Colliers Engineering & Design

Environmental Impact Assessment

January 2025

Wheeler Park Improvements

Block 463, Lot 13
City of Linden, Union County, New Jersey

Prepared for:

Union County
10 Elizabethtown Plaza, 2nd Floor
Elizabeth, NJ 07027

Colliers Engineering & Design
101 Crawfords Corner Road
Suite 3400
Holmdel, NJ 07733
Main: 877 627 3772
Colliersengineering.com

CED Project No. 24012642A

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Table of contents

Appendix A

Report Figures

Appendix B

Qualifications of Preparers

Appendix C

Site Photographs

Appendix D

Natural Heritage Database

Introduction

Purpose of Document

This report has been prepared in accordance with the Environmental Impact Assessment Requirements of the Green Acres Program Urban Parks Application which requires the preparation and submittal of an Environmental Impact Assessment (EIA) for certain applications.

Union County is seeking $1,000,000 in grant funding to enhance Wheeler Spray Park. The park is located at 248 W Stimpson Avenue in Linden, New Jersey (Block 463, Lot 13). The proposed project will improve part of the larger John Russell Wheeler Memorial Park, a 25.6-acre open space property owned by Union County, which currently features a playground, restroom facilities, a soccer field, softball fields, and a rentable picnic area. Wheeler Spray Park is a smaller portion of this property and currently houses a spray park and outdoor lockers. These amenities serve residents, businesses, and organizations in the surrounding community of Linden.

This EIA documents environmental resources on the project site, potential impacts to these resources resulting from the proposed activities and measures to avoid or reduce impacts.

Methods

Various sources of background information including databases, maps, plans, and reports referenced herein were utilized in preparing the EIA. The New Jersey Department of Environmental Protection's (NJDEP) NJ-GeoWeb (NJDEP, 2024) database was an important source of information in this EIA. Background information was supplemented with observations from Colliers Engineering and Design staff regarding site characteristics and biological resources observed during field visits. Land use related areas of investigation include, but are not limited to, natural resources, community resources, water quality (stormwater management), and assessment of impacts from the proposed development.

Staff from Colliers Engineering and Design (CED) visited the subject property on December 18, 2024, to make field observations regarding site character and biological resources. CED staff **(Appendix B)** utilized the information gathered from the field visits and background sources to develop the descriptions, analyses, and interpretations provided herein.

Report figures including maps are presented in **Appendix A**; photographs are presented in **Appendix C**; and the results of a Natural Heritage Program Database search are pending.

Site Location and Characteristics

The subject property, Block 463, Lot 13, also known as Wheeler Park, is a County-Owned public park consisting of 25.6 acres in Linden, Union County, New Jersey. The park is located within an area characterized mainly by residential properties and contains the following on-site: restrooms, spray park, parking, picnic areas, dry playground, and athletic fields. Morses Creek runs throughout the center of the park. The Spray Park is located at 248 West Stimpson Avenue. See **Figures 1-3** in **Appendix A** for Site Location.

Zoning and Land Use

Zoning

The site is depicted within the Office Professional Transition (OPT) per the City of Linden Zoning Map **(Figure 4)**. Permitted principal uses in this zone include artist and artisan studios and workshops, banquet facilities, childcare centers, clinics, assisted living facilities and nursing homes, galleries, home occupation, offices, professional and business, parks and playgrounds, and single-family dwellings. Private parking lots are a permitted accessory use.

The subject property currently exists as a public park owned by Union County. The proposed Wheeler Spray Park improvements are allowed in the OPT Zone as parks and playgrounds are a permitted use in this zone.

Present Land Use

The Site, Wheeler Park, currently exists as a public park. The State Planning Area Map indicates that the project site is zoned within the Metropolitan Planning Area (PA 1) **(Figure 5).** The Metropolitan Planning Area (PA-1) of the State Development and Redevelopment Plan includes those communities, such as the City of Linden, that have strong ties to major metropolitan centers, such as the New York/Newark/Jersey City region. Most of these communities are fully developed, or almost fully developed, and typically new developments involve the redevelopment of properties.

The State Planning Commission's New Jersey State Development and Redevelopment Plan states the intent of the Metropolitan Planning Area is to:

(1) provide for much of the state's future redevelopment;

(2) revitalize cities and towns;

(3) promote growth in compact forms;

(4) stabilize older suburbs;

(5) redesign areas of sprawl; and

(6) protect the character of existing stable communities

Improvements to the existing Wheeler Park fulfills the intentions of the Metropolitan Planning Area.

Project Description

Project Objectives

The County of Union is seeking funding through the State of NJ Green Acres Program for improvements at Wheeler Spray Park in the City of Linden, Union County, New Jersey. More specifically, a grant application to the Urban Parks Funding Application is being submitted. The Green Acres goal through the Urban Parks Program is to create, restore, and expand outdoor recreation activities and opportunities in communities that are overburdened.

Licenses/Permits

Permits or approvals from Local, State, and/or Federal departments or agencies may be required for the proposed project, examples of which included the following:

- Somerset-Union Soil Conservation District for Soil Erosion and Sediment Control Plan Certification

Description of Proposed Improvements

The County of Union proposes the following improvements to Wheeler Spray Park:

Proposed Improvements:

- Replacement of Spray Park Surfacing:
  The existing surfacing will be upgraded to improve safety and durability.
- Fencing Upgrades:
  The current fencing will be replaced to enhance security and aesthetics.
- Creation of Shade Structures:
  New structures will be installed to provide shaded areas for visitors and staff.
- Addition of a Concession Area:
  A new concession stand will be constructed to offer refreshments and improve visitor experience.
- Construction of pickleball courts:
  Pickleball courts will be constructed to offer additional recreational opportunities and improve visitor experience.
- Additional restroom facilities.

Environmental Setting

The environmental setting of a region is the sum of the physical and biological features and processes that characterize the region. The physical conditions including the location, topography, geology, soils, water resources, and other features directly influence the overlying biotic communities that occur in an area. The constraints on the property resulting from the interaction of physical and biological features directly influence the design of the development plan proposed for the site and analyzed herein. An aerial map of the site is included in Appendix A **(Figure 6).**

Photographs of the subject property and project area can be found in **Appendix C.**

Physical Resources and Conditions

Physiographic Landscape

Areas that have similar rock types, geologic structures, landforms, and histories are organized into regions called Physiographic Provinces. New Jersey has four provinces, which make it a rather complex state for its small size. From northwest to southeast across the State, the provinces are (1) Ridge and Valley, (2) Highlands, (3) Piedmont, and (4) Coastal Plain. The project area is situated within the **Piedmont** Physiographic Province of New Jersey.

