2 FEMA Flood Zones, Climate Change and Sea Level Rise

Based on a review of Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs), approximately 44 acres of the Sewer District are located along the south bank of the Peconic River, north of SR 24, and within a FEMA-designated AE (100-year) Special Flood Hazard Area (SFHA). A narrow band of X500 (500-year flood zone) is also present adjacent and to the south and inland of the AE zone including near the traffic circle, around the Suffolk Federal Credit Union and in the area containing old dredge spoil deposits (FEMA flood zones are depicted in **Figure 3-6**. The X500 zones comprise areas that are at minimal risk due to flooding from a principal water body in the area (i.e., the Peconic River). Nevertheless, land and structures at these locations can be affected by rare but extremely severe storms, particularly if the area is poorly drained and stormwater controls, building siting, and other factors are inadequate. A narrow "A" Flood Zone exists along the Little Peconic River. This zone generally follows the western boundary of the Community and affects only a very small portion of the proposed Sewer District within the rear setback of a few of the existing developed single-family lots and poses no significant issues or concerns. Proposed Pump Station No. 2 is located within a FEMA X 0.2% chance of flooding (500-year flood zone). All other land within the Sewer District including the proposed STP and leaching area sites are within FEMA's X (upland or non-flood zone) and therefore are very unlikely to ever be affected by surface water flooding if suitable drainage infrastructure is provided.

The proposed project will not result in any significant increases in impervious surface areas other than the 1.45± acres at the proposed STP site which would have a 29,850± SF (0.69±acre) footprint and an additional 0.78± acre of new pavement and to a much lesser extent, the very small 1,225± SF pump stations (totaling 4,900± SF) and therefore are not expected to generate a significant volume of stormwater runoff that could not be easily controlled. Although, the currently proposed project will not result in any significant stormwater-related impacts, it was previously recommended, in general, for future development within the Sewer District, that green infrastructure pretreatment of stormwater be considered, such as vegetated swales, rain gardens and similar devices to lessen any potential cumulative impacts from future development in the proposed Sewer District.

Most of the 10.82-acre STP/leaching site (9.35± acres) will be vegetated pervious ground including 8.49 acres of lawn or reseeded land and 0.86 acres of natural woodlands perimeter buffer. The estimate 1.45± acres of proposed impervious surfaces including the STP building, site paving, and the replacement section of Enterprise Zone Drive will be served by drainage structures as needed to capture and recharge runoff from in accordance with Town standards and prevent drainage related issues. The Town is also responsible for implementing minimum control measures under the State's Separate Storm Sewer System (MS4) requirements to help

reduce the discharge of pollutants into Town waterways from stormwater that may adversely affect critically important natural resources such as the Peconic River and Estuary.

Sea levels are expected to rise, and in the future, storms may become more powerful and occur more frequently than in the past due to the long-range effects of climate change and sea level rise. Therefore, potential impacts associated with flooding from sea level rise and storm activity are assessed. According to the 6 NYCRR, Part 490, "Projected Sea-level Rise," a medium level estimate of sea level rise relative to 2000-2004 baseline data for Long Island is 34 inches by 2100. Such conditions, in conjunction with coastal storms, can affect the long-term viability and sustainability of critical infrastructure such as drinking water supplies or sewage treatment systems in coastal areas if not properly sited and/or protected. **Figure 3-16** shows future conditions with three feet of sea level rise during a 500-year storm event. Based on these figures, the proposed STP would still be above flood levels. Only part of Pump Station 2 would be affected, suggesting the possible need to elevate and/or floodproof this structure, to ensure continued operation during an extreme weather event from future sea level rise.

3.2.3 Groundwater

Hydrogeology

As discussed below, the volume of stormwater on the currently vacant STP site will increase from new impervious surfaces including the STP building, driveway and onsite parking. This increase in impervious surfaces, along with the new (replaced) section of Enterprise Zone Road will require the installation of drainage collection recharge structures. All stormwater runoff from the new construction will be captured and recharged onsite, or in the case of the new section of Enterprise Zone Drive, within the right-of-way in conformance with Town standards for stormwater control. Future development in Riverside, including the proposed STP and leaching fields disturbing more than one (1) acre of land must comply with SPDES General Permit for Stormwater Discharges from Construction Activities (SPDES General Permit) Permit and Stormwater Pollution Prevention Plan (SWPPP) requirements for drainage collection and recharge, unless exempt.

The Proposed Action also includes the recharge of up to 800,000 gallons of wastewater per day from the STP in the adjacent leaching areas. Engineers for the proposed action have conducted preliminary assessments based on site acreage, onsite soil conditions, depth to groundwater, groundwater flow direction, and the anticipated maximum volume of effluent to be discharged daily and determined the siting, spacing, number, depth, and capacity of leaching pools needed to safely accommodate maximum subsurface discharge. Proposed leaching facilities must also comply with all applicable requirements of the SCDHS including but not limited to leaching pool setbacks, minimum separation between the bottoms of leaching pools and the water table,

compliance with a SPDES Discharge Permit, routine effluent monitoring and maintenance of the facility, as necessary.

A soil analysis was conducted at the STP and leaching site based on soil information from the USDA's Soil Survey of Suffolk County, New York and data from four soil borings drilled on the site, including two borings from the original Enterprise Zone subdivision and two additional borings onsite in 2023. Test Hole 1 and 4 were completed in August of 2001 and were located on the west side of the subdivision on land owned by the Town which is part of the site of the proposed STP and leaching area (SCTM 900-141-1-9.25 formerly known as Lot 23 and SCTM 900-141-1-9.32, formerly known as Lot 14). See **Appendix C** showing the locations of these two test holes on the approved Enterprise Zone Subdivision Map. Borings SB-1 and SB-2 were drilled on the proposed STP and leaching site in March of 2023. The locations of the borings are shown on the Location Map provided with the soil borings in **Appendix D**.

Soils at the proposed STP/leaching facility area are expected to provide sufficient permeability and soil properties to provide adequate leaching of treated wastewater. The soils are primarily excessively drained CpA Carver-Plymouth soils and some CuB which based on soil borings contains coarse sand with trace gravel and medium sand in the substratum which I similar to the native soils at this depth and based on soil texture is expected to be well drained.

Regarding groundwater levels and well pumping, the source of the potable water for the Riverside Water District is approximately 1.6 miles southeast and up-groundwater slope from the proposed Sewer District and therefore would not be affected by activities in the Riverside community. For new development, recharge will be distributed throughout the various sites in subsurface drainage structures and, as a result, the relatively high permeability of the Upper Glacial deposits will allow groundwater to rapidly flow horizontally and thereby maintain a relatively stable water table configuration. Consequently, the direction of horizontal flow of groundwater would not be significantly affected by the expected increase in recharge, as the slope of the water table controls this characteristic. Thus, the Proposed Project is not anticipated to have a significant impact on hydrogeologic conditions.

Water Balance and Groundwater Quality

The proposed Sewer District is located over a portion of Long Island's Sole Source Aquifer and is in a Central Pine Barrens Compatible Growth Area/Town CPBOD, the Town's APOD, the Central Suffolk SGPA, and portions of SCDHS Groundwater Management Zones III and IV. These resource area designations indicate the presence of important and potentially sensitive groundwater resources. It is, therefore, imperative that the local groundwater reservoir be protected and that appropriate measures be taken to minimize potential impacts.

Common threats to groundwater quality from development include:

- increased wastewater that is discharged to the subsurface;
- stormwater runoff in developed areas that is discharged into the ground;
- application of fertilizers and pesticides to maintain lawns and other landscaping;
- past site contamination and improper brownfield cleanup prior to redevelopment;
- poor or careless construction processes;
- improper use, storage and mishandling of hazardous materials by future land uses; and
- lack of public education on protecting groundwater and requirements for addressing pet wastes.

Increased sewer discharges – The increase in development density, particularly residential development will result in an overall increase in the volume of wastewater discharged in the area and will necessitate connection to a County approved, routinely monitored and maintained STP. The Proposed Action, including future buildout under the ROD supported by the STP, will necessitate the installation of sewer mains, pump stations and a STP that provides secondary and tertiary level treatment to address nitrogen and other pollutants. Replacement of existing unsewered land uses with new development that connects to the proposed STP and providing opportunities for existing dense development with onsite sanitary systems to has the potential to reduce the concentration of nitrogen in recharge from 40 to 60 mg/l down to ≤10 mg/l. This reduction in nitrogen concentration will provide an overall benefit even with additional development as it will reduce existing nitrogen concentrations by 4 to 6-fold, reduce overall total nitrogen loading, and suitably control nitrogen from future development. This in turn will help to protect local groundwater and surface water resources and help address some Central Pine Barrens CLUP, Town CPBOD and APOD, and the Peconic Estuary Comprehensive Management Plan goals for water quality. Wastewater discharges are subject to routine monitoring under the standards and requirements of a SPDES permit and operators, inspectors, and maintenance personnel must be trained to oversee facilities and be available 24 hours/day 7 days/week. Groundwater monitoring wells will also be installed on the site up-gradient and down-gradient of proposed leaching pools. Standby generators will be installed at the STP and each pump station to ensure continued operation during power outages. High water, low water, pump failure, generator failure, phase failure, and power failure alarms with audio and visual capabilities will also be provided at each pump station to monitor system failures. In the event of a system failure, an automatic dialer will transmit alarm signals to the pump station operator for response and correction. The multiphase SBR treatment process is discussed in detail in the Riverside Revitalization Sewage Treatment Plant Clean Water State Revolving Fund (CWSRF) Engineering Report provided in **Appendix B** of this SDGEIS.

Application of fertilizers and pesticides – The Central Pine Barrens CLUP and Town APOD and CPBOD restrict the planting of fertilizer dependent landscaping and promote the retention of naturally vegetated areas. No more than 15% of any site may be established in fertilizer dependent vegetation under the current CLUP and CPBOD standards. The purpose of this

restriction is to prevent the need for excess site fertilization, pesticide/herbicide use and irrigation in areas that are revegetated, in order to prevent impacts on groundwater supplies. As per the original GEIS, all proposed site uses will conform with the 15% restriction, and landscaping will use native species which do not require fertilization, chemicals and irrigation to the maximum extent practicable.

Improper brownfield cleanup prior to redevelopment – A preliminary "Sites of Environmental Concern" inventory was prepared for the BOA Step II Nomination Study. A review of the Sites of Environmental Concern map in Figure 7-3 of the original DGEIS reveals that there is no contamination from past land uses or land activities on the proposed STP site or at any of the proposed pump station sites. Regarding other known sites of contamination in Sewer District, the prior GEIS and Findings Statement indicate that Phase I Environmental Site Assessments (ESAs) and Phase II ESAs as needed, should be conducted at locations slated for redevelopment to further identify any potential recognized environmental conditions (RECs). All floor drains, drywells, drainage catch basins and stormwater leaching pools, septic systems, cesspools, sanitary leaching pools, and above and below ground fuel tanks must be identified, inspected, pumped/cleaned (as necessary) and removed or abandoned in accordance with applicable State and County regulations. Known areas of soil or localized groundwater contamination that exceed regulatory standards must be cleaned up prior to construction. Future cleanup of contaminated sites in the Sewer District depends mainly on redevelopment of these sites which is incentivized by the ROD and supported by the proposed STP through density incentives.

Poor or careless construction processes - Groundwater quality impacts that may occur during construction activities and could potentially result from leaching of contaminants construction equipment and construction debris. Proper handling and prompt disposal of construction debris at a licensed C&D facility or recycling facility, although new building materials are anticipated to be relatively inert and therefore not expected to have an adverse impact on the construction sites. Equipment stored on-site that will be utilized during clearing and construction activities must be properly maintained to eliminate leakage of fluids and reputable contractors must be used for all site work.

Public Water Supply – As previously noted, drinking water from public supply wells is routinely monitored by SCWA in accordance with federal, state and local standards and requirements. The 2022 SCWA Drinking Water Quality Report (for calendar year 2021) was reviewed for the most recent available water quality data for the Riverside Water District (RSW"). In total, 637 individual tests were performed on RSWD drinking water in 2021. There were no detections of any SOC or VOC and no exceedances or violations of any established maximum contaminant level (MCL) or maximum contaminant level goal (MCL"). Nitrate concentrations from just two nitrate tests included in the 2021 data ranged from a low of 0.06 mg/L to a high of 0.09 with an average of 0.07 mg/L, which is well below the 10.0 mg/L MCL for this inorganic parameter and a sign of excellent quality based on this constituent. The full set of 2021 water quality data for RSWD is

provided in **Appendix E**. Based on a review of these data, the water quality within the groundwater contributing area of RSWD wells during 2021 was considered good.

Overall, in terms of water quality, the Proposed Action is expected to provide improved water resource management based on current technologies and existing land use requirements. All sanitary waste from future development will be conveyed to an STP and therefore will not be discharged to onsite sanitary systems for disposal. Fertilizer dependent vegetation will be restricted throughout the proposed Sewer District and natural areas will be retained to the maximum extent possible. Finally, the proposed Sewer District is not within 1,600± feet of a public supply well or within the groundwater contributing area of public supply wells and is therefore not expected to adversely affect these facilities.

NPV also has exclusive use of a groundwater nitrogen budget model that has been used extensively to determine the concentration of nitrogen in recharge as required by the CPBJPPC to determine conformance with the Nitrate-Nitrogen goal of 2.5 mg/l for projects that meet the definition of a DRS. This model was used to assess the concentration of nitrogen in recharge throughout the entire Study Area, as well as just within the Central Pine Barrens Nitrate-nitrogen goal of 2.5 mg/l (Guideline 5.3.3.1.3). As noted in Section 3.1.3, the existing concentration of nitrogen in recharge in the Study Area is estimated to be 4.58 mg/l, and the concentration within the Central Pine Barrens portion of the Study Area is 4.83 mg/l. The same methodologies outlined in the SONIR User Guide and use of the SONIR model was used to run the concentration of nitrogen in recharge based on the Theoretical Development Scenario and found that the projected concentration is 4.38 mg/l for the overall Study Area, and 4.55 mg/l for the Central Pine Barrens area. In comparison, the concentration of nitrogen in recharge within the overall Study Area and the Central Pine Barrens portion was reduced from 4.58 to 4.38 mg/l and 4.83 to 4.55 mg/l, respectively. This indicates that the Proposed Action will reduce the concentration of nitrogen in recharge as compared to existing conditions by 0.20 mg/l throughout the entire Sewer District and by 0.28 mg/l in the pine barrens portion of the proposed Sewer District. The applicable guidance value in the Central Pine Barrens CLUP is 2.5 mg/l; however, the proposed project will decrease the level of non-conformity in both cases. This provides greater compliance with Guideline 5.3.3.1.3 than the current condition, while achieving multiple other Town goals. With respect to recharge, it is estimated that the recharge will increase from 474.07 MGY to 677.10 MGY within the overall Study Area, and 399.48 to 578.58 MGY within the Central Pine Barrens area. The SONIR User Guide and the results are presented in **Appendix F-1, F-2 and F-3**.

Other potential contaminants of concern may include 1,4 Dioxane, PFOA, PFOS, pharmaceuticals and personal care products. Therefore, it is important that the proposed facility be routinely inspected and monitored, and that operators and maintenance personnel undergo rigorous training and receive appropriate certifications to ensure a thorough and current up-to-date understanding of plant operations, maintenance, and system monitoring. It is also important

that onsite groundwater sampling be routinely conducted, both up and down gradient of the proposed leaching fields to identify any groundwater quality issues that may arise and ensure a prompt response. Proposed STP operations must fully comply with SPDES permit requirements. Finally, the facility owner/operator should identify, retrofit, implement and/or utilize the best available technologies as innovations arise to maximize the protection of environmental quality and public health. See also **Appendix G** for SCWA comments and **Section 5** "Critical Environmental Areas" for additional information and analyses relating to groundwater and consistency with APOD and CPB standards and guidelines.

3.3 Proposed Mitigation

- Every STP constructed in Suffolk County must apply for and comply with the State Pollutant Discharge Elimination System (SPDES) requirements. The SPDES permit program is designed to eliminate pollution of state waters.
- The leaching pools must be a minimum of 150 feet from any private well or greater if required by SCDHS based on the depth of a well unless the SCDHS Board of Review finds another setback is appropriate or necessary. If the 150-foot setback cannot be met, the developer will have to provide public water connections to properties currently relying on private wells within the 150-foot setback, as required by SCDHS. Suffolk County Water Authority provides mains along streets throughout the district.
- A minimum of two feet of separation must be maintained between the base of any leaching pool and the seasonally high groundwater table or a depth determined by the SCDHS Board of Review if greater separation is deemed necessary.
- Sewer mains must be a minimum of 50 feet from any surface water or well or as required by the SCDHS Board of Review.
- Future facilities must be consistent with all other SCDHS requirements except as may be modified by the SCDHS Board of Review.
- The proposed facility will be operated remotely by trained professionals and will be periodically visited for inspections, testing, maintenance and monitoring. Operators, monitors, and maintenance personnel should be required to undergo rigorous training and receive appropriate certifications to ensure a thorough and current understanding of plant operations, maintenance, system monitoring and evolving technologies. Monitoring of less common and emerging contaminants should be considered as practical and periodic retrofits of equipment and technologies must be provided as innovations arise.
- Monitoring wells will be located as required by the SCSC to monitor the impact of the discharge facility with the local groundwater quality. Both the STP plant itself and the

discharge monitoring wells will be required to be inspected on a quarterly basis by the NYSDEC.

- Drainage must be provided to address stormwater runoff. There are six catch basins within the section of Enterprise Zone Drive to be abandoned. Efforts should be made, if possible, to utilize this existing system to help address runoff from the STP.
- Erosion and sedimentation controls should be implemented during STP construction and leaching pool installation including silt fencing; drain inlet protection; reseeding, replanting, and construction as soon as possible after ground disturbance to stabilize soils, retaining and reincorporating soils back into the site to the maximum extent possible including leaching area mounding, if possible, stabilized construction entrance, and other measures as warranted.
- Native plants or species that do not require fertilization are preferred to further reduce nitrogen loading in the area.
- Wetlands permits or a letter of non-jurisdiction shall be received from the NYSDEC for the installation of any gravity or force main or other sewer facility within NYSDEC wetlands jurisdiction.
- An Administrative Wetlands Permit for the installation of the proposed sewer lines and Pump Station 2 will be required, as they will be located within 200 feet of Town regulated wetlands.
- Siting and installation of Pump Station 2 shall take into consideration the potential for future sea level rise and storm-related flooding and ensure that this facility is adequately flood proofed.
- The proposed sewer facilities will allow development, redevelopment and additional development density within the Riverside Sewer District. Future development or redevelopment within the Sewer District shall comply with all applicable environmental mitigations, standards and requirements identified in the adopted December 22, 2015 GEIS Findings Statement for the Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan and Zoning Map and Code Amendments.

SECTION 4.0
ECOLOGICAL RESOURCES

4.0 ECOLOGICAL RESOURCES

4.1 Existing Conditions

Vegetation, Wildlife and Habitats

The proposed Riverside Sewer District is mostly comprised of suburban and commercial development, but some vacant and undisturbed lands remain. Areas that are vacant fall into one of the following five categories: freshwater wetlands, tidal wetlands, dredge spoils disposal areas, preserved lands, or small areas of vacant woodlands, landscaping, or successional growth surrounded by development. Preserved and/or Town or County owned lands and other vacant properties are shown in **Figure 6-1**. NYSDEC regulated freshwater and tidal wetlands are depicted on **Figure 3-2** while wetlands that are mapped and defined by the National Wetlands Inventory (NWI) are depicted in **Figure 3-3**. A general map of natural habitats located within the proposed Sewer District is provided in **Figure 4-1**.

The proposed Sewer District contains a variety of fragmented habitats next to other preserved lands which contain sensitive ecological communities that were thoroughly examined in the prior GEIS based on the theoretical buildout of the district under the new zoning overlay districts. This environmental review focuses on those areas that will be directly affected by necessary clearing and subsequent construction of the proposed STP, sewage leaching area, pump stations, and areas that must be disturbed to install sewer and force mains.

Upland ecological communities at the proposed STP and leaching facility site consist primarily of Pitch Pine-Oak forest which is part of the outer periphery of a Central Pine Barrens Compatible Growth Area (CGA), as well as small areas of successional old field and successional shrubland growth from past site disturbances. The proposed STP and leaching facility site is near the center of downtown Riverside on vacant developable industrially zoned land that is owned by the Town. The Pine Barrens within this area is highly fragmented, limited in overall total contiguous acreage due to past urbanization based on prior planning and zoning, and of less value than adjacent areas outside the proposed Sewer District.

Pitch Pine-Oak forests are defined by **Edinger et., al. (2014)** as mixed forests that are present on well-drained sandy soils, where pitch pine and one or more of the following oaks are dominant: scarlet oak, white oak, red oak or black oak. This community is found in areas south of Flanders Road where recent disturbance has not yet occurred limiting it mostly to the undeveloped portion of the Enterprise Zone Drive light industrial (LI-40) subdivision and an adjacent 12.5-acre vacant privately owned property to the west which is zoned Residence R-15 (15,000 SF single-family residential lots). Much of the Enterprise Zone Subdivision property, including part of the proposed STP/leaching facility) site was previously disturbed and used as a drive-in movie theater in the past, but has largely revegetated over the past several decades as it remained undeveloped and unused, prior to new industrial development. There are currently extensive, undisturbed, contiguous and preserved pine barrens forests outside of and to the south, east, and west of the proposed Sewer District and the Riverside Community.

Deciduous forest is the primary vegetative community in the upland part of the area located north of Flanders Road. It is likely a remnant of a Maritime Oak forest, but it mixes with freshwater and tidal wetlands and dredge spoil deposits in and adjacent to the northeast side of the proposed Sewer District. Maritime Oak forests are defined as "*an oak-dominated forest that borders salt marshes or occurs on exposed bluffs and sand spits within about 200 meters of the seacoast*" **(Edinger, et al., 2014)**. Inspection of this area revealed highly disturbed woodlands consisting of invasive species (e.g., Norway maple, tree of heaven); however, remnant native oaks are present within the forested area. All other upland habitats within the proposed Sewer District are either successional in nature, landscaping or impervious areas associated with suburban development.

Successional habitats (areas that naturally regrow following clearing) represent areas that have been disturbed within the last 60+ years and are interspersed throughout the Sewer District and parts of the proposed STP/leaching area site, specifically at the Five Towns property (SCTM: 900-141-1-9.17),[1] which based on a 1961 aerial photograph, was once almost entirely cleared. These areas include varying phases of successional growth including early grasslands and more mature shrubland habitats.

Freshwater wetlands are important ecological communities and essential to wildlife. These habitats are generally more productive than upland habitats and are typically high in both plant and animal diversity. Wetlands are also vital in controlling floodwaters and filtering pollutants and are valuable as refuge for rare species. As the intrinsic value of wetlands has become recognized, they have received increasing protection from Federal, State, and local regulations and are often prioritized for public acquisition and preservation. Wetland boundaries are generally defined by the presence of significant numbers of indicator plant species which are adapted to areas that are inundated, frequently flooded or places with near surface saturated soil conditions in the root zone.

The NYSDEC has identified five freshwater wetland complexes within or partially within the proposed Sewer District. These areas comprise approximately 2,413 acres of wetland systems, 15.60 acres of which are located within the Sewer District **(Table 4-1)**. These freshwater wetlands are all catalogued by the NYSDEC on the "Riverhead" United States Geological Survey (USGS) 7.5-minute quadrangle and are shown in **Figure 3-2**. NYSDEC classifies freshwater wetlands into four categories, as described in Section 664.5 of NYSDEC's regulations. Class I wetlands are the most pristine and therefore the most valuable or in need of protection, while Class IV wetlands lack characteristics that would give the wetland a high value. Only Class I and Class II wetlands are found within the proposed Sewer District, the definitions of which are listed below in **Table 4-1**.

[1] The property was pending final Town acquisition and transfer from the landowner at the time this SDGEIS was being prepared.

Table 4-1
NYSDEC FRESHWATER WETLANDS WITHIN THE STUDY AREA

NYSDEC Freshwater Wetland ID	Wetland Class	Wetland Area (Acres)	Wetland Area within Study Area (Acres)
R-5	1	2,331.5	5.6
R-11	1	52.3	0.3
R-71	2	4.4	2.7
R-72	1	21.1	4.5
R-81	1	3.4	2.5
Totals	**---**	**2,412.7**	**15.6**

Class I wetlands:
A wetland shall be a Class I wetland if it has any of the following seven enumerated characteristics:
Ecological associations
(1) it is a classic kettlehole bog
Special features
(2) it is resident habitat of an endangered or threatened animal species
(3) it contains an endangered or threatened plant species
(4) it supports an animal species in abundance or diversity unusual for the state or for the major region of the state in which it is found
Hydrological and pollution control features
(5) it is tributary to a body of water which could subject a substantially developed area to significant damage from flooding or from additional flooding should the wetland be modified, filled, or drained
(6) it is adjacent or contiguous to a reservoir or other body of water that is used primarily for public water supply, or it is hydraulically connected to an aquifer which is used for public water supply or
Other
(7) it contains four or more of the enumerated Class II characteristics. The department may, however, determine that some of the characteristics are duplicative of each other, therefore do not indicate enhanced benefits, and so do not warrant Class I classification.

Class II wetlands:
A wetland shall be a Class II wetland if it has any of the following seventeen enumerated characteristics:
Covertype
(1) it is an emergent marsh in which purple loosestrife and/or reed (*Phragmites*) constitutes less than two-thirds of the covertype
Ecological association
(2) it contains two or more wetland structural groups
(3) it is contiguous to a tidal wetland
(4) it is associated with permanent open water outside the wetland
(5) it is adjacent or contiguous to streams classified C(t) or higher under article 15 of the environmental conservation law

Special features
(6) it is traditional migration habitat of an endangered or threatened animal species
(7) it is resident habitat of an animal species vulnerable in the state
(8) it contains a plant species vulnerable in the state
(9) it supports an animal species in abundance or diversity unusual for the county in which it is found
(10) it has demonstrable archaeological or paleontological significance as a wetland
(11) it contains, is part of, owes its existence to, or is ecologically associated with, an unusual geological feature which is an excellent representation of its type
Hydrological and pollution control features
(12) it is tributary to a body of water which could subject a lightly developed area, an area used for growing crops for harvest, or an area planned for development by a local planning authority, to significant damage from flooding or from additional flooding should the wetland be modified, filled, or drained
(13) it is hydraulically connected to an aquifer which has been identified by a government agency as a potentially useful water supply
(14) it acts in a tertiary treatment capacity for a sewage disposal system
Distribution and location
(15) it is within an urbanized area
(16) it is one of the three largest wetlands within a city, town, or New York City borough or
(17) it is within a publicly owned recreation area.

None of the wetlands in **Table 4-1** are located on or near the proposed STP and leaching site and neither the STP, leaching area, or pump stations are within NYSDEC wetlands uplands areas (i.e., NYSDEC jurisdiction) as defined by the respective implementing regulations of Articles 24 and 25 of the Environmental Conservation Law. The closest NYSDEC regulated wetland is a freshwater wetland located on the north side of SR 24 north-northwest of Suffolk Federal Credit Union identified as wetland "R-81", approximately 450 feet north of the proposed STP facility and leaching field. The remaining wetlands are found along the outer perimeter of the proposed Sewer District as shown in **Figures 3-2 and 3-3**. These include:

To the North: Peconic River/littoral zone[2], high marsh[3] and intertidal marsh[4] in scattered locations along the river's south bank, and the previously discussed NYSDEC R-81 freshwater wetlands, north of SR 24 across from the bank. Freshwater wetlands are also present north of SR 24 on the east side of the proposed Sewer District.

[2] **LZ - Littoral Zone:** The tidal wetland zone that includes all lands under tidal waters which are not included in any other category. There shall be no LZ under waters deeper than six feet at mean low water.
[3] **HM - High Marsh:** The normal upper most tidal wetland zone usually dominated by salt meadow grass, *Spartina patens*; and spike grass, *Distichlis spicata*. This zone is periodically flooded by spring and storm tides and is often vegetated by low vigor, *Spartina alterniflora* and Seaside lavender, *Limonium carolinianum*. Upper limits of this zone often include black grass, *Juncus gerardi*; chairmaker's rush, *Scirpus sp.*; marsh elder, *Iva frutescens*; and groundsel bush, *Baccharis halimifolia*.
[4] **IM - Intertidal Marsh:** The vegetated tidal wetland zone lying generally between average high and low tidal elevation in saline waters. The predominant vegetation in this zone is low marsh cord grass, *Spartina alterniflora*.

To the South: NYSDEC R-5 freshwater wetlands straddling the Sewer District's southerly boundary on preserved land directly east of the intersection of Lake Avenue and Pegs Lane, and three small freshwater wetlands identified as R-71 near the southeast corner of the Riverwoods community.

To the East: Extensive freshwater wetlands identified as NYSDEC R-72 and R-11 wetlands, Black Creek Pond along the outer perimeter of the easterly Sewer District boundary and three other small freshwater ponds located further to the east. Tidal creek north of SR 24 and east of the eastern Sewer District boundary.

To the West: The Little Peconic River and R-5 NYSDEC wetlands located outside and adjacent to the Sewer District.

As indicated in **Table 4-1** above, most of the freshwater wetlands within the proposed Sewer District are Class I, indicating generally good habitat quality of these wetlands. While only one wetland within the Sewer District is designated as Class II, this wetland still provides important habitat for local wildlife.

Tidal wetlands within the Sewer District are illustrated in **Figures 3-2 and 3-3**.

Most of the tidal wetlands within the study area are comprised of Littoral Zone and High Marsh. A significant area of dredge spoils is located in the northeastern portion of the proposed Sewer District, north of Donald Avenue. Limited areas of intertidal marsh are found between areas of High Marsh and the Littoral Zone. It is noted that the Town also regulates wetlands. As defined in Section 325-3 of the Town Code, the vegetated definition of wetlands is the same as that of the NYSDEC; therefore, the wetland boundary is often the same for both regulatory agencies. As noted in Section 3 of the SDGEIS, the installation of utilities greater than 75 feet from unbulkheaded wetland boundaries are eligible for an Administrative Wetlands Permit, pursuant to Section 325-7B(17). Moreover, structures located greater than 25 feet from an unlined, man-made recharge basins which contain wetland vegetation, are also eligible for an Administrative Wetlands Permit, pursuant to Section 325-9 (Standards for issuing a permit) of the Town Code. Therefore, installation of the sewer mains and construction of proposed Pump House 2 will be subject to an Administrative Wetlands Permit, pursuant to Section 325-7B(12) of the Town Code. In the event that the location of existing underground utilities precludes the installation of sewer mains less than 75 feet from wetlands, the Town can seek relief from the Town of Southampton Conservation Board.

NWI categorizes wetlands regardless of their size and regulatory status. As illustrated on **Figure 3-3**, the wetlands within the proposed Sewer District are characterized as "Estuarine" north of SR 24, indicating that these wetlands are tidally influenced, while wetlands south of SR 24 are characterized as "Palustrine," indicating these are freshwater wetlands. Vegetation within Estuarine wetlands commonly consist of those species uniquely adapted to the moisture conditions and saline concentrations found in tidal wetland environments, while freshwater

wetland vegetation would generally be comprised of plants that have are adapted to saturated conditions but with lower salt tolerance.

Table 4-2 below provides an estimation of the habitats found within the proposed Sewer District and in areas to be disturbed by the proposed sewer improvements. It should be noted that the habitat delineations provided should be used as a general guide only. Of specific relevance to the proposed Sewer District are existing Pitch Pine-Oak forest and natural successional growth present at the proposed STP facility site, and areas to the west of the STP site, where force mains would be installed within a narrow corridor of pine barrens forest. Areas where pump stations are proposed were formerly cleared or disturbed with the exception of Pump Station 3.

Table 4-2
ESTIMATED EXISTING HABITAT COVERAGES
Riverside Sewer District

Habitat Type	Sewer District (Acres)	Percent of Sewer District (467.5± Acres)	Sewer Infrastructure Sites (Acres)(1)	Precent of Infrastructure Areas (30.77± Acres)
Pitch Pine-Oak Forest	101.5±	21.7%	8.89±	28.9%
Maritime Oak Forest or Successional Southern Hardwood Forest	31.9±	6.8%	0.06±	0.19%
Successional Old Field or Successional Shrubland	7.1±	1.5%	2.16±	7.01%
Maritime Heathland	3.7	0.8%	0	0%
Freshwater Wetlands	12.6	2.7%	0	0%
Tidal Wetlands	7.0	1.5%	0	0%
Subtotal (Natural)	**163.8**	**35.0%**	**11.11±**	**36.1%**
Suburban	303.7	65.0%	19.66± (2)	63.9%
TOTAL	**467.5**	**100.0%**	**30.77±**	**100.00%**

(1) Sewer infrastructure includes the STP, Phase I and Phase II leaching areas, pump stations, force mains and gravity mains.

(2) This area includes paved and other impervious surfaces, non-paved drive area and landscaping. A total of 17.98± acres are existing streets where mains will be installed, 1.56± acres consisting of the new STP, associated driveways and parking, the new section of Enterprise Zone Drive to replace the section to be removed, pump stations and other impervious surfaces. 0.12± acres comprise existing landscaping to remain on infrastructure sites, and 0.06± acres are existing bare ground. Disturbance within streets and street rights-of-way will be temporary, and these areas will be repaved and/or reseeded after installation resulting in no significant net change in land surface cover along ROWs.

Wildlife within most of the proposed Sewer District is expected to consist of species that are adapted to suburban habitats, such as raccoons, squirrels, deer, rabbits, robins, mocking birds, grackles and starlings. These species would prefer the rich undisturbed pine barrens outside of the proposed Sewer District but may stray into the downtown area or have been pushed out by

other species and conspecific competition. Exceptions to this assumption include areas of forested upland, vegetated tidal wetlands, and freshwater wetlands, where a greater diversity of wildlife may live, including interior forest birds, salamanders, shore birds, turtles, bivalves, and reptiles adapted for living in wetland habitats.

The New York Natural Heritage Program (NYNHP) was contacted to determine the presence or absence of rare, threatened or endangered species and significant natural communities within or adjacent to the proposed Sewer District and infrastructure sites. As indicated in the December 14, 2022 response from the NYNHP included in **Appendix H** six significant natural communities exist in, adjacent or near proposed Sewer District. These communities are identified as:

- Red Maple-Blackgum Swamp
- Coastal Plain Atlantic White Cedar Swamp
- Coastal Plain Poor Fen
- Coastal Plain Pond Shore
- Pitch Pine-Oak-Heath Woodland
- Pitch Pine-Oak Forest

As shown in **Figure 4-1**, Pitch Pine-Oak Forest is present at the STP and leaching site, and at the location of the primary STP force main located west of the STP, but based on correspondence from NYNHP, the only "High Quality Occurrence of a Rare [Pitch Pine-Oak Forest] Community Type" is as much as a quarter mile from proposed sewer infrastructure. This area of high-quality pitch pine-oak forest is part of an expansive preserve within the pine barrens and is of high quality based on its size, scarcity of invasive species and its successful recovery from past disturbances.

Existing Pitch Pine-Oak Forest at the proposed STP/leaching site and in the area of the proposed force main to the west is an example of a much smaller highly fragmented woodland on the periphery of a Central Pine Barrens Compatible Growth Area that is generally disconnected from the larger preserve to the south and consists of land that will be developed in the future.

In general, a Pitch Pine-Oak Forest is characterized by **Edinger, et. al. (2014)** as "*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 ridgetops. The dominant trees are pitch pine (Pinus rigida) mixed with one or more of the following oaks: scarlet oak (Quercus coccinea), white oak (Q. alba), red oak (Q. rubra), or black oak (Q. velutina) but the relative proportions of pines and oaks are quite variable within this community type.*

Site specific inspections were conducted at proposed critical sewer infrastructure sites within the Sewer District including the STP/leaching area site and pump station sites (see below), as well as the alternative constructed wetlands site discussed in detail **Section 9** (Alternatives).

Section 1: Proposed STP Location

Plants:

- Norway Maple *(Acer platanoides)*
- Red Maple *(Acer rubrum)*
- Tree of Heaven *(Ailanthus altissima)*
- Pitch Pine *(Pinus rigida)*
- Garlic Mustard *(Alliaria petiolate)*
- Onion Grass *(Allium canadense)*
- Mugwort *(Artemisia annua)*
- Japanese Barberry *(Berberis thunbergia)*
- Paper Birch *(Betula papyrifera)*
- Oriental Bittersweet *(Celastrus orbiculatus)*
- Striped Wintergreen *(Chimaphila maculate) [*EV]*
- Sweetfern *(Comptonia peregrina)*
- Russian Olive *(Elaeagnus angustifolia)*
- Eastern Wintergreen *(Gaultheria procumbens)*
- American Holly *(Ilex opaca)*
- Japanese Honeysuckle *(Lonicera japonica)*
- Northern Bayberry *(Myrica pensylvanica)*
- Common Reed *(Phragmites australis)*
- Norway Spruce *(Picea abies)*
- Pitch Pine *(Pinus strobus)*
- Multiflora Rose *(Rosa multiflora)*
- Raspberry *(Rubus idaeus)*
- Cat Greenbrier *(Smilax glauca)*
- Greenbrier *(Smilax sp.)*
- Goldenrod *(Solidago sp.)*
- White Oak *(Quercus alba*)
- Scrub Oak *(Quercus ilicifolia)*
- Red Oak *(Quercus rubra)*
- Highbush Blueberry *(Vaccinium corymbosum)*
- Blue Ridge Blueberry *(Vaccinium pallidum*)
- Mullein *(Verbascum thapsus)*

Wildlife:

- Northern Flicker *(Colaptes auratus)*
- American Crow *(Corvus brachyrhynchos)*
- Blue Jay *(Cyanocitta cristata)*
- Hawk Family *(Accipitridae)*
- White-tailed deer (droppings) *(Odocoileus virginianus)*
- Red-breasted Nuthatch *(Sitta canadensis)*

[*EV] – exploitably vulnerable

Pumping Station #1 (PS1)

- Norway Maple *(Acer platanoides)*
- Tree of Heaven *(Ailanthus altissima)*
- Mugwort *(Artemisia annua)*
- Oriental Bittersweet *(Celastrus orbiculatus)*
- Red Cedar *(Juniperus virginiana)*
- Broad-leaved Sweet Pea *(Lathyrus latifolius)*
- Japanese Honeysuckle *(Lonicera japonica)*
- Prickly Pear Cactus *(Opuntia humifusa) [*EV]*
- Black Cherry *(Prunus serotina)*
- Red Oak *(Quercus rubra)*

[*EV] – exploitably vulnerable

Pumping Station #2 (PS2)

- Mugwort *(Artemisia annua)*
- Pitch Pine *(Pinus strobus)*

Pumping Station #3 (PS3)

- Norway Maple *(Acer platanoides)*
- Mugwort *(Artemisia annua)*
- Red Cedar *(Juniperus virginiana)*
- Japanese Stiltgrass *(Microstegium vimineum)*
- Common Reed *(Phragmites australis)*
- Pitch Pine *(Pinus strobus)*
- Black Cherry *(Prunus serotina)*
- Red Oak *(Quercus rubra)*
- Goldenrod *(Solidago sp.)*

Pumping Station #4 (PS4)

- Striped wintergreen *(Chimaphila maculate) [*EV]*
- Eastern Wintergreen *(Gaultheria procumbens)*
- Pitch Pine *(Pinus strobus)*
- Black Cherry *(Prunus serotina)*
- Red Oak *(Quercus rubra)*
- Goldenrod *(Solidago sp.)*
- Lowbush Blueberry *(Vaccinium angustifolium)*

[*EV] – exploitably vulnerable

All other rare plant species identified during field inspections were found north of SR 24 on the east end of the dredge spoils pile, east of the proposed constructed wetlands. See Alternative 2 “Constructed Wetlands” in **Section 9** of this SDGEIS for a list of the rare species identified near the Alternative Constructed Wetlands site.

The NYNHP has also identified or indicated the possible presence of 49 rare, threatened or endangered plants and wildlife within or in the vicinity of the boundaries of the greater Sewer District. Species identified include:

- one endangered amphibian;
- one endangered butterfly;
- one threatened damselfly;
- one endangered mammal/bat;
- one threatened fish;
- one unlisted fish;
- one special concern damselfly;
- two special concern moths;
- two unlisted damselflies;
- six unlisted moths;
- two unlisted beetles;
- fifteen endangered plants; and
- fifteen threatened plants.

The following table indicates the species identified, their legal status, identification status (i.e., current identification or a historical identification) and the habitat in which the species is typically found in.

Table 4-3
RARE, THREATENED OR ENDANGERED SPECIES IDENTIFIED BY THE NYNHP IN, ADJACENT OR NEAR THE PROPOSED SEWER DISTRICT

General Habitat Type [1]		Species Type	NYS Legal Status (Endangered, Threatened, Rare, Special Concern)	Current or Historic
GRASSLAND/HEATH/OPEN AREAS		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
Stargrass	*Aletris farinose*	Plant	Threatened	Historic
Great Plains Flatsedge	*Cyperus lupulinus ssp. lupulinus*	Plant	Threatened	Historic
American Ipecac	*Euphorbia ipecacuanhae*	Plant	Endangered	Historic
Virginia False Gromwell	*Onosmodium virginianum*	Plant	Endangered	Historic
Few-flowered Nutrush	*Scleria pauciflora var. caroliniana*	Plant	Endangered	Historic
Southern Arrowwood	*Viburnum dentatum var. venosum*	Plant	Threatened	Historic
Northern Blazing-star	*Liatris scariosa var. novae-*	Plant	Threatened	Historic

General Habitat Type [1]		Species Type	NYS Legal Status (Endangered, Threatened, Rare, Special Concern)	Current or Historic
	angliae			
FRESHWATER WETLAND		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
Doll's Merolonche	*Acronicta dolli*	Moth	Unlisted	Historic
Pitcher Plan Borer Moth	*Papaipema appassionata*	Moth	Unlisted	Current
Dragon's Mouth Orchid	*Arethusa bulbosa*	Plant	Threatened	Historic
Atlantic White Cedar	*Chamaecyparis thyoides*	Plant	Threatened	Current
Weak Rush	*Juncus debilis*	Plant	Endangered	Historic
Swamp Oats	*Sphenopholis pensylvanica*	Plant	Endangered	Historic
Possum-haw	*Viburnum nudum var. nudum*	Plant	Endangered	Historic
Large Yellow-eyed-grass	*Xyris smalliana*	Plant	Threatened	Current
FRESHWATER WETLAND SHORELINE/OPEN AREAS		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
Hessel's Hairstreak	*Callophrys hesseli*	Butterfly	Endangered	Current
Short-fruit Rush	*Juncus brachycarpus*	Plant	Endangered	Historic
Swamp Smartweed	*Persicaria setacea*	Plant	Endangered	Historic
Drowned Beakrush	*Rhynchospora inundata*	Plant	Threatened	Current
Heart Sorrel	*Rumex hastatulus*	Plant	Endangered	Historic
Coastal Goldenrod	*Solidago latissimifolia*	Plant	Endangered	Historic
Rush Bladderwort	*Utricularia juncea*	Plant	Endangered	Current
Fibrous Bladderwort	*Utricularia striata*	Plant	Threatened	Current
FRESHWATER WATERBODY		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
New England Bluet	*Enallagma laterale*	Damselfly	Unlisted	Current
Scarlet Bluet	*Enallagma pictum*	Damselfly	Threatened	Current
Blackwater Bluet	*Enallagma weewa*	Damselfly	Unlisted	Current
Banded Sunfish	*Enneacanthus obesus*	Fish	Threatened	Current
Atlantic Silverside	*Menidia menidia*	Fish	Unlisted; Heritage Conservation Status Imperiled	Historic
Southern Sprite	*Nehalennia integricolli*	Damselfly	Special Concern	Current
Knotted Spikerush	*Eleocharis equisetoides*	Plant	Threatened	Current
Northern Dwarf Huckleberry	*Gaylussacia bigeloviana*	Plant	Endangered	Historic
Pale Duckweed	*Lemna valdiviana*	Plant	Endangered	Historic
Spotted Pondweed	*Potamogeton pulcher*	Plant	Threatened	Historic
FRESHWATER WATERBODY/DRY WOODLANDS		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--

General Habitat Type [1]		Species Type	NYS Legal Status (Endangered, Threatened, Rare, Special Concern)	Current or Historic
Eastern Tiger Salamander	*Ambystoma tigrinum*	Amphibian	Endangered	Current
DRY WOODLANDS		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
Packard's Lichen Moth	*Cisthene packardii*	Moth	Unlisted	Current
Small White Snakeroot	*Ageratina aromatica var. aromatica*	Plant	Endangered	Historic
PINE OAK FOREST/ACIDIC SOIL FOREST		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
**Northern Long-Eared Bat	*Myotis septentrionalis*	Mammal	Endangered	Current
Herodias or Pine Barrens Underwing	*Catocala Herodias gerhardi*	Moth	Special Concern	Current
Eastern Pine Barrens Tiger Beetle	*Cicindela abdominalis*	Beetle	Unlisted	Historic
New Jersey Pine Barrens tiger Beetle	*Cicindela patruela consentanea*	Beetle	Unlisted	Historic
Coastal Barrens Buckmoth	*Hemileuca maia ssp. 5*	Moth	Special Concern	Current
Richard's Fungus Moth	*Metalectra richardsi*	Moth	Unlisted	Current
Pink Sallow	*Psectraglaea carnosa*	Moth	Unlisted	Current
Golden Aster Flower Moth	*Schinia tuberculum*	Moth	Unlisted	Historic
TIDAL SHORELINE/OPEN AREAS		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
Swamp Sunflower	*Helianthus angustifolius*	Plant	Threatened	Historic
TIDAL WETLANDS		--	--	--
Species Common Name	**Species Scientific Name**	--	--	--
Screw-stem	*Bartonia paniculata ssp. Paniculata*	Plant	Endangered	Historic
Marsh Straw Sedge	*Carex hormathodes*	Plant	Threatened	Historic
Marsh Fimbry	*Fimbristylis castanea*	Plant	Threatened	Historic
Sea-pink	*Sabatia stellaris*	Plant	Threatened	Historic

(1) Most of the species identified above have been identified within the preserved pine barrens to the south outside the proposed Sewer District or in or along sensitive surface waters and fresh and tidal wetlands. Species Identified on, adjacent or near the proposed sewer infrastructure sites including the STP, leaching area, pump stations, and force mains that are not within a road right-of-way or that may exist in the area (e.g., NLEB) are signified by **.

Based on the prior GEIS review, the recent (12/14/2022) correspondence from NYNHP, the general locations of past species sightings and documentation, species habitat requirements, and past and recent field inspections of the area comprising the proposed Sewer District and proposed infrastructure sites, the primary species of concern associated with the proposed sewer improvements is the Northern Long-Eared Bat *(Myotis septentrionalis)* which is a New York State and federally "Endangered" mammal. The possible presence of this species on or

near the proposed STP/leaching site is based on NYSDEC documentation of the existence of a NLEB bachelor colony within 1 mile of proposed sewer facilities sites and a maternity colony within 1.25 miles of these locations, which is within the habitat range of this species.

A second rare species that has been documented by NYNHP as occurring in the area is the Atlantic Silverside *(Menidia menidia)* an Unlisted but rare fish with a Heritage Conservation Status of "Imperiled." This species was discovered in the Peconic River, a half mile west of the proposed STP in 2010.

Figure 3-5 depicts NYS Significant Coastal Fish & Wildlife Habitats (SCF&WH) located in the vicinity of the proposed Sewer District. The Peconic River and Cranberry Bog County Park SCF&WH are the only two SCF&WHs in the area. The Peconic River SCF&WH is located outside but adjacent to the Sewer District's northwest corner, west of Peconic Avenue and the Cranberry Bog County Park SCF&WH is located outside but adjacent to the proposed Sewer District's westerly boundary. NYS prepares a Coastal Habitat Assessment to determine whether a habitat complex should be included as a SCF&WH. A copy of this Assessment is provided in **Appendix I**. A summary of the Assessment is as follows:

Peconic River

- Ecosystem Rarity: The longest river on Long Island; the Peconic is a relatively large, slow moving, acidic river with a very undeveloped watershed. Unique on Long Island.
- Species Vulnerability Assessment: Tiger salamander (Endangered), banded sunfish (Threatened), eastern spadefoot toad (Special Concern), eastern hognose snake (Special Concern), spotted turtle (Special Concern), southern sprite damselfly (Threatened), coastal barrens buckmoth (Special Concern), painted bluet (Threatened), and pine barrens bluet (Threatened) present.
- Human Use: Recreational fishing for warm water species attracts anglers from throughout Long Island.
- Population Level: One of only 2 locations in the state supporting banded sunfish. One of only 4 major documented alewife spawning areas in the Peconic region.
- Replaceability: The habitat in Peconic River is irreplaceable.

Cranberry Bog County Park

- Ecosystem Rarity: The largest remaining coastal plain Atlantic white cedar swamp plant community in New York.
- Species Vulnerability: Spotted turtle (Special Concern), swamp darter (Threatened), and banded sunfish (Threatened) utilize the area.
- Human Use: No significant fish or wildlife related human uses of the area.
- Population Level: Banded sunfish *(Enneacanthus obesus)* population unusual in New York State.
- Replaceability: The habitat in Peconic River is irreplaceable.