The **Piedmont Province** is characterized as a low rolling plain divided by a series of higher ridges and makes up approximately one-fifth of the state (Dalton 2003). It is mainly underlain by slightly folded and faulted sedimentary rocks of Triassic and Jurassic age, and igneous rocks of Jurassic age (Dalton 2003).

Based on site observations, there are no bedrock formations at or near the surface in the project area and there are no critical geological areas located on the project site.

Landform/Topography

Wheeler Park is developed and therefore, the natural topography has partially been altered. The location of proposed activities is generally flat with elevations of 15 to 22 feet.

Based on the site topography and soil survey data, steep slopes do not exist onsite in the location of proposed activities.

Geologic Characteristic

The bedrock geology for the entire subject property is characterized by Passaic Formation (JTrp) **(Figure 7).**

This formation dates from the Lower Jurassic and Upper Triassic and consists of argillaceous siltstone, silty mudstone, argillaceous, very fine-grained sandstone and shale. The color is mostly reddish-brown to brownish-purple and grayish red.

Soils

The Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey, including information that is useful at the planning level to draw general conclusions about the suitability of a site for certain land uses.

A review of the Web Soil Survey shows the proposed project area is underlain by the following two (2) soil types described below (**See Figure 8**):

Boonton loam, 3 to 8 percent slopes (BogB): This soil has a parent material of coarse-loamy basal till derived from basalt and is classified as well drained with depth to the water table occurring at more than 80 inches. This soil is classified in Hydrologic Soil Group C.

Hatboro-Codorus complex, 0 to 3 percent slopes, frequently flooded (HcuAt): This soil has a parent material of Loamy alluvium derived from greenstone and/or phyllite and/or quartzite and/or schist. This soil is classified as poorly drained with depth to the water table at about 0 to 6 inches. This soil is classified in Hydrologic Soil Group B/D.

Hydrology and Drainage

The project site is located in Morses Creek/Piles Creek watershed and sub-watershed of the Raritan River drainage basin **(Figure 9)**.

Groundwater Quality and Quantity

Groundwater is all water within the soil and subsurface strata that is not at the surface of the land. It includes water that is within the earth that supplies wells and springs. It includes groundwater basins and water in perched water tables that lies above restrictive subsurface layers. Groundwater resources are often functionally linked to overlying land areas and surface water bodies; groundwater is often recharged through "outcrop" areas at the land surface and ground water discharges ("seeps") may contribute to base flows of streams and rivers.

The groundwater yields of any particular geological formation or soil horizon are a function of the porosity and permeability of the material comprising the formation (consolidated rock or unconsolidated deposits and soils). Porosity describes the water-containing spaces between individual mineral grains, while permeability is the ease or difficulty with which water is transmitted through interconnecting spaces in the formation. Formations lacking open spaces between the mineral grains have both low porosity and low permeability. Weathering and cracking of the parent bedrock can induce secondary porosity in the formation; water can accumulate and move through these fractures in the primary rock formation.

Brunswick aquifer (Ba) is mapped for the subject property by NJ-GeoWeb **(Figure 10).** Brunswick Aquifer consists of sandstone, siltstone, and shale. The water within this confining unit is normally fresh, slightly alkaline, non-corrosive and hard. (Herman et al 1998).

New Jersey aquifers are ranked based on their ability to yield groundwater to high-capacity wells, including water supply, irrigation, and industrial supply wells. According to this resource, the aquifer recharge rank of the Brunswick Aquifer is "C", or 100 gallons to 250 gallons per minute.

Based on NJ-GeoWeb mapping, the subject property is ranked "B" and "D" with 11 to 15 inches per year of groundwater recharge and 1 to 7 inches per year of groundwater recharge, respectively **(See Figure 11)**.

Surface Water Quality

According to the NJDEP Surface Water Quality Standards (N.J.A.C. 7:9B), Morses Creek, a stream on the subject property, is classified as FW2-NT/SE3, a non-trout waterway in which there may be a salt water/freshwater interface.

Biological Resources

Impacts to biological resources on-site are expected as a result of the proposed development. The proposed development is largely concentrated in an area that has been previously disturbed with its current development. Unavoidable adverse impacts to biological resources include loss of native vegetation and wildlife habitat. Information on the biological resources of the project area was compiled from previous reports, database searches, and personal observation from field visits conducted by staff members from Colliers Engineering & Design.

Vegetation

The vegetation of the site is influenced by and reflects the geographic location (Coastal Plain Physiographic Province), topography and exposure, bedrock geology and soils, landscape processes, hydrogeology (i.e., the streams, ponds, high water tables, etc.), and land use history.

Wheeler Park is an active and passive recreational park. The park contains a Spray Park, restrooms, asphalt parking lot, picnic tables, open lawn area, a dry playground, and athletic fields. The area of the proposed improvements is for the Spray Park, an active recreational area of the park which does not contain any trees or vegetation.

Wildlife

The term wildlife pertains to zoological (non-plant) resources, such as insects and animals. Terrestrial wildlife includes insects and animals that are not primarily aquatic. Terrestrial wildlife includes species that primarily occur on land and also includes avian species. Aquatic wildlife includes species that spend the majority of time in aquatic environments. Aquatic wildlife also describes certain life stages of insects and animals, as is the case for most species of salamanders, frogs, and toads within this region which require aquatic habitats for breeding, egg, and larval life stages.

The project site is currently developed as a public park. Based on the disturbed nature of the site and surrounding disturbances associated with roadways and development, wildlife species that may utilize the site are expected to be common and somewhat tolerant of human disturbances.

Wildlife species expected to utilize the property include species tolerant to the disturbed nature of the project site and surrounding area. Species that may utilize the site are common mammals found in New Jersey which includes but is not limited to various species of squirrels, mice, rats, foxes, raccoon, opossum, eastern cottontail, eastern chipmunk, and white-tailed deer. Common bird species are also expected to occur on the project site and may include geese, doves, hummingbirds, hawks, owls, woodpeckers, swallows, wrens, warblers, sparrows, and other bird species.

Rare Species and Species of Special Concern

A request was sent to the Natural Heritage Program (NHP) for a list of rare plant and/or wildlife species that may occur on or within the vicinity of the project site. A response is currently pending.

The New Jersey Landscape Project data accessed through the NJ-GeoWeb **(Figure 12)** identified the following rare wildlife species on the subject property and immediate vicinity:

Table 1. Rare Wildlife Species identified on Site and Immediate Vicinity of the Site

Common Name	Scientific Name	Feature Type(s)	State Protection Status
Bald Eagle	*Haliaeetus leucocephalus*	Foraging, Nest	State Endangered
Black-crowned Night-heron	*Nycticorax nycticorax*	Foraging	State Threatened
Glossy Ibis	*Plegadis falcinellus*	Foraging	Special Concern
Little Blue Heron	*Egretta caerulea*	Foraging	Special Concern

Snowy Egret	*Egretta thula*	Foraging	Special Concern

The proposed project involves improvements to the existing public park. Therefore, adverse impacts to rare wildlife species are not anticipated.

Critical Environmental Resources and Features

Critical or "sensitive" environmental resources and features are those that either have more inherent environmental value, or are more susceptible to perturbation, or both. These resources and features include those with special ecosystem functions such as wetlands; those with special regulatory status such as endangered species; those with special permitting needs such as steep slopes to be graded or floodplains planned for development; and those with special socio-economic value such as long-established trails for public access and view sheds.

Wetlands/Waters

Wetlands are those areas that are inundated or saturated with surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. Wetlands are recognized for their many important ecosystem functions and socio-economic values and are provided protection pursuant to the New Jersey Freshwater Wetlands Protection Act of 1987.

The NJ-GeoWeb does not depict freshwater wetlands on the subject property but does depict Morses Creek flowing throughout the site **(Figure 13).** Freshwater wetlands are regulated by the NJDEP under the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq. and Freshwater Wetlands Protection Act Rules at N.J.A.C. 7:7A. The NJDEP not only regulates wetlands as defined above, but also regulates ditches, swales, State open waters, and transition areas (i.e. wetland buffers) under these Rules. Under the Freshwater Wetlands Protection Act Rules, exceptional resource value wetlands are assigned a 150 ft. transition area, intermediate resource value wetlands are assigned a 50 ft. wide transition area and ordinary resource value wetlands are not assigned a transition area.

The proposed Wheeler Spray Park improvements are not anticipated to disturb any freshwater wetlands or transition areas on site.

Critical Wildlife Habitat

The New Jersey Landscape Project uses geographic information system (GIS) technology to map critical wildlife habitat throughout the State based on species location data, land cover data and species life history and habitat requirements. Habitat patches are assigned a numbered rank based on the criteria listed below.

- Rank 5 is assigned to patches containing one or more occurrences of at least one wildlife species listed as endangered or threatened on the Federal list of endangered and threatened species.

- Rank 4 is assigned to patches with one or more occurrences of at least one State endangered species.
- Rank 3 is assigned to patches containing one or more occurrences of at least one State threatened species.
- Rank 2 is assigned to patches containing one or more occurrences of species considered to be species of special concern.
- Rank 1 is assigned to patches that meet habitat-specific suitability requirements such as minimum size criteria for endangered, threatened or priority wildlife species, but that do not intersect with any confirmed occurrences of such species.

The New Jersey Landscape Project data accessed through the NJ-GeoWeb **(Figure 12)** identified the following rare wildlife species on the subject property and immediate vicinity:

Table 1. Rare Wildlife Species identified on Site and Immediate Vicinity of the Site

Common Name	Scientific Name	Feature Type(s)	State Protection Status
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Glossy Ibis	*Plegadis falcinellus*	Foraging	Special Concern
Little Blue Heron	*Egretta caerulea*	Foraging	Special Concern
Snowy Egret	*Egretta thula*	Foraging	Special Concern

A request was sent to the Natural Heritage Program (NHP) for a list of rare plant and/or wildlife species that may occur on or within the vicinity of the project site. A response is currently pending.

The proposed project involves improvements to the existing public park. Therefore, adverse impacts to rare wildlife species are not anticipated.

Floodplains

The geomorphic area inundated by flood waters of rivers or streams is the floodplain, which has a series of structural subdivisions defined largely by elevation, position and the periodicity of inundation. Floodplains provide important ecosystem functions and socio-economic values including the dissipation of flood waters, groundwater recharge, water quality improvement, wildlife habitat, etc.

Flood Insurance Rate Map (FIRM) Map Number 34039C0034F prepared by the Federal Emergency Management Agency (FEMA), dated effective 9/20/2006, identifies the proposed project area within Flood Zone X, an area of minimal flood hazard **(Figure 14).** The remainder of the subject property is also shown on FIRM Map No. 34039C0045F, effective 9/20/2006.

Cultural and Aesthetic Resources

Historic and Archaeological Resources

According to the *New Jersey* & *National Registers of Historic Places – Union County* (2024), identifies the following sites for Linden City:

- 1905 Through-Plate Girder Bridge (SIRC Br. #242) (ID#2688)
- Central Railroad of NJ Bridge (ID#4053)
- Inch Lines Linear Multistate Historic District (ID#1914)
- Pennsylvania Railroad New York to Philadelphia Historic District (ID#4568)
- Perth Amboy and Elizabethport Branch of the Central Railroad of New Jersey (ID#4187)
- Sound Shore Railroad Historic District (ID#5427)
- 1889 Through Truss Bridge (SIRC Br. #241) (ID#2689)
- **Union County Park System Historic District (ID#4424)**

The subject property is located within the Union County Park System Historic District as listed on the NJ & National Registers of Historic Places list for Linden City. A review of the NJ-GeoWeb mapping confirms this historic district on-site and identifies the site as a historic property (John Russell Wheeler Park) which is not listed on the NJ & National Registers of Historic Places **(Figure 15).**

Aesthetic Features

The project site, Wheeler Spray Park, is currently developed as a public recreational spray park. Aesthetics of the park will improve with the proposed improvements of which involve replacing the surfacing, upgrading the existing fencing, creating sun shading shelters, and creating a concession area.