Regulatory Conditions

The NYSDEC regulates activities within freshwater wetlands in accordance with Article 24 and tidal wetland areas through Article 25 of the NYS Environmental Conservation Law. NYSDEC's freshwater wetland jurisdiction extends 100 feet from the delineated wetland boundary, while tidal wetland jurisdiction extends 300 feet from the wetlands boundary unless the intervening land is higher than elevation 10 above mean sea level or there is a road or other barrier **(NYSDEC 1992)**. As previously indicated, both freshwater and tidal wetlands exist within the boundaries of the Sewer District, but proposed sewer infrastructure is outside of applicable regulatory jurisdictions, with the closest mapped NYSDEC or NWI wetland, a freshwater wetland, being at least 450 feet from the proposed northerly (Phase II) STP leaching area. NYSDEC also does not have tidal wetlands jurisdiction on properties with functional bulkheads built and maintained since prior to the adoption of Article 25 (1977). Moreover, existing bulkheads are located along the seaward perimeters of several properties, northeast of the CR 24 traffic circle along the shorefront of the McDonald's restaurant property, and along a property east of the Town owned parcel on the north side of Flanders Road and west of the Parkview mobile home community. A map depicting the approximate locations of both NYSDEC Article 24, "Freshwater Wetlands" and Article 25, "Tidal Wetlands" limits and approximate regulated adjacent areas are shown in **Figure 3-2**.

The Town also regulates both freshwater and tidal wetlands pursuant to Chapter 325 of Town Code. Town jurisdictional limits for areas in proximity to wetlands vary depending on the shoreline type, roads paved prior to 1993, and the type of project or activity. Town freshwater wetland regulations require permits for certain activities, developments or disturbances within 200 feet of a freshwater wetland. Generally, with tidal wetlands, if at least 100 linear feet of functional bulkhead or revetment is located on a property that has been in existence since prior to August 1993, the Town's jurisdictional limit extends 50 feet from the shoreline structure. Activities in proximity to natural shorelines are regulated within a minimum of 100 feet of the wetland boundary, and may extend to 175 feet, depending on the project type, project location, and/or the presence of rare or endangered species/communities. Pursuant to Section 325-7B(17), the installation of utilities greater than 75 feet from unbulkheaded wetland boundaries are eligible for an Administrative Wetlands Permit. Moreover, structures located greater than 25 feet from an unlined, man-made recharge basin which contain wetland vegetation, are also eligible for an Administrative Wetlands Permit, pursuant to Section 325-9 (Standards for issuing a permit) of the Town Code. Therefore, installation of the sewer mains and construction of proposed Pump House 2 will be subject to an Administrative Wetlands Permit, pursuant to Section 325-7B(12) of the Town Code.

Both the Army Corp of Engineers (ACOE) and the NYSDOS also regulate coastal areas. "Section 10 of the Rivers and Harbors Act of 1899 requires approval prior to the accomplishment of any work in or over navigable waters of the United States, or which affects the course, location, condition or capacity of such waters **(ACOE)**." Permits obtained from the ACOE include either Nationwide Permits, which provide a permit for common activities, or an individual permit, which is for activities which are not listed under a Nationwide Permit.

In conjunction with the ACOE review, the NYSDOS reviews a proposed project to determine if it is compatible with the NYSDOS' Coastal Management Program (CMP). "The federal Coastal Zone Management Act (CZMA) requires that each Federal agency activity within or outside the coastal zone that affects any land or water use or natural resource of the coastal zone shall be carried out in a manner consistent to the maximum extent practicable with the enforceable policies of approved State management programs **(NYSDOS)**." Only proposed Pump Station No. 2, which will be located north of Flanders Road adjacent to NYS's stormwater recharge basin will be located within the State's Coastal boundary.

The NYSDEC also regulates rare, threatened and endangered wildlife through Article 11 of the ECL. 6 NYCRR Part 182.8(a) states "No person shall take or engage in any activity that is likely to result in a take of any species listed as endangered or threatened in this Part, except as authorized by an incidental take permit issued by the department pursuant to this Part or as otherwise authorized as an exempt activity in section 182.13 of this Part." As indicated by the NYNHP, several threatened and endangered wildlife species are located in the vicinity of the Sewer District primarily in preserved areas in the Central Pine Barrens to the south, and in or around area wetlands and surface waterbodies. As a result, disturbance to sites that contain or may affect habitat of the endangered or threatened wildlife species would be subject to regulation under Article 11 of the ECL.

4.2 Potential Impacts

Impacts on ecological resources at a development site are the direct result of the clearing of natural vegetation and ground disturbance, increased human activity and associated wildlife stressors, and resulting loss and fragmentation of plant life, wildlife habitat and wildlife. The magnitude of impacts is commonly associated with the size and quality of the affected resource(s), the rarity of the habitat and/or plant and wildlife living within the resource, the type and scale of disturbance, and the availability of nearby habitat that can support displaced wildlife. Construction of the proposed sewer improvements will require the clearing of approximately 11.5± acres of vegetation within the Central Pine Barrens CGA and Town's APOD, near the center of the Riverside community. Approximately 8.89± acres of vegetation located within the Central Pine Barrens CGA and the Town's APOD near the center of the Riverside community, as well as an additional 2.16± acres of successional old field or successional shrublands and 0.06± acres of Successional Southern Hardwood Forest for a total estimated clearing and reduction in habitat of 11.11± acres. Flora and fauna in these areas will be affected and some wildlife may be lost.

Riverside is a relatively densely developed community center surrounded by preserved or government owned land containing tracts of pristine or high-quality natural resources, including a major freshwater river and associated estuary (Peconic River and Estuary), a freshwater stream (Little Peconic which discharges into the Peconic west of the Sewer District), freshwater and tidal wetlands, a tidal creek (outside on the east side of the Sewer District), a few small nearby freshwater ponds, and the Central Pine Barrens Core (outside the proposed Sewer District) and CGA (inside the proposed Sewer District south of Flanders Road).

The Enterprise Zone subdivision property was once used as a commercial drive-in movie theater and was almost entirely cleared at one time, including the north and east sides of the proposed STP/ leaching property, with some of this area still in a successional stage.[5] Most of the privately owned land within the Enterprise Zone subdivision is developed or pending development and will eventually be fully occupied by light industrial uses, while the remaining vacant lots owned by the Town, and adjacent land outside of the subdivision to the west, will still retain their development potential under existing zoning in accordance with adopted Town plans.

Future development under the recently enacted and codified Riverside Overlay Districts (ROD) is contingent upon having suitable sewage collection, treatment and disposal services in place, in order to protect and improve the quality of groundwater and surface water resources from both the existing development, not currently connected to sewers, and the essential future growth to meet social, economic and land use objectives. The creation of the ROD several years ago, the planned economic development, and necessary infrastructure are proposed, as previously noted, in furtherance of existing zoning policies supporting the health, safety, and general welfare of the community. This development will support economic growth, new business development, removal of blight and affordable housing opportunities. It will generate new temporary construction jobs and future permanent employment opportunities and provide social and economic benefits.

Table 4-4 provides an assessment of current and future habitats within the proposed Sewer District between existing conditions and development under the previous 2015 GEIS's Theoretical Development Scenario with the necessary sewer improvements to support it.

Table 4-4
SEWER DISTRICT HABITATS – EXISTING CONDITIONS VS. THEORETICAL DEVELOPMENT SCENARIO WITH PROPOSED SEWER INFRASTRUCTURE

Habitat Type	Existing Conditions		Proposed Sewer Infrastructure		District Theoretical Buildout with Proposed Sewer Infrastructure		Total Change Existing to Full Future Buildout (Acres)
	Area (Acres)	Percent of Study Area (467.5± Acres)	Area (Acres)	Percent of Study Area (467.5± Acres)	Area (Acres)	Percent of Study Area (467.5± Acres)	
Pitch Pine-Oak Forest	101.5±	21.7%	8.89±	28.9%	71.6±	15.3%	-29.9
Maritime Oak Forest/ Successional Southern Hardwood Forest	31.9±	6.8%	0.06±	0.19%	25.8±	5.5%	-6.1
Successional Old	7.1±	1.5%	2.16±	7.01%	0	0	-7.1

[5] Based on a 1961 aerial photograph showing SCTM District 900; Section 141; Block 1; and Lots 9.17, 9.25, 9.29, 9.30 and a small portion of the east side of 9.32 as cleared

Habitat Type	Existing Conditions		Proposed Sewer Infrastructure		District Theoretical Buildout with Proposed Sewer Infrastructure		Total Change Existing to Full Future Buildout (Acres)
	Area (Acres)	Percent of Study Area (467.5± Acres)	Area (Acres)	Percent of Study Area (467.5± Acres)	Area (Acres)	Percent of Study Area (467.5± Acres)	
Field or Successional Shrubland							
Maritime Heathland	3.7	0.8%	0	0%	3.7±	0.8%	0
Freshwater Wetlands	12.6	2.7%	0	0%	12.6±	2.7%	0
Tidal Wetlands	7.0	1.5%	0	0%	7.0±	1.5%	0
Subtotal	**163.8**	**35.0%**	**11.11±**	**36.1%**	**120.7±**	**25.8%**	**-43.1**
Suburban(1)	303.7	65.0%	19.66±(2)	63.9%	346.8±	74.2%	+43.1
TOTAL	**467.5**	**100.0%**	**30.77±**	**100.00%**	**467.5**	**100.0%**	**---**

(1) Suburban land is developed land that includes buildings, streets, driveways, parking areas, sidewalks and landscaping.

(2) This area includes paved and other impervious surfaces, non-paved drive area and landscaping. A total of 17.7± acres are existing streets where mains will be installed, 1.77± acres consisting of the new STP, associated driveways and parking, the new section of Enterprise Zone Drive and other impervious surfaces. 0.12± acres comprise existing landscaping to remain on infrastructure sites, and 0.06± acres are existing bare ground. Disturbance within streets will be temporary, and these areas will be repaved after installation resulting in no significant net change in land surface cover in ROWs.

As shown above, a total of 11.1± acres of existing natural habitats will be cleared due to the proposed sewer improvements and when combined with the Theoretical Development Scenario or full future buildout including the proposed sewer infrastructure, a total of 43.1 acres of vegetated area will be impacted or 29.9 acres of highly fragmented lower quality periphery Pitch Pine-Oak Forest will be lost. The Town will seek a Hardship Exemption from the CPBJPPC so that the necessary social and economic investments can be made, and the health, safety, and general welfare of the community can be improved. Most of the remaining woodlands in the proposed Sewer District, excluding land that has been preserved for open space and environmental protection consists of small, dispersed pockets of natural growth around private residential or commercial lots, as well the relatively larger but still fragmented contiguous area within the central portion of the Sewer District on the west side of the Enterprise Zone Industrial Subdivision. This includes the proposed STP facility and adjacent private vacant land where easements will be secured for future force main installation and anticipated future private development that will also require clearing.

Impacts on wetlands associated with the proposed sewer infrastructure are not expected and impacts from buildout as previously noted in the original GEIS are anticipated to be minimal as current SCDHS, State and Federal regulations prohibit or significantly restrict disturbances to wetlands. Overall, some environmental benefits are expected in terms of wetlands, surface waterbodies, and groundwater by dramatically improving the level of sewage treatment where hundreds of septic systems are currently and allowing for necessary but cleaner new development, thereby minimizing impacts from sanitary disposal.

As a result, impacts associated with future development in areas that have been cleared in the past and that now contain invasive, nonnative and non-pine barrens habitats are expected to be relatively small with minor impacts associated with the proposed STP/leaching site. **Sections 5.2, 5.3, and Appendix J** address clearing and clearing restrictions associated with the Central Pine Barrens area within the Study Area (ROD and Sewer District) **(Figure 3-12)**, identifies measures to limit clearing of higher quality habitat, and provides mitigation measures. See also **Section 4.3** below.

Impacts on common local wildlife will result due to clearing of sewer facilities and future anticipated growth, resulting in the temporary or permanent displacement of wildlife in that area. As indicated in **Section 4.1**, as the proposed Sewer District is largely developed, wildlife anticipated to utilize the area are those that are typically adapted to or tolerant of suburban environments. As such, wildlife utilizing the vacant wooded areas within the Sewer District and on the proposed Sewer infrastructure site are expected to adapt to the suburban environment or relocate to the expansive natural areas outside of the Sewer District in the Central Pine Barrens and various parks and reserves. It is noted that the Study Area is surrounded to the south and southeast by thousands of acres of high-quality habitat in the form of woodlands, ponds, streams, creeks, and wetlands which have already been acquired by the Town, County, State, and private land preservation groups and been dedicated for open space preservation in perpetuity. These off-site areas provide significant opportunity for wildlife relocations, although some wildlife may be lost due to habitat competition. As a result, impacts to wildlife as a result of the proposed Sewer District, sewer infrastructure, and economic growth are expected to be minimal.

As described in **Section 4.1**, six significant habitats or ecosystems and 49 rare, threatened or endangered plants and animals are or have been documented as existing or been present in the past in or near the proposed Sewer District. To determine the potential presence of these species and the chances for future adverse impacts, site specific field inspections and ecological inventories were performed at each infrastructure site including the locations of the proposed STP, Phase I and Phase II leaching areas, pump stations, and force main and gravity main locations. Of the 49 plant, insect and animal species, the only species of concern for the proposed infrastructure sites is the endangered Northern long-eared bat (NLEB), which has been documented as having a bachelor colony within one (1) mile of proposed infrastructure facilities and a NLEB maternity colony which is 1.25 miles of proposed infrastructure, since NLEBs have a habitat range of up to 1.5± miles. See also **Section 9** "Alternatives" for a discussion of rare species near the Alternative Constructed Wetlands near the northeast end of the proposed Sewer District. As indicated in **Section 4.3** below, mitigation may be required if species are identified on a particular development parcel to avoid, minimize or mitigate the impact from development within or in proximity to rare, threatened or endangered species. This includes restricting clearing of potential roost habitat between December 1 and February 28. Sites or parts of sites that are not conducive to use by the NLEB may allow clearing outside of the restricted period based on Habitat Assessment.

NPV ecologists and environmental specialists conducted site inspections and inventoried flora and fauna on and adjacent to areas that will be disturbed by the proposed sewer improvements. Site inspection revealed the following:

Rare species
NPV environmental scientists visited the sites of the proposed sewer facilities to inventory flora and fauna, identify habitat types and determine the sites' suitability as habitat for the NLEB and other species. Based on this review it was determined that approximately 11.98± acres at the STP and leaching area site consists of vegetative conditions that may provide potentially suitable NLEB foraging habitat, but no roosting opportunities, since the area was previously cleared. The remaining 40.73± acres of the Project Site including pump station locations, force main areas, etc. do not contain suitable NLEB roosting habitat and provides limited foraging or unsuitable foraging habitat for NLEB, with understory overgrown with dense vegetation. Based on this review, NPV recommends that clearing at the STP/leaching area site be restricted to the clearing window established by NYSDEC (between December 1 and February 28 of any year) and that required coordination occur with NYSDEC prior to clearing.

4.3 Mitigation

- Clearing on the northerly (Phase II) sanitary leaching area located on the former Five Towns property should remain in its existing condition until such time that Phase II sewering is needed. This will protect the integrity of this section of pitch pine-oak forest and preclude clearing and disturbance if additional leaching area is not needed in the future.
- Disturbed areas at and around the proposed STP facility and pump stations shall be developed and seeded or planted as soon as possible after disturbance using non-invasive native or well adapted species that require minimal maintenance if and where native species is not practical. Where possible consider using species identified in Figure 5-2, "Planting recommendations" of the Central Pine Barrens Comprehensive Land Use Plan and avoid planting invasive species identified in the same table under "Invasive, nonnative plants specifically not recommended" or those species identified in NYSDEC and NYSDAM's 2014 "New York State Prohibited and Regulated Invasive Plants".
- Clearing will be restricted at the STP/leaching facility site except between the December 1 and February 28 of any given year to prevent impacts to possible NLEBs in the area. Coordination with NYSDEC is required prior to clearing.
- Consider preserving the recently Town-acquired lots located adjacent to the east of the northeast corner of the proposed Sewer District (SCTM Lots 900-119-1-26.1 and 900-118.01-1-32) and totaling 40.3± acres for open space and wildlife conservation if the Constructed Wetlands alternative is determined to not be viable or is not preferred (see **Section 9**, Alternatives).
- Seek NYSDEC freshwater wetlands permits for installation of sewer mains along rights-of-way within the upland area/jurisdiction of NYSDEC.
- Seek Town Administrative Wetlands Permit for installation of the proposed sewer mains and construction Pump House 2.

- The proposed sewer facilities will allow development, redevelopment and additional development density within the Riverside Sewer District. Future development or redevelopment within the Sewer District shall comply with all applicable environmental mitigations, standards and requirements identified in the adopted December 22, 2015 GEIS Findings Statement for the Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan and Zoning Map and Code Amendments.

SECTION 5.0
CRITICAL ENVIRONMENTAL AREAS

5.0 CRITICAL ENVIRONMENTAL AREAS AND OTHER REGULATED ENVIRONMENTAL DISTRICTS AND RESOURCE PROTECTION PLANS

5.1 Existing Conditions

5.1.1 Critical Environmental Areas

The portion of the proposed Sewer District located south of Flanders Road (SR 24), including the proposed STP and associated leaching area, pump stations 1, 3 and 4, and force mains and gravity mains, is within a Central Pine Barrens Compatible Growth Area (CGA) and the Town's Aquifer Protection Overlay District (APOD) **(Figures 3-12 and 3-13)**. Parts of the proposed sewer district also contain Town and State NYSDEC regulated freshwater wetlands and associated upland adjacent areas[1] that are currently subject to regulatory review by the Town pursuant to Chapters 157 ("Environmental Quality Review") and 325 (Wetlands) of the Town Code and NYSDEC pursuant to Article 24 ("Freshwater Wetlands") of the State of New York's Environmental Conservation Law **(Figure 3-2)**. However, the proposed STP, subsurface leaching area, and pump stations will be suitably setback from regulated wetlands. The CGA, APOD, and NYSDEC freshwater wetlands and their adjacent upland areas are each classified as "critical areas" under §157-10 of the Southampton Town Code. Designation as a critical area by the Town, as authorized by SEQRA §617.14 (g) requires that all actions occurring within the boundaries of the critical area that are subject to SEQRA be classified as Type I actions. "Critical Environmental Areas" (CEAs and the Town's CAs) also have the distinction of triggering a requirement that involved agencies consider the potential for impacts to these areas when making Determinations of Significance under SEQRA and determine in a written Findings Statements whether consistent with social, economic and other essential considerations among the reasonable alternatives available, significant adverse environmental impacts on the environment are avoided or mitigated to the maximum extent practicable.

The area south of SR 24 is also located within the Long Island Regional Planning Board's Central Suffolk (South) Special Groundwater Protection Area (SGPA) which is classified by the NYSDEC as a CEA. As with the Town, the County also considers the Long Island Central Pine Barrens to be a CEA.

The area north of SR 24 borders the County's "Peconic Bay and Environs" CEA, which includes the lower Peconic River, Flanders Bay and the greater Peconic Estuary and are designated by the County as "Critical Environmental Areas." NYSDEC tidal wetlands and marshlands, which are

[1] "Adjacent area" means those areas of land or water that are outside a wetland and within 100 feet (approximately 30 meters), measured horizontally, of the boundary of the wetland. The Department may establish an adjacent area broader than 100 feet (approximately 30 meters) where necessary to protect and preserve a wetland, as set forth in subdivision 24-0701.2 of the Act and pursuant to Part 664.

not considered CEAs, are also present along the River, particularly near the northeasterly boundary of the proposed sewer district where there is a small tidal creek. These wetlands and the tidal creek to the east are, however, included in the Peconic Estuary and Environs CEA.

Freshwater wetlands are present in the District north of SR 24. See Section 14, "Alternatives" of this DEIS for an assessment of potential impacts on wetlands from constructed wetlands which is evaluated as an alternative to subsurface leaching pools at the STP site.

5.1.2 Other Regulated Environmental Districts

Sections of the Peconic River are classified as New York State Wild, Scenic and Recreational River (WSRR) areas and a small portion of the proposed sewer district is in a WSRR "Recreational" area. The State's WSRRs are not classified as CEAs, *per se*, but are nevertheless, identified as environmental resources of great value with attributes that should be protected. In addition, the west side of the proposed Sewer District is within a WSRR "recreational" area **(Figure 3-4)**. This includes that area west of Riverhead Moriches Road/ Lake Drive (CR 63) containing the "Peg's Lane" residential subdivision, and a small area on the east of CR 63 on the south side of Maynard Avenue. The STP, leaching area, and each of the pump stations are outside this area. Only gravity mains will be installed within the road right-of-ways, within the WSRR. The above CEAs and WSRR areas focus primarily on the protection of critical or highly valued surface water resources; however, ecological considerations are also paramount within these resource areas.

As previously noted, despite its location along a tidal section of the Peconic River, the proposed Sewer District is not currently within an approved Local Waterfront Revitalization Program (LWRP) Area but the area north of SR 24 the Town's Water Protection Boundary established pursuant to the 2016 "Southampton Town Water Protection Plan" (WPP) which is considered an LWRP under the State Coastal Zone Management Program. The only proposed sewer facility within the WPP area is Pump Station No. 2, which will consist of a 1,225± SF pre-cast concrete structure, a pump station generator, and the subsurface piping that connect to the collection system (see also alternative constructed wetlands discussion in **Section 9** of this DEIS). Pump Station No. 2 and required piping to this facility will be located within the southern boundary of the WPP. The north side of SR 24 is also within New York State's Coastal Boundary and may require additional review for coastal consistency. The proposed STP, leaching area, pump stations and associated facilities are *NOT* within any State designated Coastal Erosion Hazard Area (CEHA) and are *NOT* within or adjacent to any delineated New York State Significant Coastal Fish and Wildlife Habitat.[2]

[2] The closest New York State Significant Coastal Fish and Wildlife Habitat Area is located west and upstream of Peconic Avenue.

5.2 Potential Impacts

5.2.1 Critical Environmental Areas

Potential impacts from the proposed sewer improvements on CEAs (APOD, CPBOD/Central Pine Barrens Compatible Growth Area, NYSDEC freshwater wetlands and adjacent areas, Central Suffolk SGPA and Peconic Estuary and Environs) require an assessment of project consistency with the standards, guidelines, and resource protection goals of those CEAs in context of the proposed action and the buildout under the prior GEIS's Theoretical Development Scenario. Resource protection goals of the CEAs seek to avoid significant impacts related to the removal of native vegetation, loss or degradation of wildlife habitat, harmful land disturbances, pre- and post-development activities, and activities that may generate pollutants that could degrade the quality of surface waters, wetlands, and groundwater, if potential impacts are not avoided or suitably controlled. Potential impacts related to clearing, grading, excavation, backfilling, stormwater runoff and treated wastewater discharges, and construction and maintenance activities, can all be properly managed through judicious planning and engineering and compliance to the numerous existing environmental laws that are currently in place. Compliance is guided by the conditions of all required permits and approvals, implementation of identified mitigation strategies and consistency with standards and restrictions identified by the SEQRA Findings Statement for this Action, and oversight by involved agencies. The following is an assessment of the Proposed Action in consideration of each CEA and other pertinent environmental districts and plans.

Aquifer Protection Overlay District

Article XIII of the Town of Southampton Zoning Code discusses the purpose and intent of the Town's Aquifer Protection Overlay District (APOD) **(Figure 3-13)** and identifies the issues and supplemental standards beyond the underlying zoning district's land use and dimensional requirements that must be adhered to in this zone. In short, the overriding purpose of the APOD is to ensure a safe and sustainable drinking water supply for existing and future generations. The APOD seeks to accomplish this goal by seeking consistency with several general land and resource management standards and guidelines:

- Clearing restrictions. Clearing is to be limited to 50 percent of a property on which a nonresidential and multifamily residential development, excluding planned residential developments with attached housing, is proposed.[3]

[3] Section 330-69.2 of the Southampton Town Code indicates that the Town Board may alter or waive the provisions of this subsection where an affordable housing project otherwise would meet the provisions of the Town Code and a revegetation program which protects the aquifer is incorporated into the project design.

APOD standards and restrictions apply only to those actions and activities that will be conducted south of SR 24, including construction of the proposed STP, onsite leaching areas, and pump stations and installation of force and gravity mains. The primary issue is compliance to clearing restrictions as it relates to construction of the proposed STP and leaching areas, pump stations and some of the force mains, but does not include any activities or disturbances north of SR 24 such as the contemplated alternative constructed wetlands, piping and pump stations north of SR 24, or installation within existing roadways. Sewer mains will be installed primarily within previously disturbed street rights-of-way that are paved and/or in paved and unpaved shoulders that have been disturbed in the past to provide space for road grading and construction, drainage, utility installation, and to ensure a safe and unobstructed right-of-way for vehicles, bicyclists and pedestrians. Vegetive overgrowth such as tree limbs and brush in these areas are also periodically trimmed or removed to ensure public safety, unimpeded pedestrian, bicycle and vehicle passage, emergency breakdown space, and/or utility access as applicable. Much of the ROD and proposed sewer district have been cleared and disturbed and natural resources in this area have been largely diminished or degraded by development. The natural woodlands that remain in the ROD/proposed sewer district are relatively limited, greatly fragmented, are of lesser quality due to past disturbances and revegetation with non-native plants or are within publicly owned parklands and preserves. Much of the land that is currently forested is located north of SR 24 and east of Peconic Avenue, including State and Town-owned land, and is outside of the APOD. The proposed STP and leaching area are also located on land that was at least partially cleared in the past based on aerial photographs back to 1962,[4] affected forest areas are significantly fragmented, and the STP and leaching area sites are located near the periphery of the APOD. The proposed STP and associated facilities are essential to not only meet critical social and economic needs of the area but will significantly advance the APOD's goal of protecting groundwater resources by maximizing the level of wastewater treatment prior to release to the environment. Most of the previously cleared parts of the site, however, have revegetated naturally and are in varying states of succession. An adjacent privately owned 12.4-acre lot to its west (SCTM#: 900-139-3-10.2 and 900-139-3-23), where a force main is proposed from east/ west across the property, would also have to be partially cleared for main installation, but this would be minimal and well within the maximum 50 percent clearing standard.

The 11.45±-acre STP and leaching site is mostly vegetated with areas of previously cleared successional growth on Lots 9.17, 9.29, 9.30, and most of 9.25. Total anticipated clearing within the APOD from all proposed sewer improvements including pine barrens

[4] This aerial photograph shows almost the entire Five-Towns property (900-141-1-9.17) as cleared, half of 900-141-1-9.25 and a small portion of 900-141-1-9.32. In later years, an additional portion of 900-141-1-9.25 was cleared along with early all of 900-141-1-9.29 and 9.30 were cleared.

and other existing coverages south of SR 24 (excluding clearing needed for Pump Station No. 2 and existing cleared areas where improvements are proposed) is 11.0± acres. The portion of Enterprise Zone Drive that will be removed will be revegetated with pine barrens vegetation, except any areas that must be left clear to accommodate access or critical functions of the facility such as leaching. This will help to offset the impacts of clearing, protect or enhance natural resources, and provide greater compliance with APOD and Central Pine Barrens standards.

The Enterprise Zone subdivision required a 50-foot perimeter buffer around the property to provide buffers and retain some woodlands. The proposed project as a critical public infrastructure project will maintain a 25-foot vegetated buffer around the perimeter of the STP and leaching area to support essential operations. Again, while the proposed project will have an impact on low quality pine barrens, the proposed sewer improvements will provide an overall benefit not only to groundwater resources in the APOD but also local surface water resources (Peconic River and Estuary) by reducing nitrate concentrations and other wastewater pollutants, while meeting critical land use, social and economic needs.

One property in the APOD that is not publicly owned, preserved, fragmented or otherwise disturbed which currently contains native woodlands is SCTM No: 900-139-3-10.2. This long and narrow 12.5-acre parcel is located near the center of the ROD and proposed sewer district and extends from SR 24 to Old Quogue Road. However, based on a review of the conceptual redevelopment plans for the area, only a portion of this property, i.e., that portion near its middle which is adjacent to the west of the Enterprise Sone subdivision and contains pine barrens, would be developed under the prior GEIS's Theoretical Development Scenario and crossed by an underground force main that would connect to the proposed STP. The northern and southern ends of this lot are expected to remain relatively untouched to help meet pine barrens objectives and the proposed force main leading to Old Quogue Road will be purposefully located within an unimproved "paper" street. In addition, based on the type of improvements proposed, most of the collection system and force mains will be within or along existing improved road rights-of-way and pump stations within the APOD are purposefully sited in areas that have been previously cleared. Maintaining some natural areas in the ROD and sewer district is important in order to provide consistency with APOD (and CPBOD) guidelines, as well as to protect groundwater; therefore, efforts will be made to clear only what is needed to construct the proposed STP and accommodate essential infrastructure. ***Figure 3-12*** *shows existing woodlands in the proposed Sewer District that are within the Central Pine Barrens.*

Anticipated clearing within the APOD under the Theoretical Development Scenario was estimated to be 180.85± acres or 70± percent of the proposed Sewer District which is

estimated and described in detail in the Riverside Hamlet Central Pine Barrens Analysis provided in Appendix G of the original DGEIS. Therefore, based on the preceding, and the referenced clearing report, it is expected that the future development under the Theoretical Development Scenario including proposed sewer improvements at the STP facility will exceed current APOD/CPB CGA standards. It should also be noted that the primary areas for future concentrated development are nearest the traffic roundabout at the south end of Peconic Avenue in areas that are previously subdivided, include smaller lots that have been subject to prior development and/or disturbance. The Enterprise Zone subdivision, which together with the 12.5-acre lot adjacent to the west, is the only Pine Barrens Development Rights Receiving Area in the proposed Sewer District ***(Figure 3-12)*** *would also not meet APOD or CPB CGA clearing standards.*

The level of clearing needed to provide the development density and infrastructure necessary to fulfill community objectives may necessitate exercising the policy related to previously disturbed areas and/or some level of relaxation of the clearing standard along with suitable mitigation such as retention of open space in or near the Sewer District as discussed in Appendix G of the original GEIS. Section 330-69-4 E. of the Southampton Town Code, which is discussed further at the end of this subsection, allows the Planning Board to relax APOD standards where the applicant has proven that there is a practical difficulty in meeting these regulations and that environmental considerations are still satisfied to the maximum extent possible. It should be noted that using the Town land to construct an STP and leaching area is expected to have an overall positive affect on groundwater and surface water quality if existing and future developments in the area connect to the STP. Moreover, as noted in §617.1(d) of SEQR, "it is the intention of [Part 617] that a suitable balance of social, economic and environmental factors be incorporated into the planning and decision-making processes of state, regional and local agencies. It is not the intention of SEQR that environmental factors be the sole consideration in decision-making." In the case of Riverside, the Town and community have determined that the economic growth and revitalization of the area is critical to the long-range social and economic needs of this community, and these needs along with the need for environmental protection are essential to long-range community health and sustainability.

A series of mitigation strategies have been developed to offset any disparity between this standard and the anticipated condition and to balance important social and economic considerations. A report outlining the analysis and recommendations regarding over-clearing based on the prior Theoretical Development Scenario are available for review in Appendix G of the original DGEIS and summarized in the Mitigation section ***(Section 5.3)*** *of this SDGEIS. See also discussion of CPB Standard "5.3.3.6.1" in the next subsection.*

- Limitations on fertilizer-dependent land uses. Fertilized vegetation shall not exceed 15 percent of the area of a lot within the APOD. Fertilized vegetation on a tract shall not exceed 20,000 square feet, except if said fertilized vegetation is in accordance with a landscape plan approved by the Planning Board. Said landscape plan shall clearly indicate the proposed landscaping, as well as the anticipated amount (in pounds per square feet) of fertilizer which will be applied.

  Future development in the ROD will comply with a 15 percent fertilizer dependent vegetation restriction as stated in the 2015 GEIS Findings Statement. Fertilization of the STP site, pump station areas or sewer main rights of way within the APOD (and CPB CGA) are not considered necessary. This is consistent with the Central Pine Barrens CLUP and is also consistent with the goals of the Town to reduce fertilizer dependent vegetation to the maximum extent. As far as sewage leaching areas, these locations will have to remain pervious and stabilized with groundcover vegetation such as native or other adapted grasses that do not have deep and extensive root systems. Grass and other groundcovers should be native or well enough adapted to eliminate the need for periodic irrigation, fertilization, or constant care, but naturally assimilates into the character of the pine barrens such as Pennsylvania sedge, little bluestem and Indian grass that will require as little maintenance as possible except for occasional mowing (See Figure 5-2 of the CLUP for native pine barrens planting suggestions). Landscaping or site restoration and stabilization after clearing and construction will consist largely of, if not entirely of, native or well adapted non-invasive species that will require very little if any fertilizer, pesticides, or irrigation. Some initial fertilization and irrigation may be necessary on 15 percent or less of future development sites or less than 20,000 SF, as applicable, in order to establish landscaping or restore areas to natural or more natural conditions. Once landscaping is established or native vegetation is restored it is not expected that significant, if any, demand for these inputs will be required. Applicants for future private site developments in the Sewer District will work with the Town Planning Board and staff to ensure compliance to the required limits of clearing and to identify acceptable plant species for landscaping and/or plant restoration that is suitable for the APOD. Species listed in the "Recommended native plants" section of Figure 5-2 of the CLUP are acceptable. Those listed in the "Invasive, nonnative, plants specifically not recommended" section of Figure 5-2 are unacceptable.

- Prohibitions against the establishment of waste disposal areas.

  The Proposed Action does not involve the establishment of any new solid waste or hazardous waste disposal areas. Future development and construction of the proposed STP and associated capital infrastructure under the proposed zoning does not involve the direct disposal of solid waste or hazardous materials in the proposed Sewer District and

existing environmental laws prohibit such activities. The types of land uses permitted in the ROD and proposed Sewer District are not considered to be uses that are typically associated with the use, handling, storage or disposal of significant volumes of hazardous materials thereby reducing the risk of accidental release of pollutants and significant environmental damage.

The current project does, however, involve construction of an STP and adjacent leaching area in but near the outer limits of an APOD and Compatible Growth Area within the center of a small relatively densely developed community. The STP would provide secondary and tertiary-level treatment of existing and future sanitary wastes and ultimate leaching of clean wastewater into the ground adjacent to the proposed STP. Since discharge to the existing Riverhead Sewer District is not an option[5], it is essential to locate a wastewater treatment facility and designate a discharge area if the goals of revitalization and economic development as outlined in the RRAP are to be realized. The prior DGEIS and other studies considered this need and preliminary identification of prospective sites occurred during the previous studies and GEIS review. Suffolk County formerly prepared a wastewater feasibility report for the Riverside area, and further consideration of potential sites within the Study Area/Sewer District were outlined in Section 14.0, Alternatives, of the prior GEIS, specifically 14.3, Sewage Treatment Plant Options. As indicated in that GEIS, any such installation is required to meet various design criteria, setback constraints and siting requirements pursuant to the applicable regulations as well as compliance with SCDHS and SCDPW requirements unless there is a demonstrated hardship and variance or exemption. As stated in the previous GEIS, treatment and disposal options and locations:

> *must be studied in greater detail to identify the option that is most viable and will ensure an adequate level of environmental protection to receive the necessary permits. Depending on funding, land availability, development phasing or other factors, once a site is selected, setback and/or other design criteria will be evaluated for conformance and if necessary, may need to seek relief by demonstrating the benefits of such facilities including how such facilities can protect the environment and demonstrate that a significant environmental impact will not occur. Connecting to an STP has the benefit of providing advanced sewage treatment rather than continued use of individual cesspools and septic systems on small substandard lots (pursuant to Article 6 of the Suffolk County Sanitary Code) as is currently the case in the Hamlet.*

[5] See **Section 9**, **"Alternatives,"** and **Appendix L** for the June 28, 2022 letter from the Riverhead Sewer District Superintendent.

The current analysis involves slight adjustments to the siting of the proposed STP and leaching area to meet multiple objectives including:

1. Maximizing the use of areas with slightly greater depths to groundwater;
2. Siting the facility to maximize the groundwater time of travel from the leaching area to the Peconic River;
3. Adjustments that help to optimize space that was previously cleared as well as a small section of roadway, thereby minimizing clearing;
4. Locating the facility on Town owned land that is centrally located within the Sewer District, is large enough to fully accommodate the facility, and includes a layout that fully accommodates the proposed capital improvements, while complying with SCDHS setbacks.
5. The proposed STP plan seeks to minimize potential adverse environmental impacts to the maximum extent practicable, while providing a variety of social, economic, and environmental benefits.

- Classification of APOD areas as "critical environmental areas" under §157-10 B. (1) of the Southampton Code and 6 NYCRR Part 617 §617.14 (g) of SEQRA.

  The Proposed Action involves the construction of essential capital improvements needed to guide and support future development and economic growth in areas identified as CEAs by the Town of Southampton, while reducing potential impacts on ground and surface water resources. In consideration of the area's status as a CEA, and the thresholds under SEQRA, Section 617.4 (b), "Type I actions," the subject Action is identified as a Type I action with the presumption that one or more potential adverse impacts is possible from the construction and operation of the proposed facilities. As such, this full SGEIS and the original GEIS have been prepared in conformance with 6 NYCRR Part 617 (SEQRA) and have examined the potential for impacts to this and other CEAs, including the construction and operation of the proposed STP and associated facilities and future development and activities that will be supported by the STP and Sewer District. Any and all significant impacts to CEAs based on the details of the currently Proposed Action are therefore identified and assessed by this SDGEIS and will be addressed in the Town's Statement of Findings and final Determination of Significance at the end of the SEQRA process.

- Compliance with Chapter 247, "Open space," for subdivisions and site plans in the APOD that are zoned CR-200, CR-120, CR-80, CR-60, CR-40, R-120, R-80, R-60, R-40 and R-20. Multifamily and nonresidential development must include the preservation of 50 percent of the property. Section 247-3 of the Code empowers the Planning Board to

require the use of this article where it would benefit the Town, but it is not compelled to require the implementation of this provision.

The Proposed Action (sewering) involves the construction and operation of an STP, leaching areas, pump stations, and associated facilities supporting the Theoretical Development Scenario evaluated in the prior GEIS and does not increase the total development potential of the ROD beyond that which was previously considered. Instead, the Proposed Action is one of the most effective and foundational mitigative techniques identified by the prior GEIS to minimize impacts on water resources from existing and future development, while supporting critical social and economic policies to address them.

The overlay zones comprising the ROD are not strictly residential zones but are underlain by one of the Town's standard zoning districts. Existing (underlying) residential zones in the proposed Sewer District that may be subject to consideration under the open space provision should subdivisions or site plans be proposed in the future, and if the Planning Board was to find it beneficial to preserve such space, include those properties located within the CR-40 and R-20 zoning districts.[6] *The CR-40 zone in the proposed Sewer District is already preserved as it is contained within part of the David A. Sarnoff Wildlife Preserve, and is zoned RPL (Riverside Parkland) under the new ROD, which does not provide for land development, and thereby eliminates the need for further open space preservation as an overlay district. Furthermore, the portion of the R-40 zone in the Sewer District is already developed with numerous single-family homes, and as a result, is very unlikely to be acquired, assembled and remerged for the purposes of future subdivision or site plan development.*

As far as the site of the proposed STP and leaching areas, these facilities will be located in a Pine Barrens Development Rights Receiving Area which was intended to be developed with additional density rather than preserved but will provide the essential infrastructure to support new growth in the proposed Sewer District per the prior approved RRAD and ROD. Based on the preceding assessment, as well as the fact that the area is largely disturbed, densely developed, highly fragmented, with most of the largest and environmentally sensitive lots being owned by the Town, and the enormous open space reserves adjacent to the proposed Sewer District, it is very unlikely that this open space standard would be invoked by the Town in the Sewer District.

As previously mentioned, the above standards must be complied with except as outlined under Section 330-69-4 E. of the Southampton Town Code which states that the provisions of [Article

[6] Note: Land located within the ROD that is zoned R-80 is outside of the APOD and significant open space is already preserved in this area.

VIII] including the standards and regulations summarized in the first three bullets above, may only be modified by the Planning Board after due consideration is given to a site disturbance plan, as provided in Section 330-67A(1) of this chapter, and where the applicant has proven that there is a practical difficulty in meeting these regulations, and that environmental considerations are still satisfied to the maximum extent possible.

Town Central Pine Barrens Overlay District and Central Pine Barrens CGA

The 1993 Long Island Pine Barrens Protection Act, 1996 Central Pine Barrens Comprehensive Land Use Plan (CLUP), and the Plan's stewards, the Central Pine Barrens Joint Planning and Policy Commission (CPBJPPC), consider the protection of groundwater recharge areas, surfaces waters, wetlands, open spaces, recreational resources, agricultural resources, and rare plants, animals and wildlife habitats within the pine barrens and Pine Barrens-Peconic Bay system to be of paramount importance. The CPBJPPC has the authority to review certain actions proposed within the Central Pine Barrens to ensure that they are consistent with the CLUP and sensitive resources are protected for future generations or to grant an exemption from CLUP policies.

The Town's Central Pine Barrens Overlay District (CPBOD) was enacted to implement the CLUP, and to address Town and regional goals for protecting the Core Preservation Area while allowing for a balance between economic growth and environmental protection in the CGA. Since the Town's framework of standards and policies are specifically designed to implement the standards and guidelines of the CLUP and the boundaries of the areas as depicted in **Figure 3-12** are contiguous, the two sets of standards and guidelines will be considered together in this subsection. Since the Town's standards must be at least as stringent as the CLUP's enumerated standards and policies, this review will focus on the Town's CPBOD requirements but will identify any differences between the two and reference the corresponding CLUP "standard"[7] (by signifying "**S**" and policy reference number) or "guideline"[8] (by signifying "**G**" and the policy reference number) so as to prevent unnecessary redundancy.

It should be noted that the CPBJPPC is an involved agency as it has review authority over certain aspects of the Proposed Action. Through coordination with the CPBJPPC staff, it has been determined that the Proposed Action will be reviewed as a "Hardship Exemption" as defined by the CLUP Volume 1, Section 4.5 while the Town's standards for development in the CGA are enumerated under Section 330-220 of the Southampton Town Code. The standards and guidelines of the CPBJPPC and Town of Southampton are as follows:

[7] "Standards" are to be implemented, and are enforceable, by municipalities, municipal agencies and the Commission, or any other agency with enforcement powers within the Central Pine Barrens. Discretionary decisions regarding standards are to be made by the Commission, under the provisions set forth in Volume I, Chapter 4 of the CLUP.

[8] Guidelines are to be utilized by municipalities and municipal agencies with discretionary decisions determined at the municipal level, unless a project is before the Commission due to its location within a Critical Resource Area, because it is a Development of Regional Significance or because there was an assertion of jurisdiction as described in Volume I, Chapter 4 of the CLUP.

(1) All development subject to Article 6 of the Suffolk County Sanitary Code shall meet the applicable requirements of the Suffolk County Department of Health Services.
The CLUP adds that: projects which require variances from the provisions of Article 6 shall meet the requirements of the Suffolk County Department of Health Services' Board of Review in order to have been deemed to have met the requirements of this standard. (CLUP **S**-5.3.3.1.1, "Suffolk County Sanitary Code Article 6 compliance")

Article 6 of the Suffolk County Sanitary Code addresses the need to ensure that adequate sewage treatment facilities and drinking water supplies are available to realty subdivisions, site developments, and other construction projects. The Sanitary Code does this by establishing "maximum density load" standards for each County groundwater management zone and once a project exceeds a maximum density load per acre threshold, it prohibits the use of individual on-site sanitary systems and requires connection to a community sewage system that is approved by the SCDHS Board of Review. Similarly, Article 6 requires connection to a public water supply under certain circumstances, such as instances where facilities are available or in close enough proximity to be reasonably accessible by the development, when parcels in a subdivision are less than 40,000 SF, where the local water supply is non-potable, or where wells with fresh water have yields of less than 5 gpm. Article 6 restricts flow from septic systems to 600 gpd/acre or a 40,000 SF lot size north of SR 24 and 300 gpd/acre or 40,000 SF south of SR 24.[9]

The projected volume of wastewater generated under the ROD triggered the need for most, if not all, future uses and redevelopments to connect to the STP. The proposed STP will be a state-of-the-art membrane bio-reactor (MBR) or sequencing batch reactor (SBR) (preferred), in accordance with the final Technical Design report, with the treatment capacity to provide tertiary level treatment for as much as 800,000 gallons per day upon full buildout conditions including advanced nitrogen removal to minimize nitrogen related impacts on groundwater, wetlands and surface waters. The project also provides opportunities for numerous lots with substandard onsite sanitary systems to connect to the system for tertiary level treatment.

The proposed STP will be operated remotely by computers and, therefore, will be unmanned. An operator, inspector, and maintenance person will visit the site periodically. Public water is available throughout the community, and any sanitary waste from the unmanned STP, itself, would be negligible. The water distribution system for the Riverside community is "Distribution Area 39" (Flanders). The distribution system is fed

[9] 600 gpd/acre or 300 gpd/acre for commercial uses and 600 gpd/40,000 SF or 300 gpd/40,000 SF for multiple residential projects.

by the Riverside Water District (RSWD's) which gets its potable drinking water supply from its Oak Avenue well which is located 1.6± miles southeast and upgradient of the Riverside community. Future land uses will utilize this source of water and the Flanders distribution system to satisfy their potable water needs. The RSWD is operated by the SCWA through an agreement with the Town of Southampton. The Town will work with SCDHS to ensure that all requirements are met. Consequently, this standard will be complied with. If future projects in the Sewer District under the Theoretical Development Scenario require variances from Article 6, they must meet the requirements of the SCDHS's Board of Review in order to get the necessary approvals (i.e., connection to the STP or other advanced treatment facility).

(2) Where deemed practical by the county or state, sewage treatment plant discharge shall be outside and downgradient of the Central Pine Barrens.

The Proposed Action has been evaluated to determine the most appropriate location in the Hamlet to locate the STP and essential facilities. This assessment included consideration of the presence of CEAs (the APO, PB CGA, Long Island SGPA, Peconic Estuary and Environs), freshwater wetlands, potential impacts on these CEAs, depth to groundwater, groundwater travel times from discharge point to the Peconic River, the presence of rare wildlife or wildlife habitats, quality of potentially affected resources, land ownership, nearby land uses, zoning, and other factors. Siting and design have also been informed by applicable standards established by the Town, SCDHS, and CPBJPPC to minimize impacts on resources and protect public health.

The CLUP adds that: Denitrification systems that are approved by the New York State Department of Environmental Conservation or the Suffolk County Department of Health Services may be used in lieu of a sewage treatment plant. (CLUP **S**-5.3.3.1.2, "Sewage treatment plant discharge")

Suffolk County had prepared a study of potential wastewater treatment options for Riverside, and Section 14.3 of the prior DGEIS examined potential wastewater treatment facility locations within the Study Area/Sewer District. Additional engineering, planning and environmental analyses have since been conducted and the Town has identified what it believes is the best and most environmentally sound location for a new advanced STP for the Riverside community. The proposed location, design, layout, treatment capacity, and effluent discharge standards must comply with and be approved by one or more of the following agencies: SCDHS, SCDPW, NYSDEC, CPBJPPC and/or other applicable agencies once the environmental review has concluded and a preferred course of action that improves, avoids, or suitably mitigates impacts is identified. A major focus of this environmental review is on the reduction of nitrogen loading in the area in order to protect groundwater, surface waters, and wetlands and address CLUP

and Peconic Estuary Program Total Maximum Daily Load (TMDL) standards. The proposed project will accomplish this by:

- *restricting clearing to the maximum extent possible while meeting critical social and economic objectives and community planning goals;*
- *utilizing landscaping materials that do not require ongoing fertilization;*
- *controlling stormwater runoff;*
- *connecting homes and businesses to sewers and properly abandoning existing septic systems and cesspools that are currently in use at prospective redevelopment sites; and*
- *connecting anticipated development and redevelopment to an approved and carefully regulated and maintained STP that has the capability of significantly reducing nitrogen concentrations.*

It should be noted that future development without the Proposed Action would result in additional septic systems being installed, often on pre-existing substandard sized "grandfathered" lots, which would only further exacerbate the potential for water resource contamination and some existing substandard systems not connecting. It would also reduce density incentives that would greatly reduce development, capital investment in the community, economic growth, new housing opportunities including affordable and workforce housing, new businesses, and a variety of new employment opportunities.

(3) To protect the water quality in the vicinity of surface waters and wetlands, projects within 200 feet of such features should be designed to minimize nitrate-nitrogen loading to the groundwater with the goal of achieving less than 2.5 parts per million nitrate-nitrogen.

The CLUP states that a more protective goal of two and one half (2.5) ppm may be achieved for new projects through an average residential density of one (1) unit per two (2) acres (or its commercial or industrial equivalent), through clustering, or through other mechanisms to protect surface water quality for projects in the vicinity of ponds and wetlands. (CLUP **G-**5.3.3.1.3, "Nitrate-nitrogen goal")

Future development must comply with all Town, State and/or Federal wetlands permits including applicable clearing, setback and/or buffer requirements; limitations on the planting of fertilizer-dependent vegetation; erosion, sedimentation, and stormwater controls; compliance with State Pollution Discharge Elimination (SPDES) stormwater and wastewater discharge permits, and the like. Future wastewater generation will be treated and disposed at an approved STP facility and will be no closer than 200 feet from

any regulated wetland unless determined to be acceptable by the Town, NYSDEC, CPBJPPC, or other applicable agency having permit or approval authority. Nitrogen reduction will be of particular importance in the area to ensure the protection of area groundwater, river and estuarine resources. As outlined in Section 4.0, Water Resources of the prior DGEIS, the area currently exceeds a concentration of nitrogen in recharge of 2.5 mg/l, therefore, the goal is to not increase and actually decrease the current level of non-conformity as projected. As a result, this CPBOD/CLUP requirement is met.

Since the proposed STP will be unmanned, the STP will itself produce no additional wastewater that must be treated and disposed of by the STP. That is, the 11.45-acre STP and leaching area will itself generate much less (virtually no) wastewater than might be expected if it were fully developed with an as-of-right LI-40 land use. Treated sanitary waste from the larger sewer district and proposed STP will have a Total Nitrogen concentration that is less than 10 mg/L before it is discharged into the ground. Once in the ground, treated effluent will slowly percolate through the soil, and once it reaches groundwater will flow in a northerly direction toward the Peconic River some 1,250+ feet north of the leaching area in the direction of groundwater flow over many months, toward intervening freshwater wetlands located 450+ feet away. The time it takes for groundwater to flow from the proposed leaching area to the Peconic River is estimated to be approximately 1.5-2.5± years depending on exact location within the leaching area and additional reduction in nitrogen concentrations is expected.

(4) All development shall comply with the provisions of Articles 7 and 12 of the Suffolk County Sanitary Code.

The CLUP goes on to say: "…including any provisions for variances or waivers if needed, and all applicable state laws and regulations in order to ensure that all necessary water resource and wastewater management infrastructure shall be in place prior to, or as part of, the commencement of construction." (CLUP **S**-5.3.3.2.1, "Suffolk County Sanitary Code Articles 7 and 12 compliance")

The purpose of Article 7 of the Suffolk County Sanitary Code, "*Water Pollution Control*," *is to safeguard the County's water resources, especially in deep recharge and water supply sensitive areas from discharges of sewage, industrial chemicals and other toxic or hazardous materials. These laws also strive to prevent stormwater pollutant loading by preventing or controlling such sources that already exist or that may be proposed in the future. Although overall development density and flow will increase, the proposed STP will provide superior treatment thereby improving overall effluent quality in accordance with a SPDES Discharge permit. Discharges will be periodically monitored, and the facility maintained to ensure continued quality and compliance with applicable requirements. As far as chemical use at the STP facility, Caustic soda (Sodium Hydroxide)*

which is used if needed in the treatment process may be stored onsite. The caustic soda feed pump and storage tank are contingency items and will be installed if the treatment plant effluent quality is degraded and reaches a maximum permissible nitrate concentration. SCDHS approval for construction of storage tanks must be obtained prior to installation of the system. Chlorine will not be used in the treatment process. Backup generators will be installed at each pump station and inside the STP building to keep the treatment processes fully functional during power outages. The generators will be powered by natural gas.

The prior DGEIS and this SDGEIS identify numerous ways by which to reduce threats to groundwater resources from human generated contaminants from future projects including the proposed sewer improvements, such as compliance with various existing environmental regulations that have been put into place for the purposes of protecting drinking water supplies, connection to an approved STP and compliance with a State Pollution Discharge Elimination System (SPDES) discharge permit, conformance to a SPDES General Permit for Stormwater Discharges from Construction Activity permit, Stormwater Pollution Prevention Plan (SWPPP), and limitations on the establishment of fertilizer dependent vegetation.

(5) All development involving significant discharges to groundwater in close proximity to public water supply wells shall include adequate mitigation measures to protect the water quality as required under Article 17 of the New York State Environmental Conservation Law. (CLUP **S**-5.3.3.3.1, "Significant discharges and public supply well locations")

SCWA does not own or operate any wellfields within a 1,500-foot radius of the ROD and proposed Sewer District. SCWA's Oak Avenue wellfield, which is its closest wellfield to the District, contains one active well, and this well is located roughly 1.6 miles (or about 8,500 feet) southeast. Groundwater flow beneath the proposed sewer district flows in a generally northerly direction which is in the opposite direction/ away from the Oak Avenue wellfield. As such, there is no potential groundwater contributions to this well from the Riverside Sewer District as groundwater in Riverside flows away from the well toward the sewer district. Moreover, the proposed Sewer District is not within any of SCWA's public water supply wellfield capture zones. Furthermore, the closest Riverhead Municipal Water District wellfield is at the southwest corner of the intersection of Pulaski Road and Raynor Avenue, which is approximately 4,300 feet (0.81± miles) from the ROD and proposed Sewer District on the opposite (north) side of the Peconic River and 1.3± miles from the proposed STP site. Groundwater flow from north and south of the river converge at the river. The proposed Sewer District and proposed sewer facilities are in a location that is heavily regulated by several agencies and numerous environmental regulations. Connection of future development to an STP and compliance with the

numerous regulations in place, except where variances or waivers are determined to be acceptable due to specific conditions and circumstances and adherence to the prior and supplemental Findings Statement mitigations that suitably safeguard public health and essential resources, will help to protect groundwater resources and public water supplies.

As indicated by SCWA in its May 22, 2023 letter, contaminants such as 1,4 Dioxane, PFOA, PFOS, pharmaceuticals and personal care products are increasingly being detected in groundwater ***(Appendix G)****. It is, however, important that the proposed facility be routinely inspected and monitored, and that operators and maintenance personnel undergo rigorous training and receive appropriate certifications to ensure a thorough and current up-to-date understanding of plant operations, maintenance, pollutants of concern, and system monitoring. It is also important that onsite groundwater sampling be routinely conducted, both up and down gradient of the proposed leaching fields to identify any groundwater quality issues that may arise and ensure a prompt response. The proposed STP must fully comply with SPDES permit requirements and the facility owner/operator should monitor, identify, retrofit, implement and/or utilize best available technologies as innovations arise to maximize environmental quality and the protection of public health. Finally, it is noted that SCDHS will review the proposed plans and require mitigation where needed to ensure that all homes and businesses have a safe supply of drinking water. This will include identification of any nearby properties that still rely on a private well as its source of potable water and connection of these uses to the public drinking water supply that is available throughout the community.*

(6) All development involving significant discharges to groundwater in close proximity to private water supply wells shall comply with the Suffolk County Department of Health Services' guidelines for wellhead protection. (CLUP **G**-5.3.3.3.2, "Private well protection")

The proposed STP and leaching site is currently an undeveloped vacant woodland with areas of early to mid-successional growth and was part of a prior subdivision and environmental review. Part of the property was formerly used as a drive-in movie theater and other parts of the site, including the 5 Towns site (currently pending Town acquisition) and Town owned land on the east side of Enterprise Zone Drive was fully cleared. Aside from the proposed STP, leaching area and other essential sewage infrastructure sites, other future development in the ROD that may be supported by the Sewer District and may trigger the need for Phase I and possibly Phase II Environmental Site Assessments (ESAs), if there is any evidence of past land uses or activities that may have involved the use, generation, storage, or disposal of hazardous materials as noted by the prior GEIS. Existing septic systems, cesspools, fuel storage tanks, drywells, floor

drains, any contaminated soils exceeding established standards, and other similar potential pollutant sources will be inspected, cleaned and removed or properly abandoned, in conformance with the applicable standards and specifications of the SCDHS and/or NYSDEC and any waste recovered will be disposed at a licensed disposal or recycling facility.

It is also expected that all future development (and eventually some or possibly all existing development) will connect to the proposed STP for wastewater treatment and disposal needs and it will be required that all new developments that exceed the population density standards established under Article 6 of the Suffolk County Sanitary Code connect to the STP or other approved facility. Should any on-site sanitary system be proposed instead, due to limited wastewater flow which meets SCDHS's groundwater management loading requirements, an investigation into the locations of nearby private wells must be undertaken as part of SCDHS review to ensure that any such facilities are suitably setback from these wells in accordance with SCDHS requirements. Similarly, future drainage structures, including but not limited to leaching catch basins, dry wells or recharge areas should be setback as far as practicable from private wells. Private wells located on proposed redevelopment sites should be properly abandoned to ensure that they do not function as direct conduits of pollutants from the surface via annular spaces surrounding wells, and all development should connect to the SCWA distribution system which is easily accessible throughout the proposed Sewer District.

(7) Development proposals for sites containing or abutting wetlands shall be separated by a nondisturbance buffer area which shall be no less than that required under Chapter 325 of the Town Code and applicable state laws. Distances shall be measured horizontally from the wetland edge as defined in applicable laws. Such buffer areas shall be delineated on the development plans, and adequate conditions shall be imposed to assure their preservation. Said conditions shall be set forth in a declaration of covenants, conservation easement or similar instrument. (Also, CLUP **S**-5.3.3.4.2, "Buffer delineations, covenants and conservation easements".)

The CLUP's wetlands nondisturbance buffer standard is quite similar to that of the Town except it references New York State Tidal Wetlands, Freshwater Wetlands, and Wild, Scenic and Recreational Rivers Act (WSRRA) ordinances as the standards to follow. The CLUP goes on to say: Distances shall be measured horizontally from the wetland edge as mapped by the New York State Department of Environmental Conservation, field delineation or local ordinance. Projects which require variances or exceptions from these state laws, local ordinances and associated regulations, shall meet all requirements imposed in a permit by the New York State Department of Environmental Conservation or a municipality in order to be deemed to have met the requirements of this standard. (CLUP **S**-5.3.3.4.1, "Nondisturbance buffers")

The CLUP further states that stricter nondisturbance buffer areas may be established for wetlands as appropriate (CLUP **G**-5.3.3.4.4, "Additional nondisturbance buffers")

The proposed Sewer District contains areas identified as NYSDEC and NWI tidal and freshwater wetlands. Any future development or site disturbance within NYSDEC, NWI, and/or Town wetlands jurisdiction(s) will be required to receive a wetlands permit from the respective issuing authority(ies) and abide by all conditions and requirements of such permits including:

- *adherence to requirements for the dedication of non-disturbance buffers and formal acknowledgement and documentation of buffer agreements through the filing of conditional easements and/or covenants and restrictions;*
- *conformance to any required wetlands setbacks, or seek relief where needed;*
- *implementation of stormwater, erosion and sedimentation controls;*
- *adherence to clearing limitations, restrictions on fertilizer dependent vegetation, and nonnative and invasive species planting controls; and*
- *any other requirements that may be reasonably imposed by the issuing authority(ies).*

(8) All stormwater runoff originating from development on the property shall be retained on-site unless surplus capacity exists in an off-site drainage system. Where practical, natural recharge areas and/or drainage systems that cause minimal disturbance of native vegetation may be required. Ponds may be created if they are designed to accommodate stormwater runoff and not solely for aesthetic purposes. (Also, CLUP **S**-5.3.3.5.1, "Stormwater recharge")

Where practical, drainage designs shall incorporate the use of natural swales and depressions, rather than excavated recharge basins. Adequate measures shall be taken to control soil erosion and stormwater runoff during construction. (**G**-5.3.3.5.4, "Natural topography in lieu of recharge basins")

Ponds should only be created if they are to accommodate stormwater runoff, not solely for aesthetic purposes. (CLUP **G**-5.3.3.5.3, "Ponds")

All drainage from the applicable design storm/rainfall event will be captured, retained and recharged on respective development sites including the proposed STP site, unless adequate surplus capacity exists in an approved off-site drainage system. There will be no direct/unfiltered or pretreated point discharges of stormwater discharged to any natural wetlands or surface waterbodies and any buffers required by approving

authorities will be respected. Drainage methods and designs will be prepared by a licensed professional as part of final facility design and be consistent with applicable New York State and Town of Southampton standards and procedures, including NYSDEC's New York State Stormwater Management Design Manual, SPDES stormwater permit requirements, SWPPPs, Erosion and Sedimentation Control Plans, and the policies of Chapter 285, "Stormwater Management and Erosion and Sedimentation Control," of the Code of the Town of Southampton. Drainage will be designed by a professional engineer and must be approved by the Town Engineer and applicable Town board before installation. Drainage controls are expected to include primarily catch basins and leaching pools and possible green infrastructure such as swales or rain gardens but would not include a stormwater recharge basin.

(9) Disturbance of natural vegetation shall comply with the minimum standards set forth under Article XIII, Aquifer Protection Overlay District, of this chapter. Development plans shall contain calculations for the amount of disturbance to natural vegetation and indicate the limits thereof. For the purposes of this section, the percentages of disturbance of the natural vegetation set forth in Article XIII shall include all areas previously disturbed.

The CLUP further states that the clearance of natural vegetation shall be strictly limited. Site plans, surveys and subdivision maps shall delineate the existing naturally vegetated areas and calculate those portions of the site that are already cleared due to previous activities. (CLUP **S**-5.3.3.6.1, "Vegetation Clearance Limits")

Areas of the site proposed to be cleared combined with previously cleared areas shall not exceed the percentages in Figure 5-1 [of the CLUP]. These percentages shall be taken over the total site and shall include, but not be limited to, roads, building sites and drainage structures. The clearance standard that would be applied to a project site if developed under the existing residential zoning category may be applied if the proposal involves multi-family units, attached housing, clustering or modified lot designs. Site plans, surveys and subdivision maps shall be delineated with a clearing limit line and calculations for clearing to demonstrate compliance with this standard. (**S**-5.3.3.6.1, "Vegetation Clearance Limits")

To the extent that a portion of a site includes Core property, and for the purpose of calculating the clearance limits, the site shall be construed to be the combined Core and CGA portions. However, the Core portion may not be cleared except in accordance with Section 5.2 of the Plan. (**S**-5.3.3.6.1, "Vegetation Clearance Limits")

The portion of the Study Area/Sewer District south of SR 24 is in the CPB CGA and not within a CPB CPA. Much of the ROD and proposed Sewer District within the CPB CGA has

been cleared and native vegetation patterns are highly fragmented; however, the six contiguous town lots and the soon to be acquired "Five-Towns Lot" which are the site of the proposed STP and leaching areas and a large privately owned lot to their west SCTM#: 900-139-3-10.2 across which a force main will be installed are mostly in a naturally vegetated condition consisting of pine barrens and some successional growth on the Town owned properties. Although clearing will be necessary to construct the STP facility and leaching area, some natural landscaping and restoration is possible using pine barrens vegetation such as in part of the abandoned section of Enterprise Zone Drive and planting of native ground covers in areas on and around the leaching area. This privately owned lot (Lot 10.2) is a long and narrow 12.5-acre parcel that is located near the center of the ROD and proposed Sewer District on the west side of the proposed STP site and extends from SR 24 to Old Quogue Road. However, due to clearing and maximum site disturbance restrictions only part of this site would be physically developed. This is important in order to limit clearing within the APOD and CPB CGA. It is anticipated that upon submission of a site plan application for the development of this site, that due consideration be made by the applicant and Town to limit clearing and retain native vegetation to the maximum extent possible in order to meet the overall intent and purposes of the APOD. ***Appendix J*** *contains an analysis of the Sewer District from the previous GEIS addressing the Vegetation Clearance Limitation standard (**S**-5.3.3.6.1). This analysis identifies clearing limits for the overall Sewer District, and the amount of vegetation that may be cleared and still conform to clearing limits. Should clearing limits be exceeded, several options are provided to ensure compliance with the spirit and intent of the CLUP.*

(10) Where applicable, subdivision and site design shall support preservation of natural vegetation in large unbroken blocks that allow contiguous open spaces to be established when adjacent parcels are developed. Where applicable, subdivision and site design shall be configured in such a way as to prioritize the preservation of native pine barrens vegetation.

Subdivision and site design shall support preservation of natural vegetation in large unbroken blocks that allow contiguous open spaces to be established when adjacent parcels are developed. Subdivision and site designs should also be configured in such a way so as to prioritize the preservation of native pine barrens vegetation to the maximum extent practicable. (CLUP S-5.3.3.6.2, "Unfragmented open space")

For the purpose of this paragraph, native pine barrens vegetation shall include pitch pines and various species of oak trees, understory and ground cover plants such as blueberry, wintergreen, bearberry and bracken fern, grasses and sedges such as little bluestem, Pennsylvania sedge and Indian grass as well as those ecological communities

listed in sections 5.6 and 5.7 in Chapter 5, Volume 2 of the [CLUP]. (CLUP **S**-5.3.3.6.2, "Unfragmented open space")

It is recognized that the preservation of nonnative, but ecologically important habitats may be consistent with the intent and goals of the plan when such action would result in the creation of large contiguous natural open space areas and or the protection of rare, threatened or endangered species or their habitat. (CLUP **S**-5.3.3.6.2, "Unfragmented open space")

The proposed Sewer District is mostly developed and most natural areas that have not been preserved are highly disturbed and fragmented with the exception of one long narrow 12.5-acre wooded lot near the center of the Sewer District, which is south of SR 24 and west of the Southampton Enterprise Zone industrial subdivision and the proposed STP site. Only one of the four proposed pump stations (Pump Station 3) will require clearing and that will be minimal clearing. The proposed STP and leaching sites limit the area that must be cleared to the extent practical, but construction of the proposed sewer improvements will require the clearing of a maximum 8.89± acres of vegetation located within the Central Pine Barrens CGA and Town APOD near the center of the Riverside community. An additional maximum 2.16± acres of successional old field or successional shrublands and another 0.06± acres of Successional Southern Hardwood Forest will also need to be cleared for a total estimated clearing and reduction in habitat of 11.11± acres. The approved Enterprise Zone Subdivision Map includes a permissible clearing table that indicates the amount of total clearing that is allowed on each of the seven lots comprising the STP and leaching areas site. ***Table 5-1*** *summarizes the maximum amount of clearing envisioned on the site as part of the prior approval.*

Table 5-1
CURRENT PERMITTED CLEARING OF PINE BARRENS
ON THE PROPOSED STP AND LEACHING SITE[(1)]

SCTM #	*Enterprise Zone Subdivision Lot #*	*Existing/Prior Clearing (SF)*	*Permitted Additional Clearing (SF)*	*Total Permitted Clearing (SF)*	*Total Permitted Clearing (Acres)*
900-141-1-9.14	*12*	*0*	*32,629*	*32,629*	*0.75*
900-141-1-9.31	*13*	*0*	*32,629*	*32,629*	*0.75*
900-141-1-9.32	*14*	*3,109*	*23,039*	*26,148*	*0.60*
900-141-1-9.17	*15*	*12,847*	*21,329*	*34,176*	*0.78*
900-141-1-9.29	*17*	*40,156*	*0*	*40,156*	*0.92*
900-141-1-9.30	*20*	*35,681*	*0*	*35,681*	*0.82*
900-141-1-9.25	*23*	*1,580*	*38,491*	*40,071*	*0.92*
Total	***---***	***93,373***	***148,117***	***241,490***	***5.54***

(1) Based on the December 20, 2007 Enterprise Zone Subdivision Approval, Central Pine Barrens Comprehensive Land Use Plan and Town Pine Barrens Overlay District Standards.

Based on the above table, the total additional clearing of pine barrens required to achieve Town and Riverside community goals is:

8.89 acres – 5.54 acres permitted = +3.35 acres

The sewage recharge area, itself, will represent the largest area of clearing, as it must be free of trees, shrubs and roots. This area will however be reseeded preferably with native pine barrens cover vegetation after initial clearing.

*Thousands of acres of woodlands, ponds, streams, creeks, and wetlands in the area have already been acquired by the Town, County, State, and private land preservation groups and been dedicated for open space preservation and protection of natural resources. The preservation of large, primarily contiguous tracts of open space has resulted in the clustering or concentration of development and has left proportionately little land for supporting economic growth other than what is within the boundaries of the developed portion of the Hamlet. This area of envisioned development includes (but is not limited to) the Enterprise Zone subdivision where the proposed STP and leaching areas are proposed and the 12.5-acre lot to its west, both of which are in a designated Pine Barrens Development Rights Receiving Area. Five large tracts of land within the proposed Sewer District have also been preserved and these areas were zoned RPL (Recreation and Parklands/RO-7) under the ROD in order to memorialize the nondevelopment status of these sites to sustain their status as protected lands. These areas are found along the Peconic River, and outside of the CPB, and include three large tracts (one containing eight contiguous tax lots and another containing three contiguous tax lots), another is the existing Ludlam Avenue Park, which is an active recreational facility that is at the south end of the Sewer District where Pump Station No. 4 is proposed, and another is west-southwest of the STP and is part of/ contiguous to the David A Sarnoff Preserve which is part of the CPB. Two additional contiguous lots totaling 40.3 acres on the north side of Flanders Road and outside but adjacent to the northeast corner of the proposed Sewer District have also been acquired by the Town. This property is the preferred site for the alternative Constructed Wetlands (see **Section 9**) but if it is not used for this purpose, is likely to remain natural.*

It is the intent of the Town and its Master Developer, to protect natural areas and habitats, as well as any rare, threatened and or endangered species that may be encountered, to the maximum extent practicable. Clearing limits for the proposed STP, as well as future development in the Sewer District, should be delineated on future site plans and project limiting fences should be erected upon commencement of site

disturbance to prevent unintended encroachment and disturbance of areas that are to remain undisturbed and natural.

There is potential for the endangered NLEB to utilize the existing natural areas within and surrounding the proposed Sewer District. NPV environmental scientists visited the sites of the proposed sewer facilities to inventory flora and fauna, identify habitat types and determine the sites' suitability as habitat for the NLEB and other species. Based on this review it was determined that approximately 11.98± acres at the STP and leaching area site consists of vegetative conditions that may provide potentially suitable NLEB foraging habitat, but no roosting opportunities, since the area was previously cleared. The remaining 40.73± acres of the Project Site including pump station locations, force main areas, etc. do not contain suitable NLEB roosting habitat and provides limited foraging or unsuitable foraging habitat for NLEB, with understory overgrown with dense vegetation. Based on this review, NPV recommends that clearing at the STP/leaching area site be restricted to the clearing window established by NYSDEC (between December 1 and February 28 of any year) and that required coordination occur with NYSDEC prior to clearing.

(11) Development projects shall place no more than 15 percent of the entire site in fertilized vegetation. The use of nonnative plant species shall be limited to the maximum extent practicable and development designs shall consider the nonnative and native planting suggestions contained in Figure 5-2 of the CLUP. (**S**-5.3.3.6.3, "Fertilizer-dependent vegetation limit" and **S**-5.3.3.6.4, "Native Plantings")

Clearing the proposed STP site, leaching area, pump station locations and areas where mains will be installed will be the minimum land area needed for these essential facilities to be constructed, installed, accessed, inspected and maintained. Future development will comply with this 15 percent fertilizer dependent vegetation restriction. Landscaping or site restoration can consist largely of, if not entirely of, native or well adapted non-invasive species that require very little if any fertilizer, pesticides, or irrigation. Some initial fertilization and irrigation may be necessary on 15 percent or less of sites to establish landscaping or restore areas to natural conditions, but once landscaping is established or native vegetation is reestablished, it is not expected that such plantings would require significant demand for these inputs. Best Management Practices (BMPs) should be instituted by the Town and other future landowners in the Sewer District in these instances to limit potential nitrogen loading. Use of slow-release fertilizers if they are necessary at all, use of the minimum amount needed and avoiding fertilizer applications before precipitation events is recommended. Planting of drought tolerant pine barrens species and/or use of mulch and/or loamy topsoil to supplement landscaped areas can help to improve soil water holding capacity, if necessary

(12) Where a development application may have a significant negative impact upon a habitat essential to those species identified on the New York State maintained lists as rare, threatened or of special concern, or upon the communities classified by the New York State Natural Heritage Program as G1, G2, G3 or S1, S2 or S3 or on any federally listed endangered or threatened species, appropriate mitigation measures shall be taken to protect these species. (CLUP **S**-5.3.3.7.1)

*As noted in **Section 4** of this SDGEIS, there is the potential for rare, threatened and endangered species to utilize existing natural areas within and surrounding the proposed Sewer District or at proposed infrastructure sites. However, none of the plant and animal species have been identified on the STP site but there is a potential for NLEBs at the proposed STP and leaching facility due to suitable NLEB foraging habitat, but no roosting opportunities exist here as the site was previously cleared. Therefore, clearing will be restricted at the STP/leaching facility between December 1 through February 28 when NLEBs are not expected to be present. The Town will also coordinate with NYSDEC prior to clearing.*

(13) Development projects shall minimize disturbance of the grade and/or natural vegetation where slopes exceed 10 percent. Construction in areas where slopes exceed 10 percent may be approved if the design incorporates adequate soil stabilization and erosion control measures so as to mitigate negative environmental impacts. Where applicable, clearing envelopes and/or non-disturbance buffers shall be placed on those portions of the development site where slopes exceed 10 percent. Development applications shall include a slope analysis depicting slopes in the ranges of 0 percent to 10 percent, 11 percent to 15 percent and 15 percent and greater. Erosion and sediment control plans and, where applicable, details of retaining walls and erosion control structures shall be required for construction in areas where slopes exceed 15 percent and for roads and driveways traversing slopes of 10 percent. (CLUP **G**-5.3.3.8.1 “Clearing envelopes”; CLUP **G**-5.3.3.8.6, “Retaining walls and control structures”; CLUP **G**-5.3.3.8.4, “Erosion and sediment control plans; and CLUP **G**-5.3.3.8.5, “Placement of roadways”)

During construction, the standards and guidelines promulgated by the New York State Department of Environmental Conservation pursuant to state law, which are designed to prevent soil erosion and control stormwater runoff, should be adhered to. (CLUP G-5.3.3.5.5, “Soil erosion and stormwater runoff control during construction”)

Construction of homes, roadways and private driveways on slopes greater than ten percent (10%) may be approved if technical review shows that sufficient care has been taken in the design of stabilization measures, erosion control practices and structures so

as to mitigate negative environmental impacts. (CLUP G-5.3.3.8.2, "Stabilization and erosion control")

Project review is facilitated if submissions contain a slope analysis showing slopes in the ranges 0-10%, 11-15% and 15% and greater. In areas with steep slopes, slope analysis maps should be required. This can be satisfied with cross hatching or shading on the site plan for the appropriate areas. (CLUP **G**-5.3.3.8.3, "Slope analyses")

The land within the proposed Sewer District where sewer improvements are proposed is flat to gently sloping (<10% gradients) with the exception of a very small area at the southeast end of the Riverwoods/MacLeod Community which contains some moderately steep slopes ***(Figure 2-1)****. The STP site, leaching area, force main footprints, essential sewers, and pump station locations are all flat or gently sloping and do not pose any significant slope related issues or constraints and require little if any grading. Sewage collection system/ gravity mains will be installed primarily along public rights-of-way and adjacent areas that have been disturbed by past road and shoulder construction, water, gas and electric utility installations, and ROW maintenance.*

Minimal grading is expected. Land will be developed consistent with approved stormwater, erosion and sedimentation plans and soils will be stabilized during construction and installation of sewer infrastructure (e.g., silt fencing, seeding, dust control, etc., as applicable). If wetlands permits are required for future development under the TDS or for sewer infrastructure (e.g., installing a main within the adjacent area of a freshwater wetland), they will be secured from the applicable agency(ies) and all activities will comply with any and all conditions of those permits. Clearing, grading, and erosion and sedimentation control plans will be prepared by professional engineers as necessary and will be consistent with Town and State requirements, including the standards and specifications of any and all approved SPDES permits, SWPPPs, and erosion and sedimentation plans. All such plans will meet the satisfaction of the Town Engineer.

(14) Applications for development projects proposing open space and/or similar reserve areas shall specify the conditions of ownership and use of such lands, and such conditions shall be set forth in the deed of dedication, declaration of covenants, conservation/open space easement or similar instrument. (CLUP **G**-5.3.3.9.3, "Protection of dedicated open space")

Open space and reserve areas are not proposed as part of this project. However, any necessary easements and/or covenants and restrictions that must be provided for pump stations, force mains and/or collection system improvements, will be secured prior to construction or installation.

(15) Where applicable, the use of a planned residential development or clustering pursuant to the provisions of Article I of Chapter 247 of the Town Code shall be encouraged to preserve open spaces. Where applicable, the use of a planned industrial park pursuant to the provisions of § 330-36 of this chapter shall be encouraged to preserve open spaces.

The proposed STP and leaching areas will be clustered together, however, pump stations, force mains and gravity lines must be located in places where they are needed, and mains will be distributed throughout the areas to be sewered. Nevertheless, these facilities e.g., pump stations which have a small footprint will have very little clearing, and since pump station 3 is the only one that requires clearing (2,069± SF), it will have negligible impact. In addition, as previously indicated, one pump station (Pump Station 2) is proposed north of SR 24 (outside the Central Pine Barrens CGA) and requires no additional clearing.

The previously proposed Overlay Zoning, Theoretical Development Scenario and proposed Sewer District and sewage facilities are part of a thoughtfully considered master development and redevelopment plan for the area which seeks to satisfy various Town and Community goals and implement various Town and Community objectives. The adopted RRAP and ROD along with the current recommendations for the proposed Riverside Sewer District, if approved and implemented, will support the redevelopment of a previously disturbed and developed community that is concentrated (or "clustered") along the outskirts of large open space reserves within the 52,500-acre (82-square mile) Central Pine Barrens Preserve, and 47,500-acre CGA which extends into part of the Riverside community. As previously noted, several large tracts within the ROD and Sewer District, totaling 145 acres have already been preserved and the prior zoning of these parcels to RO-7 Recreation and Parklands will essentially immortalize their protection.[10] The David A. Sarnoff preserve which is adjacent and generally to the south of the proposed Sewer District, by itself, contains more than 2,700 acres of preserved land. Cranberry Bog County Park is located adjacent to the west of the Sewer District along the Little Peconic River and is 165 acres, and large tracts of Town, State, and Peconic Land Trust managed properties are adjacent to the east of the proposed Sewer District. The proposed STP will help support centralized growth and area revitalization, incentivize new workforce housing options, create jobs, and protect sensitive natural resources for long range community sustainability and the protection of public health.

[10] This does not include the 40.3 acres located outside of the CPB CGA adjacent to the northeast of the Sewer District that the Town recently acquired and may remain undeveloped unless the Constructed Wetlands alternative is chosen as the preferred sewage disposal option (see **Section 9 "Alternatives"**).

(16) Where applicable, any new activity or any change or expansion to an activity involving agriculture or horticulture shall incorporate "best management practices" as set forth in Controlling Agricultural Nonpoint Source Water Pollution in New York State, Bureau of Technical Services and Research, Division of Water, New York State Department of Environmental Conservation 1991, as same may be amended from time to time. (CLUP **G**-5.3.3.10.1, "Best management practices")

Currently, there are no agriculture or horticultural uses in the ROD and no such uses proposed as part of pending development applications or the current infrastructure project. The previously enacted ROD, however, permits agriculture in all overlay zones except the RO-7 (RPL) zone, and nearly all of the existing underlying zoning districts allow for agriculture and/or horticulture. Due to the limited size of the lots in the Sewer District, and hence limited space, restrictions on clearing in the APOD, CPB and CPBOD, and generally poor soil conditions for farming, it is unlikely that agricultural uses would be established and occupy a large site. Overall, the proposed Sewer District and STP are most supportive of new and possibly denser mixed-use development but do not prevent or preclude the future use of land within its boundaries for agriculture.

(17) Where applicable, development plans shall indicate established recreational and educational trails and trail corridors; active recreation sites; scenic corridors, including Sunrise Highway; sites of historical or cultural significance; and sensitive archaeological areas, within 500 feet of the project site, and shall provide adequate measures to protect such cultural resources. The use of existing natural buffers or the restoration of degraded buffer areas, the use of signs or other man-made structures, consistent in style and scale with the community character, or other similar measures shall be taken to protect roadside areas and scenic and recreational resources.

The CPB specifically notes that cultural resources requiring attention include historic districts, sites on the State or National Registers of Historic Places, historic structures listed on the State or National Registers recognized by local municipal law or statute, and sensitive archaeological areas as identified by the New York State Historic Preservation Office or the New York State Museum. A development proposal may be disapproved or altered if the local municipality determines that the development proposal, in its current form, may have a significant negative impact on any of the above resources. (CLUP G-5.3.3.11.1, "Cultural resource consideration")

The CLUP also states that protection measures for scenic and recreational resources should include, but not be limited to, retention of visually shielding natural buffers, replacement of degraded or removed natural visual buffers using native species, use of signs which are in keeping in both style and scale with the community character, and similar measures. (CLUP G-5.3.3.11.3, "Protection of scenic and recreational resources")

Moreover, the CLUP notes that development shall conform to the provisions of the New York State Wild, Scenic and Recreational Rivers Act, where applicable. Projects that require variances or exceptions under the New York State Wild, Scenic and Recreational Rivers Act shall meet all requirements imposed by the New York State Department of Environmental Conservation in order to be deemed to have met the requirements of this standard. (CLUP **S**-5.3.3.4.3, "Wild, Scenic and Recreational Rivers Act compliance")

There are thousands of acres of preserved passive parklands in the Riverside/ Flanders/ Northampton area where development is not permitted. These parklands contain many miles of trails. Much of the land along the River is also publicly owned open space and has the potential to provide additional trail and recreational opportunities.

A portion of the proposed Sewer District is within a NYS Wild, Scenic, and Recreational Rivers (WSRR) corridor under the "Recreational" classification. This part of the proposed Sewer District includes land located southwest of the traffic circle including the existing Woodhull Avenue/Pegs Lane residential subdivision, some existing commercial properties near the traffic circle, several small house lots located along the south side of Maynard Street, land that is currently owned and preserved as part of the David A. Sarnoff State Preserve, and vacant woodlands that are adjacent to the east of the Preserve. The portion of the proposed Sewer District in the WSRR is part of the Phase II sewering and the only work that would be conducted within this area is the installation of sewer mains in/ along existing streets and connections to homes and businesses. Proposed Pump Station No. 1 is outside but adjacent to the WSRR Recreational area, but based on its location, limited footprint, lack of recreational resources at that site (e.g., no trails or nearby boat launches, etc.), and other factors, a significant effect on the WSRR's recreational qualities is not expected. Future development in the proposed Sewer District must conform to the requirements of the WSRR, ROD, or any conditions of approval or variances, if variances are requested. Screening future uses with native vegetation is one way in which to mitigate impacts to the recreational and scenic qualities of this section of the WSRR area.

The ROD also includes standards for Public and Privately Owned Civic Space that call for spaces of a minimum size at future development sites. These spaces may include plazas, courtyards, corner plazas, piazzas, greens, squares, pedestrian ways, front courts, roof gardens, and pocket parks. Such features, along with pedestrian-friendly streetscapes, will promote activity, social interaction, and site access and connectivity. The RRAP and ROD Zoning Code amendments provide the standards and specifications for Public and Privately Owned Civic Space requirements. These opportunities coupled with existing open space will ensure the protection of recreational resources, while at the same time allowing for essential sewer infrastructure that will support economic growth while protecting sensitive ground and surface water resources.

There are no designated scenic resources in the area, although the Peconic River is clearly an important visual and natural resource. Compact well-designed and visually appealing redevelopment incentivized by flexible zoning and sewering will help eliminate blight and enhance aesthetic qualities. The proposed STP and leaching areas will be contained within the Enterprise Zone industrial subdivision and off of any major streets or vantage points, include a 25-foot-deep wooded buffer around the property's perimeter, and will be vegetated mostly with grass or other natural groundcover. Enhanced evergreen screening can also be provided in certain areas as needed to screen less attractive elements of the facility. Pumphouses are of limited scale and will be located along roadways away from key visual resources.

Based on the available information, there are no State or National Register Listed landmarks or historic districts within the proposed Sewer District. Despite the absence of National- and State-Listed historic resources, there are four clustered buildings that are currently identified as "Eligible" for listing within the proposed Sewer District, and together, comprise what is referred to as a small "Eligible Building District." The structures are identified as 104, 106, 110 and 125 Flanders Road (SR 24) (three buildings on the north side of SR 24) described as the Goodwill AME Zion Church (1872-73) and two adjacent church related residences (ca. 1920), and Fellowship Hall (ca. 1890) which is located diagonally across the street from the church on the south side of SR 24 at 125 Flanders Road ***(Figure 7-1)****. The structures are described by OPRHP as "associated with events that have made a significant contribution to the broad patterns in our history." The closest proposed above ground sewer facility or structure will be Pump Station No. 2 which will be 915± east of the closest Eligible structure (Fellowship Hall) and have no direct impact on this or other Eligible structures in the Eligible Fellowship Hall/ Goodwill AME Zion Church Historic District. Sewer mains will be installed underground within all street rights-of-way within the proposed Sewer District including along the frontage of the Eligible buildings and district but will not significantly impact these resources.*

Finally, it is noted that numerous State and Federally designated historic landmarks, buildings and a historic district exist on the north side of the Peconic River in Downtown Riverhead. However, the preferred sewer plan does not propose any new sewer infrastructure that will be near or clearly visible from the Riverhead Historic District or that would detract from its historic character.

The proposed sewer infrastructure is also not within any NYS OPRHP archaeologically sensitive area with the exception of some mains to be installed within street rights-of-way. The Town of Southampton completed a Historic Resources Survey in April of 2014 which identified 14 properties in Riverside (in the proposed Sewer District) as potential historically significant structures. At this time, the Town has not designated any of the 14 properties as local landmarks and they are not listed on the State and/or Federal

Registers. Of the 14 surveyed properties, six are located within areas of potential redevelopment envisioned under the Theoretical Development Scenario detailed in the prior GEIS. Most of the structures identified are in various stages of disrepair. With the exception of the property at 10 Flanders Road, no specific evaluation has been made of structures to determine if the buildings are structurally sound or whether the preservation would add to the redevelopment concept. In the case of 10 Flanders Road, the Theoretical Development Scenario envisioned restoration of the main building and incorporation of the structure into the redevelopment. The proposed STP, leaching area, and pump stations are not located near this structure and future sewer infrastructure will have no significant impact on historical resources.

Portions of the proposed Sewer District and ROD are located within areas identified as archaeologically sensitive **(Figure 7-1)**. These *areas include land at the northwest end of the Study Area around the traffic circle and western boundary of the proposed Sewer District, which is mostly developed, and in the northeast corner of the Sewer District. Neither the STP, leaching area nor pump stations are located in these areas and sewer mains will be installed within previously disturbed street rights-of-way. These areas primarily include highly disturbed and developed land that has been filled, wetlands that can't be developed and must be protected by non-disturbance buffers, preserved lands, and an area containing dredge spoil deposits (location of Alternative Constructed Wetlands), and therefore, are unlikely to be developed or contain intact cultural resources. Moreover, the proposed STP, leaching area, and pump stations are not proposed in these areas and mains will be installed within existing rights-of-way that have been significantly disturbed by past construction.*

(18) All commercial or industrial development shall comply with the applicable provisions of the Suffolk County Sanitary Code and all other applicable federal, state or local laws.

The CLUP adds that these uses should be developed in a manner consistent with the goals and objectives of the Act and that Projects that require variances from the provisions of the Suffolk County Sanitary Code shall meet all requirements of the Department of Health Service's Board of Review in order to be deemed to have met the requirements of this standard. (CLUP S-5.3.3.12.1, "Commercial and industrial compliance with Suffolk County Sanitary Code")

The STP and associated sewer infrastructure will be constructed and installed in accordance with SCDHS requirements. SCDHS will review the proposed plans and provide any necessary input to ensure that the facilities meet their requirements. Any future development that applied for relaxation from any requirement of the Suffolk County

Sanitary Code must comply and would certainly be compelled to adhere to any restrictions or conditions the Board of Review required.

Central Suffolk Special Groundwater Protection Area (South)

The portion of the ROD and proposed Sewer District located south of SR 24, as well as land in the proposed Sewer District located north of 24 and west of Peconic Avenue is within an area identified as the "Central Suffolk Special Groundwater Protection Area (South)" (SGPA) **(Figure 3-14)**. As such, the proposed STP, leaching area, and Pump Stations 1, 3 and 4 are within the SGPA. The Long Island Regional Planning Board's 1992 Long Island Comprehensive SGPA Plan, which created the Central Suffolk SGPA, strives to protect groundwater, particularly within areas that provide deep recharge to Long Island's sole source groundwater supply. The SGPA Plan also contains specific recommendations relative to sewage treatment, wellhead protection, clustering of development, open space preservation, restrictions on excessive clearing of native vegetation, potentially hazardous land uses and application of hazardous materials on land, in order to prevent the degradation of groundwater resources. SGPAs are considered CEAs under SEQRA, and like other CEAs, must be considered by the environmental review and Determination of Significance, pursuant to SEQRA.

The 1992 SGPA Plan provides very broad and general recommendations but sometimes refers to specific locations and areas. General recommendations include:

(1) Clustering development along the Peconic River to preserve open space

Land located north of SR 24 along the Peconic River is outside of the Central Suffolk SGPA with the exception of the existing Town green space and property now or formerly the Peconic Paddler kayak rental business at the northwest corner of SR 24/CR 94 and Peconic Avenue (CR 63). The County and Town have also acquired roughly half of the land along the River from Peconic Avenue, east to the western boundary of the proposed Sewer District, while other lots along the River in this area are already developed with businesses (e.g., McDonalds restaurant, etc.) and recently Town-acquired 40.3 acres adjacent to the east of the Sewer District. Even though clustering development along the river might reduce development south of SR 24, the Town must also protect the River, Estuary and their associated resources.

There are thousands of acres of preserved land or active parklands in the Riverside/Flanders/Northampton area as listed below. These preserves have been instrumental in meeting SGPA goals.

- *Public open space acquisitions along the river*
- *Phillips Avenue Elementary School*
- *Ludlam Avenue Park including New County owned land along the river*

- *Peconic Bays*
- *Cranberry Bog County Park*
- *David A. Sarnoff State Pine Barrens Preserve*
- *Wildwood Lake Park*
- *Grangebel Park (Riverhead)*
- *Maple Swamp County Park*
- *Birch Creek Pond County Park*
- *Sears Bellows County Park*
- *Flanders County Parkland*
- *Hubbard County Parkland*
- *Peconic Hills County Park*
- *Peconic River County Park*
- *Indian Island County Park (Riverhead)*
- *Indian Island Golf Course (Riverhead)*

These parklands have resulted in the preservation of large blocks of environmentally sensitive land and the clustering or centralization of development at specific locations in the region, including the community of Riverside and the proposed Sewer District. The preservation of land in the region has come about largely from State, County and Town acquisitions but have also been made possible through funding from the Community Preservation Fund, and purchases of pine barrens credits that are redeemed in designated receiving areas or growth areas such as parts of Riverside. Even still, there is already approximately 57.6 acres of publicly owned land in the proposed Sewer District, which have been dedicated for parks and recreation, and most of this land is located north of SR 24 along the river. Existing parks in the Sewer District were zoned RO-7 ("Recreation and Parklands"), which would not be developed under the adopted 2015 ROD.

(2) Acquiring, replatting and clustering development on "old filed" map lots.

There are no remaining Old Filed Map subdivisions in the proposed Sewer District and most areas containing small lots (e.g., the subdivision along the west side of the Sewer District), are developed. The project does, however, promote the consolidation of very small substandard sized lots for planned redevelopment and such land assembly is considered achievable in some areas. It should be noted that the community of Riverside is itself a clustered development ensconced within thousands of acres of preserved land surrounding it. Moreover, some of the land in the proposed Sewer District has already been acquired by the Town and County, which has further reduced the size of the area available for economic development and revitalization and thereby creating an area that is most suited for compact development and redevelopment.

(3) New sewage treatment plants should only be provided where it is essential to maintain or improve water quality.

Connection to an STP is necessary to develop at densities needed to achieve the community's fiscal, social, and economic goals while protecting sensitive environmental resources in the area, including critical groundwater supplies and the Peconic River and Estuary to the maximum extent practicable. Redevelopment and growth in the proposed Sewer District, in accordance with the adopted ROD standards, and Proposed Action will have the benefit of eliminating numerous individual on-site cesspools and septic systems that provide limited wastewater treatment. At the same time, replacement of these systems with the proposed state-of-the-art STP will provide the highest level of treatment possible and is expected to improve rather than just maintain ground and surface water quality. Providing sewers in the area will not only help to eliminate existing septic systems and cesspools on small, often substandard size lots, but will also lessen the likelihood of additional sanitary systems being installed in the area in the future that would only exacerbate water quality conditions.

(4) Regulation of wastewater discharges

The SCDHS, SCDPW, and NYSDEC have primary review and approval authority over wastewater treatment options, siting, design, and wastewater discharges. NYSDEC is responsible for administering the State Pollution Discharge Elimination Systems (SPDES) wastewater permit program created through Article 17 of the Environmental Conservation Law (ECL) entitled "Water Pollution Control." State and County regulatory agencies require adherence to construction standards, periodic effluent sampling, compliance with specified effluent performance standards, the training of facility operators, and enforcement. SCDHS and SCDPW also have authority over the approval of certain types of facilities. SCDHS primarily oversees wastewater disposal, but the DPW is responsible for overseeing County owned treatment works or STPs.

The proposed STP is as close as 500± feet from the northern boundary of the SGPA and the 100,000-acre Central Pine Barrens within an area that is designated as a pine barrens development rights receiving area in the Town's LI-40 light industrial zoning district. The site is centrally located in the Riverside community, which itself is a clustered area of development that is outside but adjacent to extensive preserved open space to the south.

A balance has been struck to identify the most appropriate locations for the proposed STP and leaching area which is proposed at the north end of these CEAs, but also far enough to maximize the protection of the river and estuary. Siting the STP/leaching area also involved determining the maximum depth to groundwater possible and longest time

of travel to the estuary, where land of that is undeveloped and of sufficient size was available, and preferably owned by the Town.

The proposed STP will be a state-of-the art system, either membrane bio-reactor (MBR) or sequencing batch reactor (SBR) (preferred alternative) in accordance with the Technical Design report, that will provide the highest level of sewage treatment practical (tertiary level) and can meet the approval of SCDHS and other applicable agencies. The facility, its discharge and upgradient and downgradient groundwater will be periodically monitored, and the facility maintained to ensure final discharge that complies with specified standards.

(5) Limiting the creation of turf areas, selecting grasses and groundcovers that require minimum fertilization and watering, landscaping with plants that are relatively disease-resistant, use of slow-release fertilizers.

These recommendations are not specific but are consistent with the policies of the Central Pine Barrens Comprehensive Land Use Plan and the Town's APOD and CPBOD, which were previously discussed in detail. The Plan and APOD restrict the establishment of fertilizer dependent landscaping to a maximum of 15 percent of a site (or a maximum of 15 percent or 20,000 SF in the APOD), both have clearing limitations, and both promote the use of well adapted native plant species. The Proposed Action will comply with these standards, except that some relaxation of clearing is necessary with mitigation based on the previous Theoretical Development Scenario and proposed sewer infrastructure. Although land must be cleared to accommodate the proposed leaching fields, these areas will be seeded with plants and groundcovers that are native to the pine barrens or that are well enough adapted to conditions to not require ongoing watering and fertilization.

(6) Reducing development density and preserving open space.

As previously discussed, there are thousands of acres of preserved land in the surrounding area and several large parcels within the proposed Sewer District and ROD which have been preserved as open space and are used as wildlife habitat. Establishing limited dense growth areas within the boundaries of the Community of Riverside or in certain locations such as established Pine Barrens Plan Development Rights Receiving Areas has helped to control growth, sprawl, and reduce dense development from being established throughout the Central Pine Barrens. Moreover, the RO-7 (RPL) Zone established for Riverside in 2015 specifically precludes future development on certain properties within the Riverside Hamlet and Sewer District, thereby moderating growth, supporting open space preservation, and ensuring the protection of sensitive land and dedication of essential outdoor recreational facilities for current and future generations.

It is also imperative that a balance be struck between environmental protection and essential land use, social and economic considerations. The proposed STP will help to achieve numerous long-standing social, economic and fiscal goals which are seen as imperative to revitalizing the area and assuring the long-term success, sustainability, and critical resource protection in the Riverside community. Moreover, this dense and compact development is consistent with the recommendation for clustering development in Riverside with surrounding land preservation, as suggested by the SGPA Plan. Future development in the district supported by the proposed STP will be subject to numerous controls to ensure that uses are "clean" and critical natural resources are protected.

(7) Limit industrial and non-essential commercial development and when permitted retain natural vegetation on-site.

The current action to construct an STP and associated facilities does not involve the construction of an industrial or commercial use but instead essential community infrastructure on 11.45± acres on industrially zoned land that has been acquired by the Town. The proposed STP will replace what would otherwise be a future industrial development on the site and will help to protect groundwater once existing and proposed structures are connected.

(8) Designating SGPAs as critical environmental areas.

This recommendation has been implemented pursuant to Section 617.14 (g) of SEQRA since the time of the SGPA formation. The previous ROD and RRAP and currently proposed Action are Type I actions under SEQRA. The prior DGEIS and this SDGEIS provide the requisite analysis of potential impacts and mitigations required for SGPAs. It is expected that the proposed STP will have a positive overall effect on the environment including the SGPA by providing the highest sewage treatment possible and reducing overall nitrogen concentrations in groundwater.

(9) Wellhead protection programs including ensuring land use regulations, nonpoint pollution controls, and identification of areas of protection around wellheads.

Public drinking water mains are available throughout the Riverside community. The closest public water supply wellfield (Riverhead Water District's Pulaski Street wellfield) is approximately 4,500 feet from the proposed Sewer District and up-groundwater gradient while the closest Flanders Distribution Area wellfield (Oak Avenue) is 1.6 miles from the proposed Sewer District, is also upgradient of the STP site, and this wellfield's groundwater contributing areas are nowhere near the Sewer District.

In regard to private wells, some existing land uses in Riverside may still rely on private wells for water. The proposed STP and associated facilities are subject to a variety of setback requirements including a minimum 150-foot setback from private wells, or else the well user must connect to a public water supply. Lots that are redeveloped in the future will be compelled to connect to existing water mains in the area and any on-site wells will be abandoned in accordance with applicable standards. Septic systems and cesspools will also be removed at future redevelopment sites and new development connected to sewers thereby providing greater protection of any remaining private wells in the area.

(10) Utilization of wells that are located on publicly owned preserved open spaces and parklands.

Development in Riverside that is connected to the public water system use the Oak Avenue well as its source.

(11) Clean-up of contaminated sites.

The proposed STP, leaching areas and connecting force main are located in undeveloped areas that have not been contaminated by past activities. Future redevelopment in the proposed Sewer District under the 2015 overlay zoning and Theoretical Development Scenario will provide opportunities to cleanup as many as 17 individual properties within the ROD and Sewer District identified as "Sites of Environmental Concern" by NPV in 2015 due to past or present uses and site contamination revealed through a comprehensive review of available records (Toxics Targeting database search), and a preliminary field inventory conducted by NPV. Future demolition and redevelopment at these sites will be preceded by Phase I Environmental Site Assessments (ESA) and subsequent Phase II ESAs, if necessary, to fully identify and rectify any remaining hazardous conditions including soil contamination from floor drains, fuel storage tanks, past outdoor leak, storage, or spill locations, drywells and other drainage leaching structures, and septic systems and cesspools. Assessments of the potential for the presence of asbestos containing materials (ACM) may also be necessary at some non-sewer sites depending on the age of the structure. In addition, developed sites that have not been identified as having specific environmental concerns, will nevertheless be subject to SCDHS sanitary system removal/abandonment standards and practices.