Community Resources and Conditions

Population Density and Distribution

Due to the non-residential nature of the proposed project, the proposed Wheeler Spray Park improvements within the existing park is not expected to have an impact on the local population density and distribution.

Social and Economic Effects

The proposed project would generate construction jobs during peak construction. No significant socioeconomic effects are anticipated with the proposed project construction and operation.

Traffic and Transit

The proposed Wheeler Spray Park improvements within the existing recreational park is not anticipated to cause a significant increase in traffic. The proposed construction would have a very minor impact on the surrounding area in terms of traffic when compared to the No-Build Conditions.

Access to the site is provided by West Stimpson Avenue. Traffic in the vicinity of the site is typically related to the residential and commercial development found within the City of Linden. Significant adverse impacts to traffic movement are not anticipated from the proposed activities.

Schools

The proposed project involves improvements to the existing Wheeler Spray Park in an existing public park. This use will not generate any school age children; therefore, no impacts to private or public schools are anticipated.

Public Safety

Negligible impacts are anticipated for police, fire, and rescue services. The proposed improvements to the existing Spray Park within the public park is a land use consistent with the existing use.

Assessment of Environmental Impacts

The proposed development will result in some temporary and permanent impacts to existing land covers/land uses and natural resources. Potential impacts are identified below according to specific site characteristics set forth in the previous sections of this document. Mitigation measures to avoid or minimize these impacts are identified for the construction and operational phases of the proposed project and are also summarized in the following section on steps to minimize environmental impacts.

Impacts to Physical Conditions

Topography, Geology, and Soils

Wheeler Park is developed and therefore, the natural topography has partially been altered. The location of proposed activities is generally flat with elevations of 15 to 22 feet.

The topography and existing soils of the project site will be further altered as part of the proposed improvements to the existing Wheeler Spray Park. Considering the geographic location of the site, no bedrock outcrops exist on the site. The NJ-GeoWeb does not show any bedrock outcrop existing onsite; therefore, impacts to these features are not anticipated.

Should acid soils be encountered during construction, the guidelines recommended by the Soil Conservation Service will be followed when handling these soils. The implementation of a Soil Erosion and Sediment Control Plan during the construction phase followed by the placement of either impervious surface or grass cover will reduce the potential for erosion.

Impacts to topography, soil, and geology, as a result of the improvements, are expected to be minor and typical of this type of project.

Effects on Hydrology/Water Quality

The proposed development is not anticipated to alter the current hydrology of the site, as the development is not proposed to significantly increase impervious cover on-site. Non-point source pollutants that may be associated with the proposed project primarily include pollutants that would be generated by runoff from rooftops, parking areas, and landscaped areas.

No long-term, adverse water quality impacts are expected to affect surface water or groundwater because of the proposed project.

Temporary short-term impacts to surface water quality during construction will be minor when erosion, runoff, and sedimentation are controlled. The temporary impacts on surface water quality will be minimized by implementing standard construction methods that control stormwater runoff and sediment and soil erosion, prevent soil compaction, and reduce non-point source pollution. Construction activities will follow an approved Soil Erosion and Sediment Control Plan to avoid adverse impacts of displaced soil and sediment on adjacent land, particularly the wetlands and surface water. Grading activities will be staged during construction to minimize the amount of bare soil exposed at any one time.

Groundwater

Impacts to groundwater quality as a result of the proposed activities are not expected. The proposed project also does not include any thermal discharges to surface water or groundwater. Thus, no environmental effects from thermal discharges are anticipated.

Impacts to Biological Resources

Vegetation and Flora

The proposed activities will occur in the existing developed portion of the public park. There are no impacts to vegetation and/or flora as the proposed project area does not contain trees or vegetation.

Aquatic and Terrestrial Wildlife

Significant impacts to aquatic biota and wildlife species are not expected as a result of the improvements to the existing Wheeler Spray Park. The site will continue to be utilized by wildlife post-construction and during the construction. Additionally, portions of the site to be landscaped will provide habitat value to common wildlife species, namely passerine birds, after construction.

The proposed project does not include any discharges to surface water, and construction will be outside of critical environmental resources such as Morses Creek. Temporary short-term impacts to surface water quality during construction will be minor when erosion, runoff, and sedimentation are controlled.

No long-term adverse impacts related to noise, dust, lighting, and turbid discharges to surface water are expected to affect aquatic and terrestrial wildlife because of the proposed project.

Rare Species and Species of Special Concern

A request was sent to the Natural Heritage Program (NHP) for a list of rare plant and/or wildlife species that may occur on or within the vicinity of the project site. A response is currently pending.

The New Jersey Landscape Project data accessed through the NJ-GeoWeb **(Figure 12)** identified the following rare wildlife species on the subject property and immediate vicinity:

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Snowy Egret	*Egretta thula*	Foraging	Special Concern

No rare wildlife species were observed during field visits. The proposed project involves improvements to the existing public park. Therefore, adverse impacts to rare wildlife species are not anticipated.

Impacts to Critical Environmental Resources

Wetlands

It is not anticipated that the proposed project will disturb freshwater wetlands or freshwater wetland transition areas. If the project requires minor disturbance to freshwater transition areas, these disturbances will be eligible for permits from the NJDEP.

Critical Wildlife Habitat

A request was sent to the Natural Heritage Program (NHP) for a list of rare plant and/or wildlife species that may occur on or within the vicinity of the project site. A response is currently pending.

The New Jersey Landscape Project data accessed through the NJ-GeoWeb **(Figure 12)** identified the following rare wildlife species on the subject property and immediate vicinity:

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No rare wildlife species were observed during field visits. The proposed project involves improvements to the existing public park. Therefore, adverse impacts to rare wildlife species are not anticipated.

Floodplains

The project avoids encroachments into the flood hazard area and riparian zone. The proposed project will not be impacted by sea level rise.

Aquifer Recharge Areas

Based on NJ-GeoWeb mapping, the subject property is ranked "B" and "D" with 11-15 inches per year of groundwater recharge and 1-7 inches per year of groundwater recharge.