(12) The SGPA Plan also provides a few site-specific recommendations associated with golf courses, farmlands, dwarf pine barrens, conversions of certain obsolete and intensive land uses, etc.

None of the identified sites or use-specific recommendations of the SGPA apply to land to be utilized by the proposed STP, leaching areas, force mains or gravity sewer lines or that are in the proposed Sewer District. Aside from the mention of preserving land along the Peconic River, which was previously discussed as being addressed in large part by large tracts of land that have already been preserved, there are no other recommendations that can be construed as directly and specifically applicable to the proposed Sewer District and associated facilities. Moreover, as previously noted, since the completion of the prior GEIS and Findings Statement, an additional 40.3 acres of land has been acquired by the Town that is outside but adjacent to the northeast side of the proposed Sewer District along the Peconic River in Riverside.

NYSDEC Freshwater Wetlands and Adjacent Areas

NYSDEC freshwater wetlands and/or their adjacent areas defined as 100 feet upland of delineated wetland boundaries that fall within or adjacent to the proposed Sewer District are identified by the Town to be a CEA. These features are generally located:

- north of SR 24 along the northwestern boundary of the Study Area;
- north of SR 24 and across from Suffolk Federal Credit Union between SR 24 and the river;
- south of SR 24, adjacent to the Little Peconic River, near the western boundary of the Study Area;
- adjacent to a small freshwater pond located east of Lake Avenue and its intersections with Pegs Lane and Woodhull Avenue;
- around two small ponds located south of Pond Drive; and
- on the east side of the eastern boundary of the proposed Sewer District near Whitebrook Drive.

Figure 3-2 shows the locations of NYSDEC regulated freshwater (and tidal) wetlands in or adjacent to the proposed Sewer District.

NYSDEC regulates these areas pursuant to Article 24, "Freshwater Wetlands," Title 23 of Article 71 of the Environmental Conservation Law and its implementing regulations set forth by 6 NYCRR Parts 663, 664, and 665. The NYSDEC requires the issuance of a freshwater wetlands permit before allowing almost any activity that may adversely impact the natural values of the wetlands or their adjacent areas. Some types of activities that require a permit include:

- construction of buildings, roadways, septic systems, bulkheads, dikes, or dams;
- placement of fill, excavation, or grading;
- modification, expansion, or extensive restoration of existing structures;

- drainage, except for agriculture; and
- application of pesticides in wetlands.

Freshwater wetlands that are regulated by the NYSDEC are also regulated by the Town's wetlands permit requirements which include similar wetlands protection techniques. The standards implemented are, however, often more stringent when applied by the Town. Common techniques used to protect wetlands include but are not limited to minimum wetlands setbacks, non-disturbance buffers (no clearing, digging, dredging, filling, etc.), restrictions on constructing or storing potentially hazardous uses near wetlands, implementation of erosion and sedimentation controls to protect these features during development, etc. These techniques are usually sufficient to protect these CEAs.

Pursuant to Section 325-7B(17), the installation of utilities greater than 75 feet from unbulkheaded wetland boundaries are eligible for an Administrative Wetlands Permit. Moreover, structures located greater than 25 feet from an unlined, man-made recharge basins which contain wetland vegetation, are also eligible for an Administrative Wetlands Permit, pursuant to Section 325-9 (Standards for issuing a permit) of the Town Code. Therefore, installation of the sewer mains and construction of proposed Pump House 2 will be subject to an Administrative Wetlands Permit, pursuant to Section 325-7B(12) of the Town Code. In the event that the location of existing underground utilities precludes the installation of sewer mains is less than 75 feet from wetlands, the Town can seek relief from the Town of Southampton Conservation Board.

Peconic Bay and Environs

The proposed Sewer District is adjacent to the tidal portion of the Peconic River which is part of the greater Peconic Estuary. The Peconic Estuary Program's Comprehensive Conservation and Management Plan (CCMP) identified the Estuary as a critical natural resource area (CNRA). CNRAs are described as geographic locations that contain significant biodiversity that warrant an additional level of protection to preserve or safeguard their unique and sensitive ecological and environmental characteristics **(Peconic Estuary Program, 2001)**. This CNRA includes a large expanse of land including property located along the Peconic River in Riverside and Flanders, as well as the southern half of the Peconic River watershed.

Future development should be undertaken in a manner consistent with the spirit and intent and the general recommendations of the 2001 Peconic Estuary CCMP and its 2020 update, including the management of brown tide, nutrient loading, compliance with the existing TMDL standards or reduction of nitrogen concentrations and improvement to overall surface water quality, mitigation of pathogens and reduction of toxic materials, impacts on habitats and living resources, critical lands, as well as public education and outreach. Connecting future

development to sanitary sewers, promoting the retention of native vegetation and restricting the establishment of fertilizer dependent vegetation, controlling stormwater discharges, preserving areas identified as the RO-7 RPL (Recreation and Parklands) Overlay District, and addressing potential pet waste will all help to reduce nitrogen loading to the Bay, maintain or help to regenerate oxygen concentrations in Bay waters and help in addressing pathogens. Moreover, the overall purpose of the CPB Plan as noted in the Long Island Pine Barrens Protection Act is to provide standards and guidelines that protect the Central Pine Barrens - Peconic Bay system which are inextricably connected. Sewering the Hamlet and connecting existing substandard onsite sanitary systems to the proposed STP for tertiary level treatment will help to reduce nitrogen concentrations in the Estuary. See previous CPB Plan and APOD CEA discussions regarding ground and surface water protection and ecological conservation.

Summary

The above-described CEAs and the policies that have been assigned to them are very thorough and address the typical concerns that could be raised regarding the proposed sewer infrastructure and future land development and redevelopment activities in or adjacent to them. Impacts will occur if and as future development and operational activities fail to conform to them, except as such projects may be exempt, waived or modified pursuant to regulatory authority and procedures allowing such relaxation after careful examination and implementation of any necessary mitigation measures. The portion of the proposed Sewer District located south of SR 24 is within a Central Pine Barrens Compatible Growth Area/CPBOD, APOD, and Central Suffolk SGPA but also contains 47.5 acres that have been duly designated as pine barrens transfer of development rights (TDR) receiving areas. Based on this designation and the potential for at least double density on this land without necessarily connecting to an STP, it appears that past planning and environmental assessments associated with the Central Pine Barrens CLUP, as well as the Town's adoption of implementing regulations under its CPBOD, that some additional development density in the area is appropriate and acceptable after consideration and balancing of multiple environmental, social and economic factors, including installation of an advanced STP to minimize impacts.

5.2.2 Other Regulated Environmental Districts

New York State Coastal Boundary Area and 2016 Town of Southampton Coastal Resources & Water Protection Plan

The Area north of SR 24 in the Sewer District is located within New York State's Coastal Boundary and the entire Sewer District is located within the 2016 Town of Southampton Coastal Resources & Water Protection Plan (SCRWPP) boundary.

The State Coastal Management Program (CMP) provides a framework for federal and State agency decision-making which affects the coastal area. It provides statements of policies to which agencies must adhere and serves as a reference for local government action in the coastal area. Policies promote the beneficial use of coastal resources and prevention of their impairment, and management of major activities substantially affecting coastal resources. Areas that are subject to review are those located within New York State's Landward Coastal Boundary as depicted on the New York State's Coastal Atlas **(NYSDOS Office of Planning and Development, 2023)**. Based on this map, all land located north of SR 24/Flanders Road is within the State's Landward Coastal Boundary Area and only proposed Pump Station No. 2 is in this area.

The purpose of the Plan and its many policies is to assist the Town in protecting the waters of the Town, the waterfront area, and associated resources. The scope of the Plan recognizes the complexity and diversity of the resources and land uses that define the waterfront area including the:

- fish, wildlife and ecosystems on which they depend;
- salt, brackish and fresh waters, both on the surface and in the groundwater, and their quality and physical character;
- beaches, dunes, and bluffs and processes that continually reshape them;
- agricultural lands and the farmers and economic conditions necessary to make them productive;
- landforms and landscapes and how they contribute to the visual enjoyment of residents and visitors;
- boating, swimming, and general public access to the water and the infrastructure they require;
- commercial and recreational fishing and shellfishing and the health of the fisheries on which they depend;
- historic and archeological resources that contribute to an understanding of the past; and
- the pattern of development—commercial, residential, and open space—and how it will change in response to natural hazards and population growth.

According to the Town's Coastal Resources & Water Protection Plan:

> The most broadly significant water quality issue in the Town of Southampton is related to the quantity and quality of wastewater discharged into the environment. Analyses of many sub-watersheds in Southampton (and the surrounding areas) show that cesspools and septic systems contribute roughly half of the nitrogen entering many of the sub-watersheds modeled. Existing developments constructed prior to 1973 (roughly 24,000

buildings [in the Town]) use cesspools to contain solid and liquid wastes in a retention system. Effluent from these cesspools can leak into the surrounding environment. Developments constructed after the Statewide implementation of building codes in 1973 are required to install a septic tank to provide some treatment to the wastewater; but without required regular maintenance of septic systems, there is no way to guarantee that technologies are functioning appropriately. Moreover, there is no system in place to ensure that the onsite waste water treatment system is adequate for the actual number of people in a dwelling. Additionally, while the systems approved by the County obtain better nutrient reducing results than cesspools, they still do not provide nitrogen removal to the extent needed to minimize impacts on the marine environment. New denitrification technologies can provide even greater levels of treatment, and the County is evaluating these technologies to determine whether or not they are appropriate for approval.

(Urban Harbor Institute University of Massachusetts Boston, 2016)

The area located north of SR 24 will not be disturbed or directly affected by the preferred sewering plan with the exception of the installation of a precast concrete pump station next to existing NYS stormwater recharge basin. The pump station will be installed over 500 feet from the closest surface water body (a brackish and tidally influenced section of the upper Peconic River that eventually discharges to Flanders Bay). The pump station will be self-contained, water-proofed and will have no significant impact on coastal waters.

Also, one of the alternative's examined by this SDGEIS (Alternative 2: Discharge of Treated Effluent to Constructed Wetlands) includes a constructed wetland with corresponding sewer main and discharge in this area. If a Constructed Wetland is ultimately determined to be the best option for effluent discharge, a Coastal Consistency Review of this feature and associated driveway and force main should be conducted; however, this alternative is not the currently preferred action. (The "Alternatives" section of this SDGEIS **(Section 9)** examines this alternative further). Overall, the proposed action seeks to protect public health and prevent or reduce environmental impacts with very little nearby construction or disturbance and numerous controls put in place as described throughout this SDGEIS and the previous GEIS. Most land north of SR 25 is now publicly owned with little future development (if any) likely. Land in this area is therefore expected to be used primarily as open space and possible future public access to the river consistent with the Town's coastal policies. The proposed project will have no impact on the use of coastal resources. Based on the nature of the project and the above considerations, the proposed infrastructure is considered beneficial and consistent with the Town's coastal policies.

New York State Wild, Scenic and Recreational Rivers

As shown in **Figure 6-1**, a portion of the west side of the proposed Sewer District, including a few commercially developed parcels located southwest of the traffic circle, the Woodhull Avenue/Pegs Lane subdivision, several small developed single-family residential lots along the south side of Maynard Street, land that is part of the David A. Sarnoff Pine Barrens Preserve, and an adjacent vacant/wooded parcel to the east of the Preserve are located within a New York State (WSRR) "Recreational" area. WSRR Recreational area does not include land in the proposed Sewer District along the Peconic River, but instead is associated with land that is upstream and adjacent to the Little Peconic River tributary, which flows in a northerly direction between the westerly boundary of the proposed Sewer District and the Evan K. Griffing Center to its confluence with the Peconic River at Grangebel Park.

Although WSRR Recreational areas are not CEAs, *per se*, these areas are important natural resource management areas that must be considered as part of this review. The Wild, Scenic and Recreation Rivers Act is the basis for a statewide program which was created to protect rivers of New York State and their immediate environment for the benefit and enjoyment of present and future generations. That is, many rivers of the State, including sections of the Peconic River, Little Peconic River, and their immediate environments, are said to possess outstanding natural, scenic, ecological, recreational, aesthetic, botanical, fish and wildlife, historical, cultural, archaeological and scientific values, and are therefore, worthy of protection and are regulated by the NYSDEC, through its WSRR permitting process **(NYSDEC, 2023)**.

In general, WSRR regulations include management, protection, enhancement and oversight of land use and development in these areas. Before a river system permit can be issued by the NYSDEC, the Department must first determine that:

1. The proposed land use or development is consistent with the purposes and policies of the Act and with the provisions of 6NYCRR Part 666;
2. The resources specified in Section 666.2(e) will be protected and the proposed activity will not have an undue adverse environmental impact;
3. No reasonable alternative exists for modifying or locating the proposed activity outside of the designated river area; and
4. Actions proposed to be undertaken by state agencies are designed to preserve, protect or enhance the resources and values of designated rivers.

The proposed STP, leaching area and pump stations are not located in the WSRR area except for underground sewer mains which will have no significant adverse impact on the WSRR.

Suffolk County Comprehensive Water Resources Management Plan

The Suffolk County Comprehensive Water Resources Management Plan (SCCWRMP) was developed by the Suffolk County Department of Health Services in recognition of the importance of developing strategies and actions to address negative trends in water quality, degradation of wetlands and seagrass beds, diminished shellfish and fisheries, and to address coastal resiliency and sea level rise. The goals of the SCCWRMP include goals for groundwater resource management, drinking water supply goals, surface water resource management, and wastewater management.

The critical findings of the SCCWRMP include:

1. Downward trajectory of water quality, due to contamination from nitrogen, volatile organic chemicals, pesticides, pharmaceuticals and personal care products.
2. Surface water impairments due to excess coliform bacteria and nitrogen have caused many of the of the water bodies surrounding Suffolk County to be designated as impaired by the NYSDEC. Brown tide algae invasions have obliterated shellfish habitat. There was a loss of 18-35% of tidal wetlands and seagrass beds have been reduced by 90%.
3. Nitrogen from unsewered areas threatens water quality and human health.

The Plan also addresses sea level rise, and the implications for infrastructure, such as stormwater and wastewater collection, disposal systems, and water supply, and the need to improve coastal resiliency. Specific management actions, potential partners, and funding for implementation to achieve the goals and objectives are discussed in the SC CWRMP. Approaches for mitigating these concerns are discussed in detail throughout this SDGEIS as they relate to stormwater; erosion and sedimentation control; wastewater collection, treatment, and disposal; groundwater, surface water and wellhead protection; and other aspects of this environmental review.

5.3 Mitigation Measures

- The section of Enterprise Zone Drive to be removed and remain undeveloped will be replanted/ restored with pine barrens vegetation. Areas to be used for wastewater discharge and leaching will be reseeded with an appropriate seed mix, preferably, consisting of pine barrens compatible species that are drought tolerant and require minimal irrigation and no fertilization once established. Consult Figure 5-2 of the Central Pine Barrens Comprehensive Land Use Plan for native pine barrens planting suggestions.
- Invasive species listed in Figure 5-2 of the Central Pine Barrens Comprehensive Land Use Plan or in New York State Prohibited and Regulated Invasive Plants **(NYSDEC and NYSDAM,**

2014) shall not be used to revegetate STP, leach field, pump station or force main installation sites.

- Future development must comply with all applicable standards and requirements of the APOD and CPBOD and be consistent with the guiding principles and recommendations of the Central Pine Barrens CLUP and the Peconic Estuary Conservation and Management Plan and area TMDL standard, except as may be waived or deemed exempt pursuant to applicable laws and procedures after review and consideration by the agency or board overseeing the review and having authority over consistency and compliance.
- Install drainage infrastructure consistent with Town design and capacity requirements to capture and recharge stormwater runoff generated by sewer improvements including but not limited to the STP, paved access driveway(s), parking areas, and the new section of Enterprise Zone Drive. Incorporate green stormwater infrastructure such as vegetated swales and rain gardens if and as practical.
- The proposed sewer facilities will allow development, redevelopment and additional development density within the Riverside Sewer District. Future development or redevelopment within the Sewer District shall comply with all applicable environmental mitigations, standards and requirements identified in the adopted December 22, 2015 GEIS Findings Statement for the Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan and Zoning Map and Code Amendments.
- Obtain a Town of Southampton Administrative Wetlands Permit, or relief, for the installation of the proposed sewer mains and Pump Station 2.

SECTION 6.0
LAND USE, ZONING AND PLANS

6.0 LAND USE, ZONING AND PLANS

6.1 Existing Conditions

6.1.1 Land Use

There are several basic characteristics that define land use conditions and development patterns in the Riverside community. These include:

- The Hamlet's close association with downtown Riverhead;
- Clear and present need for eliminating poverty, building vacancies, and blight through local investment, economic development, job creation, and area revitalization;
- Abundant and critically important natural resources, environmentally sensitive areas, and preserved open spaces;
- Past and present haphazard development pattern that current zoning seeks to address, overall poor condition and maintenance of the developed environment, and limited aesthetic character;
- The multitude of zoning districts and mix of land uses and spatial patterns that prior zoning had fostered; and
- An inability for the Hamlet to function as a cohesive, successful and sustainable community leading to the adoption of the RRAP and ROD.

The Hamlet of Riverside (i.e., Riverside Census Designated Place) encompasses a total land area of 5.2 square miles of which 5.1 square miles is uplands and 0.1 square miles is underwater land, while the Riverside Study Area, itself, consists of 467.6 acres or about 0.73 square miles. The communities of Riverside and downtown Riverhead are closely connected by several factors that go beyond their obvious geographic proximity, access over some of the same streets, and sharing of the Peconic River and its associated resources and attractions. For example, Riverside is served by the Riverhead School District and Riverhead Fire District, it falls within the Riverhead postal district, and residents of the two communities commonly work, shop, and recreate at the same places. In fact, many facilities that are located within Riverside, such as the Suffolk County Jail, County office facility, and traffic circle are routinely mistaken as being within the Town of Riverhead. The effect of this relationship, therefore, is arguably, the absence of the Hamlet's own unique identity and sense of place.

Development along SR 24 and portions of several other major roads that merge at the traffic circle includes mixed commercial, industrial, residential, and institutional land uses, vacant/

boarded-up buildings, and vacant land with some recent and pending redevelopment nearby. Development along the SR 24 corridor is spread out, inconsistent in terms of use (e.g., commercial building next to a single-family home next to a vacant lot, next to a vacant building, etc.), one-story rather than two or three-stories, and there are no significant business anchors, the business district does not function as a compact, walkable and vibrant hamlet center.

Developed land outside the immediate corridor area consists primarily of an intermittent mix of medium to high density/small lot single-family residential neighborhoods and mobile home parks, vacant lots or buildings, light industrial development, and scattered institutional facilities. The general land use and development pattern in the Study Area is shown in **Figure 6-1** and is summarized as follows:

Single-family residential neighborhoods are present primarily south of SR 24 along the eastern and western boundaries of the study area as well as some areas adjacent to the southern boundary. These neighborhoods are generally small lot, densely developed neighborhoods in the R-15 zone that rely on individual onsite septic systems or cesspools. Specifically, these areas include land along:

- Woodhull Avenue, Pegs Lane, Lake Avenue (CR 63), and Maynard Street to the west;
- Ludlam Avenue, Pebble Way, Phillips Avenue, White Brook Drive, Brown Street, and Goodridge Avenue, to the east;
- Along Old Quogue Road, Vail Avenue and Pine Street; and
- Small pockets of single-family development or individual isolated house lots scattered throughout the proposed Sewer District.

Manufactured home parks are found at the south end of the Study Area off of Riverleigh Avenue (CR 104) and on the north side of SR 24 along the Peconic River, opposite Enterprise Zone Drive and the Peconic Mini Storage facility. In total, there are three mobile home parks in the proposed Sewer District, each of which relies on individual onsite septic systems or cesspools. The largest is the Riverwoods/MacLeod community located on the south end of the Hamlet on the west side of Riverleigh Avenue. The two smaller mobile home parks are located adjacent to one another between Flanders Road and the River, one of which has been identified as the Parkview community. The manufactured home parks are generally densely developed and are unsewered.

Commercial development exists primarily around the traffic circle, along Riverleigh Avenue and Lake Avenue (near the traffic circle) and at intermittent sites along SR 24. Commercial uses include but are not limited to several gasoline filling stations (one of which has been closed for years), convenience stores, a beverage distributor, hotel, credit union, a fast-food restaurant,

deli, a graphics business, billiard table sales and service business, antique shop, hair salon, barber shop, scuba diving equipment retailer, auto sales, auto repair, and other small miscellaneous retail and personal services businesses. A few vacant commercial buildings were also noted. Most commercial lots are small and commercial buildings are detached and contain just one use, rather than several uses as is the case with strip commercial developments. Commercial land uses in Riverside utilize their own septic system or cesspool for waste disposal needs, including a small hotel.

Industrial land uses are limited and are relatively dispersed in the proposed Sewer District. The three largest developed industrial sites in the proposed Sewer District are located within or adjacent to the Southampton Enterprise Zone Subdivision which has a few additional light industrial or heavy commercial uses than it had in October of 2015 including a construction contractor, auto repair shop, HVAC business, rental business, marine electronics and others. Other industrial uses in the Sewer District include a glass and mirror shop (south side of SR 24), an auto salvage yard and junk yard (along Old Quogue Road) and a few small sites that now contain vacant buildings. Several industrial lots remain undeveloped. Auto repair is also sometimes considered a light industrial use based on the type of work and materials used.

Institutional land uses are widely dispersed throughout the proposed Sewer District and include: Phillips Avenue Elementary School (off of Phillips Avenue, south of the Southampton Enterprise Zone subdivision) which is the largest institutional use in the Sewer District; Southampton Head Start (off of SR 24, west of Suffolk Federal Credit Union); several places of worship (one on the west side of Riverleigh Avenue, one on the west side of Old Quogue Road, and another on the north side of SR 24); a social/fraternal lodge (Masonic Temple) (on the north side of SR 24 and west side of the State recharge basin), and a State Police barracks along Riverleigh Avenue, approximately 500 feet southeast of the traffic circle.

Vacant land is located primarily north of SR 24 adjacent to the river, along the west side of the Southampton Enterprise Zone industrial subdivision where the STP and leaching area are proposed, on a long rectangular wooded parcel (SCTM: 900-139-3-10.2) adjacent to the west of the Enterprise Zone subdivision which extends between SR 24 and Old Quogue Road, and within an undeveloped six-lot residential subdivision that is adjacent to Lot 10.2. In addition, there are some very small vacant lots scattered throughout the single-family residential neighborhood near the center of the Sewer District. Vacant lots include both publicly and privately-owned properties and several appear to be owned by adjacent property owners, to create larger, more useful and more conforming lots. The current and future dispositions of some of the vacant publicly owned land in the Sewer District are unknown or not currently available and therefore are not confirmed parks or public open spaces. See **Figure 6-2** (Ownership Map). Most important

in terms of the current review are the sites identified for the STP and leaching area which are all vacant properties located within the Enterprise Zone subdivision. Developed sites containing vacant and sometimes boarded-up buildings are also present in the proposed Sewer District.

Parks, open space, and wildlife preserves are prevalent throughout Riverside, especially outside but adjacent to the Sewer District and these preserved spaces serve to create well-defined boundaries for development in the hamlet. This includes both land resources within the Central Pine Barrens and water resources such as the Peconic River and Little Peconic River and the tidal creek to the east. Nevertheless, several properties within the Sewer District comprising an estimated 57.64 acres have also been preserved for one or more of these purposes. Preserved land within the proposed Sewer District includes two large Town-owned parcels located north of SR 24 on the east side of the Study Area; Town-owned land at the northeast corner of the intersection of Ludlam Avenue and Old Quogue Road (Ludlam Avenue Park); County-owned land situated southeast of the intersection of Maynard Street and Lake Avenue (CR 63) which contains a freshwater pond and is contiguous to the David A. Sarnoff Pine Barrens Preserve; and Town-owned land located at the northwest corner of the traffic circle between Peconic Avenue and Nugent Drive (CR 94).

The Town also recently acquired 40.3± acres located outside but adjacent to the northeast corner of the Sewer District. This area contains dredge spoil deposits, freshwater wetlands, high marsh, salt marsh, intertidal marsh, and is adjacent to a tidal creek system. A small portion of this land is being considered as a possible site for a constructed wetland that would accept treated wastewater from the STP if the proposed leaching site is not preferred, and therefore has not been dedicated as parks, open space or preserves (see), but is expected to be at least partially used if not fully used for long-range environmental protection in the future.

Transportation land uses include State and County arterial highways and local streets as well as three lots containing or designated for existing or proposed stormwater recharge basins, including two Town-owned lots, one located on the west side of the Southampton Enterprise Zone Subdivision and one located off of Pebble Way, and a NYSDOT recharge basin on the north side of SR 24, adjacent to the Masonic Temple. The Riverside section of SR 24 is an important multifunctional roadway. The road is a regional arterial serving the area's local commercial and residential uses and also facilitates waterfront access. Development along this roadway has faced many challenges in the past, particularly during the prior recession and more recent pandemic, which resulted in a high number of vacant and derelict buildings throughout the corridor and surrounding area, while the approved BOA, Revitalization Action Plan, and zoning provide new opportunities. **Table 6-1** in **Section 6.2.2** shows the total number of lots and total acreage for each general land use classification.

Proposed Sewer District Infrastructure Sites

As previously noted, the prior GEIS included a thorough analysis of future land use and potential environmental impacts associated with future development based on a theoretical buildout condition under the ROD. The present analysis focuses on those areas and environmental resources in the proposed Sewer District that may be affected by future construction and operation of sewer district infrastructure.

STP and Subsurface Leaching Areas: The proposed STP, leaching areas, expansion areas, required setbacks, and STP force main connection are proposed on the west side of Enterprise Zone subdivision on seven contiguous lots identified as SCTM Nos: 900-141-1-9.14, 9.17, 9.25, 9.29, 9.30, 9.31, and 9.32. Each lot is owned by the Town or in the case of Lot 9.17, is pending Town acquisition, and were purchased for the sole purpose of constructing publicly owned infrastructure (STP). The lots are zone LI-40 (Light Industry) and Special Overlay Zone (RO-3), are all vacant, although three were cleared in the past, and have a combined area of 11.45 acres including the removal and relocation of a small section of Enterprise Zone Road as shown on the proposed plan.

Pump Station No. 1 Site: Proposed Pump Station No. 1 will be located on the east side of Riverhead-Moriches Road/Lake Avenue (CR-63) and the west side of the existing Budget Hotel property (SCTM #900-138-2-29.1) south of the hotel buildings in an area that is already cleared.

Pump Station No. 2 Site: North side of Flanders Road (SR 24) on land owned by the State of New York and used in part for stormwater recharge (SCTM #900-118-2-20.2) (*NYS stormwater recharge basin/currently vacant*).

Pump Station No. 3 Site: West side of Riverleigh Avenue, north of the Riverwoods community and Calvary Baptist Church and south of Quality Collision and Automotive Care on vacant land identified as SCTM #900-139-2-82.1 (*currently vacant*).

Pump Station No. 4 Site: North of the intersection of Old Quogue Road and Ludlam Avenue and west of the Ludlam Park baseball field's outfield in a currently cleared area (SCTM #900-140-2-57.1) (*Ludlam Park/public open space and recreation/currently vacant*).

Force main between Pine Street and STP: SCTM #900-139-2-24, & 26; 900-139-3-10.2 & 23; and 900-141-1-9.29 and 9.32 (*currently vacant*).

Force main between Pump Station No. 3/Riverleigh Avenue and the terminus of Vail Avenue: SCTM lot #900-139-2-50.1, 51, & 54.1 (*auto repair, residence and undeveloped woodlands*).

Gravity main within an unopened private right-of-way: identified as SCTM #900-139-3-30.2.

Other force mains, low pressure mains, and gravity sewer mains in the collection system: along *Town, County, State and private road rights-of-way including unopened "paper streets")*.

6.1.2 Zoning

There are 13 standard zoning districts regulating land use within the proposed Sewer District that existed prior to the adoption of the ROD, including five single-family residence districts, six commercial districts, one light industrial district, and one open space conservation district. The pattern of zoning in the area indicates highly diverse mixed land use **(Figure 6-1)** and zoning patterns **(Figure 6-3)**.

Single-Family and Mobile Home Residential Districts

- Residence-15 (R-15)
- Residence-20 (R-20)
- Country Residence 40 (CR-40)
- Residence-80 (R-80)
- Mobile Home Subdivision (MHS-40)

Business Districts

- Highway Business (HB)
- Village Business (VB)
- Shopping Center Business (SCB)
- Resort Waterfront Business (RWB)
- Office Business (OD)
- Motel Business (MTL)

Industrial Districts

- Light Industry (LI-40)

Open Space and Recreational Districts

- Open Space and Conservation (OSC)

The proposed Riverside Sewer District is also located within the codified 2015 ROD area which was one of the main topics of environmental review by the prior GEIS. The ROD zoning, which may be requested by landowners/ developers at their discretion, was specifically created to achieve the land use goals of the community. Achievement of land use, zoning, and economic goals of the ROD depend in large part on establishing an STP to accommodate increased development density, while protecting public health and the environment.

The ROD consists of seven subzone overlay districts as follows.

- Hamlet Center Overlay Zone (RO-1)
- Hamlet Neighborhood Overlay Zone (RO-2)
- Special Overlay Zone (RO-3)
- Gateway Overlay Zone (RO-4)
- Suburban Overlay Zone (RO-5)
- Waterfront Overlay Zone (RO-6)
- Parkland Overlay Zone (RO-7)

Figure 6-4 shows the locations and geographic extent of each overlay zone.

The following is a summary of existing zoning on land that is proposed for sewer infrastructure improvements:

- STP Site and Sewage Leaching Area: Light Industry (LI-40) and Special Overlay Zone (RO-3);
- Pump Station No. 1 Site: Motel (MTL) and Riverside Hamlet Center Overlay Zone (RO-1);
- Pump Station No. 2 Site: Resort Waterfront Business (RWB) and Parkland Overlay Zone (RO-7);
- Pump Station No. 3 Site: Residence-15 (R-15) and Special Overlay Zone (RO-3);
- Pump Station No. 4 Site: Open Space and Conservation (OSC) and Parkland Overlay Zone (RO-7);
- Force main between Pine Street and STP: Residence-15 (R-15), Light Industry (LI-40), Hamlet Neighborhood Overlay Zone (RO-2) and Special Overlay Zone (RO-3);
- Force main between Pump Station No. 3/Riverleigh Avenue and the terminus of Vail Avenue: Residence-15 (R-15), Shopping Center Business (SCB), and Special Overlay Zone (RO-3);

- Gravity main along unopened private right-of-way identified as SCTM #900-139-3-30.2: Residence-15 (R-15) and Special Overlay Zone (RO-3);
- Other sewer mains: These mains will be located within Town, County, State and private road rights-of-way throughout the proposed Sewer District.

6.1.3 Plans

The Town and its various consultants have conducted or overseen numerous planning studies over the past several decades that recognized the need for redevelopment and economic revitalization of the Riverside community and protection of the environment. Recommendations from these plans focus on redevelopment, creating a more compact, walkable, physically integrated, economically sustainable, centralized, mixed-use hamlet center with an enhanced character and sense of place and an improved quality of life. To achieve these goals, however, requires new development and increased development density that in many cases exceed SCDHS' allowable sewer flow per Article 6 of the Suffolk County Sanitary Code.

The following is a chronological outline of previous plans and land use studies that address or target all or part of the Riverside community and the need for economic growth and revitalization. Studies that specifically focus on Riverside, also address the need for advanced sewage treatment to meet the needs of the Riverside community and protect the environment. The following studies and plans have been identified.

- 1970 Town of Southampton Master Plan;
- 1999 Comprehensive Plan Update ("Southampton Tomorrow");
- 2004 Flanders/Riverside/Northampton Revitalization Study;
- 2008 Riverside Hamlet Plan;
- 2009 Riverside Urban Renewal Plan (which also includes findings and recommendations from the 2006 Blight Study);
- 2011 Suffolk County Comprehensive Plan 2035;
- 2013 Draft Feasibility Study Map and Plan for Flanders and Riverside, Suffolk County, New York/ Flanders Riverside Corridor Sewering Feasibility Study;
- 2015 GEIS and SEQRA Findings Statement for the Riverside Brownfield Opportunities Area (BOA) Step II Nomination, Riverside Revitalization Action Plan (RRAP), and Riverside Overlay District Zoning Map and Code Amendments (ROD);
- 2016 Riverside BOA Step II Nomination;
- 2016 Riverside Revitalization Action Plan (RRAP);
- 2016 Town of Southampton Zoning Map and Zoning Code amendments for the ROD; and

- 2022 Riverside Revitalization Sewage Treatment Plant Clean Water State Revolving Fund (CWSRF) Engineering Report.
- 2022 Riverside Revitalization Sewage Treatment Plant and Collection System Value Planning Final Report.

To date, the main issue preventing the Town from fully achieving the goals and objectives of the above plans is the absence of sewers to safely accommodate growth while protecting sensitive groundwater and surface water resources.

The previous round of adopted comprehensive Riverside plans and studies, i.e., the BOA Step II Nomination Study, the RRAP and ROD were informed in part by earlier work, are examined in depth in the previous GEIS and were subject to considerable public and agency outreach and participation. The underlying agreed upon issues and recommendations that came from these studies and outreach were incorporated into the previously approved RRAP and ROD. Of particular note, is the recognized need and various recommendations for constructing a public sewer system to serve the Riverside community and future development under the RRAP and ROD. The need for public sewers to meet economic growth and community revitalization objectives, are consistent with public health and safety goals, protection of water resources, creation of jobs and affordable workforce housing, and will allow for the hamlet's long-range sustainability. Examples of past studies specifically addressing the need for sewers include the 2013 Draft Flanders Riverside Corridor Sewering Feasibility Study, the RRAP, and 2015 GEIS.

The 2015 GEIS notes that Riverside is not currently served by municipal sewage treatment facilities, nor does the Town of Southampton provide such services in the area; therefore, sewage disposal in Riverside currently involves the use of individual on-site septic systems, and quite possibly, older substandard disposal systems such as cesspools. Conventional on-site sewage disposal systems are designed to collect and dispose of sewage through the processes of solids settling, natural chemical and biological transformation that occurs in the septic tank, and/or soil surrounding subsurface leaching areas, and soil filtration. These systems provide only minimal treatment and provide little nitrogen removal which is critical to the protection of groundwater, wetlands and surface waters, especially tidal or brackish waters. Older substandard cesspools that were never replaced or upgraded may also be present in the area and provide even less protection.

STP project engineers, N+P, reached out to the Riverside Sewer District in a March 25, 2022 letter to open a dialogue on the possible conveyance of raw sewage from Riverside to the Riverhead Sewer District, or in lieu of treating all the sanitary waste generated by the proposed district, the conveyance and treatment of solids produced by the proposed Sewer District. N+P received a

letter dated June 28, 2022 from Riverhead Sewer District Superintendent, Michael Reichel, stating the following:

> I have received your letter requesting a meeting to discuss the proposed Riverside Sewer District. After meeting with my Town Board liaison, a meeting will not be necessary. The Riverhead Sewer District does not have sufficient capacity to accept the flow from your project. The Riverhead Sewer District code prohibits the acceptance of sewer sludge from other treatment plants. The district is in the process of upgrading its solids treatment system to process its sludge to Class A Biosolids. The upgrade is designed only to treat the sludge generated at the Riverhead Sewer Treatment Plant.

(Appendix K)

See also **Section 9** "Alternatives".

Remaining capacity in the nearby Town of Riverhead STP has been allocated to current and future development in Downtown Riverhead, which has been undergoing considerable growth and transformation in recent years, including several new large multistory buildings. Prior to that, Downtown Riverhead had been suffering from high commercial vacancies due to increased competition from big box stores, malls, and strip commercial development along Old Country Road (CR 58) and strain from the 2007-2009 "Great Recession," and more recently, Covid related stresses, prompting the need for increased investment, economic growth, and Downtown revitalization, requiring STP support.

In 2013, Suffolk County Department of Public Works commissioned a study to explore the feasibility of providing sanitary sewer service along the Flanders-Riverside Corridor including the area south of SR 24 in Riverside. The purpose was to advance prospects for business development and improve the local economy, expand housing opportunities, and protect the environment. This prior Feasibility Study addressed sewage collection, treatment and effluent discharge requirements, associated capital and operational costs, as well as the economic and environmental benefits associated with sewering the Flanders Riverside Corridor **(CDM Smith; H2M; and Bowne AE&T Group, 2013)**. The Study did not identify any existing STPs within a mile of the proposed Riverside Sewer District, and instead suggested that a new facility with advanced nitrogen removal and treatment capabilities be constructed.

Nitrogen treatment at existing or proposed facilities must comply with all SPDES discharge permit requirements, applicable standards and policies of the CLUP and Town Pine Barrens Overlay District, and Peconic Estuary Total Maximum Daily Load (TMDL) standards unless variances are

granted, and any associated mandated mitigations are implemented. If STPs are not constructed or not available for service or have the capacity to serve future development, then development density would have to be scaled back significantly to ensure that projected wastewater density loads do not exceed SCDHS flow standards for on-site septic systems (300 gpd/acre south of SR 24 and 600 gpd/acre north of SR 24). This would dramatically and adversely affect the possibility of stimulating potential growth in the area and reduce the ability to fulfill numerous community land use, zoning, and economic growth goals and objectives. The connection of future development to an STP with advanced treatment capabilities would significantly mitigate environmental impacts on groundwater and surface waters in the area.

6.2 Potential Impacts

6.2.1 Land Use

From a land use perspective, an STP and associated sewer facilities are best categorized as essential capital infrastructure or community services that are either publicly or privately owned and are provided to support growth, protect the environment, and achieve zoning's public health, safety and general welfare objectives. The STP will support additional mixed-use development and development density in the Hamlet as envisioned and fully considered by the prior GEIS and Findings Statement, while providing protection to human health and the environment and assisting in achieving the goals and needs of the community. The increase in density and types of new land uses that would be created, such as new businesses and affordable housing, and associated impacts from buildout on the community were determined to not significantly and adversely impact the environment based on identified mitigations established by the prior GEIS. The GEIS considered various environmental topics and identified numerous mitigation strategies to prevent or minimize density and land use related impacts such as traffic and identified the need for an STP and expected environmental benefits from its use. The current SGEIS, however, contains additional details and in-depth analyses of possible impacts and project benefits and examines possible methods and strategies for further mitigation, where possible.

6.2.2 Zoning

The Town's land use/zoning tables were reviewed to determine whether the proposed infrastructure improvements are permitted under current zoning. Based on this review, it was determined that public utility structures or rights-of-way, STPs and public water supplies that are necessary to serve the municipality are either Permitted or allowed by Special Exception Use Permit in all but two of the zones within the proposed Sewer District (MHS-40 and RO-7). A summary of the districts and whether the proposed improvements are permitted as-of-right,

permitted by Special Exception Use Permit or are prohibited are provided below in **Table 6-1** ("Underlying Zoning Districts") and **Table 6-2** ("Overlay Zones"):

TABLE 6-1
ZONING/LAND USE
(Underlying Zoning Districts)

Zone	P	SEP(1)	X	Proposed Improvement
R-15		X		PS #3; FM (Pine St. to STP); FM (Pump Station #3–Vail Ave.); GM (unopened private road)
R-20		X		N/A
CR-40		X		N/A
R-80		X		N/A
MHS-40			X	N/A
HB		X		N/A
VB		X		N/A
SCB		X		FM (PS #3–Vail Ave.)
RWB		X		PS #2
OD		X		N/A
MTL		X		PS #1
LI-40	X			STP; FM (Pine St. to STP)
OSC		X		PS #4

Notes:
P=Permitted, SE=Special Exception Permit, X=Prohibited; PS=Pump station; FM=Force main; GM=Gravity Main; Sewage collection mains will also be installed within road rights-of-way
(1) Under land use category: "Public utility structure or right-of-way, sewage treatment plant or water supply facility necessary to serve the municipality."
(2) Variance required (No variances are required)

TABLE 6-2
ZONING/LAND USE
(Overlay Zones)

Zone	P	SE	X	Proposed Improvement
RO-1	X			PS #1
RO-2	X			FM (Pine Street to STP)
RO-3	X			STP, PS #3; FM (Pine St. to STP); FM (Pump Station #3–Vail Ave.); GM (unopened private road)
RO-4	X			N/A
RO-5	X			N/A
RO-6	X			N/A

Zone	P	SE	X	Proposed Improvement
RO-7			**X**(1)	PS #2(2) / *PS #4(2)

Notes:
P=Permitted, SE=Special Exception Permit, X=Prohibited; PS=Pump station; FM=Force main; GN=Gravity Main; Sewage collection mains will also be installed within road rights-of-way.
(1) Wastewater treatment plants and utilities are prohibited; pump stations are not specifically listed.
(2) Variance required

All proposed sewage collection, treatment and disposal facilities are either permitted as-of-right or by Special Exception Permit in the proposed Sewer District except for Pump Stations 2 and 4 which are prohibited uses in the RO-7 Overlay District. The proposed pump stations in the RO-7 Overlay District include proposed Pump Station No. 2 which is located adjacent to the north side of SR 24 at the southwest corner of property owned by the State which is currently used as a stormwater recharge basin/public utility. Pump Station No. 4 is located on the west side of Ludlam Park along Old Quogue Road. Both proposed pump stations are on public land, are adjacent to the street, are currently vacant and essentially unused spaces, and would have very little impact on these sites and their resources. It is also noted that the existing underlying zoning of these two proposed pump stations is RWB and OSC, respectively, which allow such facilities pursuant to a Special Exception Permit. Based on the very small footprint of these pump stations, their adjacency to the street, and location on State and Town owned land, significant impacts are not expected contingent on consistency with Town Special Exception Permit standards. It should be noted that there is limited flexibility on where pump stations can be located due to topography (areas with the lowest surface elevations are in most need of pump stations) and land ownership, which is ideally publicly owned.

General Special Exception Use Standards

The proposed STP and subsurface leaching areas are within the LI-40 zoning district and are permitted uses in this district. As noted above, the four pump stations, one or more force mains and gravity mains are located in districts that require a Special Exception Permit.

Section 330-122 of the Southampton Town Code contains a list of general Special Exception Use standards for each Special Exception Use. An assessment of consistency is as follows:

A. Such use will be in harmony with and promote the general purposes and intent of this chapter as stated in § 330-3.

The proposed pump stations, force mains and gravity mains as proposed, are critical to the creation of the Sewer District and providing baseline community services and environmental protections for the Riverside community. The proposed Sewer District will provide various community benefits based on extensive community outreach and planning over several decades including but not limited to past Town master/comprehensive plans, a blight study, the RRAP, ROD and several other community-based plans. The Sewer District and proposed facilities are necessary to support local investment, economic growth and community revitalization, create sewering, construction, and future part-time and full-time jobs, expansion of housing opportunities, and enhanced social wellbeing and protection of the environment, especially surface and groundwater resources.

B. The plot area is sufficient, appropriate and adequate for the use and the reasonably anticipated operation and expansion thereof.

The proposed locations of uses requiring a Special Exception Use Permit are more than sufficient in size to accommodate the 1,225± SF pump stations and the estimated maximum 2,398± SF of clearing for these structures, while underground force mains and gravity mains require only minor subsurface disturbance. Areas that will be cleared and ground that will be disturbed will be backfilled and revegetated with pine barrens appropriate species to restore areas to natural conditions and prevent invasive or other undesirable plant species from becoming established. Erosion and sediment controls such as reseeding or replanting as soon as possible after work is completed, installation of silt fencing, and drain inlet protections (where needed) will be provided. Dust, erosion and sedimentation best practices will be implemented. Pump stations will be of precast construction and overall construction/installation periods for these structures and the installation of sewers will be relatively brief.

C. The proposed use will not prevent the orderly and reasonable use of adjacent properties, particularly where they are in a different district.

The proposed pump stations and mains (i.e., Special Exception Permit uses) are very small, unmanned, do not generate traffic, odors or excessive noise and will have no significant impact on adjacent properties once installed. As previously noted, the pump stations will be installed along but set back from roadways and three of the pump stations will be on land that is already cleared or has limited growth. Pump stations will be constructed of precast concrete for quick and easy installation once delivered to the respective sites. Pump Station Nos. 2 and 4 will be located within the RO-7 zoning district but both will be located on public land, one on State land on used as a NYS stormwater recharge basin for SR 24 and the other on the south end of Ludlam Park, away from the open recreational area. These uses will have no significant adverse impact on

adjacent property owners, including those in a different district, and considering social, economic, public health and safety and environmental factors, will provide an overall benefit to the area.

D. The site is particularly suitable for the location of such use in the Town.

Selected locations for pump stations are based on several considerations: topography, land availability and ownership (Town or other public ownership), suitability of the site to physically accommodate the structures and a small parking area for one vehicle, environmental conditions (no wetlands, etc.), and Sewer District phasing, at dispersed locations within the District and where they are most needed. The pump stations will be located adjacent to streets for easy access and in close proximity to sewer mains within street rights-of-way.

E. The characteristics of the proposed use are not such that its proposed location would be unsuitably near to a church, school, theater, recreational area or other place of public assembly.

As previously discussed, the proposed pump stations and mains (i.e., the SEP uses) are very small, require very little clearing, take only a brief period to install, are unmanned, do not generate traffic, odors or excessive noise and will have no significant impact on adjacent properties. Moreover, sewer force and gravity mains will be installed underground, and in many instances, but not all, are along a publicly owned road right-of-way or paper street. Based on the low impact nature of these essential infrastructure and the overall benefit sewering will provide, there will be no significant impact including on any nearby churches, schools, theaters, recreational areas or other places of public assembly.

F. The proposed use, particularly in the case of a non-nuisance industry, conforms to this chapter definition of the special exception use where such definition exists or with the generally accepted definition of such use where it does not exist in this chapter.

The two pump stations and mains that are subject to Special Exception Use permits under existing baseline zoning are best defined by the Town Code's land use tables as a "[p]ublic utility structure or right-of-way, sewage treatment plant or water supply facility necessary to serve the municipality." Unlike most Special Exception Uses listed in the Town Code, there are no specific Special Exception Use standards for sewage pump stations and force and gravity mains (nor are their specific standards for STPs which are considered a permitted use in the LI-40 Zoning District).

G. Access facilities are adequate for the estimated traffic from public streets and sidewalks, so as to assure the public safety and to avoid traffic congestion; and, further, that vehicle entrances

and exits shall be clearly visible from the street and not be within 75 feet of the intersection of street lines at a street intersection, except under unusual circumstances.

The Special Exemption Use pump stations and mains are unmanned and require only occasional inspection or maintenance and in those instances are likely to be visited by just one individual, therefore generating virtually no traffic. Mains will be buried beneath the ground and pump stations will be located along the sides of streets. Ample space will be provided onsite to park a vehicle operated by an inspector or maintenance person, and the pump station facility will be enclosed by fencing. Parking would also be available at Ludlam Park for Pump Station No. 4.

H. All proposed curb cuts have been approved by the street or highway agency which has jurisdiction.

Any and all agency approvals will be secured prior to construction of the proposed facilities.

I. There are off-street parking and truck loading spaces at least in the number required by the provisions of §§ 330-92 through 330-101, but in any case an adequate number for the anticipated number of occupants, both employees and patrons or visitors; and, further, that the layout of the spaces and driveways is convenient and conducive to safe operation.

As previously noted, the proposed facilities will be unmanned once installed and will only be periodically visited for inspections and maintenance requiring enough parking area for one or two vehicles. The proposed facilities will have sufficient space for the off-street parking for the number of anticipated visitors.

J. Adequate buffer yards and screening are provided where necessary to protect adjacent properties and land uses.

The two special exception use permit (SEP) pump station sites will be located along the sides of roads on vacant Town or State property that are otherwise surrounded by woods. The 1,225 SF precast pump stations will include a driveway/parking space and be enclosed by fencing. There will be minimal intrusion from the relatively small single-story pump stations and estimated maximum 2,398± SF of clearing needed for these structures. Most of the STP facility (i.e., the leaching areas) which are "permitted" and ***not subject to SEP requirements****, will be underground, revegetated with grass or other acceptable ground covers and will be occasionally mowed. The STP building will be located within an existing light industrial zone which is most appropriate for this use, will be near the center of the STP/leaching facility site, and will maintain a wooded*

perimeter. The Phase II leaching area to the north of the STP and south of Suffolk Federal Credit Union will not be cleared unless and until it is needed.

K. Adequate provisions will be made for the collection and disposal of stormwater runoff from the site and of sanitary sewage, refuse or other waste, whether liquid, solid, gaseous or of other character.

As previously noted, the pump stations (SEP uses) will not be manned. No sanitary sewage, refuse, or other waste, whether liquid, solid or gaseous will be generated by this use other than the pumping of sewage contained within piping to the proposed STP and natural gas needed for backup generators to ensure continued operations in the event of a power outage. Pump stations will be very small and runoff will be negligible; however, roof drains and drywells will be provided if needed. Most of the proposed STP/leaching facility site (which is permitted and not an SEP use) will consist of pervious ground. Stormwater from the STP building and site will be directed toward the east side of the property and will be discharged into subsurface leaching pools. The new section of Enterprise Zone Drive will include the necessary drainage to meet Town standards.

L. No outdoor sales lot, rental equipment storage or display area will be permitted in the required front yard area of any business district, except that in the HB District such uses may be permitted in the required front yard, provided that they are set back 50 feet from the front property lines.

Neither the pump station locations (nor the STP site) will include any of the above land uses.

M. The proposed use recognizes and provides for the further specific conditions and safeguards required for particular uses in this article.