Impacts to Cultural Resources

The subject property is located within the Union County Park System Historic District as listed on the NJ & National Registers of Historic Places list for Linden City. A review of the NJ-GeoWeb mapping confirms this historic district on-site and identifies the site as a historic property (John Russell Wheeler Park) which is not listed on the NJ & National Registers of Historic Places **(Figure 15).**

Impacts to cultural resources are not anticipated as the project proposes improvements to the existing public park as has been previously permitted in the past.

Impacts to Aesthetic Resources

The project site, Wheeler Spray Park, is currently developed as a public recreational park. Because the site is currently developed, aesthetics of the park will improve with the proposed improvements to Wheeler Spray Park of which include replacing the surfacing, upgrading the existing fencing, creating shading structures from the sun, and creating a concession area.

A Landscape and Lighting Plan has been included in the site design to mitigate for aesthetic impacts during the operational phase. Proper site construction sequences and proper maintenance of the site during the construction phase will be implemented to avoid adverse visual impacts during construction.

Impacts to Air Quality

The proposed Wheeler Park improvements may have minor impacts on air quality during the construction and operational phases. The overall impact to air quality in the local atmosphere is expected to be negligible.

Minor, localized, short-term effects on air quality will occur during the construction phase of the proposed project. Potential air pollutants generated during the construction phase include carbon monoxide (CO) from the exhaust of vehicles and construction equipment and particulates from dust generated during construction activities. Earth moving and excavation have the highest engine emissions and dust generation (SAEFL, 2004). The levels of CO and particulates are expected to be greatest during the land clearing and site preparation stages of the construction phase, which is when diesel construction vehicles and heavy equipment will be the most prevalent. The CO and particulate levels are expected to diminish upon completion of earthwork and during the construction phase of the project. The minor impacts to air quality during the construction phase are not anticipated to be significant.

The acceptable air quality standards are not anticipated to be impacted by the proposed project due to its relatively small scale. While air quality may be locally impacted during construction and operation, no significant net-impacts to air quality are anticipated to result from the proposed project.

Measures that can be taken to minimize air quality impacts during the construction phase include:

- Dust control
- No vehicle idling policy
- Maintenance of vehicles and equipment in accordance with manufacturer's specifications
- Use of licensed and experienced contractors

Once the project is complete, and during the operational phase, the anticipated outdoor air pollution will primarily be that of vehicle exhaust from those entering and leaving the park, which is consistent with existing impacts associated with the site and surrounding land uses.

Steps to Minimize Environmental Impacts

Development Schedule and Construction Phase

The areas designated for clearing of vegetation, earthwork, and land disturbances has been minimized to the smallest possible extent in order to reduce adverse impacts, as described elsewhere in this EIA. Construction activities will follow an approved Soil Erosion and Sediment Control Plan to avoid adverse impacts of displaced soil and sediment on adjacent land, particularly any wetlands and surface water.

Construction noise will cause a temporary and short-term increase to the ambient sound environment within the affected area. Noise levels could be expected to temporarily increase to approximately 90 decibels during construction. Noise generated during construction will be limited to daylight hours in accordance with Linden City ordinances, and the contractor will comply with OSHA noise level requirements. Dust particulates generated by heavy construction equipment if the weather is dry during construction will be mitigated by best management practices and appropriate controls (e.g., wetting, covers, etc.) to control fugitive dust.

Planning Phase Measures

The planning phase is perhaps the most important aspect of proposing measures or controls that will minimize or eliminate negative impacts. The proposed project includes a series of design features included to reduce impacts to regulated resources such as waters and wetlands; and aesthetic values such as views. These include but are not limited to the following:

- Obtain Soil Erosion and Sediment Control Plan certification;
- Preparation of a Landscape Plan

Construction Phase Measures

Construction phase impacts may include noise, dust, traffic, environmental safety, and other short-term potential impacts. Some measures to reduce construction phase impacts include, but are not limited to:

- Implementation of the Soil Erosion and Sediment Control Plan;
- Designated construction vehicle access routes;
- Dust control;
- Vehicle idling policies;
- Construction in accordance with local ordinances and requirements, including work hours;
- Adherence to OSHA and other required workplace safety protocols;
- Construction in accordance with local, State, and/or Federal permits and conditions
- If any resources are discovered during excavations and grading of the site, the State Historic Preservation Office will be contacted for guidance.

Construction Traffic

Construction traffic will consist of typical truck and heavy equipment that will utilize local roadways and enter and exit the site from a stabilized construction entrance in accordance with the "Standards for Soil Erosion and Sediment Control in New Jersey".

Precautions Taken

All necessary precautions and preventative measures will be implemented during construction to prevent adverse environmental impacts to the greatest extent practicable. An approved Soil Erosion and Sediment Control Plan will be followed to reduce erosion and sedimentation. The Contractors, during dry weather, will water areas prone to dust, especially areas used by trucks, to control dust. Construction will be performed in accordance with local, State and Federal OSHA safety regulations.

Noise Levels

Short-term impacts on sound levels will be related to the operation of construction equipment. The decibel (dBA) scale ranges from 0 for the threshold of perception of sound to approximately 130 dBA for the threshold of pain at the ear. To minimize adverse impacts to ambient noise levels, construction equipment will be operated during daylight hours only.

Most construction equipment will maintain a noise level of 75 dB(A). Pneumatic tools, scrapers and pavers may be as loud as 80 dB(A). Occupational noise levels of 90 dB(A) for periods of eight hours are permitted. All City ordinances dictating the times and conditions for such activities will be complied with. The use of construction equipment will be limited to the hours permitted by Linden City.

Operational Phase Measures

Operation phase impacts include traffic, noise, environmental health and safety, landscape maintenance, and other long-term potential impacts. The project will maintain all landscaping, setbacks, and buffers for the maximum aesthetic effect including replacement of landscape and buffer trees and other plantings as needed.

Unavoidable Adverse Impacts

Unavoidable adverse impacts are those residual impacts that remain after the implementation design control measures and specific mitigation measures, as listed and discussed herein, to reduce or eliminate, as feasible, the identified adverse impacts. Unavoidable, residual adverse impacts can include alteration of soils, topography and vegetation, loss of vegetation, and minor impacts to freshwater wetland buffers.