<u>Specific or Special Exception Use Standards</u>

The Town Code includes specific or Special Exception Use Standards for most Special Exception land uses. There are no specific Special Exception Use standards for pump stations and/or sewer mains in the Town Code. As previously indicated, STPs, subsurface leaching areas, gravity and force mains are permitted uses in the LI-40/RO-3 Overlay District where the main facility is proposed.

Variances

Proposed Pump Station Nos. 2 and 4 are both located within the RO-7 zone. The ROD's land use table states that wastewater treatment plants and utilities[1] are prohibited in the RO-7 overlay district. Pump Station Nos. 2 and 4 are also located within the Town's RWB and OSC zones, respectively, both of which permit these facilities by Special Exception Use Permit. The Town will need to determine whether variances are required to permit these pump stations.

Pump Stations are critical public infrastructure that are necessary for the operation and proper functioning of the proposed STP and Sewer District. They will therefore help the Town to achieve its goals for long-range sustainable economic growth, community revitalization, and environmental protection. Selected locations for pump stations are based on topography, land ownership (Town or other public ownership), suitability of the site to physically accommodate these structures, environmental conditions and restrictions, Sewer District phasing, needed distribution, and adjacency to streets where they are easily accessible and are in close proximity to sewer mains.

Pump Station No. 2 will be located adjacent to SR 24 on State owned land that currently contains a stormwater recharge basin serving SR 24. The site is otherwise undeveloped and wooded and is sufficiently setback from the Peconic River but the proposed pump house will be waterproofed to protect water sensitive components from potential flooding based on Pump Station No. 2's location within an existing X 500-year flood zone in combination with future sea level rise (**Figure 3-6** and **Figure 3-16**). Pump Station No. 4 will be located on the north side of the intersection of Old Quogue Road and Ludlam Avenue at the south end of the Town's Ludlam Avenue Park. The proposed pump station will be located near the southerly boundary of the park, away from onsite recreational facilities, and will have no effect on the continued use and enjoyment of Ludlam Park and its recreational facilities.

The proposed pump stations have a very small structural footprint (1,225± SF). No additional clearing is needed at the site of proposed Pump Station No. 2 or No. 4 as they will be located within previously cleared areas with only low growth/groundcovers. The pumps, valves, and associated equipment will be contained within the precast pump station structure and backup generators will be provided to ensure continued service in the event of a power outage. Since sewage is fully contained within pipes that are underground or within the pump stations, there

[1] The ROD defines "utilities" as "Facilities and structures, including community aggregation, used for production, generation, transmission and distribution of services, including but not limited to electric, gas, water, sewer, telephone, cable TV, and internet access services, excluding local services directly provided to buildings by cables, wires, poles and pipes, and excluding wireless communication towers."

are no significant odors. The structures are unmanned and therefore require minimal parking (one or two spaces along a shore driveway) other than ensuring the stations are accessible for occasional inspections or maintenance.

As previously noted, pump stations may be permitted in the respective underlying/baseline zoning districts, subject to Special Exception Use review and approval. No significant adverse environmental or land use impacts have been identified. Based on the preceding considerations, the Town must determine whether variances or Special Exception Use Permits should be required for these structures.

The proposed STP building would easily comply with LI-40 dimensional standards including minimum lot area, minimum lot width, maximum coverage, maximum building height and minimum yard setbacks. It would therefore be consistent with the intended form, bulk, massing and spacing envisioned by the LI-40 standards and would be consistent with other existing light industrial land uses in the subdivision.

6.2.3 Plans

The 2015 Findings Statement for the BOA, RRAP, and ROD found that:

The previously examined Theoretical Development Scenario limited the number of new dwelling units to 1,167 with a flow of 150 gpd/unit (or an upper limit of 175,050 gpd for residential use connected to a sewage treatment plant) until additional steps are taken to ensure nitrogen loads would not exceed that which would be permitted under existing conditions. This could be achieved in several ways, including sewering of existing unsewered areas in the Study Area/Sewer District as is proposed, reduction in the number of residential units built under the Theoretical Development Scenario, treatment and discharge of wastewater in deep recharge areas outside of the Sewer District, or use of advanced nitrogen removal technologies such as the MBR or SBR STP that is proposed.

It was determined that connection to a community sewage treatment plant will be required to serve development that is undertaken pursuant to the standards and requirements of the ROD. Sewage treatment infrastructure and facilities, including but not limited to STP(s), subsurface leaching areas, pump stations, and gravity and force mains will be paid for by developers and/or through available capital infrastructure funding programs. A sewer engineering and feasibility study is required and has been provided to identify the best location(s) for essential facilities to provide quality disposal services to the community and reduce the potential for environmental degradation **(Appendix B)**.

The Sewage Treatment Plant Options discussed in the previous DGEIS in the Alternatives section under "Alternative 3," included a preliminary examination of several possible STP sites and one location for the collection, treatment, and disposal of sewage generated under the Subject Action and Theoretical Development Scenario. Specifically, this prior DGEIS alternative considered the location(s) in or near the ROD to locate one or more new STPs and associated leaching field(s) and/or possible connection to and expansion of a currently operating STP to ensure the level of treatment necessary to protect human and natural environments under the ROD. It was determined that any new STP locations must be capable of accommodating 500,000 gpd of sewage and comply with Suffolk County siting, setbacks, design, operation, and applicable public health and environmental regulations. Similarly, an existing STP would need the capacity to accommodate the approximately 500,000 gpd or enough land and suitable environmental conditions to expand (double) the capacity of the system. The best locations for an STP and leaching field in the proposed Sewer District are:

- where the depth to groundwater and the groundwater time of travel to the Estuary are maximized to protect groundwater and surface water resources, and ensure proper functioning of the STP and leaching area;
- where adequate vacant space is available to site the facility including space for SCDHS required setbacks and expansion areas;
- an area that is not too close or impactful to surface waters, wetlands, and other sensitive natural resources;
- where the land is zoned for more intensive land uses (e.g., the LI-40 District); and
- ideally, where the land is already owned by the Town and is at a centralized and accessible location in the Sewer District.

Based on the above criteria, Town owned land of sufficient area on the west side of the Enterprise Industrial Subdivision appears ideal.

Mitigations that were identified by the previously adopted Findings Statement are listed below. It should be noted, however, that these strategies and techniques were based on a preliminary screening of siting options and other basic considerations in the context of the basic assumptions considered in the prior GEIS. The currently proposed action, however, is somewhat different and more detailed and evaluation of the proposed infrastructure warranting additional environmental review and consideration in the context of the prior GEIS and existing conditions. The mitigations that were included in the 2015 Findings Statement are nevertheless helpful and any additional necessary mitigation that is determined necessary should expand upon these mitigations as practicable.

- The 2015 Findings Statement indicated that additional study is warranted to determine the best location(s) to construct an STP and provide leaching area(s) containing leaching pools and/ or constructed wetlands to serve the ROD and Riverside community. This mitigation has been addressed through additional planning and agency outreach, including the preparation of the June 2023 "Riverside Revitalization Sewage Treatment Plant Clean Water State Revolving Fund (CWSRF) Engineering Report" prepared by N+P. Based on the above locational criteria, and in consideration of various factors, the proposed site (west side of Enterprise Zone Subdivision) and method of disposal (onsite above water table recharge) were considered to be the best location for the facility and most suitable method of discharge.
- Five test holes were drilled and associated soil and depth to groundwater data were collected as part of the previous Enterprise Zone subdivision review and two of the test holes were drilled on the STP site (SCTM Lots 141-1-9.25 and 9.32 aka Lots 14 and 23 on the approved Southampton Enterprise Zone Map). **Sections 4 and 5** of this DEIS discuss depth to groundwater and soil characteristics in detail.
- Two additional test holes should be drilled on the north and south sides of the proposed STP facility in wastewater effluent discharge areas to confirm the suitability of soils for drainage, sewage absorption, and identification of actual on-site depth to groundwater. Unsuitable soils, if encountered, must be removed and replaced with clean material of a texture that complies with SCDHS requirements and has suitable characteristics to provide the necessary permeability, filtration, subsurface storage, diffusion and dispersion for wastewater disposal. In the case of constructed wetlands, if this alternative is selected, the soil and the selected plants would have to be sufficient to ensure wetlands plant health and survival based on sunlight, soil, and moisture conditions (See **Section 9** for additional details regarding this alternative).
- Any development opting into the ROD must be connected to an STP providing tertiary treatment which produces an effluent concentration of no more than 6 mg/l of nitrogen or a concentration deemed suitable by the SCDHS Board of Review and required SPDES permit for the facility. The proposed STP will provide secondary and tertiary treatment by installing mixers and filters, respectively. The level of nitrogen treatment from the proposed STP is described as less than 10 mg/l of nitrogen as its maximum[2] but is typically less and expected to comply, while existing septic systems and cesspools are expected to have nitrogen concentrations of between 50 and 65 mg/l. The proposed STP and leaching

[2] Total nitrogen concentrations in treated effluent are variable; however, the 10 mg/l total nitrogen concentration in treated effluent is what manufacturers consistently establish as the upper limit for sequencing batch reactors. Actual concentrations are typically much lower.

areas have been designed to easily fit on the project site which is Town owned land without the need for variances.

- An area dedicated for construction of an STP (based on a 500,000 gpd STP) would be approximately 120 feet by 120 feet to meet the anticipated design needs of the area or must conform to SCDHS Board of Review requirements if the SCDHS finds that a different size is appropriate. The proposed STP and leaching areas have been designed to easily fit on the 11.45± acres project site, which is owned by the Town, and is large enough to comply with SCDHS standards without the need for variances. The proposed treatment facility will be designed to accommodate 400,000 gpd (Phase I) and up to 800,000 gpd upon completion and connection of the Phase II collection system.
- A minimum of two acres or the minimum required by the SCDHS Board of Review should be set aside for sewage leaching areas (based on a 500,000 gpd treatment facility). As noted above, the proposed STP and leaching facilities will be located on 11.45± acres.
- The minimum depth to groundwater in leaching areas should be 14 feet or 12 feet with two feet of soil mounded at the surface (in the case of leaching pools) to ensure adequate groundwater separation unless the SCDHS Board of Review, based on other information, allows or requires a different standard. The locations of the proposed leaching areas are expected to be generally consistent based on available information but two additional test holes will be dug onsite to confirm this. The south leaching area will be developed first (Phase I). This area is expected to have a slightly deeper depth to groundwater than the north side and will provide additional time of travel and residence time before reaching the river.
- Leaching pools must be a minimum of 150 feet from any private water supply well or greater if required by SCDHS based on the depth of a well unless the SCDHS Board of Review finds another setback is appropriate or necessary. If the 150-foot setback cannot be met, the developer will have to provide public water connections to properties currently relying on private wells within the 150-foot setback, as required by SCDHS. SCWA mains are available and accessible throughout the Hamlet and Sewer District. SCDHS will review the project for compliance with its standards and requirements prior to final approval. The Town will abide by SCDHS requirements.
- Sewage leaching areas should not be located in areas with a 0-2-year groundwater time of travel of any public supply well. The proposed STP/leaching site straddles the 0-2 and 2-5-year time of travel zones indicating an approximate average of 2± years for groundwater to reach the Peconic River and Estuary. The Phase I leaching area to the south of the STP has a slightly longer time of travel than the Phase II leaching area to the north of the STP. Based on the distances of existing public wellfields from the ROD and groundwater flow patterns, threats to public water supplies do not appear to be an issue.

SCDHS and SCWA will further investigate this matter and provide input to verify conformance before any permits for STP construction are granted. The Town will comply with SCDHS requirements. Groundwater time of travel to receiving surface waters should be the maximum possible and leaching pools should be installed at locations that maximize this separation distance.

- A minimum of two feet of separation must be maintained between the base of any leaching pool and the seasonally high groundwater table, or at a depth determined by the SCDHS Board of Review if greater separation is deemed necessary. This separation distance helps to allow for additional effluent filtration and treatment within the zone of aeration thereby providing an even higher quality effluent. As previously noted, a minimum of two feet will be provided and plans can be adjusted by mounding or reducing the effective depth of pools and installing more pools to meet this requirement and projected flows.
- The leaching area must be a minimum of 100 feet from any surface waterbody or wetland unless the SCDHS Board of Review requires or permits a different separation distance. Leaching areas should be located away from wetlands and surface waters and comply with any permits that may be issued. The proposed infrastructure is not within 100 feet of any NYSDEC or NWI wetland or surface water body as shown in **Figures 3-2 and 3-3**.
- Sewer mains must be a minimum of 50 feet from any surface water or well or as required by the SCDHS Board of Review. As previously noted, the Sewer District is fully equipped with public water furnished by the Riverside Water District. The Town will work with the SCDHS to ensure that all requirements are met.
- Discharge from the STP must comply with the thresholds and performance standards of a State-issued SPDES wastewater discharge permit. A SPDES wastewater discharge permit will be sought and must be issued prior to any facility discharges.
- Odors are not expected to be an issue since the treatment process will be fully enclosed within the STP building and effluent will be directly discharged underground for leaching and final disposal. Odor control equipment will be installed on a contingency basis. A full design will be included in the design documents. The system will only be installed if needed.
- Future facilities must be consistent with all other the SCDHS requirements except as may be modified by the SCDHS Board of Review.
- New sewage treatment facilities should be dedicated to the County and the County should operate and maintain the system(s), including making sure a trained STP professional is available 24/7 to respond to any plant operations and maintenance issues. The Town is coordinating with the County to ensure that the above standards are met.

Also, as discussed in the 2015 FGEIS and Findings Statement, based on additional nitrogen loading analysis, it was determined that a reduced residential unit density and/or construction of a wastewater treatment facility for existing developed areas would provide a means to reduce nitrogen loading below what would occur if the RRAP and ROD were not implemented (i.e., development under existing zoning and meeting Suffolk County Sanitary Code for development of remaining vacant or further sub-dividable properties in the study area). Based on this analysis, the Theoretical Development Scenario would be limited to 1,167 units with a flow of 150 gpd/unit (or a limit of 175,050 gpd of residential use connected to a sewage treatment plant), and/or additional steps would need to be taken to ensure nitrogen loads would not exceed that which would be permitted under existing conditions. Because nitrogen loading is based on the volume of wastewater and the concentration of nitrogen in the wastewater,[3] the reductions in nitrogen loading to meet existing permitted loads under the Suffolk County Sanitary Code could be achieved in several ways, including sewering of existing unsewered areas in the proposed Sewer District, reduction in the number of residential units built under the previous Theoretical Development Scenario, treatment and discharge of wastewater in deep recharge areas outside of the Study Area, or installation of advanced nitrogen removal technologies. The following provides quantification of options from the prior plan and DGEIS that may be considered or combined to reach the necessary nitrogen loading reductions:

- Provide connection to a sewage treatment plant for 200 existing units for units with design flow of 225 gpd/unit; and
- Provide connection to a sewage treatment plant for 150 existing units for units with a design flow of 300 gpd/unit.

The siting of a new STP must be assessed further to ensure that the facility conforms to SCDHS, SCDPW and NYSDEC requirements and that groundwater and surface waters are properly protected. This further study as indicated in the prior DGEIS is as follows:

- There must be strict compliance with all SPDES effluent permit requirements for STPs. The proposed STP must receive and operate in accordance with a SPDES discharge permit. NYSDEC and a trained professional operator(s) will oversee compliance.
- Additional study of treatment feasibility, project sponsor, location, capacity, engineering and design, plans and specifications, funding, district establishment, permitting and construction will be needed and will be reviewed under SEQRA. **Appendix B** contains the Clean Water State Revolving Fund Engineering Report for the project. **Appendix L**

[3] Tertiary level produces wastewater with much lower nitrogen concentrations (<10 mg/l) than wastewater from septic systems or cesspools (40-65 mg/l).

contains Arcadis' November 2021 "Value Planning Final Report" which includes alternatives for addressing the basic project functions and focuses on providing clarification of elements that require additional vetting as the project proceeds. In response, the project engineers submitted a revised CWSRF Engineering Report dated July 2022. The proposed Sewer District and sewer infrastructure was proceeded by multiple studies including the BOA, RRAP, ROD, GEIS and others. The current SDGEIS further explores the suitability of the project sites, identifies potential impacts, recommends mitigation measures, and considers alternative actions.

- As discussed in the 2015 FGEIS and Findings Statement, wastewater assessment will be subject to analysis of pre-project and post-project nitrogen loading to the groundwater so that it can be reviewed against the Total Maximum Daily Load (TMDL) standard for nitrogen established for the Peconic River system. Nitrogen loading may not exceed the allowable loads based on existing conditions and permitted loads per Suffolk County Sanitary Code for vacant and subdividable lands within the proposed Sewer District. Additional study of treatment feasibility, sanitary treatment plant locations, capacity, engineering and design, plans and specifications, funding, district creation, and permitting and construction will be needed and will be reviewed under SEQRA, SC Guidance Memo #28, the TMDL and SPDES permitting requirements. It is expected that the proposed STP and connection of existing and future land uses to the system will reduce overall TMDL and therefore provide an overall benefit over current conditions.
- Reduce the Theoretical Development Scenario density by 1,100 units connected to a sewage treatment plant for units with a design flow of 150 gpd/unit.
- Reduce density the Theoretical Development Scenario by 750 units connected to a sewage treatment plant for units with a design flow of 225 gpd/unit.
- Reduce density by 550 units connected to a sewage treatment plant for units with design flow of 300 gpd/unit.
- Allow, support or require existing land uses or upgraded land uses to connect to the proposed sewers rather than just new development as envisioned by the prior GEIS and Theoretical Development Scenario.
- Water conservation fixtures for both indoor plumbing and any outdoor irrigation to help reduce water consumption and wastewater generation and adherence to the proposed Sustainable Development Standards for reducing impacts to water outlined under Section 330-410 I of the ROD Code. New commercial and multifamily developments will be subject to Town approvals, including standard recommendations for conserving indoor and outdoor water use.

6.3 Mitigation Measures

- Pump Station No. 1 is proposed at the southwest corner of the Budget Hotel property in the MTL Zoning District and Pump Station No. 4 is located on the north side of the intersection of Ludlam Avenue/Quogue Riverhead Road and Old Quogue Road. Pump Stations shall be setback far enough from the street to ensure unobstructed views at nearby intersections and suitably setback beyond any unpaved portion of the right-of-way.
- Schedule force main and sewer main installations so that major streets such as SR 24 and other areas of heavy traffic are avoided during peak summer traffic months and hours.
- Plant native grasses, groundcovers, shrubs and trees where possible to stabilize disturbed areas and plant or retain vegetative screening. Utilize evergreen trees adjacent to residential properties to partially screen and improve the visual quality of the STP site and pump stations.
- New development in the Sewer District should install and utilize water conserving fixtures. Native landscaping should be used to reduce or eliminate the need for irrigation and if irrigation is necessary utilize efficient drip irrigation systems and irrigate in zones to prevent waste and provide water where it is needed most. Utilize moisture sensors and/or timers and water at night or early mornings only when necessary.
- Ensure there is adequate parking available for one or two vehicles at pump stations and a suitable number at the STP site including space for any large trucks that may need to access the site.
- Provide drainage infrastructure that meets Town standards and captures and recharges stormwater onsite to prevent flooding and impacts on adjacent properties and streets. Install the requisite drainage infrastructure along the new (replaced) section of Enterprise Zone Drive.
- The proposed sewer facilities will allow development, redevelopment and additional development density within the Riverside Sewer District. Future development or redevelopment within the Sewer District shall comply with all applicable environmental mitigations, standards and requirements identified in the adopted December 22, 2015 GEIS Findings Statement for the Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan and Zoning Map and Code Amendments.

SECTION 7.0
COMMUNITY CHARACTER

7.0 COMMUNITY CHARACTER

7.1 Existing Conditions

7.1.1 Visual Character

Community character refers to the overall setting of a place, its identity and function, its natural environment and history, the scale, density, design and physical form of its man-made features, its social fabric, the types of experiences it offers, and how its many characteristics and conditions affect and interact with the senses and provides an overall impression. Community character is largely an abstract concept which makes it nearly impossible to measure quantitatively, but can nevertheless, be defined and assessed qualitatively by considering common perceptions of what is aesthetically appealing or unappealing based on information collected through direct field observations, analysis of GIS data, examination of past and present aerial and ground level photographs, input received from prior community outreach, and simply comparing conditions to other places we have visited and experienced that tend to be appreciated or disliked. The perception of a community's visual character is also often established based on views observed from locations where the public travels or visits the most – in this instance, the arterial roads that traverse the Riverside hamlet.

While the surrounding area is replete with preserved pine barren forests, parks and open spaces and contains small ponds, a lake, river, stream, tidal creek, marshes and a bay, the built environment within Riverside generally lacks a positive and distinctive community identity, and in many instances, its structures detract from the overall character. Unlike other well-established and economically successful hamlet and village centers in the Town, Riverside lacks any recognition as a "place" or destination to live or visit where social and economic activities are woven into the fabric of the community creating an aesthetically pleasing, vibrant, walkable, mixed-use, sustainable business and neighborhood climate.

Development in the area currently consists of one- and two-story buildings and structures that are typically detached and spread out along SR 24 but are mostly concentrated around the traffic circle. This development pattern has been largely influenced, for better or worse, by the presence of the traffic circle itself and the five State and County highways that merge at this location. The traffic circle not only serves as a gateway into the Riverside community, but it also serves as a major regional gateway to the Hamptons and the North and South Forks; and nearby downtown Riverhead and Route 58 business districts; and the Peconic River, and extensive parklands containing pine barrens, open spaces, and other prized resources. Vacant lots in Riverside, in addition to buildings and structures that are vacant, abandoned, boarded-up, poorly

maintained and in disrepair, have degraded the overall appearance and character of the built environment in the proposed Sewer District, leading to what has been characterized as blight. These conditions prompted the Town to commission the 2006 Blight Study for the Riverside Study Area and the 2009 Riverside Blight Study.[1] A need has existed for some time for a viable well-coordinated plan for redevelopment, economic revitalization and community investment to be implemented to reverse blight conditions, and the RRAP and ROD were predicated on having the essential infrastructure and facilities, especially an STP, to support it.

A few of the many examples of residential and commercial blight in the Riverside Sewer District are shown below. The previously approved BOA, RRAP and ROD, with necessary support from the proposed sewer district and sewer infrastructure, will help to eliminate blight by supporting and incentivizing area redevelopment and revitalization.

Blighted conditions the RRAP, ROD, and proposed STP seek to improve by eliminating vacant and obsolete structures with productive commercial land uses and new housing opportunities.

From the standpoint of the built environment, most of the proposed Sewer District consists of small primarily residential neighborhoods with single-family, mobile or manufactured homes, and a somewhat sprawling, intermittent and ineffective commercial district that extends along SR 24 and sections of Lake Avenue, Riverleigh Avenue, and Peconic Avenue that are closest to the traffic circle. The physical and architectural character and pattern of commercial structures in the area need improvement. Based on the appearance of existing buildings and the many

[1] Both prepared by Saccardi and Schiff, Inc.

building and lot vacancies, combined with demographic data indicating a very low median household income, high rate of unemployment, and poverty that affects many of Riverside's residents, the existing community character is that of a struggling community.

Some of the main objectives of the previously adopted BOA Study, RRAP and ROD are to improve the visual appearance and character of the community, remove certain features such as blighted buildings, provide new development and redevelopment with architecture and landscaping that is appealing, and visually screen elements that detract from community character, in order to make Riverside more successful and sustainable. Capital infrastructure improvements such as sewage collection and treatment systems are essential parts of the community and support redevelopment and investment in real estate, while protecting public and environmental health.

Sewer District Infrastructure Sites

The Enterprise Zone Subdivision, where the largest visible component of the project (STP) will be, is within a small light industrial subdivision. The L1-40 light industrial subdivision consists of 23 lots encompassing 35 acres of land, a short access and loop road and individual lots that average 1.36 acres each. Currently, almost half of the lots within the subdivision are developed including the Suffolk County Federal Credit Union (SCTM#: 141-1-9.18) which is the one lot that has frontage on both SR 24 and Enterprise Zone Drive and most of the eastern half of the subdivision which is developed with 10 relatively new light industrial uses with warehouse/light industrial-style buildings. The remaining, portion of the subdivision, most of which is owned by the Town[2] on the west side of the subdivision, consisting of seven lots totaling 11.45± acres[3] is undeveloped/vacant and consists of pine barrens forest or successional growth from previous clearing on three of the seven lots. The subdivision property is setback several hundred feet from the main SR 24 view corridor and is generally well screened by native pitch pine and other vegetative species with opportunities for enhanced screening with native evergreen shrubs and trees as practical. Enterprise Zone Drive is not a through-street and therefore receives little traffic consisting mostly of the landowners of developed L1-40 lots, their employees, delivery personnel, and clients or patrons of the businesses. Businesses in the industrial subdivision include but are not limited to a mechanic, HVAC company, rental business, residential and commercial cleaning business, marine electronics, and what appear to be landscaping and/or construction contractor shops. Photos depicting the existing character of the Enterprise Zone Subdivision where the proposed STP and leaching area are proposed are provided below.

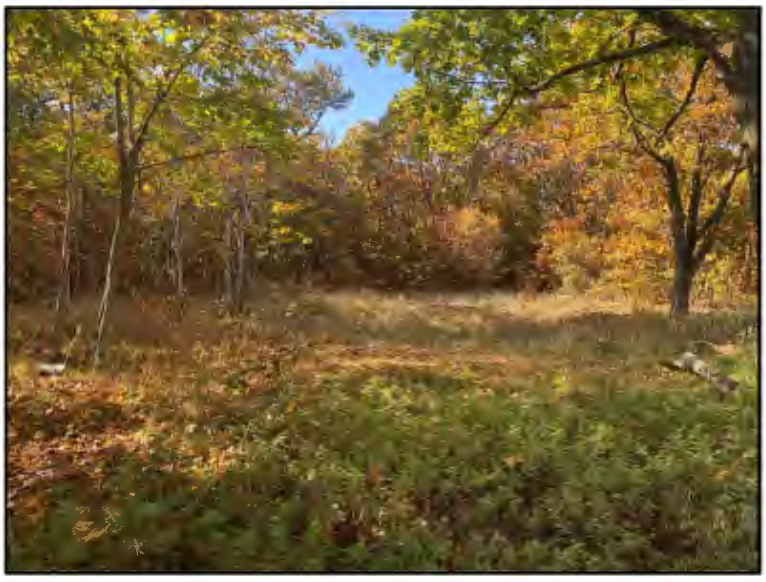
[2] Includes the Five Towns property on the north side of the site (SCTM 900-141-1-9.17) which the Town is currently in the process of acquiring.
[3] Includes the area of the existing road bed between SCTM 900-141-1-9.14, 9.17, 9.25, 9.31 and 9.32 and SCTM 900-141-1-9.29 and 9.30 and replacing that section of roadway on the east side of SCTM 900-141-1-9.29 and 9.30.

Top photos show existing light industrial uses in the Enterprise Zone L-1 Subdivision with existing uses. The bottom three photos show some of the Town owned land that comprise the proposed STP and leaching facility (Google Maps, Street View, 2022).

Photos of the four proposed pump station sites are provided below.

Site of Proposed Pump Station No. 1.
East side of Lake Avenue; Budget Hotel in background

Site of Proposed Pump Station No. 2.
North of SR 24; Southwest corner of NYS recharge basin



Site of Proposed Pump Station No 3.
West side of Riverleigh Avenue; north of Calvary Baptist Church

Site of Proposed Pump Station No. 4.
Ludlam Park; east side of Old Quogue Road

Visual resources and aesthetic qualities are important to a community and play a significant role in the formation of its character. Visual resources commonly include forests, parks, open spaces, bays, lakes, ponds, rivers, streams, wetlands, unique landforms, agricultural resources, extraordinary vistas, scenic roadways, quality streetscapes, fine landscaping, public art, historic buildings and landmarks, and buildings and structures with unique or exceptional architectural quality. These features are commonly considered positive attributes of a community and its character. They can enhance aesthetic conditions and contribute to a community's history and identity or "sense of place" which can promote community pride and cohesion, enhance the quality of life for residents, increase or maintain property values, and stimulate community visitation, investment, growth and economic activity. Therefore, removing or significantly diminishing, degrading, or eliminating scenic resources can have an adverse effect on a community, while the removal and redevelopment of blighted properties and replacement of these "greyfields", "brownfields" and "eyesores" with quality construction, lively streetscapes and landscaping or vegetative screening can enhance it. Some examples of positive visual attributes in the Hamlet include views of the Peconic River, woodlands, the landscaped median of the Riverside traffic circle, and a church building as shown in the photographs below.

The Town's 1999 Comprehensive Plan Update contains an inventory and evaluation of visual resources, including a section on aesthetic resources and the identification of scenic roads and road segments. A review of the Comprehensive Plan's "Scenic Roads" map indicates that the Sewer District is not located along any scenic roadways or road segments. In fact, the only natural or man-made feature in the proposed District with any possible scenic significance is the Peconic River and possible views of the Estuary only from the river's edge, where accessible.

The proposed STP is not located along any scenic or major traffic corridors and is setback from SR 24 by approximately 500 feet. Views of the STP will be limited primarily to areas within the Enterprise Zone LI-40 light industrial subdivision from the perspective of Enterprise Zone Drive; nevertheless, visual screening with evergreen species or other approaches can be provided if necessary.

The proposed STP and leaching fields are permitted uses in the LI-40 zoning. They are proposed on 11.45± acres and will fully comply with all LI-40 dimensional standards including minimum lot area, minimum lot width, maximum lot coverage, maximum building height and minimum yard setbacks. It would therefore be consistent with other existing light industrial land uses in the subdivision. A minimum 25-foot-deep perimeter buffer of existing native vegetation consisting mostly of pitch pine will be retained around the perimeter of the site. Additional plantings, preferably native pine barrens species can be planted to augment the buffers and screening and enhance the visual quality of the site and building.

7.1.2 Noise

Ambient noise in the community is generally consistent with that of any small compact mixed-use community. The main sources of noise include traffic, primarily along SR 24 and at the traffic circle where 5 streets and highways meet (car and truck engines, horns, sirens, school buses and large trucks), commercial and light industrial activities, construction and property maintenance equipment (e.g., lawn mowers, leaf blowers), HVAC systems, and general outdoor human activity. Areas to the south of the Hamlet consist of multiple large, wooded parks, open spaces, and nature preserves. Most land north of the SR 24 is wooded and some of the larger lots have been preserved thereby attenuating noise from downtown Riverhead.

7.1.3 Historic/Archaeological Resources

Historic Resources

NPV reviewed the New York State Office of Parks, Recreation and Historic Preservation's (OPRHP) Cultural Resource Information System (CRIS) database to determine the presence or absence of National and/or State Register of Historic Places Listed or Eligible resources within the proposed Sewer District (**OPRHP, 2023**). The closest Listed historic landmark is Vail-Leavitt Music Hall which is located at 18-24 Peconic Avenue in the Town of Riverhead and the closest historic district, which contains numerous Listed sites, is the Riverhead Main Street Historic District in downtown Riverhead. This historic district includes numerous registered landmarks between Northville Turnpike and Main Street, near the Peconic River. A Town of Southampton historic marker is present along Peconic Avenue at the entrance to the Town (see inset photograph, above) **(Figure 7-1)**.

Despite the absence of National- and State-Listed historic resources in Riverside, there are four clustered buildings that are identified as "Eligible" for listing which are contained within the proposed Sewer District and together comprise a small "Eligible Building District." The structures are identified as 104, 106, 110 and 125 Flanders Road (SR 24) (three buildings on the north side of SR 24) described as the Goodwill AME Zion Church (1872-73) and two adjacent church related residences (ca. 1920), as well as Fellowship Hall (ca. 1890) which is located diagonally across the street from the church on the south side of SR 24 at 125 Flanders Road **(Figure 7-1)**. The structures are described by OPRHP as "associated with events that have made a significant contribution to the broad patterns in our history." A detailed description and history of these structures is provided in **Appendix M**.

In addition, parts of the proposed Sewer District contain areas that are mapped as potentially archaeologically sensitive. These areas include the northwest side of the proposed Sewer District around the traffic circle and the far northeasterly side of the proposed Sewer District (see **Figure 7-1** for a map of historic and archaeological resources in the area). It is noted that much of the ground in the Hamlet has been significantly disturbed by past development and redevelopment activities including basement and building construction, roads, installation of subsurface utilities, dredging and filling areas near the river with dredge spoil, and other activities.

Town of Southampton Historic Resources Survey

A Historic Resources Survey was prepared for the Town of Southampton in April of 2014 to inventory cultural resources throughout the Town to identify locally significant buildings and sites **(AKRF and JP-DHPC, 2014)**. As far as the community of Riverside and the proposed Riverside Sewer District, a total of 14 local historically significant places or structures were identified **(Figure 7-2)**. These features have not been designated by the Town as local landmarks, nor has an historic district been established in the Hamlet. Most of the structures that were identified by the Historic Resources Survey are in various stages of disrepair and none of the proposed sewer improvements are located on or immediately adjacent to these places or structures, except for proposed sewer mains which would be installed underground along the street rights-of-way of all roads in the District so that all properties can access the system.

Archaeological Resources

Parts of the proposed Sewer District are located within areas identified by the NYS OPRHP as archaeologically sensitive, which in this instance is any area within a half-mile of a location where archaeological resources have been discovered (see **Figure 7-1**). As shown on the Historic and Cultural Resources Map, the areas identified as archaeologically sensitive include land in the northwestern quadrant of the proposed Sewer District. The second area of potential sensitivity is a small area in the northeastern corner of the Sewer District containing dredge spoil material.

7.1.4 Outdoor Lighting and Odors

Outdoor lighting is generally consistent with a typical suburban community. The proposed STP facilities sites are currently vacant land and do not utilize artificial light and odors are not known to be an issue and are not expected. It is possible that tidal marsh areas may occasionally emit odors as part of the natural breakdown and transformation of organic material by microorganisms within marsh soils or muck.

7.2 Potential Impacts

7.2.1 Visual Character

Sewage treatment plants (STPs) and pump station facilities are essential community infrastructure provided to protect public health and environmental quality and support economic growth and housing opportunities but are not typically considered to be aesthetically pleasing structures that enhance the visual character of an area. In addition, development on vacant land

that is not cleared or only partly cleared requires the removal of trees and other vegetation. STP facilities and pump stations are not tall structures (the tallest structure would be the STP at one story which would be 16± feet in height and well within LI-40 height requirements), are typically made of concrete, and have little aesthetic or architectural quality or distinctiveness. These structures can sometimes detract from aesthetic qualities if not properly sited, screened, and/or buffered. The proposed pump station facilities are expected to be constructed of precast concrete while the STP building would likely be of concrete block construction, with a concrete roof. Moreover, clearing is often necessary, which is limited in the case of pump stations (three of the sites are already cleared), and the fourth would require estimated to require an estimated 2,069± SF of clearing for the 1,225 SF pump station equipment, controls, and accessories, and therefore can slightly modify the natural setting and remove existing vegetative buffers and screening. The STP would require a footprint of 29,850± SF and all components of the treatment process would be enclosed within the walls of the STP structure. Sewage leaching areas that are not proposed in areas that are already cleared, require clearing so that these subsurface facilities can be installed. These areas must also be seeded with grass or low growing groundcovers and be periodically mowed so that large roots do not impact leaching pools. This clearing alters the visual and natural character of the site from a woodland with areas of early and mid-stage successional growth (grasslands and shrublands) which would change the general nature of the area. However, clearing needed for subsurface wastewater disposal areas would be partially replaced by native low growing vegetation where possible and may include year-round vegetative screening if visual impacts are an issue.

The site of the proposed STP is Town-owned land located within the Enterprise Zone industrial subdivision which is currently zoned for Light Industry (LI-40) and is within the Special (RO-3) Overlay Zone. This area contains several existing LI-40 land uses and a pending battery energy storage utility adjacent to the southeast of the STP site. The LI-40 zone typically allows for more intensive land uses and is therefore considered a more appropriate location than the area around the traffic circle which is in the core of the Riverside business district and visible from several major streets. Suitably locating the proposed structures on their respective sites, retention of existing vegetation within a minimum 25-foot-deep perimeter buffer and planting of vegetation at strategic locations (e.g., along the frontage of the building) for building softening, visual enhancement, and screening can help to mitigate possible visual impacts from the proposed infrastructure. Fencing is another possible option to consider if the STP is visible from streets or adjacent properties and has the secondary benefit of keeping unauthorized persons away from the facility.

Sewer mains and force mains will be installed underground and primarily within streets or street rights-of-way and therefore have no lasting impact on the visual character. Once installed, the

roadway and/or shoulder will be restored to its former condition. Mains are also commonly installed using directional drilling under roads which will reduce surface ground disturbances during subsurface pipe installations, which might otherwise temporarily disrupt the visual character of the area and affect traffic flows.

7.2.2 Noise

Riverside is an older, moderately dense suburban community consisting primarily of single-family neighborhoods, three mobile home parks and a scattered mix of mostly small one- to two-story commercial and industrial buildings, several scattered institutional uses (churches, an elementary school, police barracks, and a head start facility), and parklands and nature preserves, mostly outside the proposed Sewer District. Most of the commercial/business development in the proposed Sewer District is located along State Route (SR) 24 and/or near the Riverside/Riverhead traffic circle where five State and County arterial roads intersect. Some light industrial uses exist in the Hamlet, including several within the Enterprise Zone Subdivision. Existing ambient sound levels in the area would be consistent with the above-described community; however, additional noise would be expected during STP, pump station, and force main and gravity main installations. Noise from these activities would be focused around areas where work is underway. Work will be temporary at each location and some of the work will be performed in the summer and would not be expected to significantly impact uses such as the head start or elementary school. Construction of the STP and installation of leaching pools and sewer mains will however require the use of heavy equipment during construction. Construction noise is controlled by the Town through restricted construction hours as set forth under Chapter 235 “Noise,” Section 235-4 A.(2) & (3) which restricts construction activities to between the hours of 7:00 AM through 7:00 PM Monday through Friday and 8:00 AM through 6:00 PM on Saturdays and Sundays.

Of particular note are potential noise sensitive land uses that may exist in the area. Noise sensitive uses typically include schools, churches, senior citizen centers, day-care centers, hospitals, or residences or other uses that may be especially impacted by noise. Possible sensitive noise receptors within or adjacent to the proposed Riverside Sewer District include the Phillips Avenue Elementary School, Southampton Head Start, and several churches.

The proposed STP and leaching areas are located in general proximity to some of these sensitive noise receptors. However, the proposed treatment process, including mechanical operations, blowers and a generator will all be indoors and not expected to have a significant adverse impact on ambient noise levels. Pump stations also generate little noise. Pump stations will be

constructed of precast concrete and require limited actual construction and therefore are expected to be installed relatively quickly.

7.2.3 Historic/Archaeological Resources

NPV reviewed the previous GEIS and most recently updated New York State Office of Parks, Recreation and Historic Preservation's Cultural Resources Information System (CRIS) database, and found no Listed historic buildings, structures, landmarks or districts in the proposed Sewer District; however, land along Main Street in Downtown Riverhead, along the north bank of the river, is a historic district that contains numerous State and Federally Listed structures and landmarks.

Despite the absence of National- and State-Listed historic resources in Riverside, there are four clustered buildings that are identified as "Eligible" for listing which are contained within the proposed Sewer District and together comprise what is referred to as a small "Eligible Building District." The structures are identified as 104, 106, 110 and 125 Flanders Road (SR 24) (three buildings on the north side of SR 24) described as the Goodwill AME Zion Church (1872-73) and two adjacent church related residences (ca. 1920), and Fellowship Hall (ca. 1890) which is located diagonally across the street from the church on the south side of SR 24 at 125 Flanders Road **(Figure 7-1)**. The structures are described by OPRHP as "associated with events that have made a significant contribution to the broad patterns in our history." A detailed description and history of these structures is provided in **Appendix M**.

The closest proposed above ground sewer facility or structure will be Pump Station No. 2 which will be 915± east of the closest Eligible structure (Fellowship Hall) and have no direct impact on this or other Eligible structures in the Eligible Fellowship Hall/ Goodwill AME Zion Church Historic District. Sewer mains will be installed within all street rights-of-way within the proposed Sewer District including along the frontage of the Eligible buildings and district. Installation will be conducted within the SR 24 street right-of-way and not on any of these sites, will take only a brief period to install, and all disturbed rights-of-way will be repaved and restored, and right-of-way shoulders will be reseeded, as necessary. As such, significant impacts are not expected to the Eligible structures or Eligible district within the proposed Sewer District.

Based on the CRIS database, parts of the Riverside community are within delineated archaeologically sensitive areas, including one area on the northwest side of the Sewer District around the traffic circle and one on the northeast side along the river and adjacent wetlands and creeks. These areas are believed by OPRHP to have a higher likelihood of containing archaeological or cultural resources than non-designated areas due to past archaeological

discoveries within an approximately 2,650±-foot radius of a documented find (one area centers on the intersection of Peconic Avenue and Main Street in Riverhead and the other centers on the south side of the Cross River Drive (CR 105) crossing over the Peconic River and Estuary).

Pump stations 1 and 2 and a few short stretches of force main and sewers are proposed within the northwesterly area of archaeological sensitivity, while pump stations 3 and 4, additional stretches of force mains and sewers, the STP and the proposed leaching areas are all outside of sensitive areas. Most of the area within the northwesterly area of archaeological sensitivity is densely developed with significant past ground disturbance, except for land north of SR 24, that is mostly undeveloped and will not be significantly impacted by the proposed sewering. The two pump stations, one along the edge of the SR 24 ROW on the same property as the existing NYS stormwater recharge area and the other on the east side of Lake Avenue on the south end of the Budget Hotel site will involve very limited ground disturbance encompassing 1,225 square feet (each) of area for all equipment, controls and accessories on land that was previously disturbed. Force mains to these pump stations will connect directly from the street, thereby reducing areas of disturbance.

The preferred project (an STP with onsite leaching areas within the Enterprise Zone Subdivision) will not affect or disturb any historic structures, sites or any identified archaeologically sensitive areas (see also the discussion on the constructed wetlands Alternative in **Section 5** of this DEIS). Locations near water bodies such as the Peconic River are often more sensitive to archaeological resources than inland areas due to the availability of natural resources (fish, shellfish, game, plant life) and travel opportunities (boats, canoes, landings, ports, etc.). Nevertheless, many areas near major water bodies have been significantly disturbed by past clearing, excavation, filling, , and development in more recent times, thereby reducing the likelihood of encountering cultural resources or finding them intact.

The proposed site for the STP on Town owned land within the Enterprise Zone industrial subdivision is located *outside* of any area that has been identified by OPRHP as being archeologically sensitive **(Figure 7-1)**.

7.2.4 Outdoor Lighting and Odors

Outdoor lighting at the STP and pump stations will be limited to only what is necessary to ensure a safe and secure site and access for inspection, maintenance, and repair personnel. Outdoor Lighting will comply with the Town's Outdoor Lighting standards set forth in Article XXIX, Section 330-346, "Nonresidential lighting standards" to prevent excessive illumination, unnecessary energy use, light trespass, glare, impacts on views of the night sky and other visual

considerations, and effects on nocturnal wildlife. Lighting will be directed downward and shielded as needed. A 25-foot-deep wooded buffer will be maintained around the perimeter of the STP/leaching field site which will further protect off-site land uses from unwanted errant lighting.

Regarding odors, a masonry structure will enclose the STP equipment and treatment processes, thereby containing odors. If odors become an issue, odor control technologies will be installed.

7.3 Mitigation Measures

- The STP building will be located in a light industrially zoned area on a loop street with no through traffic or significant exposure to views from the general public. The STP site will also include minimum 25-foot-deep natural wooded buffers around the perimeter for screening and where possible to mitigate visual impacts. Leaching areas will be planted with grass or other acceptable ground covers, not include invasive species, and utilize native vegetation to the extent practicable. The site should be supplemented with plantings in areas that are visible from the street, and where possible, additional vegetative screening or slatted fencing should be considered adjacent to residentially developed or zoned property as needed.
- The proposed STP and leaching area are permitted uses in the LI-40 zone and the proposed TSP facility will comply with all LI-40 dimensional zoning standards.
- Outdoor lighting should be limited to only what is needed to ensure a safe and secure site, be energy efficient, and be controlled by timers or light sensors. Lighting shall comply with Town Code Chapter 330, Article XXIX, “Outdoor Lighting.”
- As noted above, the STP will be fully enclosed, and odors are not expected. In the unlikely event that odors become an issue, odor control technologies will be installed.
- Construction activities must be performed during the hours and days prescribed by Chapter 235 “Noise,” Section 235-4 A.(2) & (3) which restricts such construction activities to 7:00 AM through 7:00 PM Monday through Friday and 8:00 AM through 6:00 PM on Saturdays and Sundays.
- The proposed sewer facilities will allow development, redevelopment and additional development density within the Riverside Sewer District. Future development or redevelopment within the Sewer District shall comply with all applicable environmental mitigations, standards and requirements identified in the adopted December 22, 2015 GEIS Findings Statement for the Riverside BOA Step II Nomination Study, Riverside Revitalization Action Plan and Zoning Map, and ROD Code Amendments.

SECTION 8.0
OTHER IMPACTS

8.0 OTHER ENVIRONMENTAL IMPACTS

8.1 Unavoidable Adverse Environmental Impacts

Clearing, excavation, and soil removal is necessary to construct the STP, pump stations, and leaching areas and install the network of sewer mains along street rights-of-way. Total clearing is estimated to be 11.11± acres, including 8.89± acres of pine barrens vegetation on the seven-lot STP site where up to 5.54 acres of clearing is currently permitted. The additional 3.35± acres of clearing needed to accommodate the STP and leaching areas, therefore will exceed CLUP and APOD clearing restrictions and will have a small effect on wildlife and wildlife habitat. The area of pine barrens to be disturbed, however, is relatively small, fragmented and of generally low-quality. The pine barrens near the center of the Riverside community are also detached from the high-quality much larger pine barrens to the south of the Riverside community.

The proposed STP and associated infrastructure are necessary to protect sensitive groundwater and surface water resources in the area, while supporting local investment, economic growth, job creation, and workforce housing. The sewage facilities will protect the health, safety and general welfare of the community and help it to meet numerous long-range goals as memorialized in several thoroughly vetted and accepted plans and studies. Clearing will be kept to the minimum necessary and a minimum 25-foot wooded buffer will be maintained around the perimeter of the site, except where site access is provided. Groundwater and surface water quality is expected to improve, not only from future development in the District, but also from existing uses that currently use individual onsite cesspools and septic systems, connecting to the system.

Clearing and soil excavation and grading may generate dust during construction, but potential erosion, sedimentation and dust will be managed by using a variety of mitigative methods including but not limited to use of silt fencing, wetting bare soils on windy days, installing drain inlet protection, seeding bare ground as soon as possible after disturbance, installing a stabilized construction entrance to the STP site and other methods as needed. Soil that is excavated for leaching pool installation will be reincorporated back into the site to the extent practical to ensure adequate filtration and maximize groundwater separation if the ground needs to be raised. Retention of soil onsite would also reduce the number of heavy truck trips that will be necessary in the area during construction. Mains will be installed within existing road rights-of-way that have been at least partially, if not fully disturbed in the past. Excavated soil will be used to backfill trench excavations and unpaved shoulder areas, if disturbed will be reseeded.

Temporary construction related noise will occur but only during permissible work hours as prescribed under Chapter 235, “Noise” and shall not take place outside of the following hours:

Monday – Friday 7:00 AM – 7:00 PM and Saturday and Sunday 8:00 AM – 6:00 PM.[1] Proposed work will be temporary and occur primarily within an industrial subdivision and along busy street rights-of-way where ambient noise levels are generally highest. Pump stations are small precast concrete structures that can be installed relatively quickly and without excessive noise and installation of mains is relatively quick therefore limiting the time that nearby receptors are exposed.

Nonrenewable energy resources will be utilized to power the STP and pump stations and generators in the event of power outages. There will also be some brief disruptions to traffic activity during sewer main installation along public streets. Safety in work zones is paramount and is expected to include the use of orange pylons, informative signage, flagmen, and other typical safeguards as needed to protect motorists and workers alike. Scheduling main installations along major roads such as Flanders Road during the off-season would help minimize traffic related impacts from summer traffic.

Development of Town owned property for the proposed sewage treatment and disposal facilities will eliminate the use of Town property for other potential beneficial town or LI-40 uses but will nevertheless, provide a significant benefit to the community by supporting economic growth and protecting surface and ground water resources.

8.2 Irreversible and Irretrievable Commitment of Resources

Irreversible and irretrievable natural and human resources that will be consumed, converted or made unavailable for future use as a result of the Proposed Action include nonrenewable fossil fuels to power construction vehicles and heavy equipment during construction. The STP and pump stations will rely on electricity and natural gas for treatment processes, pumps, lighting, and backup power generation in the event of an outage. The Town could consider the possible use of solar/photovoltaic panels or wind turbines in the future to offset energy demands or sell back power to the grid to help decrease the costs of facility operations after alternative energy system payback. See **Section 8.4** below for more on renewable energy options. Other resources and materials to be used include concrete and steel.

8.3 Growth-Inducing, Secondary and Cumulative Impacts

Growth-inducing aspects of the proposed action include its direct and indirect effects that promote additional development in the area. Cumulative impacts are the potential impacts of a proposed action taken in conjunction with those of other active or anticipated nearby development projects. The purpose of the proposed STP and associated infrastructure is to

[1] The days and times provided represent permissible construction hours and do not reflect the anticipated work schedule.

support planned economic growth within proposed district's boundaries in accordance with previously adopted plans and the approved ROD and to protect and improve environmental conditions in the area including sensitive ground and surface waters from current and future wastewater discharges and revitalization of the Riverside community. Additional growth beyond what was envisioned by previous plans and the adopted zoning which is specified in the GEIS as the "Theoretical Development Scenario" is not expected. The GEIS for the prior RRAP and ROD fully examined the potential growth-inducing, secondary and cumulative impacts of this growth based on a theoretical buildout projection and identified the impact prevention and mitigation strategies to suitably control these impacts. Moreover, much of the area surrounding the proposed Sewer District is either surface water (Peconic River, Little Peconic River, fresh or tidal wetlands, etc.), is owned by the State, County or the Town and preserved and dedicated for open space, or is already developed already including nearby downtown Riverhead, thereby greatly restricting the scale of future growth outside the boundaries of the proposed Sewer District and beyond that envisioned during the RRAP and ROD GEIS process. The current environmental review focuses specifically on any potential impacts of the construction of essential sewer infrastructure to serve the additional growth and population expected within the Sewer District boundaries and considering it in conjunction with the prior GEIS.