Short-term impacts to air quality may occur during the construction phase of the project which will be mitigated by best management practices and appropriate controls. Site development would also result in short-term localized increases in noise from construction, heavy machinery, and temporary construction-related traffic. Noise generated during construction will be limited to daylight hours in accordance with Linden City ordinances, and the contractor will comply with OSHA noise level requirements.

Other than these impacts, no significant or long-term adverse impacts to environmental resources are anticipated from the Wheeler Spray Park improvements. The Landscape Plan will provide mitigation for the loss of vegetation, aesthetic values, and loss of wildlife habitat.

Negative Impacts

The project site currently exists as a public park. Therefore, there are no negative impacts associated with the proposed improvements to Wheeler Spray Park.

Beneficial Impacts

The construction phase will generate short term job opportunities which will stimulate the local economy. Due to the short duration of the construction phase of the project, construction workers will likely not seek permanent housing and therefore not result in long-term or permanent changes to the demographics of the community. However, construction workers are expected to contribute to the local economy on a short-term basis through procurement of goods and services from the local

community, examples of which may include the purchase of short-term housing, food and entertainment, construction equipment, and building materials.

Alternatives

The proposed improvements to Wheeler Spray Park are consistent with the current site use and have been designed to be constructed away from critical environmental resources. The site development layout reflects best management practices to avoid or minimize adverse impacts to environmental resources and wildlife habitat on the Site. The site currently exists as a developed public park and therefore, an alternate site would cause more disturbance than the proposed site. A no action alternative would deny the applicant and property owner fair, reasonable use of the property that would benefit the public.

Wheeler Spray Park was selected ultimately due to poor equipment nearing the end of its life as well as having ample space to expand. Other feasible land uses are anticipated to require a similar commitment of resources and would be anticipated to have potential impacts of the same nature as the currently proposed development. Different configurations of the proposed project were considered.

Construction will be on previously disturbed areas. There is no construction proposed on a new, undisturbed area nor are any trees or vegetation expected to be removed. Landscaping, trees, and/or shrubbery around the park may be added around the park at a later date.

Conclusion

The proposed improvements will have minimal impact on environmental resources at the Site, notably freshwater wetland buffers and Morses Creek buffers. There will be some short-term and long-term environmental impacts associated with the project; however, most of the environmental impacts can be minimized, avoided, or mitigated for through site design elements and best management practices which reduces the likelihood of significant adverse impacts occurring as a result of the project.

As previously stated, construction will be on previously disturbed areas. There is no construction proposed on undisturbed areas nor are any trees or vegetation expected to be removed. Landscaping, trees, and/or shrubbery around the park may be added around the park at a later date.

Construction activities will adhere to an approved Soil Erosion and Sediment Control Plan and best management practices to diminish negative consequences that are associated with environmental impacts that cannot be avoided. Careful planning, construction, and site management of the improvements will limit the potential for negative environmental impacts at the Site.

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Appendix A

Report Figures

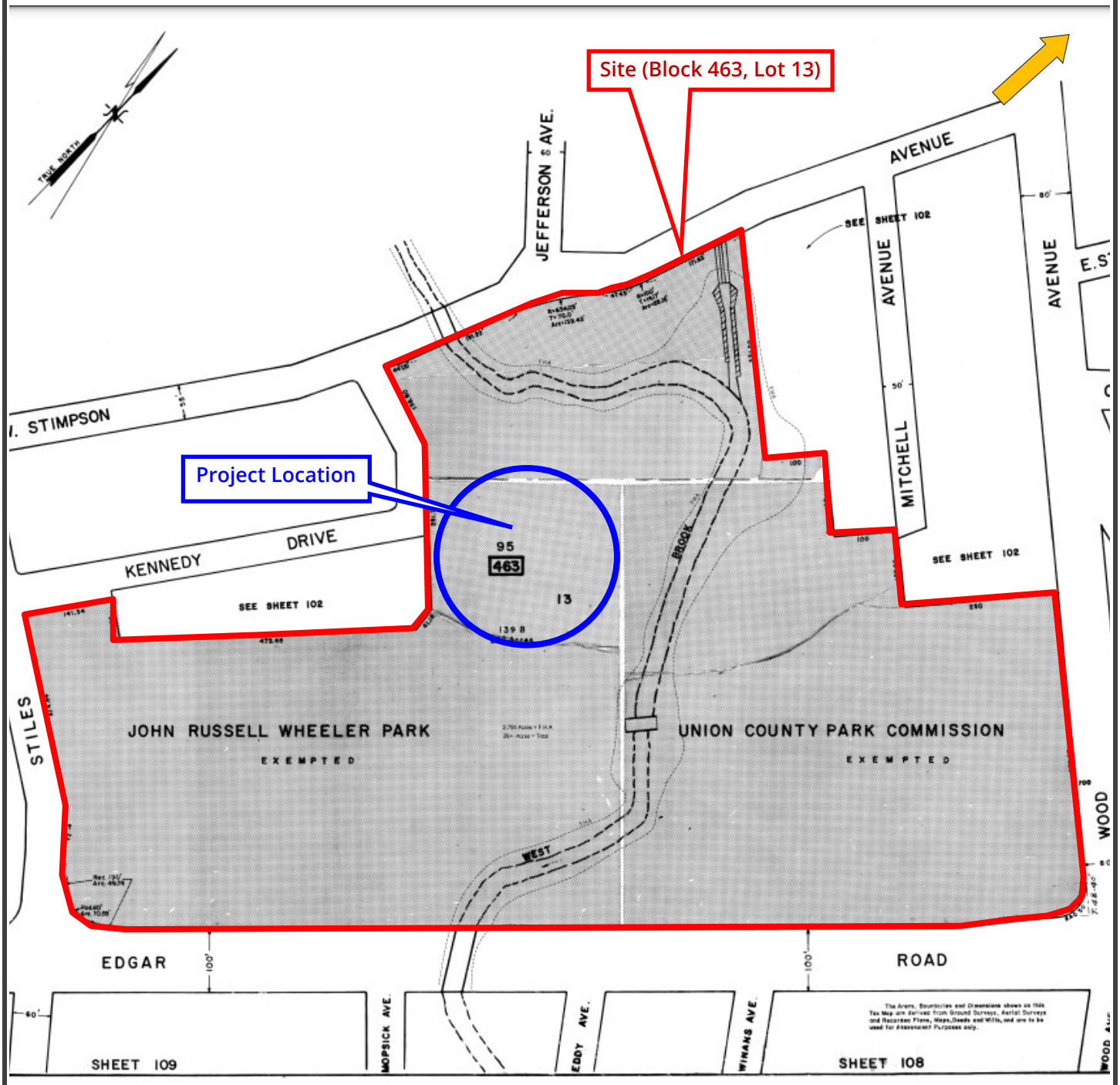

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Figure 1: Tax Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: Linden Tax Map Sheet 103

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

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Figure 2: Road Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

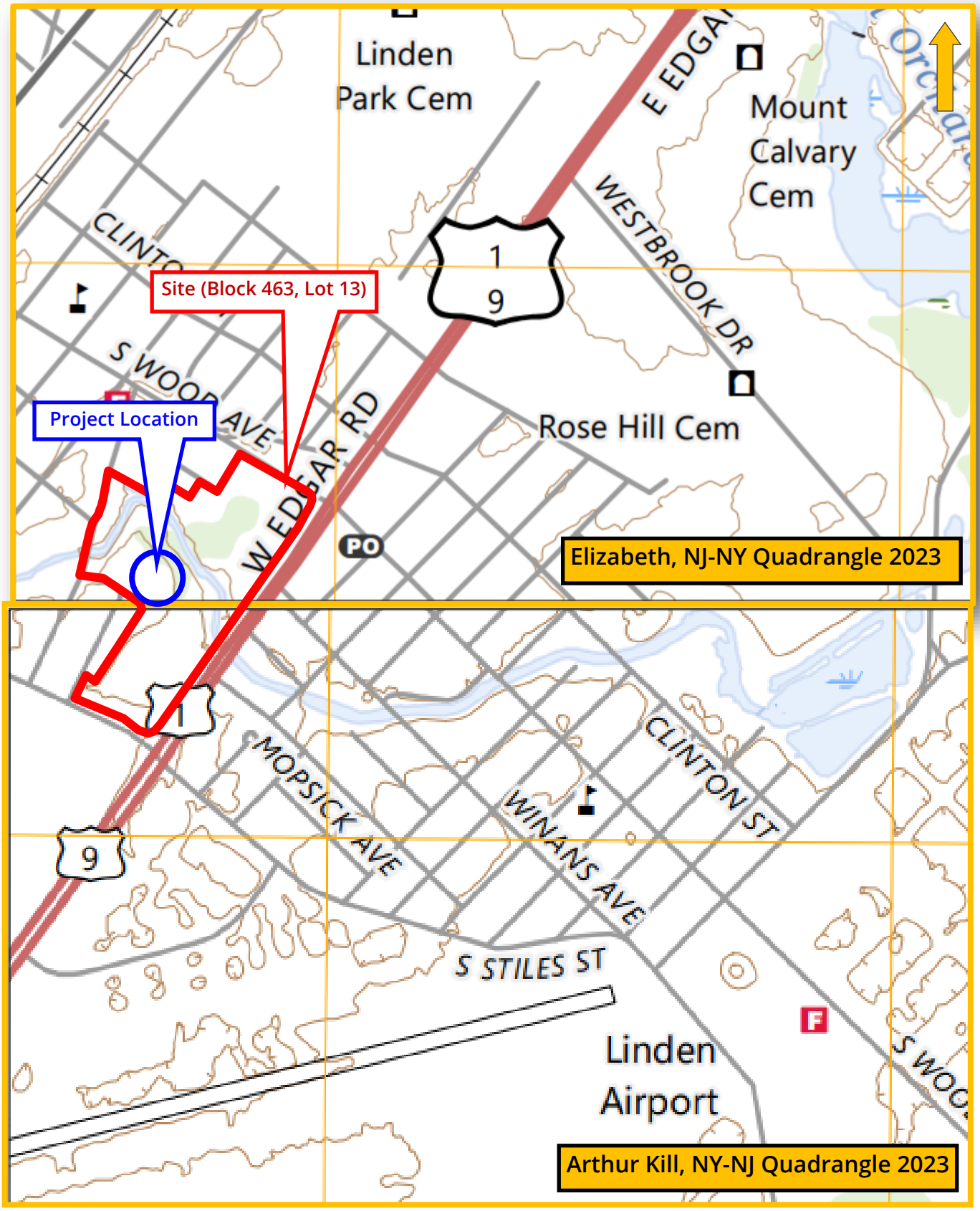

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Figure 3: USGS Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: USGS Elizabeth, NJ-NY & Arthur Kill, NY-NJ Quadrangles