8.4 Energy Use and Conservation, and Greenhouse Gas Emissions

The proposed collection, treatment and disposal system will operate 24 hours per day, 365 days per year. The proposed STP and pump stations will require energy to operate and utilize natural gas and/or electricity as power sources. The project will also increase the potential for new additional development in the proposed Sewer District which was considered previously by the original GEIS. A backup generator will be provided to serve the STP and ensure uninterrupted service in the event of a power outage. A natural gas standby power generator will also be installed adjacent to each pump station. The generator will be sized to provide standby power for the pump station. Each unit will be provided with an automatic transfer switch and the fuel supply shall meet Suffolk County Article 12 requirements.

The Clean Water State Revolving Fund (CWSRF) Engineering Report **(Appendix B)** states that two renewable energy options (wind and solar energy) were considered for the STP/leaching area site. Each will produce energy that will reduce the operating costs of the plant but at differing rates. Three layouts were considered: 1) rooftop solar panel coverage; 2) rooftop wind turbine farm; and 3) a combination of solar panel layout with wind turbine perimeter.

The size of the proposed STP building will allow for approximately 1,450 solar panels to be installed on the roof. Taking into consideration the location of the plant, the average daily sun exposure over the course of a year is quite low. At the time this option was evaluated the average electrical cost was approximately $0.22 per kilowatt-hour. N+P estimated that it would

take a little over five years for the panels to generate enough energy to cover the cost of the panels themselves. This does not take into consideration construction, maintenance and servicing costs.

The market for rooftop wind turbines is not as fully established as solar panels. There are many different designs that proclaim they optimize the efficiency of the turbine. To allow for adequate spacing for wind flow, it was estimated that approximately forty-eight turbines can be installed on the roof in an offset layout. Based on an average energy generation and the current electrical cost, it was estimated that the wind turbine layout would take a little more than eleven years to generate enough energy to cover the cost of the turbines. Again, this did not take into consideration construction, maintenance and servicing costs.

The third option was to combine the wind turbine and solar panel layouts. The solar panel rooftop option was kept the same only with wind turbines around the perimeter of the rooftop only. This layout was estimated to take approximately eight years to cover the cost of the materials, again without additional expenses taken into consideration.

It is important to note that none of the options would generate enough energy to make any of the STP process options self-sustaining. A connection to the electric grid will be required despite any installation of renewable energy sources. Therefore, the renewable energy sources' installation will not affect the construction of the STP. The panels or turbines can be installed at any point after the building has been constructed and should have no impact on the treatment process.

8.5 Construction-Related Impacts

The proposed collection system and pump station installations will be constructed in two phases. Phase 1 will include the construction of the STP, the leaching field located south of the proposed STP, Pump Stations 1, 2 and 3, and sewer and force mains in the Phase I area of the **Phase I and Phase II Overall Site Plan (Attached)**. Phase II will involve construction of the leaching area located north of the proposed STP, Pump Station 4 and the sewer and force mains for Phase II as shown on the **Phase I and Phase II Overall Site Plan**. Collection and treatment of existing on-site sanitary discharges will augment plant flow during project start up. The total construction period is expected to take between 12 and 18 months.

The proposed project has been designed to limit clearing and ground disturbance to only what is necessary to accommodate the proposed STP, subsurface leaching pools, sewer mains and force mains, and pump stations, facilities access and maintenance. The Phase II leaching area north of the proposed STP will not be cleared unless and until the second phase of sewering proceeds. Clearing is a factor at the proposed STP and leaching area in the Enterprise Zone

Industrial Subdivision due to its location within a Central Pine Barrens Compatible Growth Area, Aquifer Protection Overlay District and SGPA. Some of this site, however, was previously cleared and contains successional vegetation as opposed to mature pitch pine oak forest. A minimum 25-foot-deep perimeter buffer will be retained around the STP and leaching facilities, and clearing will include only the minimal necessary to construct the facility and allow for space for any necessary outdoor areas (e.g., parking). Nevertheless, the project will require additional 3.35± acres of clearing beyond Central Pine Barrens and APOD clearing restrictions, thereby requiring a Hardship Exemption from the CPBJPPC and any additional mitigation to offset the necessary exceedances. Prior to construction, a project limiting fence will be erected to ensure that proposed buffers are not inadvertently cleared or disturbed. After clearing, silt fencing, a stabilized site entrance, and inlet protection will be installed. Soil of good quality that is excavated for construction of the STP and installation of leaching areas, and stormwater infrastructure will be retained onsite to the maximum extent practicable, used as backfill and used for mounding if necessary. Efforts will be made to also reuse soil excavated from pump station sites to reduce the amount of soil that must be shipped off site. A temporary soil stockpile area will be identified on the STP site if needed, and a vehicle washout area will be installed along the STP driveway to remove sand and dust from heavy equipment such as dump trucks, backhoes, etc. exiting the site. Silt fencing will be installed around temporary stockpile areas that will be present for more than a few days or sooner under unusually windy weather. Bare soil will be periodically wet down if dust becomes an issue and soils will be reseeded or replanted with pine barrens vegetation or other suitably adapted non-invasive species if pine barrens vegetation cannot be used. The old section of the west side of Enterprise Zone Drive will be removed and a new section will be installed along with paved surfaces on the STP site (see **Attached Overall Site Plan**) and associated drainage structures that meet Town drainage requirements. Gravity and force mains for Phase I will be installed. Phase II sewering and construction of the northerly leaching field and Pump Station No. 4 will occur at a later date based on demand.

Additional stormwater runoff would be limited primarily to the proposed STP building and paved parking access driveway since the proposed leaching fields will be pervious and vegetated with ground cover plantings such as grass and pump stations are very small, and do not create significant impervious surface area. Runoff from the STP and onsite paving will be recharged onsite through a system of roof drains, drywells, catch basins and underground leaching pools.

SECTION 9.0
ALTERNATIVES

9.0 ALTERNATIVES

SEQRA and its implementing regulations at 6 NYCRR Part 617.9(b)(5)(iii)(v) require an examination of reasonable project alternatives that are consistent with the objectives and capabilities of the project sponsor. This phase of environmental review provides the context and framework for identifying, comparing and contrasting feasible project alternatives, and plays a critical role in project planning and the identification of impacts and mitigation strategies. Alternatives investigations provide a useful way to assess the viability of modified plans, determine their impacts, and provide additional information for informed decision-making. According to SEQRA, alternative actions may involve:

- different project sites;
- changes in project size, scale, and/or density;
- consideration of different land uses and/or land use intensities;
- variations in plan layout or design;
- alternative alignments and structural orientations;
- evaluation of different technologies or methodologies;
- adjustments to project phasing and timelines; or
- any other appropriate changes that are consistent with the objectives and capabilities of the project sponsor.

SEQRA specifically requires a comparative assessment of what it refers to as the "No-Action alternative." The No-Action alternative provides the basis for characterizing and evaluating anticipated changes, possible impacts, and benefits that are likely to result in the future in the absence of the Proposed Action or any other significant future actions. SEQRA requires that analyses of alternatives be conducted at a level of detail that is suitable for the Lead Agency and all involved decision-making entities to consider potential impacts and benefits.

The identification and assessment of alternatives for the present action is based in part on the information, findings and recommendations of the February 2022 "Riverside Revitalization Sewage Treatment Plant Collection System, Value Planning Final Report" (**Arcadis, February 2022)** provided in **Appendix L** ("Arcadis Report"). The Arcadis Report was prepared in accordance with New York State Environmental Facilities Corporation's Environmental Justice Hardship Financing requirements. The Arcadis Report contains information and analysis of possible project alternatives based on workshops conducted at both the Town of Southampton's offices and the Residence Inn in the Town of Riverhead between September 14th and 16th, 2021.

This Supplemental DGEIS considers the following alternatives to the Proposed Action per SEQRA, Town input, and the Arcadis Report:

Alternative 1: No-Action Alternative – This scenario assumes that the construction of a community STP to serve existing and future land uses is abandoned and existing and future uses rely exclusively on conventional onsite septic systems.

Alternative 2: Constructed Wetland - An Alternative Plan that considers the use of land now owned by the Town of Southampton located north of SR 24 and adjacent to the northeast corner of the proposed Sewer District on SCTM Lots 900-119-1-26.1 and 900-118.01-1-32 to create a constructed wetland as a receiving body for treated effluent from the proposed STP and install an improved construction access and force main to deliver treated effluent to the constructed wetland.

Alternative 3: Injection Wells - Assessment of an alternative that involves the installation of at least a dozen subsurface injection wells at the proposed STP site rather than using standard sanitary leaching pools or disposing of treated wastewater in a constructed wetland located near the northeast corner of the proposed Sewer District as described above.

Alternative 4: Riverhead STP - Assessment of an alternative where a shared services agreement is executed by the Town of Southampton and Town of Riverhead to allow the Riverside community to connect to the Riverhead STP for treatment and disposal of all Riverside wastes.

Alternative 5: Shared Services Agreement - Assessment of an alternative where a shared services agreement is executed by the Town of Southampton and the Town of Riverhead to expand and upgrade the Riverhead STP to accept only solids from the Riverside STP.

These alternatives are considered relative to the preferred project as examined throughout this SDGEIS which involves construction of an STP and installation of subsurface leaching pools on seven contiguous Town-owed lots on the west side of the Enterprise Zone Subdivision.

9.1 Alternative 1: No Action (Conditions if the STP is Not Constructed)

This alternative assumes that the Proposed Action (the creation of the Riverside Sewer District and construction of the proposed sewage collection and advanced treatment facilities) is not undertaken and that current and future land uses in the proposed Sewer District continue to rely exclusively on individual on-site septic systems or outdated and substandard cesspools often on substandard sized lots that may still be in use. Current conditions, therefore, include the same wastewater collection and disposal systems (septic systems and cesspools) that are in place today and that all future development and redevelopment rely exclusively on septic systems that comply with SCDHS standards and specifications.

Use of existing conventional septic systems and cesspools and future installation of conventional systems for future development and building expansions would prevent ambient groundwater and surface water quality from improving and in fact further degrade it as additional "as-of-right" development proceeds to a full buildout condition under zoning. Moreover, existing dense developments in the area, including three compact mobile home communities, dense single-family residential neighborhoods, and commercial, industrial and institutional uses already place strain on area resources and would continue to use ineffective low quality sanitary systems. This is of particular concern as the Riverside community is one of the most environmentally significant and sensitive areas on Long Island. Riverside contains several established Critical Environmental Areas (CEAs) associated with groundwater, fresh and brackish surface waters, and freshwater and tidal wetland resources.

Of particular concern is nitrogen loading from low level sewage treatment and failing cesspools which can affect local hydrology, contribute to algal blooms, especially in brackish wetlands and surface waters, reduce dissolved oxygen concentrations in surface waters, and adversely affect fish and shellfish communities. The potential for pathogens in poorly treated wastewater is also a concern which can contribute to shellfishing closures and recreational use restrictions. High concentrations of nitrate in drinking water can also adversely affect public health, particularly infants as it can decrease oxygen concentrations in blood.

The projected existing concentration of nitrogen in recharge within the proposed Sewer District was estimated by NPV using its proprietary model (SONIR) to be 4.58 mg/l, while the concentration within the CPB CGA portion of the Sewer District was estimated to be 4.83 mg/l. Conditions in the CPB CGA part of the proposed Sewer District once the sequencing batch reactor (SBR) is constructed are estimated to be approximately 4.12 mg/l and 4.55 mg/l, respectively. This indicates a 10.04% reduction of nitrogen concentration in the overall Sewer District and 5.80% reduction of nitrogen concentration in the CPB portion of the Sewer District. These projections further suggest the positive environmental impact that the construction of the STP and associated facilities will have on the environment and the potential adverse conditions if they are not constructed. Overall, advanced treatment of wastewater provides many water quality, health, and environmental benefits, not just a reduction in nitrogen loading.

Maintaining the status quo in terms of the use of individual onsite sanitary systems would also greatly restrict the types of land uses and the overall density and scale of development possible in Riverside in the future. Certain essential uses such as multifamily housing, apartments over stores, and other "wet" uses such as restaurants, hotels, bed and breakfasts, medical offices, and some institutional or entertainment uses, would therefore be forbidden or greatly restricted. Dense development including mixed-use projects would also be prohibited or greatly restricted

due to SCDHS's maximum permissible onsite sewage discharge standards for conventional onsite sanitary system standards. This would restrict onsite wastewater flow to just 300 gpd/acre on land located south of SR 24 and 600 gpd/acre on land north of SR 24. This would prevent the community from reaching the critical mass of growth and mix of land uses determined to be necessary to achieve the community's long-range goals for economic growth and community investment, elimination of blight, area development and revitalization, long range community sustainability, infrastructure improvements, new employment opportunities, elimination of negative social conditions that are aggravated by poverty and a lack of opportunity, and an improved sense of place and quality of life for residents.

Finally, the No Action Alternative is contrary to the many past comprehensive planning initiatives and environmental reviews, and the Town's Riverside Overlay District standards that were developed, fully vetted and accepted by the Town over the course of the last 25 years and recognize the need for sewers and other investments:

1. Comprehensive Plan Update ("Southampton Tomorrow") **(Land Ethics, 1999)**;
2. The Flanders/Riverside/Northampton Revitalization Study **(Ferrandino & Associates, et. al., 2004)**;
3. Draft Riverside Hamlet Plan: A Vision for the Future **(Hutton Associates, 2008)**;
4. Draft Generic Environmental Impact Statement: Riverside Hamlet Center Plan and Mixed-Use Planned Development District **(Cashin Associates, 2008)**;
5. Riverside Urban Renewal Plan **(Saccardi & Schiff, Inc., 2009)**;
6. Draft Feasibility Study Map and Plan for Flanders Riverside, Suffolk County, New York: Flanders Riverside Corridor Sewering Feasibility Study **(CDM Smith; H2M; and Bowne AE&T Group, 2013)**;
7. 2015 Framework for the Future - Suffolk County Master Plan **(Suffolk County Planning, 2015)**;
8. Brownfield Opportunity Area Step II Nomination Study **(Nelson Pope Voorhis, 2015)**;
9. Riverside Revitalization Action Plan (RRAP): Hamlet of Riverside, Town of Southampton, Riverside Rediscovered **(Renaissance Downtowns, 2015)**;
10. Riverside BOA, Revitalization Action Plan and Zoning Amendments DGEIS, FGEIS and Findings Statement **(Nelson Pope Voorhis and Town of Southampton Town Board, 2015)**; and
11. Riverside Overlay District Code, Chapter 330, Article XXXI **(Town of Southampton Town Board, 2015)**.

9.2 Alternative 2: Discharge of Treated Effluent to Constructed Wetlands

Alternative two considers the environmental impacts and benefits of discharging treated effluent into a constructed wetland and the potential effects on the overall treatment process, effluent quality, costs, and the environment, as well as its suitability for achieving community waste disposal and development related goals.

Alternative 2 considers the use of land that was recently acquired by the Town of Southampton located north of SR 24 and adjacent to the east of the northeast boundary of the proposed Sewer District. This site consists of two adjacent lots (SCTM Lots 900-119-1-26.1 and 900-118.01-1-32) totaling 40.3± acres (see **Attached Phase I and Phase II Plan and Constructed Wetland Partial Site Plan**). The constructed wetlands would be sited on the north side of the property at the top of a large existing "plateau" of dredge spoils removed from the Peconic many years ago which would be the final point of discharge and disposal of treated effluent under this alternative before discharge to a weir. Treated effluent would be delivered to the 4.23± acre constructed wetland via a roughly 1,000-foot-long force main that would extend from SR 24 to the constructed wetlands **(Arcadis of New York, Inc., 2022)**. A driveway would be provided off SR 24 for access to the constructed wetland.

A new access road would have to be cleared and stabilized to provide access for future wetland construction and periodic inspection and maintenance. The area where the force main would be installed between SR 24 and the constructed wetlands, has limited depth to groundwater and some areas contain wetlands, requiring some clearing and disturbance to these sensitive areas and permits from NYSDEC and the Town.

Topography around the constructed wetlands site (adjacent to the dredge spoil area) is relatively flat and near sea level but the footprint of the 4.23± acre constructed wetlands at the top of the dredge spoils would range from 7± feet to approximately 12± feet above mean sea level (msl) putting it slightly higher than the surrounding land, tidal and freshwater wetlands, and the Peconic River and Estuary. The alternative constructed wetlands site (i.e., the dredge spoil mound) is within a FEMA X zone which has a 0.2 percent chance of being inundated by flooding in any given year but is surrounded by a FEMA AE el. 7-foot Special Flood Hazard Area which could complicate initial force main installation and site access, and after storms, or in the future when sea level is higher. Potential flooding is also possible at or around the constructed wetlands site from large storms which may restrict access to the facility, but this would be from extreme storm events and taking sea level rise into account (see **Figure 3-16, Sea level Rise and 500-Year Flood Event Map**). The flora planted in the constructed wetlands would include emergent herbaceous wetlands plants and other native and suitably adapted wetland species that are tolerant of occasional flooding and saturated soils. Flooding would, however, affect the

constructed wetlands capacity and effluent residence times and could affect the integrity of wetland berms if not properly designed and stabilized to prevent erosion and/or slope failure. In addition, the constructed wetlands would be designed with either a compacted clay layer or impermeable liner at its base to reduce or prevent direct recharge and retain discharged effluent while also ensuring a suitable planting base that supports emergent plants and other wetlands vegetation. This may therefore require replacement of soil including offsite shipments of poorly suited soils and importation of soil with appropriate characteristics.

The dredge spoils pile is currently mostly vegetated with heather; however, rare plant species identified during field inspections of possible infrastructure sites in the proposed Sewer District were found on the east end of the dredge spoils deposits. The proposed constructed wetlands would be sited at the west end of the dredge spoils and away from these rare species so they would not be inadvertently removed or impacted **(Figure 4-1)**.

Plant and wildlife species found at the alternative constructed wetlands site are as follows:

Wetland Boundary/Alternative Constructed Wetlands Area

Grasses, Plants, Shrubs and Trees:

- Norway Maple – *Acer platanoides*
- Red Maple – *Acer rubra*
- White Oak – *Quercus alba*
- Red Oak – *Quercus rubra*
- Eastern White Cedar – *Thuja occidentalis*
- Pitch Pine – *Pinus strobus*
- American Holly – *Ilex opaca*
- Eastern Baccharis – *Baccharis hamifolia*
- Lowbush Blueberry – *Vaccinium angustifolium*
- Multiflora rose – *Rosa multiflora*
- Japanese Barberry - *Berberis thunbergia*
- Greenbrier – *Smilax sp.*
- Oriental Bittersweet – *Celastrus orbiculatus*
- Bushy Bush Clover – *Lespedeza frutescens*
- Stuve's Bush Clover – *Lespedeza stuevei*
- Sickle-leaved Golden Aster – *Pityopsis falcata*
- Sweet Everlasting – *Pseudognaphalium obtusifolium*
- Common Heather – *Calluna vulgaris*
- Common Reed – *Phragmites australis*
- Japanese Stiltgrass – *Microstegium vimineum*
- Grasses - *Spartina sp.*

Rare plant species identified east of the alternative constructed wetlands include:

- Stuve's Bush Clover *(Lespedeza stuevei)* which is a New York State "Imperiled" ("Threatened") species with a Global Rank of "Apparently Secure;"
- Bushy Bush Clover *(Lespedeza frutescens)* which is a New York State "Rare" species with a Global Rank of "Demonstrably Secure;" and
- Sickle-Leaved Golden Aster *(Pityopsis falcata)* which is a New York State "Rare" species with a Global Rank of "Apparently Secure/Demonstrably Secure."

Wildlife identified in this area during the site inspections include:

Observed Wildlife:

- Great Egret – *Ardea alba*
- Blue Jay – *Cyanocitta cristata*
- White-tailed deer (droppings) – *Odocoileus virginianus*
- Double-crested Cormorant – *Nannopterum auritum*
- Turtle eggs (unknown species)

One or more endangered Northern long-eared bats (NLEB) have been documented as present within 1.25 to 1.5 miles from the proposed constructed wetlands site and a potential habitat area has been identified between SR 24 and the alternative constructed wetlands where the force main and site access driveway would be constructed for this alternative **(Figure 4-1)**. Therefore, restricting clearing to December 1 through February 28 at this location when bats, if present in the area, are not expected to be present would be advised at the constructed wetland site.

The Riverside community is located adjacent to the south of the Peconic Estuary, which is identified by NYSDEC in Section 303(d) as an "Other Impaired Waterbody" due to oxygen depletion caused by excess nitrogen loading. A likely contributor to this condition is the use of septic systems and cesspools on small lots throughout the Riverside community. It is estimated that approximately 5,976 lbs. of nitrogen are added to the Peconic River every year by these existing septic systems and cesspools **(NPV, 2015)**. Stormwater runoff, as well as urban development in the Town of Riverhead on the north side of the River and Estuary are also a contributors to elevated nitrogen concentrations in the Estuary.

Constructed wetlands provide denitrification through the process of plant absorption and can provide additional water quality benefits after initial treatment at the STP. This would help further reduce nitrogen related impacts on the Estuary, potentially lessen dissolved oxygen concentrations, and protect aquatic species. The effectiveness of nitrogen removal by constructed wetlands is, however, reduced in the winter when wetlands plant species are dead or dormant, and are unable to absorb nitrogen. Furthermore, as a point of comparison, the STP itself can be equipped with filters that remove nitrogen as part of the treatment process. Onsite

leaching pools at the Enterprise Zone subdivision and STP site would be designed with two feet of unsaturated soil media between the base of each leaching pool and the seasonal high-water table to provide additional filtration and pollutant breakdown. Recharge of treated effluent through leaching pools at the STP site also assumes an approximately 2± year groundwater time of travel and ground residence time before any potential upwelling and/or bank discharge into the river and estuary.

Discharge to the constructed wetlands would be treated STP effluent and after absorption by vegetation and interaction with underlying soils would not be expected to impact the river, the Heritage Conservation Status Imperiled Atlantic silverside, if still present in the area, or other rare or common aquatic species that may be present.

The alternative constructed wetlands site is partially within a New York State Office of Parks, Recreation and Historic Preservation (OPRHP) archaeological sensitive area, even though the site of the constructed wetlands is covered by 7 to 12 feet of excavated dredge spoil removed from the Peconic River and Estuary. As with the preferred scenario's leaching areas, the constructed wetlands would have to be cleared resulting in the removal of 4.23± acres of heathland plus an estimated 1.18± acre area needed for force main installation and access road construction. Some of this area would include freshwater wetlands. Also, like the preferred leaching areas scenario, a considerable volume of dredge spoils would have to be removed from the site and disposed at a new approved location. Total estimated clearing for constructed wetland, access road and force main installation is 5.41± acres.

Finally, as with leaching facilities, the constructed wetlands would have to be periodically inspected, cleaned, and maintained, including maintenance of wetlands vegetation and removal of accumulated sediment that may reduce wetlands capacity. Based on the preceding considerations, treatment, and subsurface recharge through leaching pools at the STP facility is preferred.

Advantages of a Constructed Wetland

- Opportunity to restore an area of dredge spoils to a more natural previous wetland condition.
- Denitrifies effluent naturally with no mechanical parts.
- Not within the CPB CGA, Town APOD or Central Suffolk SGPA.
- Eliminate leaching area clearing and disturbances to CPB CGA at STP site.
- Provides habitat for some species of wildlife.
- Constructed wetlands do not require the use of energy and therefore would not require energy once operating, except for some possible periodic maintenance activities.

Disadvantages of a Constructed Wetland

- The constructed wetland would be within the adjacent area of State and federally regulated wetlands.
- A 1,000± foot-long access road and force main would have to be installed and totaling 1.178± acres of clearing, some of which would be through freshwater wetlands.
- The constructed wetlands would be located within a Peconic Estuary and Environs Critical Environmental Area.
- The constructed wetlands site is within a New York State Coastal Boundary and the Water Protection Boundary for the "Southampton Town Water Protection Plan" which is considered an LWRP under the State Coastal Zone Management Program that requires Coastal Consistency Review.
- Rare and threatened plants were found offsite but nearby, and an endangered wildlife species (NLEB) has the potential to occur at or near the constructed wetland site.
- The constructed wetlands would be close to the Peconic River and area wetlands but is elevated above surrounding land. Portions of the proposed constructed wetland footprint fall within the FEMA 100-year flood zone or are adjacent to floodplain areas and may be further impacted by large storms in conjunction with sea level rise.
- The dredge spoils were deposited at the site at least 60 years ago based on aerial photography and may be as much as 90 years ago. The texture, sorting, type, permeability, compaction, stability, mix and quality of the dredge spoils and potential presence of contaminants are currently unknown.
- Constructed wetlands require continual maintenance including herbivory control, invasive species control, and plant mass harvesting.
- The success of plants within the constructed wetland would depend on flow regime entering the system, which would vary over time as the proposed treatment plant is phased.
- Constructed wetlands are less effective in the winter months due to the absence or dormancy of vegetative species.
- Estimated total cost for constructed wetlands, including force main is $2,245,000. Estimated total cost for injection wells is $1,381,000, assuming twelve (12) 100-foot deep 8-inch diameter wells. Use of injection wells would decrease construction costs by $864,000.
- Estimated total cost for Phase I and Phase II leaching pool installation is $1,120,000 (i.e., $560,000 for each phase). This is $1,225,000 less than the constructed wetland alternative and $261,000 less than the injection wells alternative.
- Total land area required for the constructed wetlands is 184,290± SF or 4.23± acres of which 1.29 acres would need to be cleared plus an additional 1.18± acres to install the site driveway and force main for a total of 5.41± acres. This compares to an estimated 8.49± acres of land that would be devoted to the preferred Phase I and Phase II leaching areas proposed adjacent to the STP.

9.3 Alternative 3: Assessment of an Alternative that Relies on Subsurface Injection Wells for STP Site Discharge

This alternative involves the installation of an estimated 12 deep injection wells for effluent disposal at the STP site and requires an estimated 77,741.34± SF (1.78± acres) of clearing (see **Attached injection well plan**). This option would be less expensive to implement as it would include fewer; albeit considerably deeper injection wells than the onsite leaching pools and would require less clearing and soil disturbance than both the constructed wetlands and leaching pools designs, thereby protecting native vegetation in the area. However, wastewater must be injected, and wells can clog requiring potentially costly maintenance. In addition, wastewater would be directly discharged deep into the underlying Sole Source Aquifer without the benefit of leaching through a two-foot zone of unsaturated soil media beneath the leaching pools to allow for additional filtration and natural treatment by aerobic microbes in the zone of aeration. It also differs from constructed wetlands which have the benefit of potentially absorbing some residual nitrogen during the growing season. Since the proposed STP facility and preferred leaching area are within the CPB CGA, Town APOD and Central Suffolk (South) SGPA, EPA Sole Source Aquifer, maximizing final effluent quality by discharging into unsaturated soil or constructed wetlands would be beneficial.

Under Alternative 3, at least 12 injection wells would be installed at the STP site in an area of 1.78± acres, thereby centralizing all treatment and discharge facilities on one Town owned site. The twelve injection wells include redundancy to fully accommodate the total 800,000 gpd of flow that could eventually be processed by the STP, should a well have to be taken offline. Similar to the leaching pools design, Alternative 3 also avoids NYSDEC wetlands and their upland adjacent areas, a NYS coastal area, Town Water Protection Plan area, and the Peconic Estuary and Environs CEA. Using injection wells would reduce construction costs compared to that required for constructed wetlands by approximately $864,000 and the construction schedule would be approximately 8 weeks shorter. The estimated cost of the leaching pool disposal alternative is $560,000 per phase or $1,120,000 at full construction which is $1,225,000 less than Alternative 2 (Constructed Wetlands) and $261,000 less than Alternative 3 (Injection Wells). Deep injection requires less maintenance than constructed wetlands and would require less clearing within the CPB CGA, Town APOD, and Central Suffolk SGPA than the onsite leaching pools would require. The injection wells would also reduce soil disturbance compared to constructed wetlands and leaching pools and require less handling and removal of soil. Soil at the proposed STP and leaching area site is also expected to be clean based on past land use, whereas it is unclear whether the dredge spoils at the alternative constructed wetlands site are clean.

According to information obtained from the United States Environmental Protection Agency (USEPA), an injection well for the sole purpose of discharging treated sanitary effluent is identified as Class V Well Type. The generic description of the purpose of this type of well is to

inject non-hazardous fluids into or above an underground drinking water source. Per the USEPA, Sewage Treatment Effluent (STE) wells typically inject fluids that have already undergone secondary or tertiary treatment. As stated in the CWSRF report, the proposed STP would be designed for tertiary treatment prior to effluent discharge. Due to the ability to discharge the effluent directly into or above groundwater, the injectate would need to be closely monitored for concentrations of nitrates to minimize any impact on the environment.

Injection well installation requires permits from the EPA New York Division and NYSDEC Permits Division for a SPDES discharge permit. A 1999 EPA study titled "The Class V Underground Injection Control Study, Volume 7, Sewage Treatment Effluent Wells" provided a nationwide inventory of wastewater injection wells. The study indicated that the state of New York did not report any documented sewage injection wells, but there may be fewer than fifty undocumented wells state-wide. NPV conducted a search for information and conducted outreach to federal, state, and county agencies and found very little information on the use of this technique for wastewater disposal in the State. Therefore, a record of issues, successes, failures, and lessons learned for this technique under local geologic and hydrogeologic conditions is largely absent.

Advantages of on-site injection wells include but are not limited to the following:

- Clearing at the STP/injection well site would be just 1.78± acres, which is much less than the constructed wetlands alternative (5.41± acres) and the proposed project (8.49± acres).
- Injection wells would reduce the level of site disturbance, soil removal and construction activity compared to the constructed wetlands alternative and preferred onsite leaching pool design.
- Injection wells would allow for environmentally sensitive land along the Peconic River and Estuary including freshwater and tidal wetlands to remain undisturbed and unaffected compared to the constructed wetlands alternative.
- There would be no need for wetlands permits from NYSDEC or State Coastal Zone Management Program Coastal Consistency Review compared to the constructed wetlands alternative.
- Alternative 3 would minimize the overall land area required for on-site discharge and reduce clearing within the CPB CGA, Town APOD and Central Suffolk SGPA.
- Is in a FEMA X flood zone (upland area). Thus, it is not in or adjacent to any FEMA Special Flood Hazard Areas and would not be affected by sea level rise as may be the case with the alternative constructed wetlands.
- Injection would reduce costs associated with long term stewardship compared to constructed wetlands although clogging of wells can occur.

- Based on past use of the STP site, contaminated soils are not expected but could be present at the alternative constructed wetlands due to the presence of pre-regulation dredge spoils deposits.
- Increased maintenance cost associated with well operation.
- Ability to maximize well and leaching depth with respect to groundwater elevation.
- The STP/deep injection site is not within a NYSOPRHP archaeologically sensitive area like the constructed wetlands alternative and would disturb a smaller area of soils.
- Estimated total cost for injection wells is $1,381,000, assuming twelve (12) 100-foot-deep eight-inch injection wells. Estimated total cost for constructed wetlands, including force main(s) is $2,345,000, for a savings of $864,000 under the injection well alternative.
- Estimated total cost of Phase I and Phase 2 leaching pool installations is $1,120,000 which is $261,000 less than installing injection wells and $1,225,000 less than constructed wetlands.
- Centralizing all treatment and disposal facilities on the STP site and facilitating access, inspections, and maintenance.

Disadvantages of on-site injection wells include, but may not be limited to the following:

- Injection may require disinfection depending on EPA and NYSDEC regulations.
- Deep injection does not allow for the water quality benefits of filtration through the zone of aeration as compared to leaching pools and therefore does not maximize the level of treatment in an area with sensitive ground and surface waters.
- The "*Riverside Revitalization Sewage Treatment Plant and Collection Value Planning Final Report",* prepared by ARCADIS U.S., Inc., dated November 2, 2021, last revised February 7, 2022, estimates that 100-foot-deep injection wells could be installed at the site, in order to reach the Lloyd Aquifer. However, this estimate does not account for the site-specific depths to the Lloyd Aquifer, on the south fork of Long Island, which can be between 1,000 and 1,500 feet below grade. Wells installed in the Lloyd Aquifer would be very deep -1,000+/- feet (and considerably more expensive to install and maintain) and there may be restrictions on discharges to this aquifer.
- According to the "*Hydrology of the Lloyd Aquifer on Long Island, New York – A Brief Summary of USGS Investigations"*, prepared by the USGS, dated December 2005, the sediments of the Lloyd Aquifer, on eastern Long Island, consist of sand and gravel, commonly within a clayey matrix, which has a moderate to low permeability, which may prevent adequate dispersion of treated effluent.
- The Lloyd Aquifer does not serve the general public on the east end. It is the Upper Glacial and Magothy Aquifers that provide the drinking water. Since the Upper Glacial and Magothy are part of Long Island's Sole Source Aquifer and is the primary source of drinking water on the on the east end, direct discharge of treated wastes into these

resources without the benefit of additional leaching and filtration through unsaturated/ aerated soils is not recommended.

- Some groundwater mounding may occur around wells which can affect discharge if not properly spaced.
- Scaling, corrosion and clogging of wells can occur and maintenance of deep wells may be difficult or costly and require anti-scalants, chlorine, corrosion inhibitors, or bacteriostatic agents.
- Additional equipment would be required to pump effluent, which would add costs, and require additional periodic maintenance.
- Injection well installation requires permits from the EPA New York Division and NYSDEC Permits Division for a SPDES discharge permit. A 1999 EPA study titled "The Class V Underground Injection Control Study, Volume 7, Sewage Treatment Effluent Wells" provided a nationwide inventory of wastewater injection wells. The study indicated that the state of New York did not report any documented sewage effluent, but there may be fewer than fifty undocumented wells state-wide. NPV conducted a search for information and conducted outreach to federal, state, and county agencies and found very little information on the use of this technique for wastewater disposal in the State. Therefore, a record of issues, successes, failures, and lessons learned for this technique under local geologic and hydrogeologic conditions is largely absent.
- Use of injection wells for wastewater recharge is not the typical method of sanitary effluent recharge used on Long Island. New York did not report any documented sewage effluent injections wells in New York State. A search for information and outreach to federal, state, and county agencies found very little information on the use of this technique for wastewater disposal in the State. Therefore, a record of issues, successes, failures, and lessons learned for this technique under local geologic and hydrogeologic conditions is largely absent.
- Energy costs would be higher than if constructed wetlands were used; however, the proposed STP is expected to include rooftop solar and/or air turbines to help offset costs.

9.4 Alternative 4: Assessment of Direct Connection to the Riverhead Sewer District for Full Volume Sewage Treatment

This alternative involves a direct connection of the proposed Riverside collection system to the Riverhead Sewer District for full conveyance, treatment, and disposal of all Riverside's wastewater, with financial assistance from the Town of Southampton/ Riverside community and future developers for any necessary facility improvements. The Riverhead STP is located north of the proposed Sewer District and is 1.55± miles from the west end of the proposed Sewer District as measured from the intersection of Ludlam Avenue and SR 24 along existing streets to the

Riverhead STP at 2 River Avenue in Riverhead. A force main would be necessary to deliver sewage to the Riverhead facility for treatment and disposal.

The project team reached out to the Riverhead Sewer District to determine if it was willing and able to accept the projected wastewater from the Riverside community or if it could just accept sludge from Riverside instead. In a letter dated June 28, 2022, from Riverhead Sewer District Superintendent, Michael Reichel, the Superintendent stated:

> I have received your letter requesting a meeting to discuss the proposed Riverside Sewer District. After meeting with my Town Board liaison, a meeting will not be necessary. The Riverhead Sewer District does not have sufficient capacity to accept the flow from your project. The Riverhead Sewer District code prohibits the acceptance of sewer sludge from other treatment plants. The district is in the process of upgrading its solids treatment system to process its sludge to Class A Biosolids. The upgrade is designed only to treat the sludge generated at the Riverhead Sewer Treatment Plant.

A copy of the referenced written correspondence is provided in **Appendix K**.

9.5 Alternative 5: Assessment of a Shared Services Agreement with the Town of Riverhead to Expand and Upgrade the Town's STP to Allow for Acceptance of Solids Produced by the Riverside STP

As part of this Alternative, the Town of Southampton/Riverside community would assist in expanding and upgrading the Town's STP to allow for the acceptance and treatment of solids collected at the proposed Riverside STP. As noted above, project Engineers from N+P reached out to the Riverhead Sewer District about this potential partnership in its March 25, 2022, letter and received the June 28, 2022 response provided above indicating that the Riverhead Sewer District code prohibits the acceptance of sewer sludge from other treatment plants **(Appendix L)**.

9.6 Proposed Riverside STP with Onsite Leaching Pools

This Alternative involves pending Town acquisition of the 3.63± acre parcel identified as SCTM 900-141-1-9.17 ("Five Towns" property) on the west side of the Enterprise Zone subdivision (identified thereon as Lot 15), south of Suffolk Federal Credit Union and north of the 7.3± acre Town owned STP/Phase I leaching area site. Upon acquisition (pending), the Town will utilize this property in conjunction with the six Town owned lots to its south and southeast and the curved section of Enterprise Zone Drive located between the Town lots, as the STP and effluent leaching facility. Incorporating this lot into the site allowed the STP and leaching areas to be designed to meet required SCDHS setbacks and accommodate the anticipated spatial needs of the STP, leaching facilities and 25-foot-deep perimeter buffers. The site is centrally located within the

proposed Sewer District, is owned by the Town, meets required spatial needs and avoids environmental and permitting issues associated with leaching adjacent to the Peconic River, Peconic Estuary and freshwater and tidal wetlands. Providing leaching at the STP site specifically eliminates the need for wetlands permits and avoids encroachment into areas within a NYS coastal boundary requiring Coastal Consistency Review. Unlike the constructed wetlands site, the Town's STP and leaching site is not within an OPRHP archeologically sensitive area but is within and near the outer periphery of a CPB CGA, the Town's APOD, and the Central Suffolk (South) SGPA.

According to N+P's June 2023 Clean Water State Revolving Fund (CWSRF) report, a standard ten-foot (10') diameter leaching pool with suitable setbacks requires approximately 324 SF of space. Considering the assumed effective depth of sixteen feet (16'), a total of 320 leaching pools with a total land area of approximately 103,680 SF would be needed for leaching and an additional 320 to meet SCDHS 200% capacity requirement. Further research found that the depth to groundwater at the proposed STP/leaching area site varies and that the available depth to groundwater would require the leaching pool effective depths to be adjusted to a maximum of approximately eight (8) feet. Therefore, this scenario doubles the number of pools necessary, and the land area required to approximately 4.75± acres. Using the estimate of an effective depth of eight feet, the overall area for the STP and associated on-site leaching pools will cover nearly the entire STP site, with the required space in between.

To maintain proper hydraulic symmetry and to adhere to County regulations, all leaching pools of the same system must be installed with the same effective depth. Considering the number of pools, and the overall distance and minimum slope required to convey the STP effluent to the farthest leaching pool, the available leaching effective depth at this point has the potential to be smaller than the previously estimated depth. If this were to be the case, the total number of leaching pools would need to increase, requiring additional land area. Alternatively, the STP capacity could be reduced based on the available leaching pool capacity.

Advantages to the use of on-site leaching pools include:

- Use of standard construction installation/practices.
- No additional equipment required (injection wells require pumps).
- Minimal maintenance required due to elimination of pumping equipment for Alternatives 2 (constructed wetlands) and 3 (injection wells).
- Is farther from surface waters, wetlands, and rare plant and possible endangered animal species (NLEB) than the proposed constructed wetlands site.
- Eliminates the need and cost of installing a force main and access road from Flanders Road (SR 24) to the proposed constructed wetlands, and partially through NYSDEC

regulated freshwater wetlands, eliminating the need for NYSDEC and Town wetlands permits.

- Is not within a New York State Coastal Boundary or the Water Protection Boundary for the "Southampton Town Water Protection Plan" which is an LWRP under the State Coastal Zone Management Program and requires Coastal Consistency Review.
- Reduces risks and costs associated with long term stewardship of constructed wetland.
- Consolidates the treatment and disposal systems in one centralized area.
- Has a greater depth to groundwater than the constructed wetlands and a longer residence time.
- Is in a FEMA X flood zone (upland area). As such it is not in or adjacent to any FEMA Special Flood Hazard Areas and will not be affected by sea level rise.
- Allows discharge of treated effluent into the vadose zone unlike injection wells which would discharge directly into groundwater.
- Would allow for environmentally sensitive land along the Peconic River and Estuary and near and through freshwater wetlands to remain undisturbed.
- The STP/deep injection site is not within a NYSOPRHP archaeologically sensitive area like the constructed wetlands option.

Disadvantages to on-site leaching pools include, but are not limited to the following:

- Located in but near the periphery of CPB CGA, Town APOD, and Central Suffolk SGPA.
- Overall land area and necessary clearing of pine barrens vegetation is much greater.
- Much more soil removal than injection wells but if the leaching areas are mounded the difference would be less.
- Increased upfront cost for additional leaching pools due to depth to groundwater.
- Some groundwater mounding may occur.

9.7 Conclusion

Each alternative has impacts and benefits. Overall, based on review of the CWSRF engineering report, Arcadis Value Planning Report and the previous GEIS, it is believed that onsite leaching is the better method of disposal.

SECTION 10.0
REFERENCES

10.0 REFERENCES

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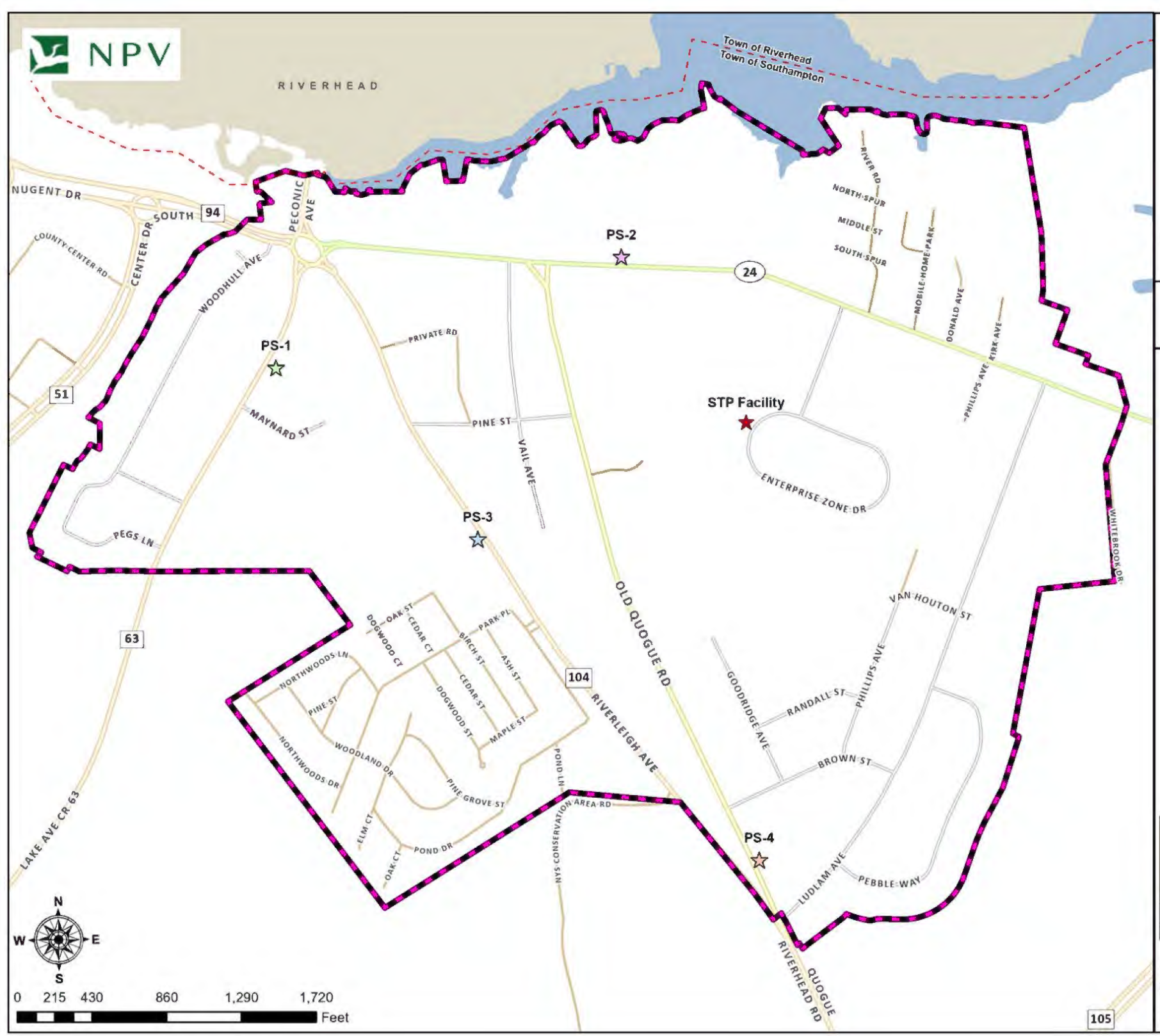
FIGURES



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Riverside Sewer District Supplemental DGEIS

Figure 1-1 Location Map

Legend

- Study Area
- STP Facility

Pump Stations

- PS-1
- PS-2
- PS-3
- PS-4

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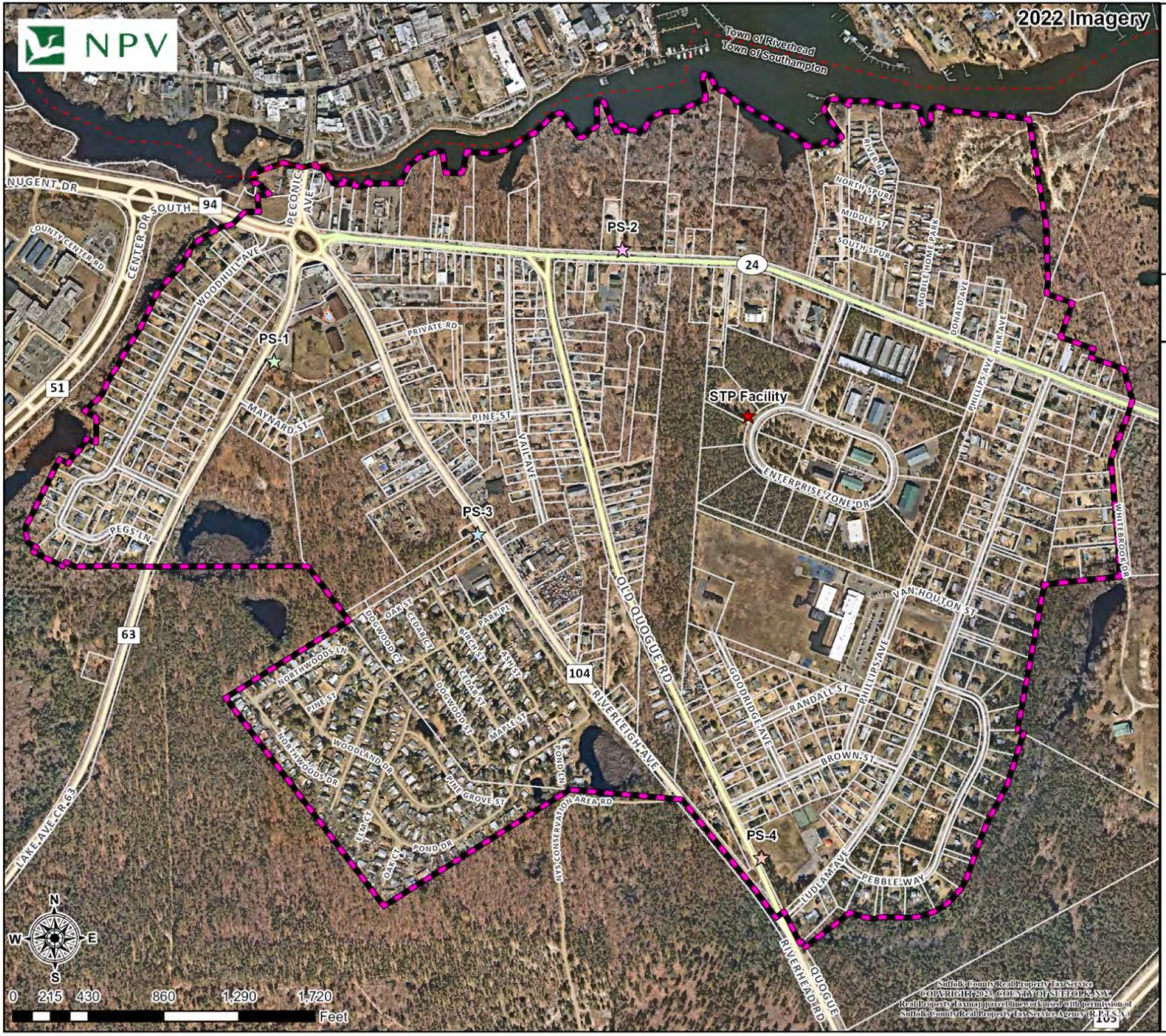

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Riverside Sewer District Supplemental DGEIS

Figure 1-2
2022 Aerial Photograph

Legend

- Study Area
- Tax Parcels

Source: Nearmap 2022 Aerial Imagery

Map ID: 2684

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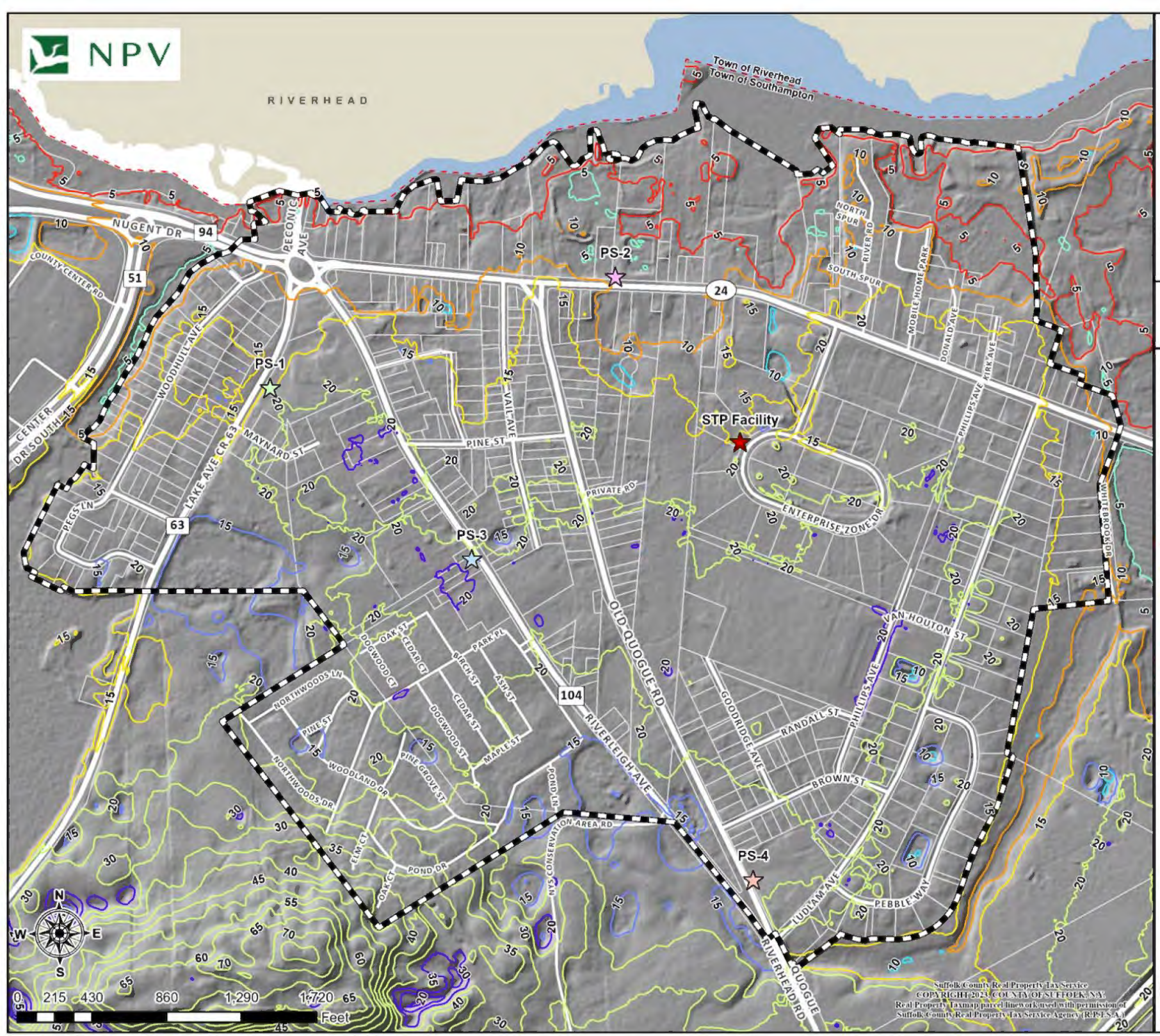

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Riverside Sewer District Supplemental DGEIS

Figure 2-1 Topography

Legend

- Study Area

DEM 2006

- High
- Low

5 Ft Contours

- 5 ft Contours
- 10 ft Contours
- 15 ft Contour
- 20 ft + Contours
- 5 ft Depression Contour
- 10 ft Depression Contours
- 15 ft Depression Contours
- 20 ft + Depression Contours

Map ID: 2684

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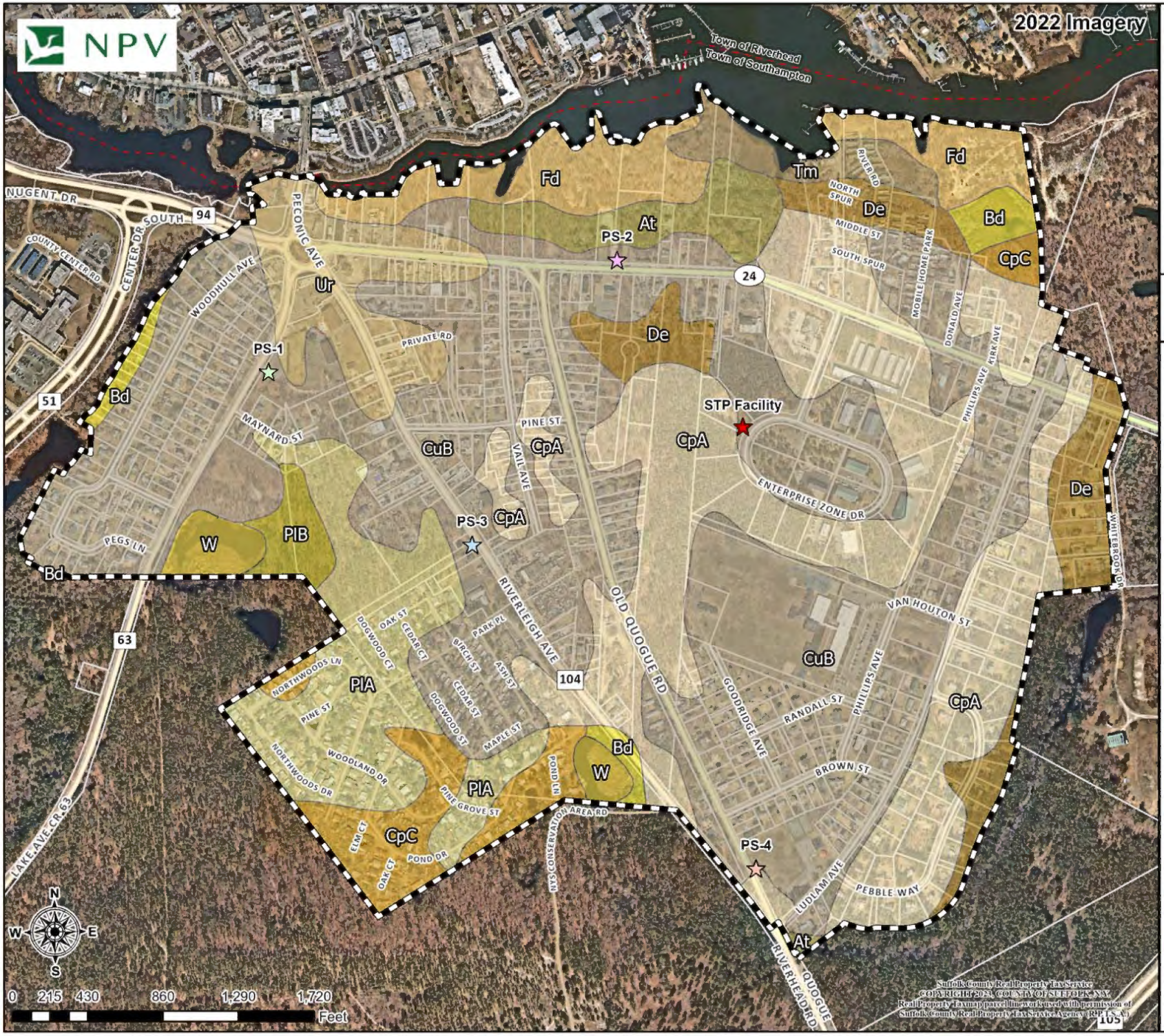

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Riverside Sewer District Supplemental DGEIS

Figure 2-2 Soil Classification

Legend

- Study Area

Soil Classification (SSURGO-USDA, NRCS)

- Atsion sand (At)
- Berryland mucky sand (Bd)
- Carver and Plymouth sands, 0 to 3 percent slopes (CpA)
- Carver and Plymouth sands, 3 to 15 percent slopes (CpC)
- Cut and fill land, gently sloping (CuB)
- Deerfield sand (De)
- Fill land, dredged material (Fd)
- Plymouth loamy sand, 0 to 3 percent slopes (PlA)
- Plymouth loamy sand, 3 to 8 percent slopes (PlB)
- Tidal marsh (Tm)
- Urban land (Ur)
- Water (W)

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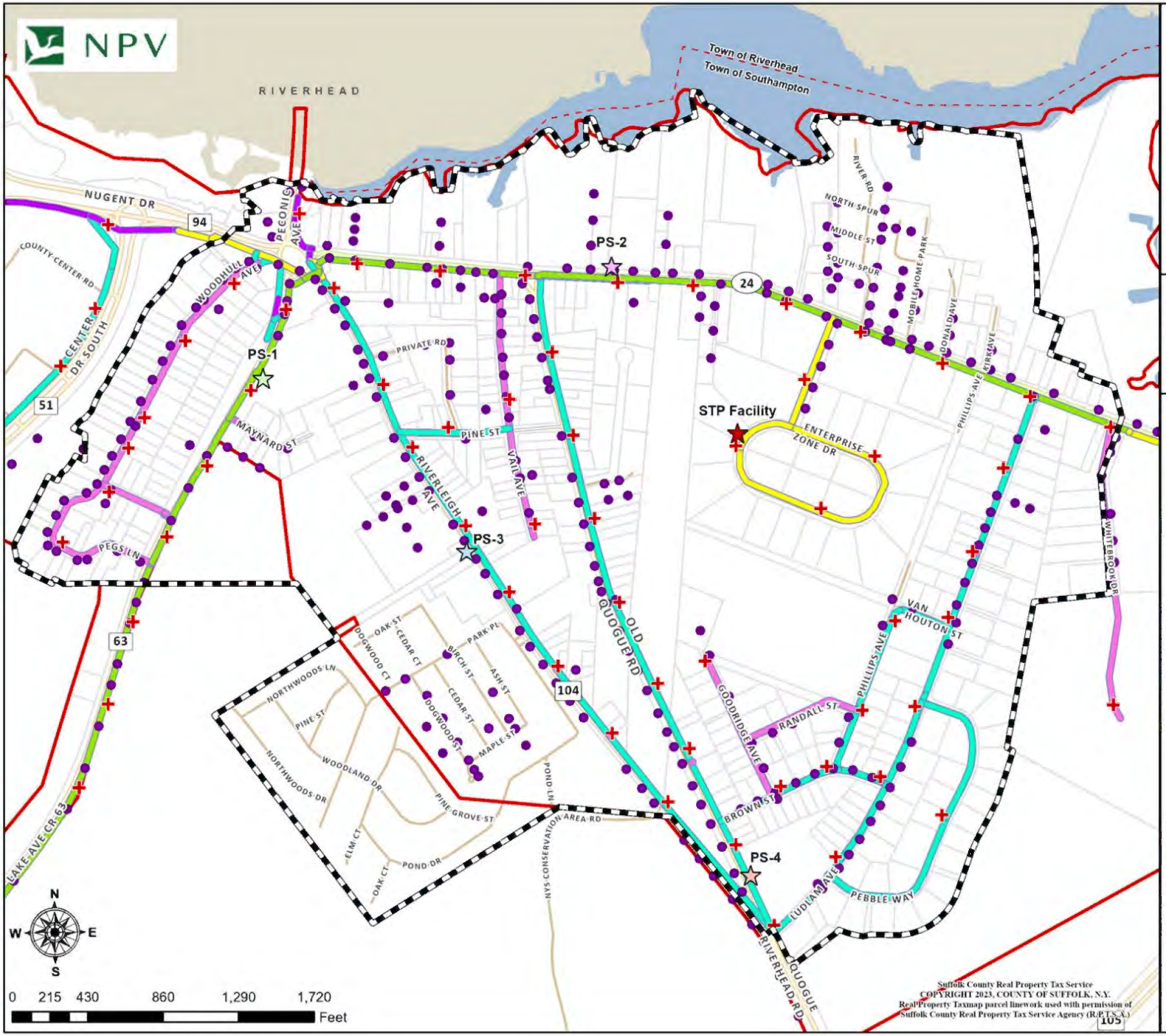

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Riverside Sewer District Supplemental DGEIS

Figure 3-1
Drinking Water Utilities
Riverside Water District

Legend

- Study Area
- LIPA Poles
- SCWA Hydrants
- SCWA Distribution Areas

SCWA Water Mains

Diameter (in)

- 4
- 6
- 8
- 10
- 12
- 16

**The map indicates the SCWA infrastructure installed in the depicted area as of the date listed thereon. The map does not indicate the presence of easements, occupied or unoccupied, or facilities owned by SCWA customers.

It is the responsibility of an operator to arrange to have services "marked-out" before commencing excavation.

Public and private hydrant data should be field or survey verified.

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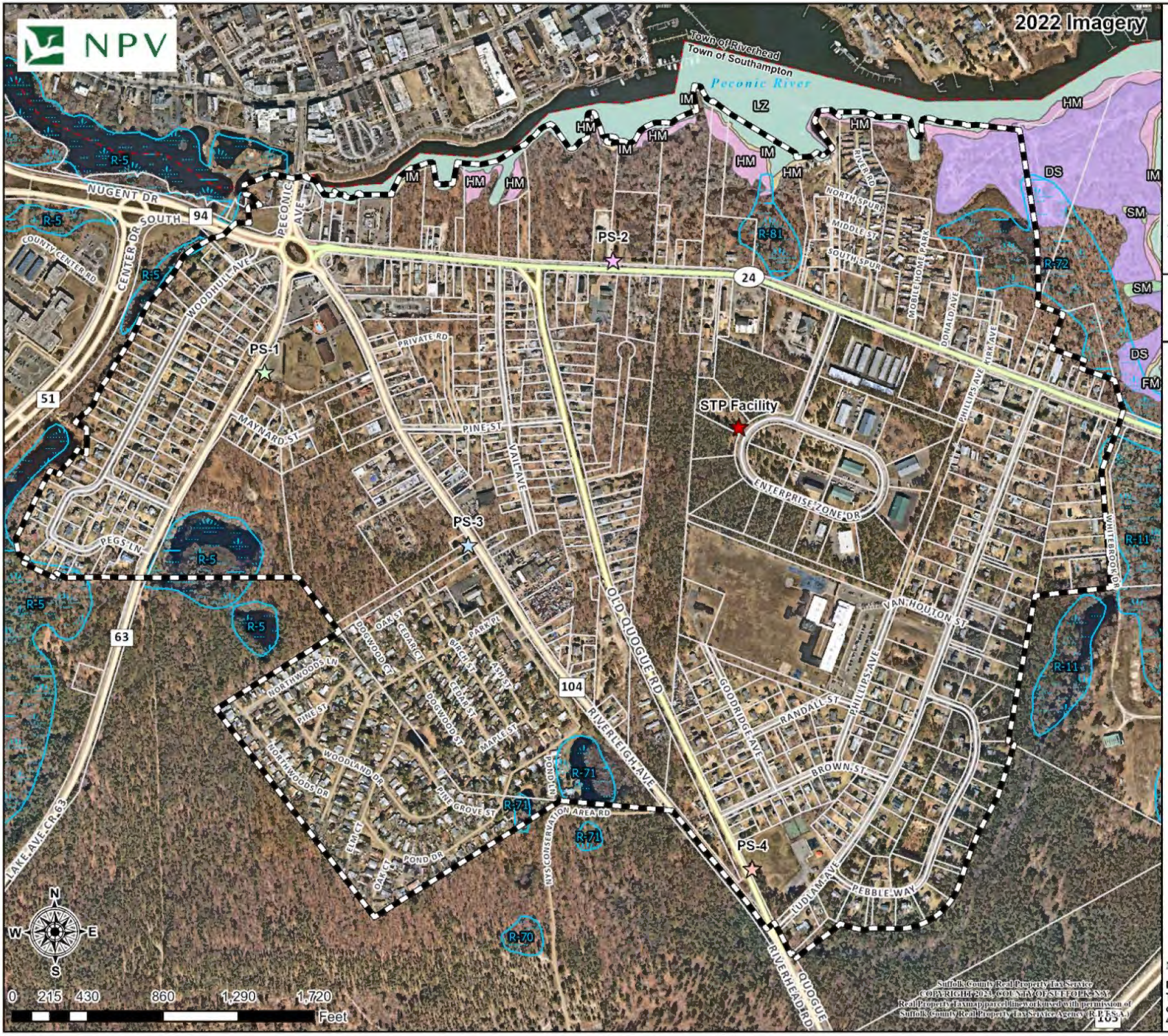

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Riverside Sewer District Supplemental DGEIS

Figure 3-2
NYSDEC Wetlands

Legend

- Study Area
- Fresh Water Wetlands (NYS DEC)
- Tidal Wetlands (NYS DEC)
  - Coastal Shoals Bars and Mudflats (SM)
  - Dredged Spoil (DS)
  - Fresh Marsh (FM)
  - High Marsh (HM)
  - Intertidal Marsh (IM)
  - Littoral Zone (LZ)

Map ID: 2684

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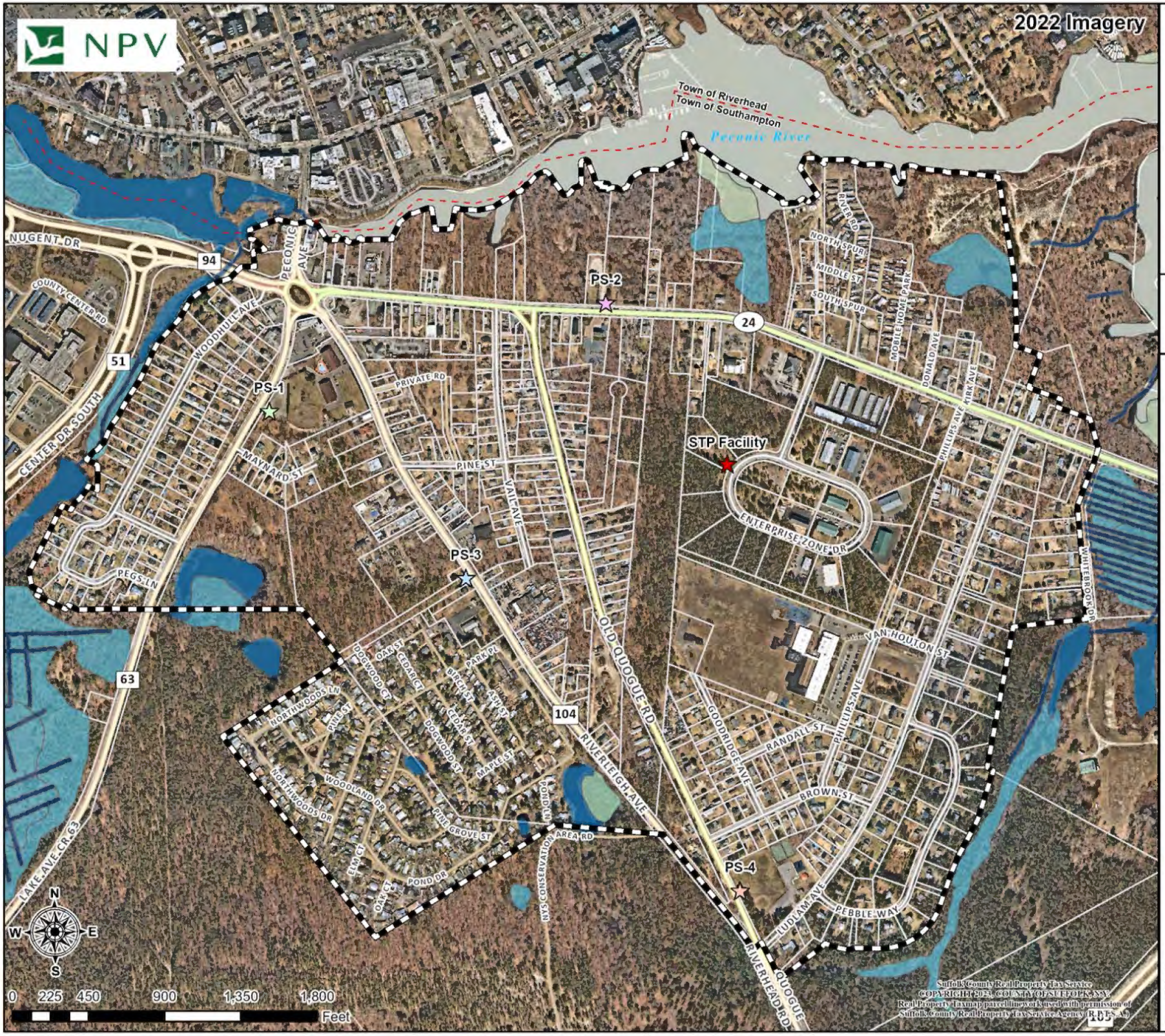

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Riverside Sewer District Supplemental DGEIS

Figure 3-3 National Wetlands Inventory

Legend

- Study Area

National Wetlands Inventory (USFWS)

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/ Shrub Wetland
- Freshwater Pond
- Riverine

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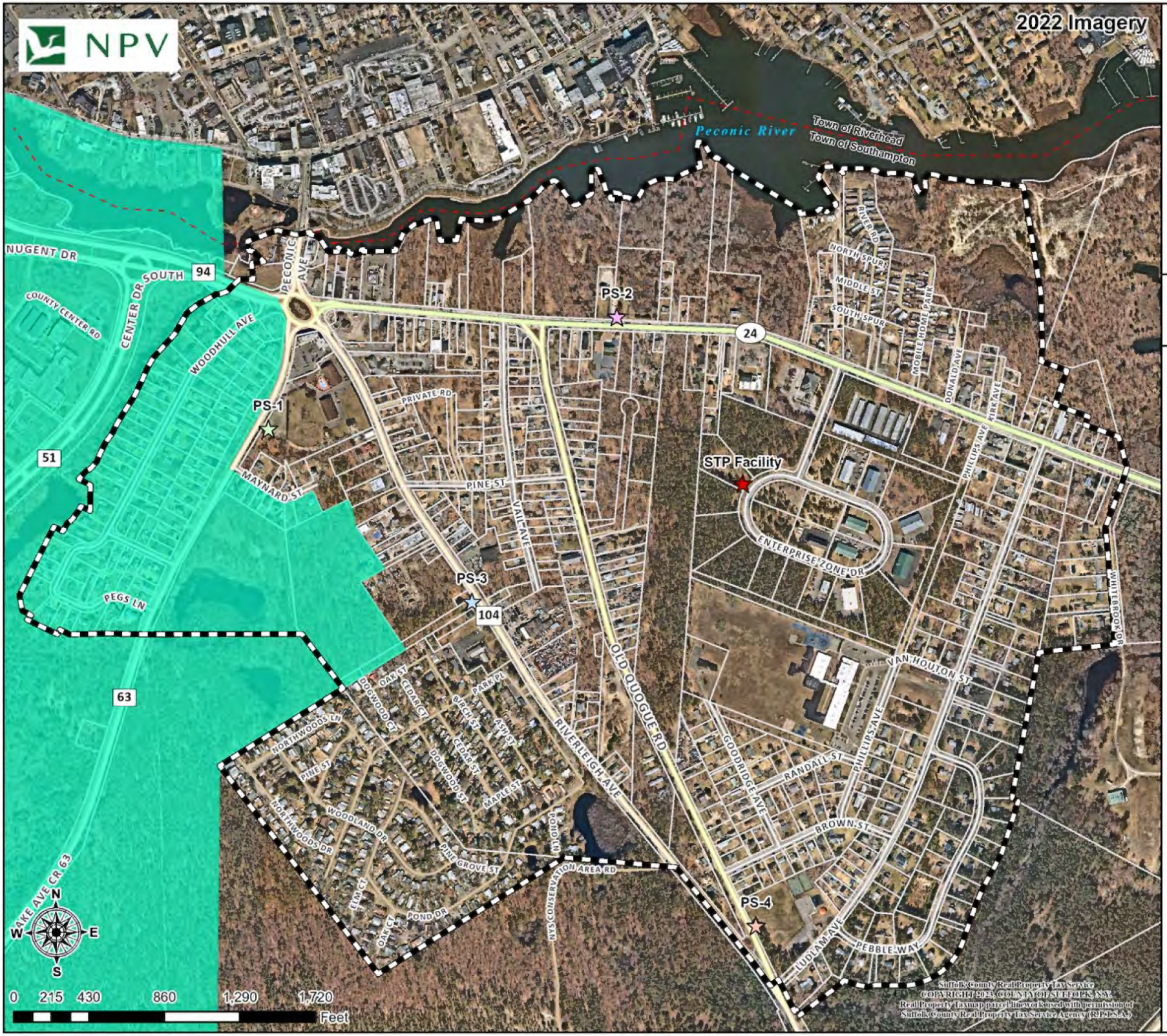

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Riverside Sewer District Supplemental DGEIS

Figure 3-4
Wild, Scenic, and Recreational Rivers

Legend

- Study Area
- New York State Wild, Scenic and Recreational Rivers
  - Recreational

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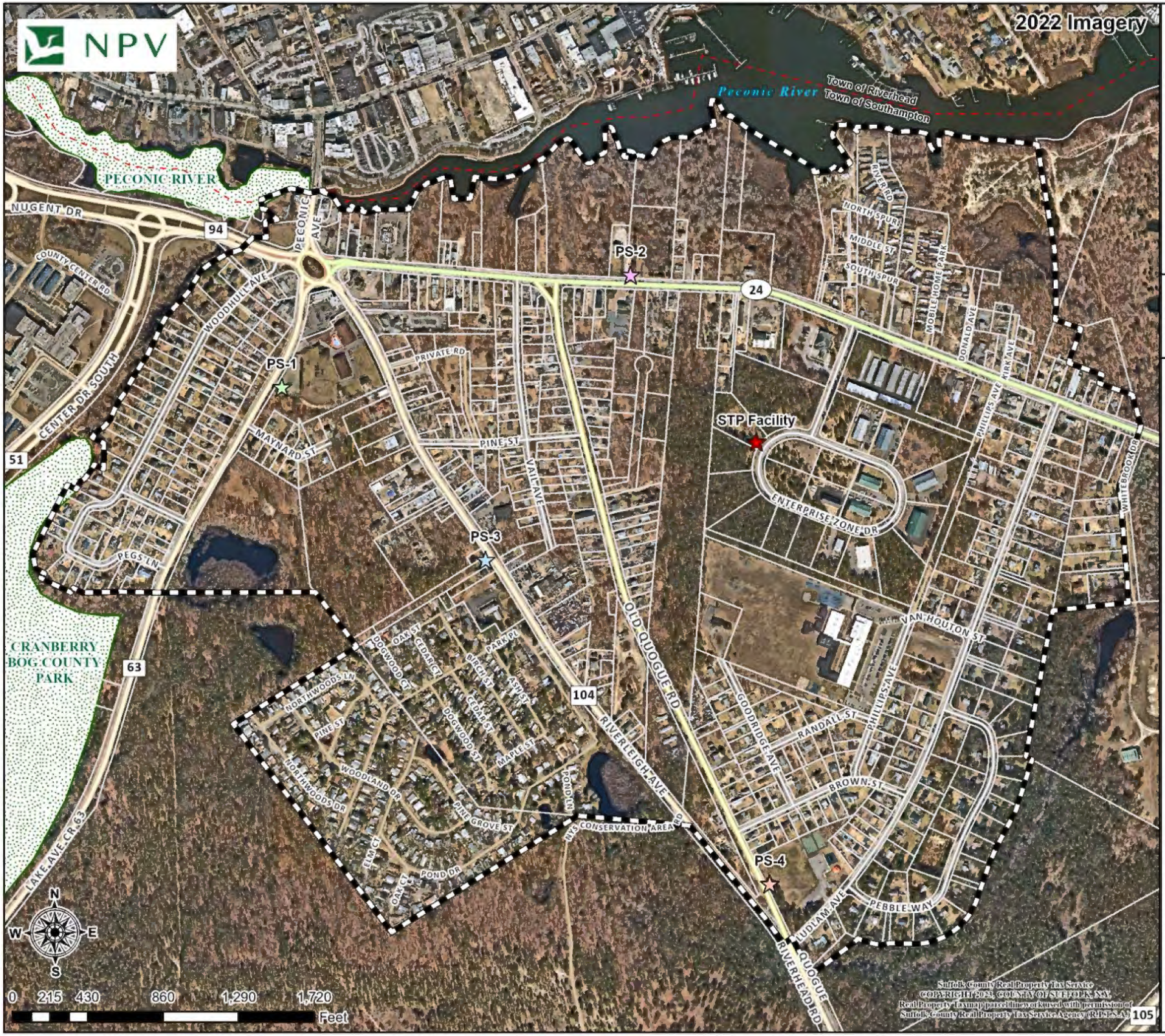

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Figure 3-5
NYS Significant Coastal Fish & Wildlife Habitats

Legend

- Study Area
- NYS Significant Coastal Fish and Wildlife Habitats

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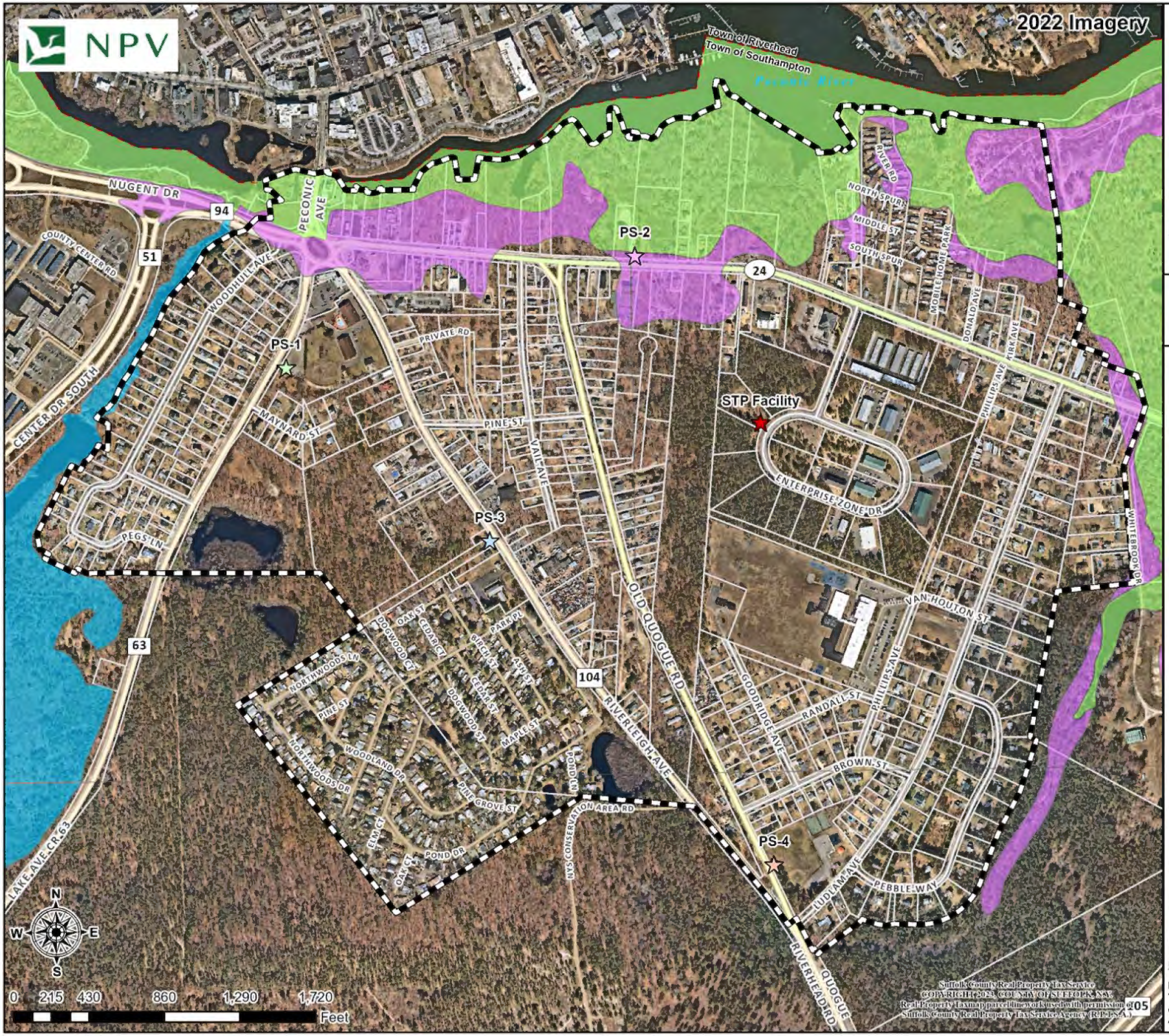

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Figure 3-6 Flood Insurance Rate Zones (FEMA)

Legend

- Study Area
- Flood Insurance Rate Zones (FEMA)
  - A-1% Annual chance flood hazard
  - AE-1% Annual chance flood hazard (*BFE)
  - X-Areas of minimal flood hazard
  - X-0.2% Annual chance flood hazard
- Water Bodies

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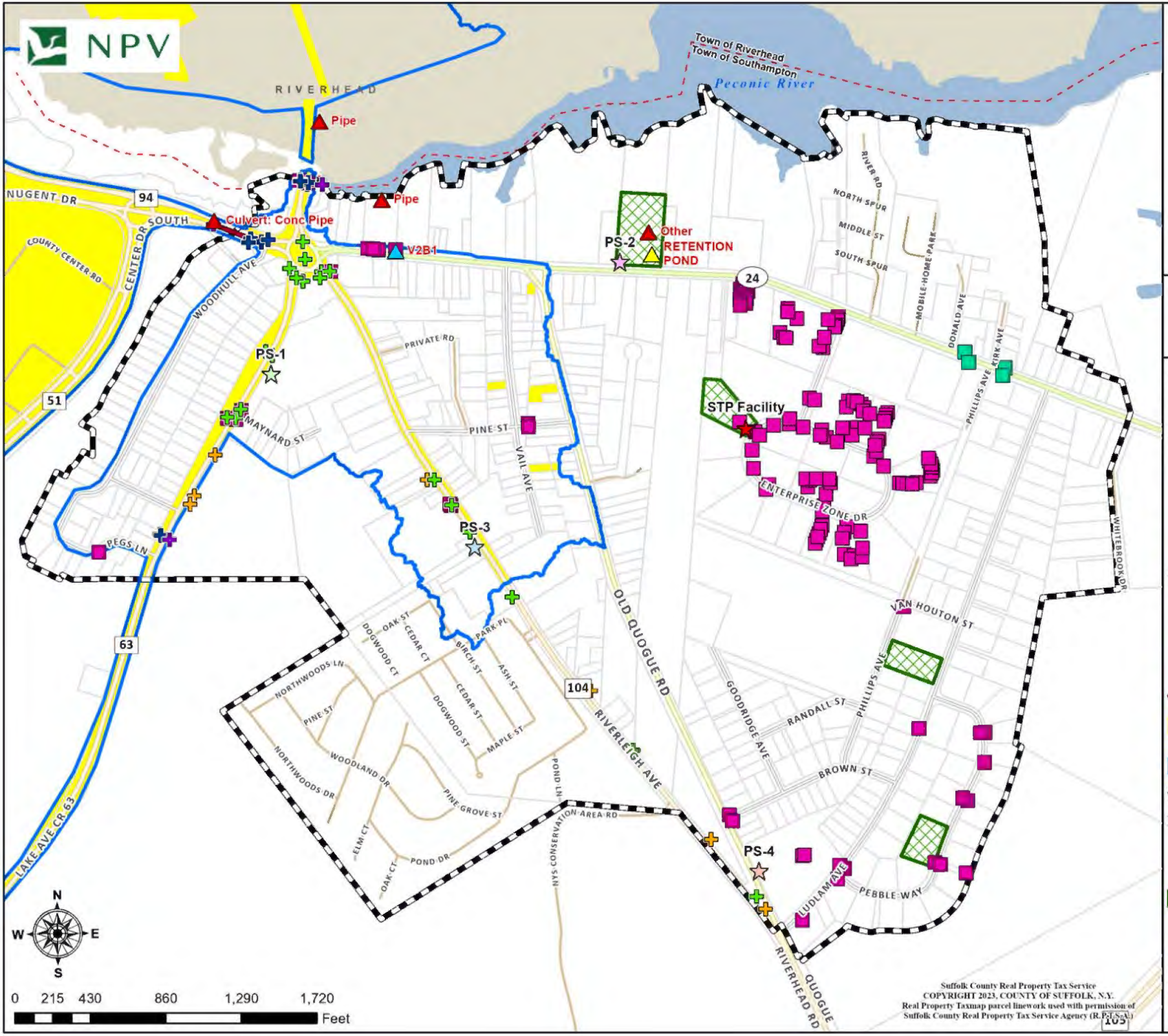

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Riverside Sewer District Supplemental DGEIS

Figure 3-7 Stormwater Infrastructure

Legend

- Study Area

State Infrastructure

Type-Description (See Red Labels)

- SPDES_Outfalls_R10
- SWM Facilities_R10
- Vortex_units_R10

County Infrastructure

- Surface Water Outfalls
- Joint Structures
- Inlets 2008
- Inlets 2005
- Pipe Connections
- County Owned Sewershed (Flanders Bay)
- Flanders Bay Multi-Jurisdictional Sewershed Boundary

Town Infrastructure

Drainage Structures

- Verified
- Unverified
- Dedicated Drainage Parcels
- Outfalls

*State and County Data from 2015, Town Data from 2023
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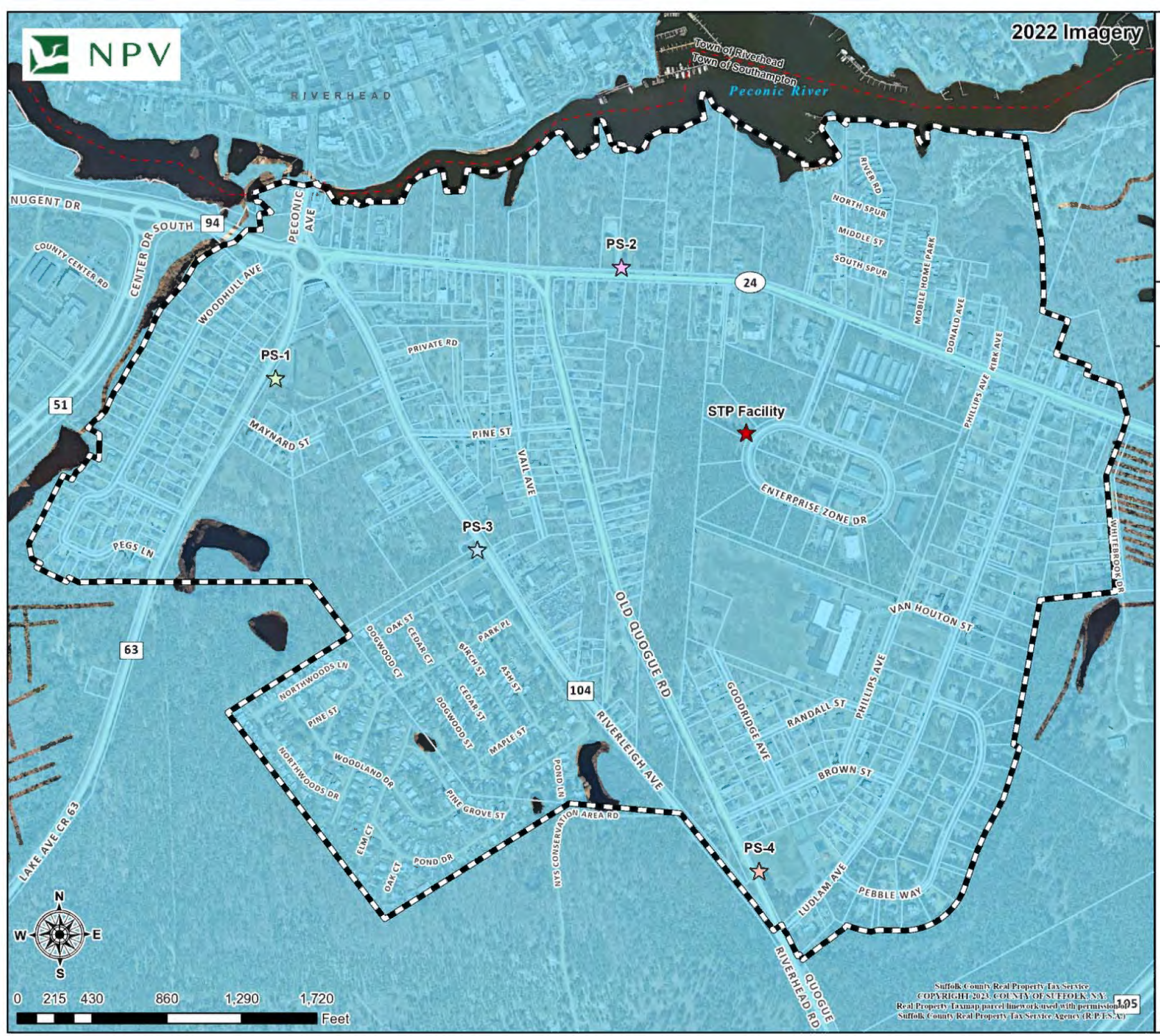

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Figure 3-8 Watersheds

Legend

- Study Area

Watershed

- Peconic River, Lower, and Tidal Tribs

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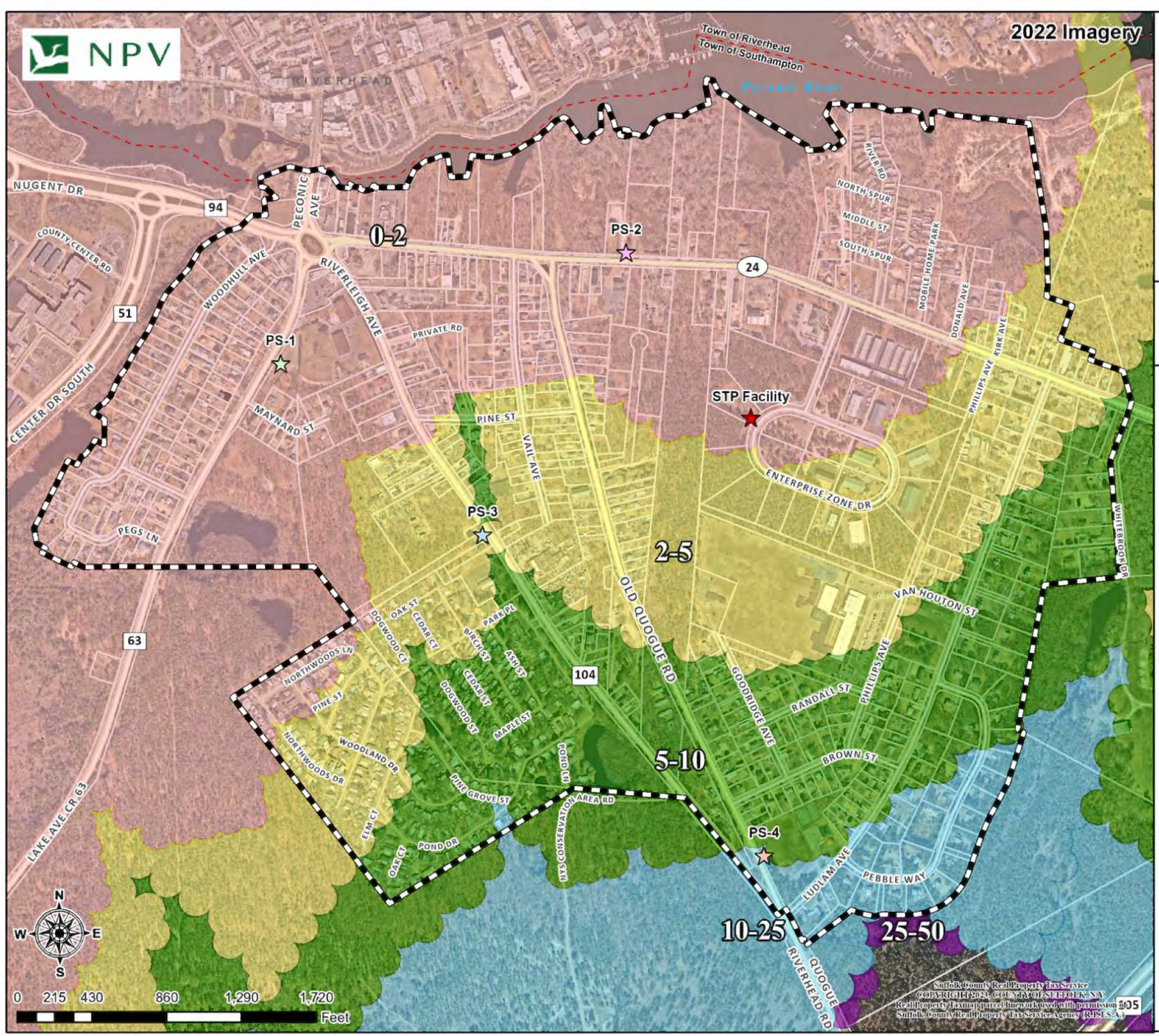

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Riverside Sewer District Supplemental DGEIS

Figure 3-9
Groundwater Time of Travel

Legend

- Study Area

Groundwater Contributing Areas - Estimated Time of Travel

Years

- 0-2
- 2-5
- 5-10
- 10-25
- 25-50

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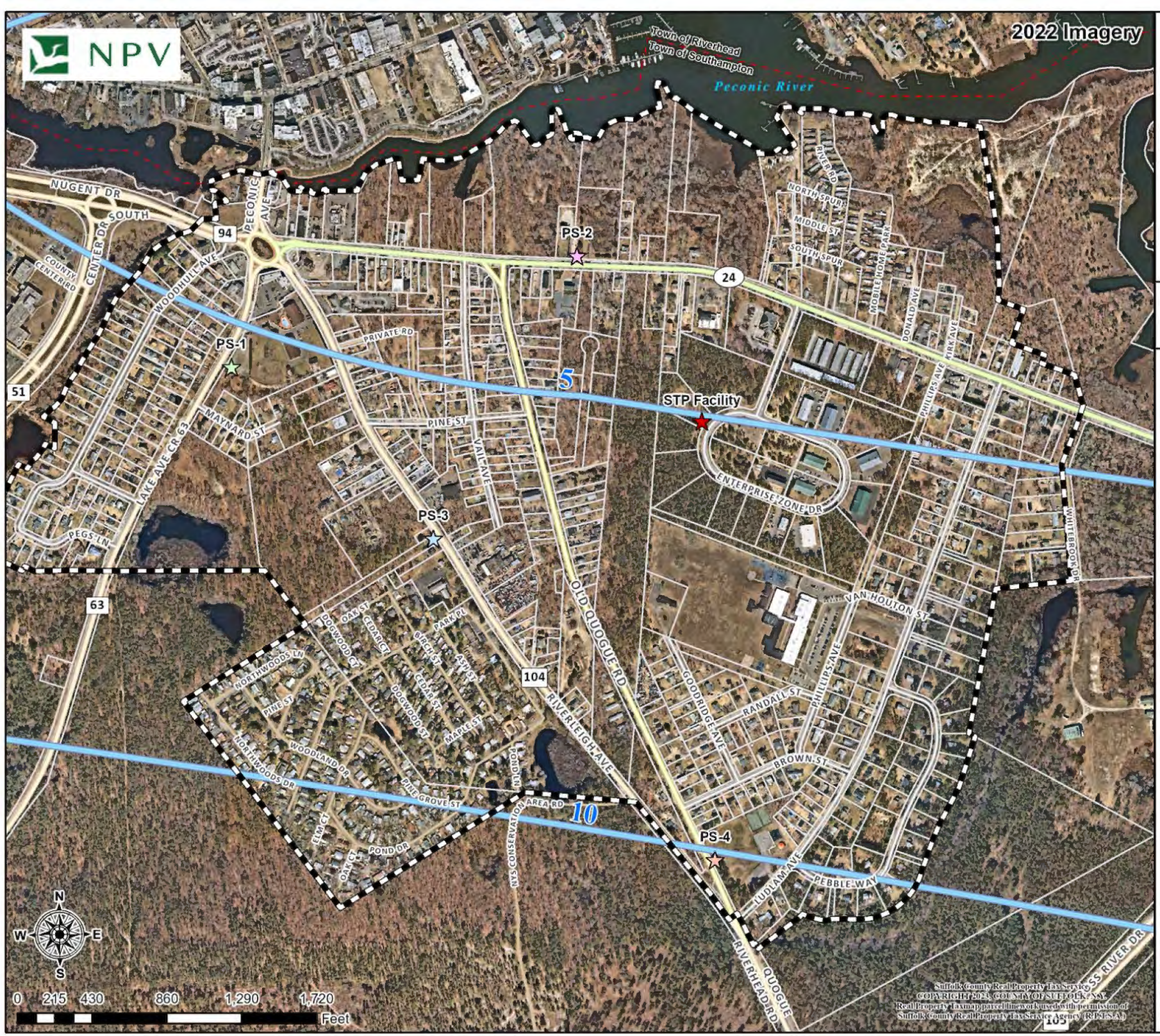

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Figure 3-10
Water Table Elevation

Legend

- Study Area
- 2016 Water Table Contours in Ft (USGS)

Groundwater flow is perpendicular to the water table contour in a north-easterly direction.

Contour values are in feet above or below NGVD 1929 with contours ranging from 10 to 120 feet above NGVD 1929.

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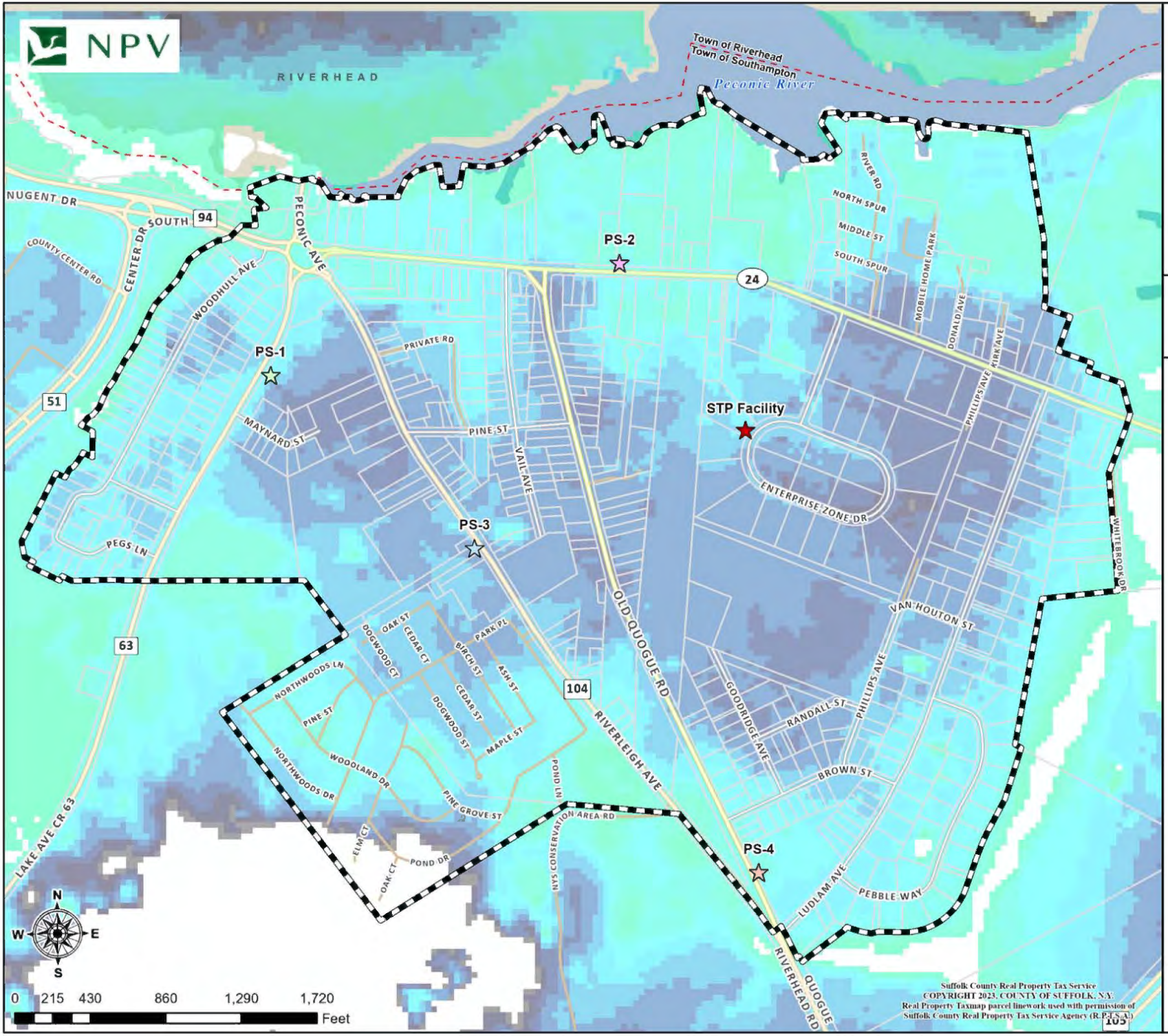

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Riverside Sewer District Supplemental DGEIS

Figure 3-11
Depth to Groundwater

Legend

- Study Area
- Groundwater Depth 2013 (USGS)
  - 0 - 2 ft
  - 2 - 4 ft
  - 4 - 6 ft
  - 6 - 8 ft
  - 8 - 10 ft
  - 10 - 12 ft
  - 12 - 14 ft
  - 14 - 16 ft
  - 16 - 18 ft
  - 18 - 20 ft

*Groundwater depth values of below 0 ft and above 20 ft have been excluded from the map.

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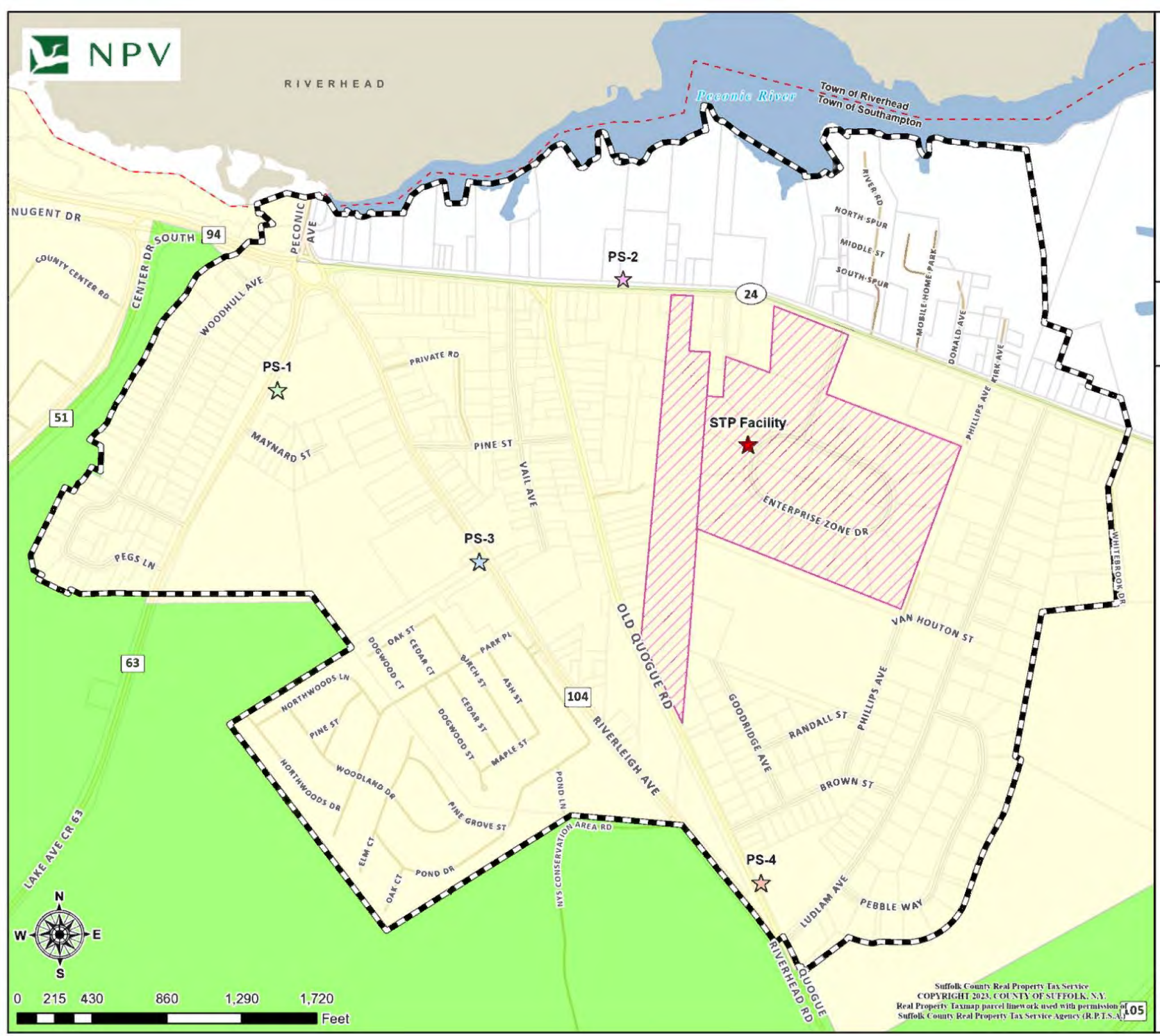

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Riverside Sewer District Supplemental DGEIS

Figure 3-12 Central Pine Barrens Areas

Legend

- Study Area

Pine Barrens Plan

- Compatible Growth Area
- Core Preservation Area
- Development Rights Receiving Area

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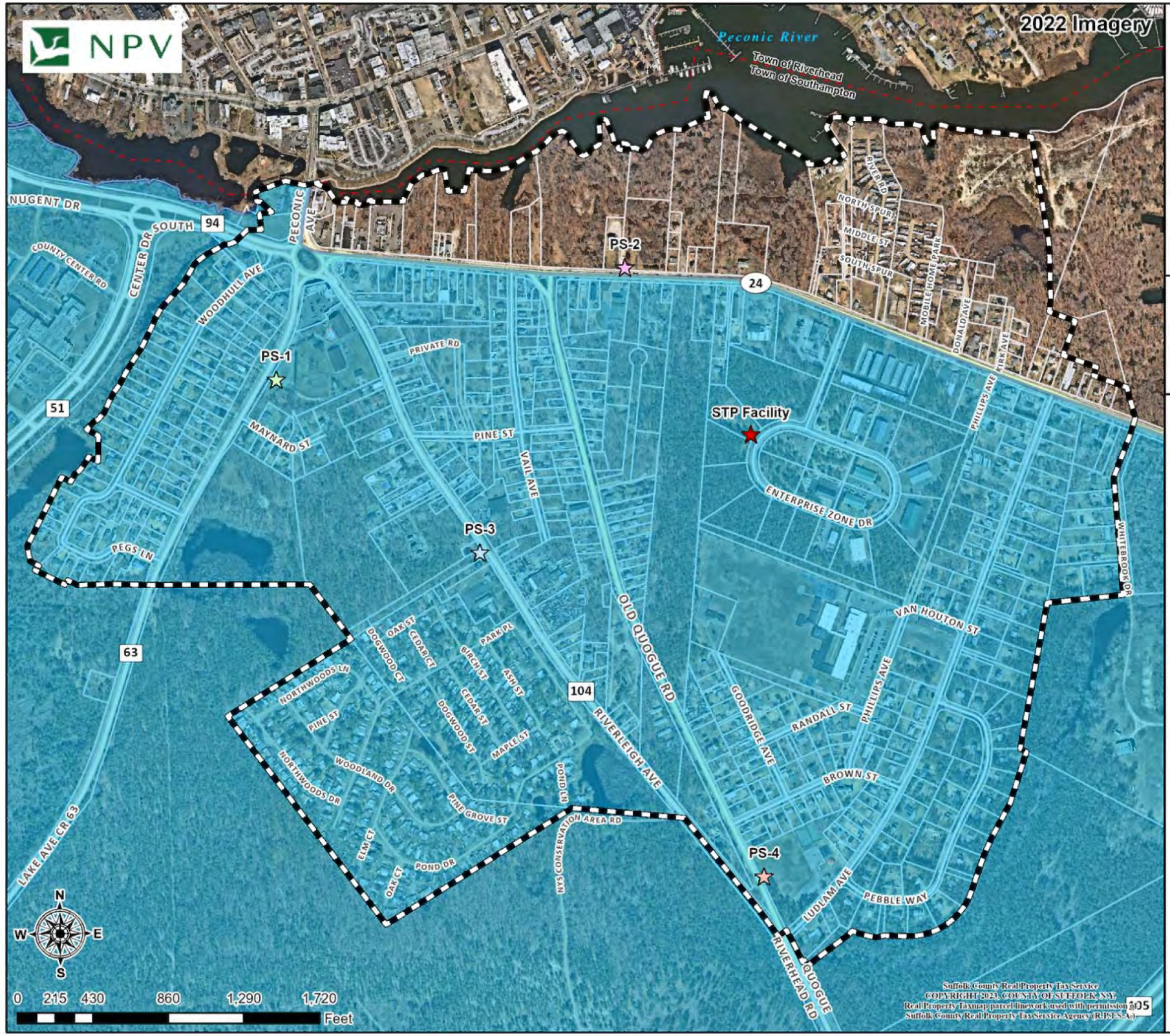

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Riverside Sewer District Supplemental DGEIS

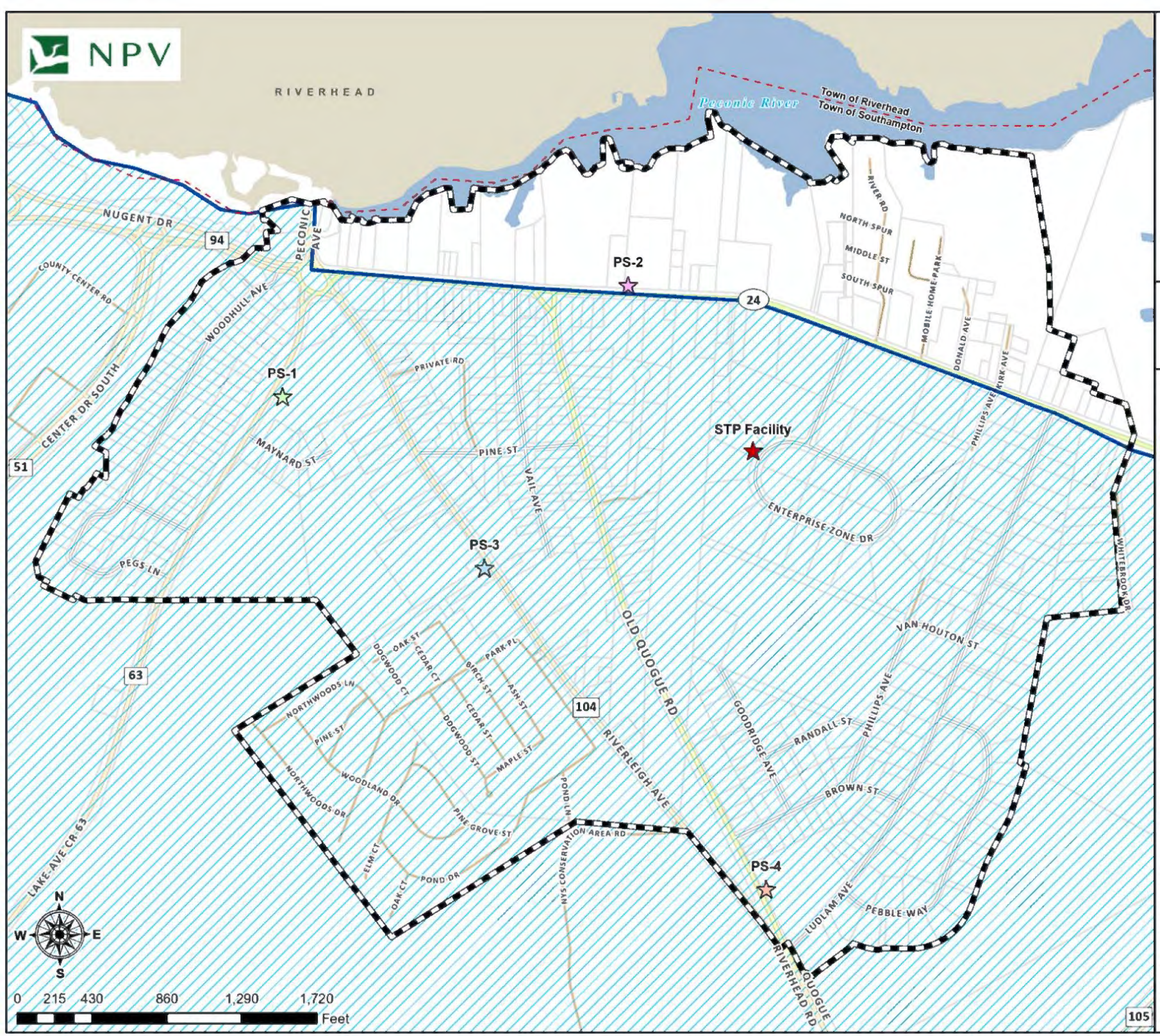
Figure 3-13
Town of Southampton Aquifer Protection Overlay District

Legend

- Study Area
- Aquifer Protection Overlay District

Map ID: 2684

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023



Town of Southampton and New York Department of State

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Riverside Sewer District Supplemental DGEIS

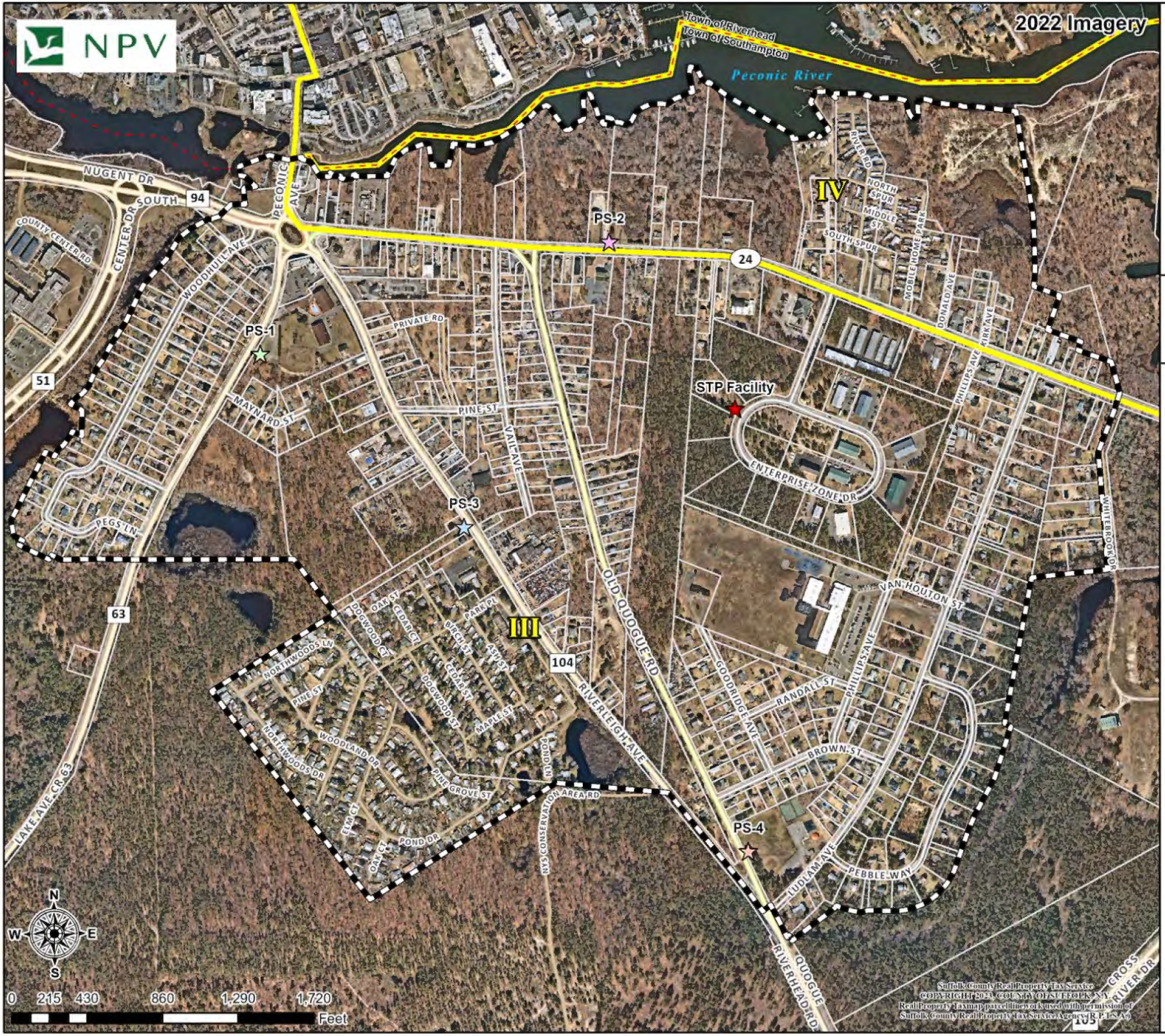
Figure 3-14
Central Suffolk Special Groundwater Area

Legend

- Study Area
- Special Groundwater Protection Area

Map ID: 2684

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023



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Riverside Sewer District Supplemental DGEIS

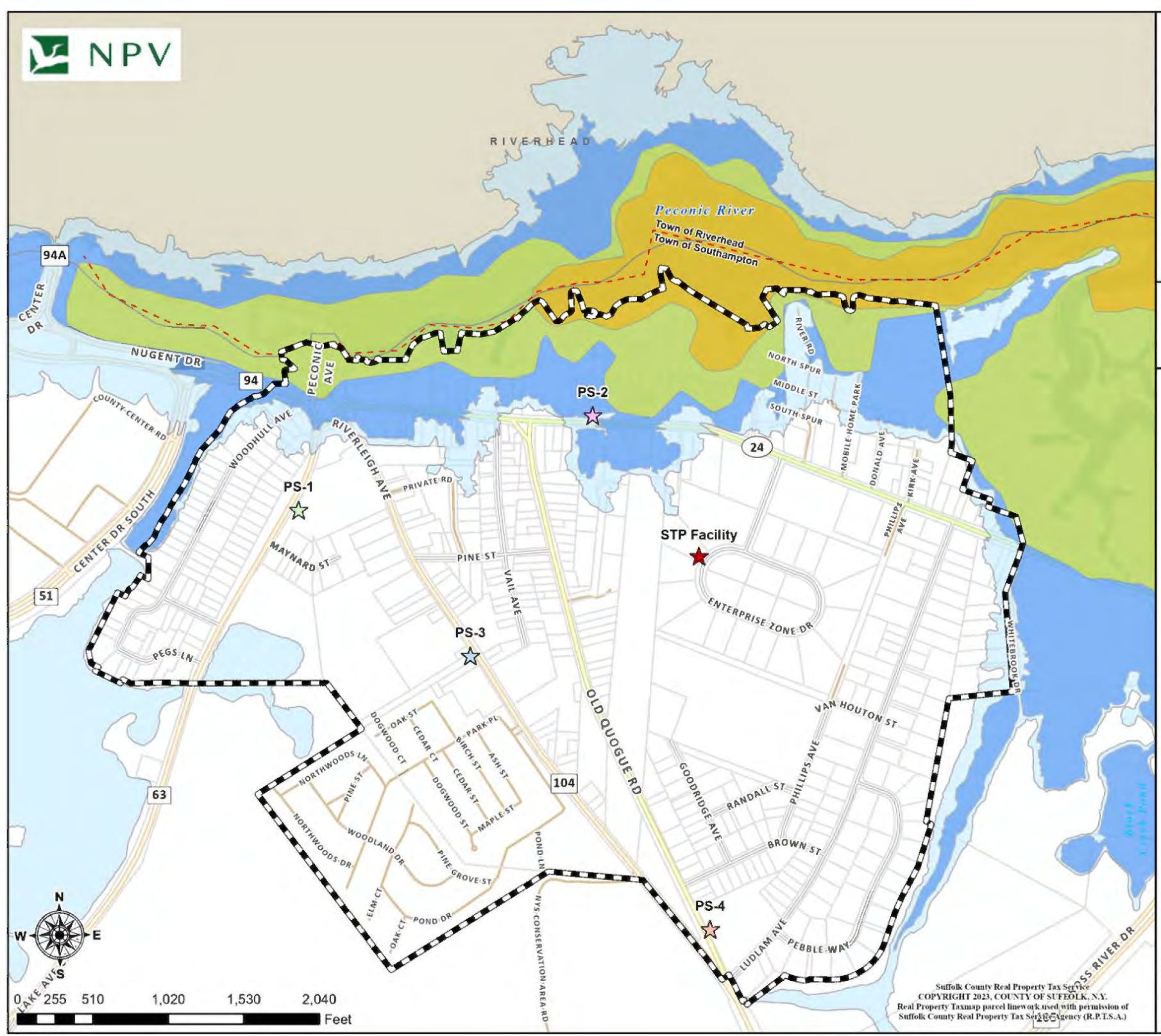
Figure 3-15
Groundwater Management Zones

Legend

- Study Area
- Groundwater Management Zones

Map ID: 2684

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023



Town of Southampton
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Riverside Sewer District Supplemental DGEIS

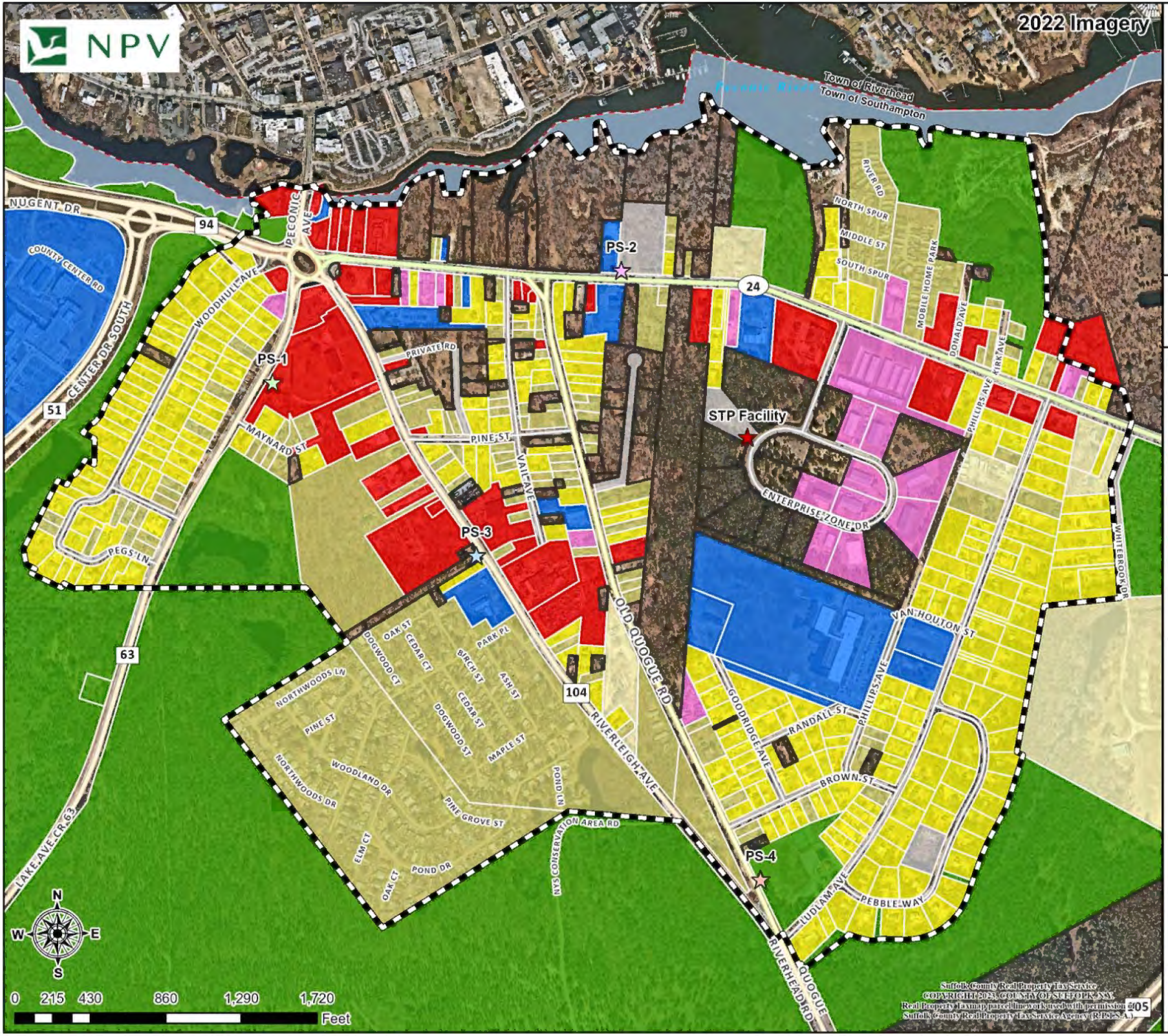
Figure 3-16
Sea Level Rise and 500-Year Flood Event

Legend

- Study Area
- Today's Wave Action
- 3 Foot Sea Level Rise Wave Action
- Today's Floodplain
- 500 Year Floodplain Projection with 3 Foot Sea Level Rise

Map ID: 2684

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023



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Riverside Sewer District Supplemental DGEIS

Figure 6-1 Existing Land Use

Legend

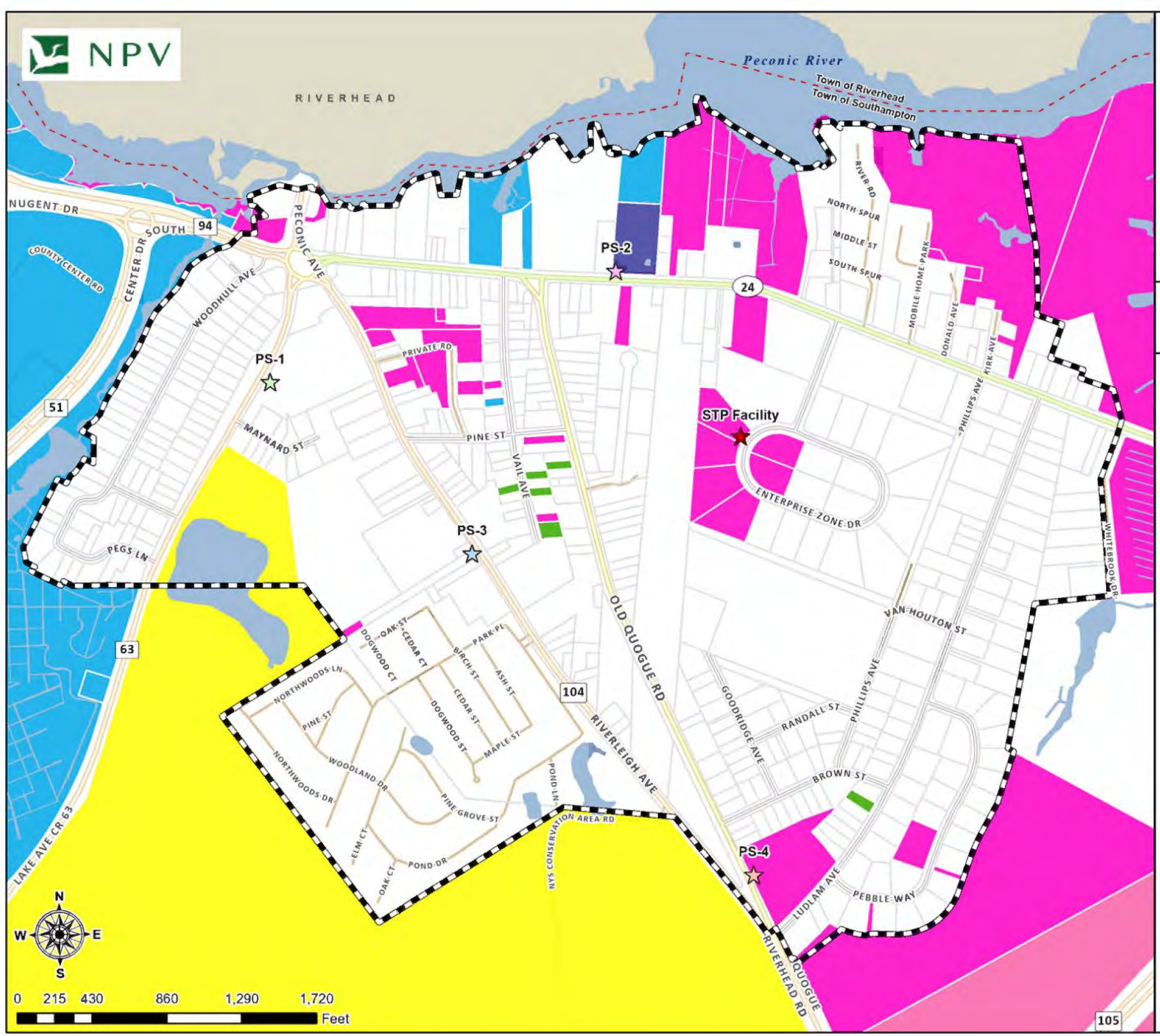
- Study Area

Land Use

- Commercial
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Industrial
- Institutional
- Recreation and Open Space
- Transportation
- Vacant
- Surface Waters

Map ID: 2684

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023



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Riverside Sewer District Supplemental DGEIS

Figure 6-2 Land Ownership

Legend

- Study Area

Public Lands

- NEW YORK STATE
- SOUTHAMPTON TOWN
- SOUTHAMPTON TOWN HOUSING AUTHORITY
- STATE OF NEW YORK DEPARTMENT OF TRANSPORTATION
- SUFFOLK COUNTY
- SUFFOLK COUNTY TREASURER

Map ID: 2684

Prepared By:
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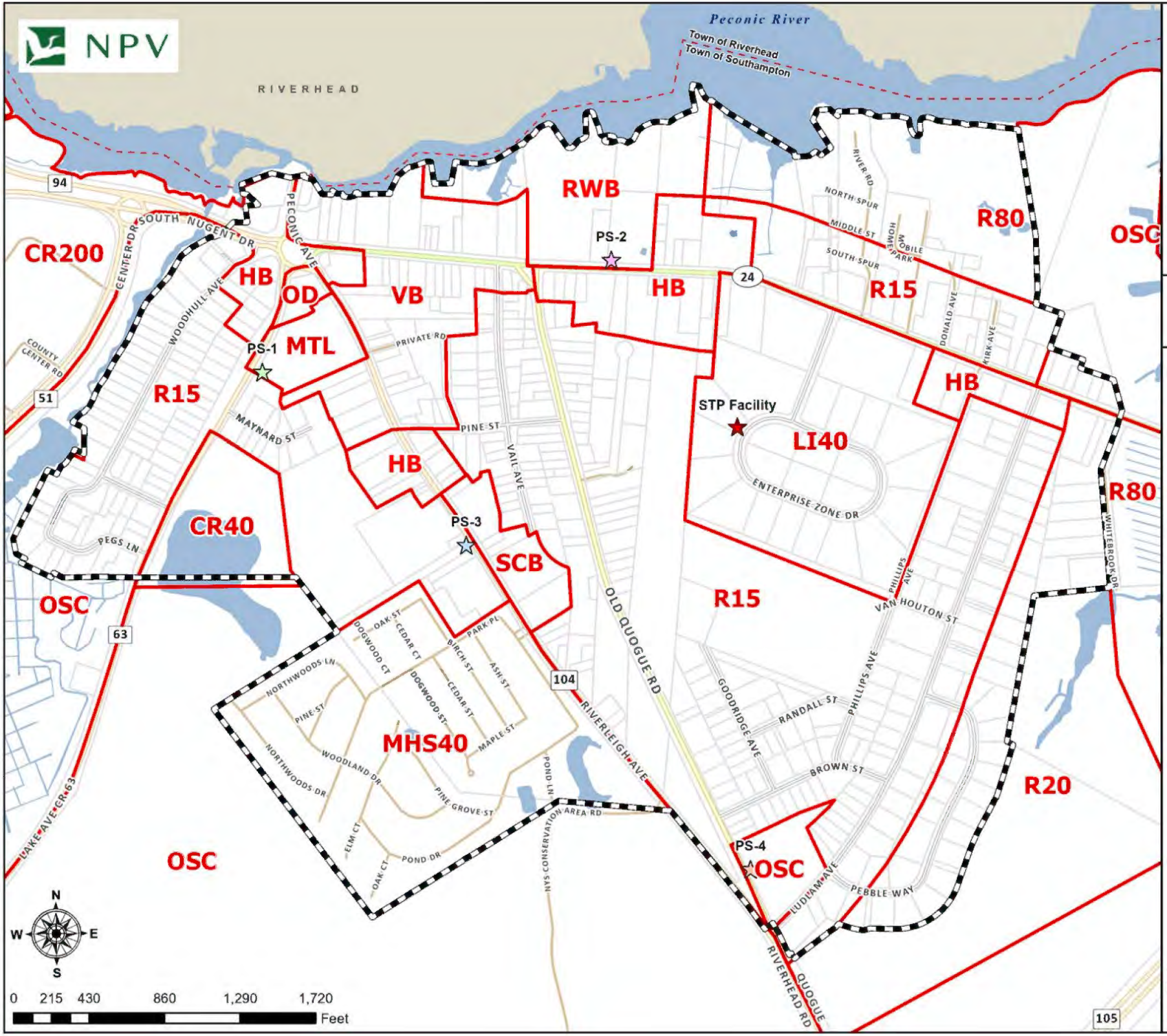
4/19/2023



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Riverside Sewer District Supplemental DGEIS

Figure 6-3
Existing Zoning

Legend

- Study Area
- Current Zoning

CR200 - County Residence 200,000 sq ft
CR40- County Residence 40,000 sq ft
HB- Highway Business
LI40- Light Industrial 40,000 sq ft
MHS40- Mobile Home Subdivision Residence
MTL- Motel
OD- Office District
OSC- Open Space Conservation
R15- Residence 15,000 sq ft
R20- Residence 20,000 sq ft
R80- Residence 80,000 sq ft
RWB- Resort Waterfront Business
SCB- Shopping Center Business
VB- Village Business

Map ID: 2684

Prepared By:
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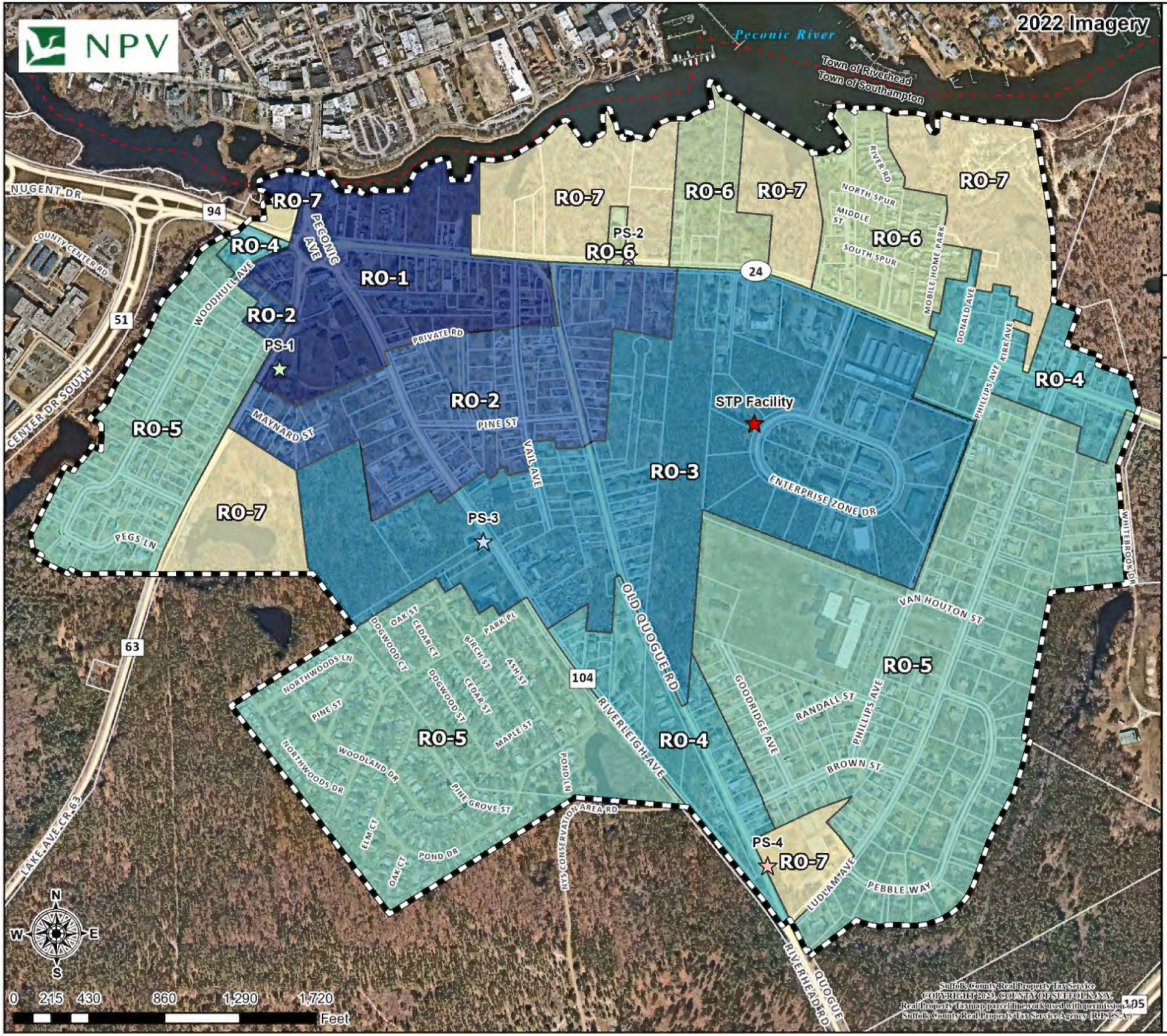
4/19/2023



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Riverside Sewer District Supplemental DGEIS

Figure 6-4
Existing Riverside Overlay District

Legend

- Study Area

Riverside Overlay Districts

- RO-1
- RO-2
- RO-3
- RO-4
- RO-5
- RO-6
- RO-7

Map ID: 2684

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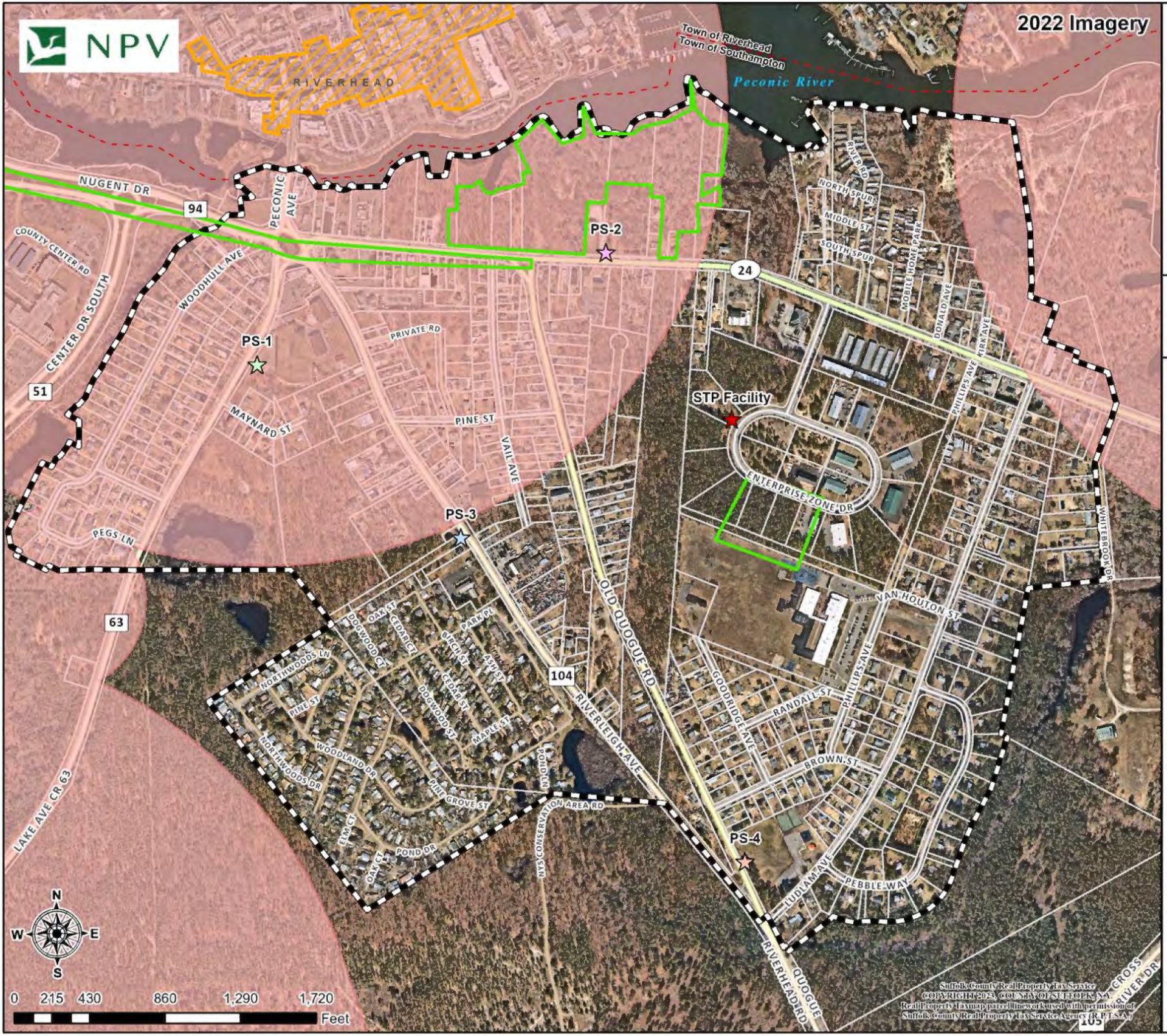

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Riverside Sewer District Supplemental DGEIS

Figure 7-1 Historic and Archeological Resources

Legend

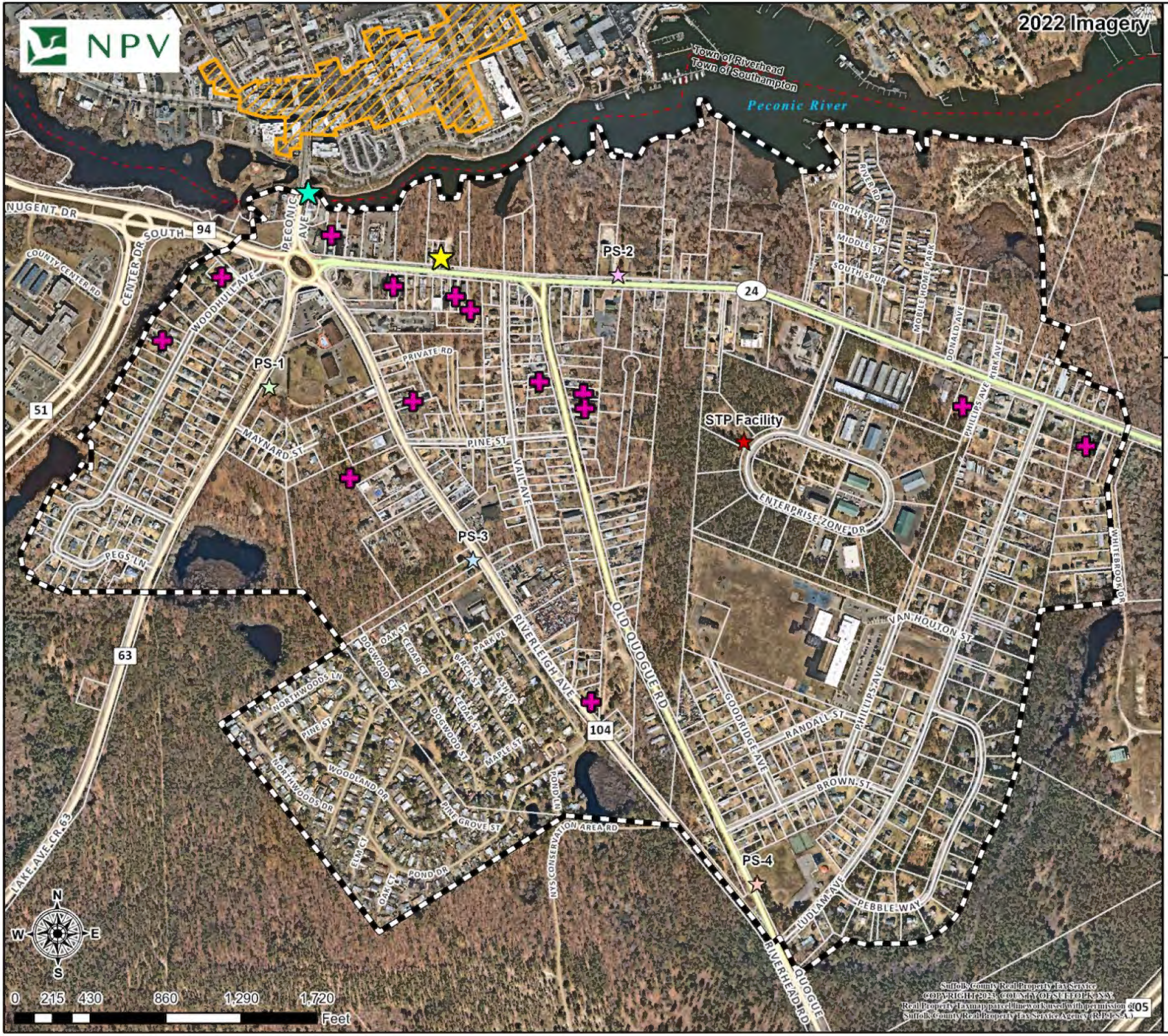
- Study Area
- Survey Archaeology Areas
- Riverhead Historic District OPRHP CRIS
- Archaeological Buffer Areas

*The Archeological Buffer Areas layer represents buffer areas around recorded archaeological resources. Locations within these areas may not be archaeologically sensitive, and locations outside these areas may be archaeologically sensitive.

Viewing this layer does not constitute "consultation" with the SHPO under Section 106 of the National Historic Preservation Act of 1966 or with DHP under Section 14.09 of the New York State Historic Preservation Act.

SHPO's Archaeology Unit reviewers evaluate sensitivity based on a variety of factors, so these buffer areas are only suggestive. If you have further questions, please contact the Archaeology Unit reviewer for your location of interest.

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023



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Riverside Sewer District Supplemental DGEIS

Figure 7-2 Historic Resources Survey Sites

Legend

- Study Area
- NYS Historic Site Markers
- 2014 Historic Resources Survey (Compiled by AKRF)- Potentially Contributing Properties
- Southampton Town Historic Sites
- Riverhead Historic District OPRHP CRIS

No Buildings on the National or State Register within the study area

Prepared By:
The Town of Southampton Division of Geographic Information Systems
4/19/2023

APPENDICES

(See Town Website listed below for full PDF of all Appendices)
https://www.southamptontownny.gov/1835/Riverside-STP