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

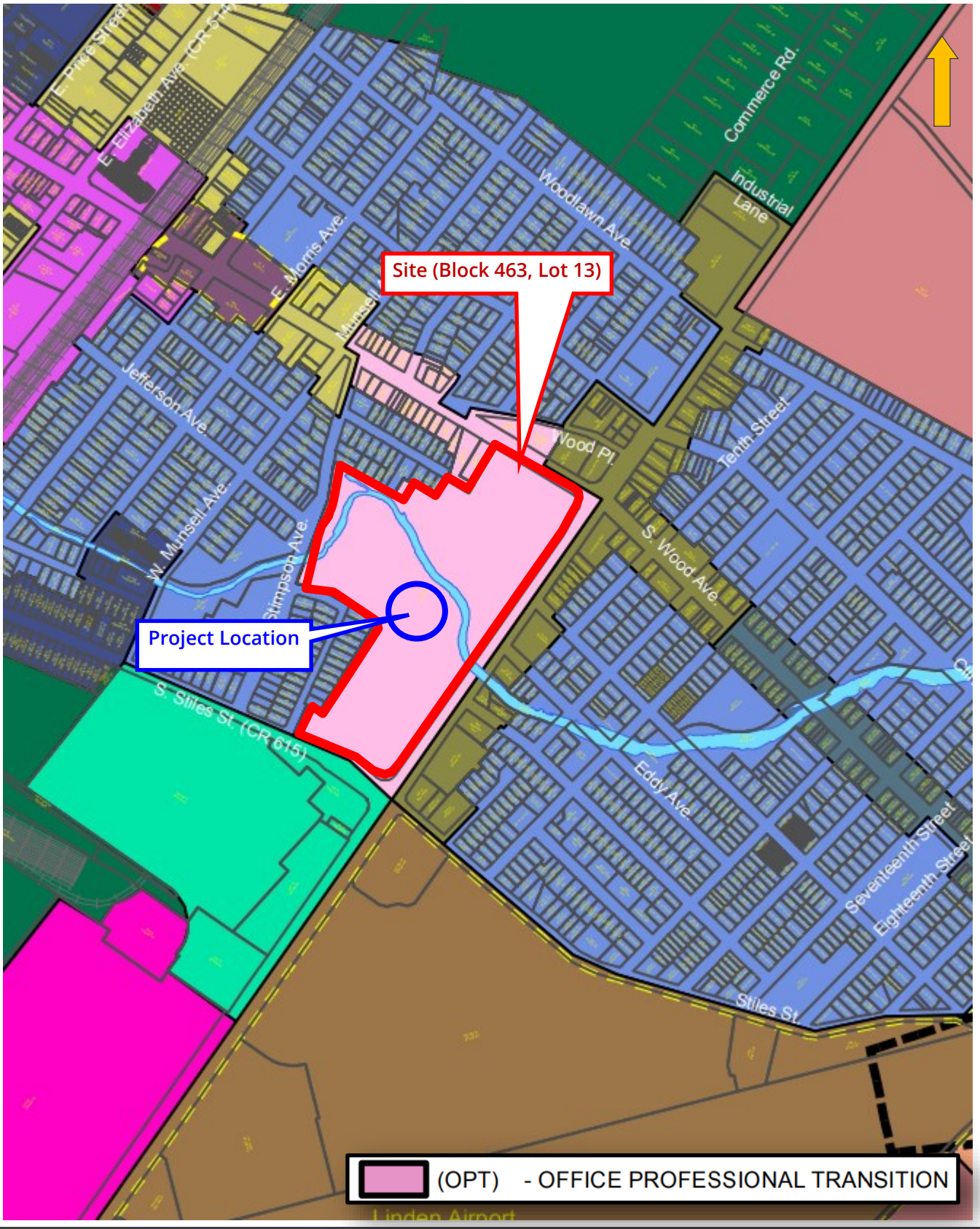

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Figure 4: Zoning Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: City of Linden Zoning Map

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

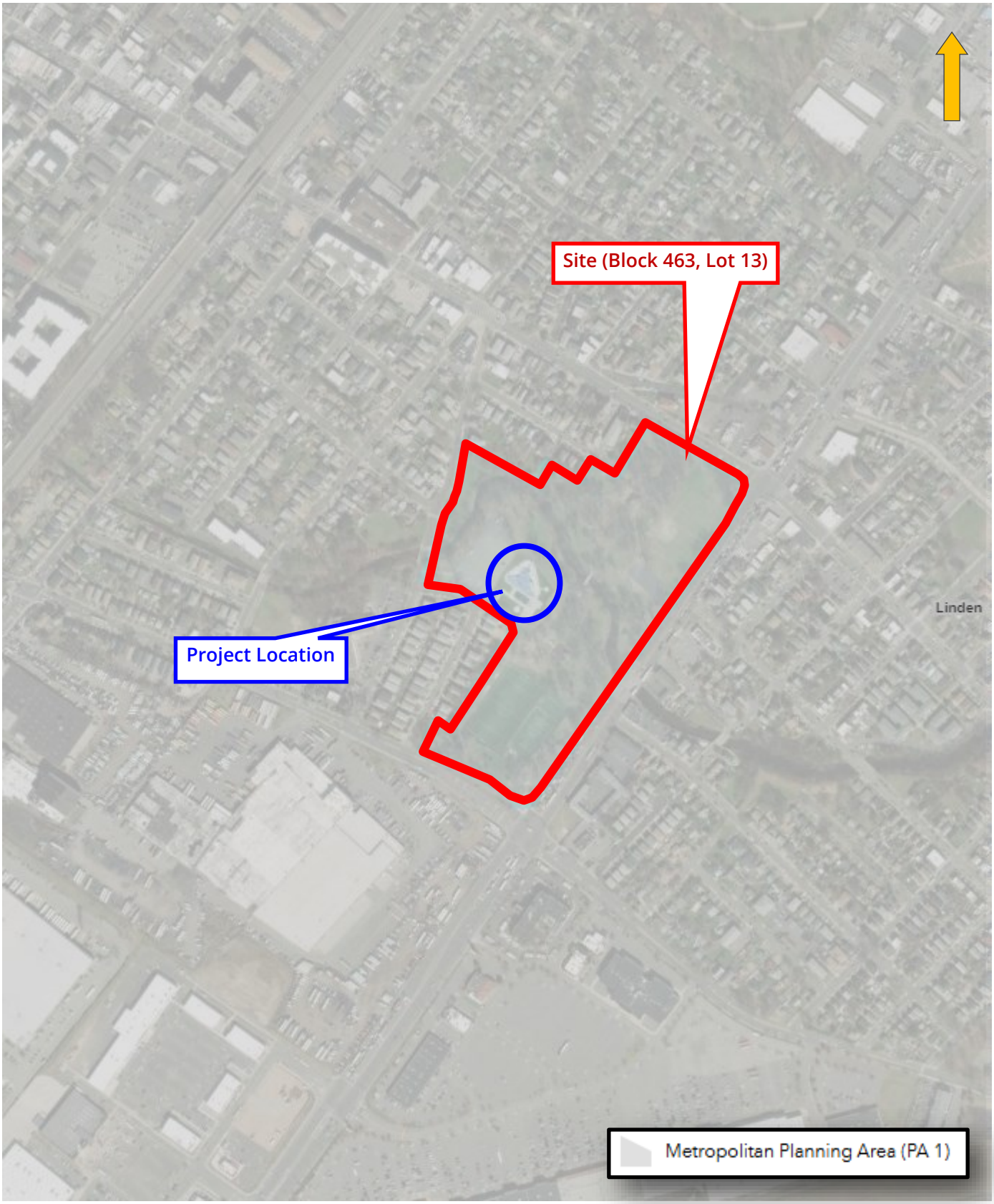

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Figure 5: State Planning Area Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

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Figure 6: Aerial Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

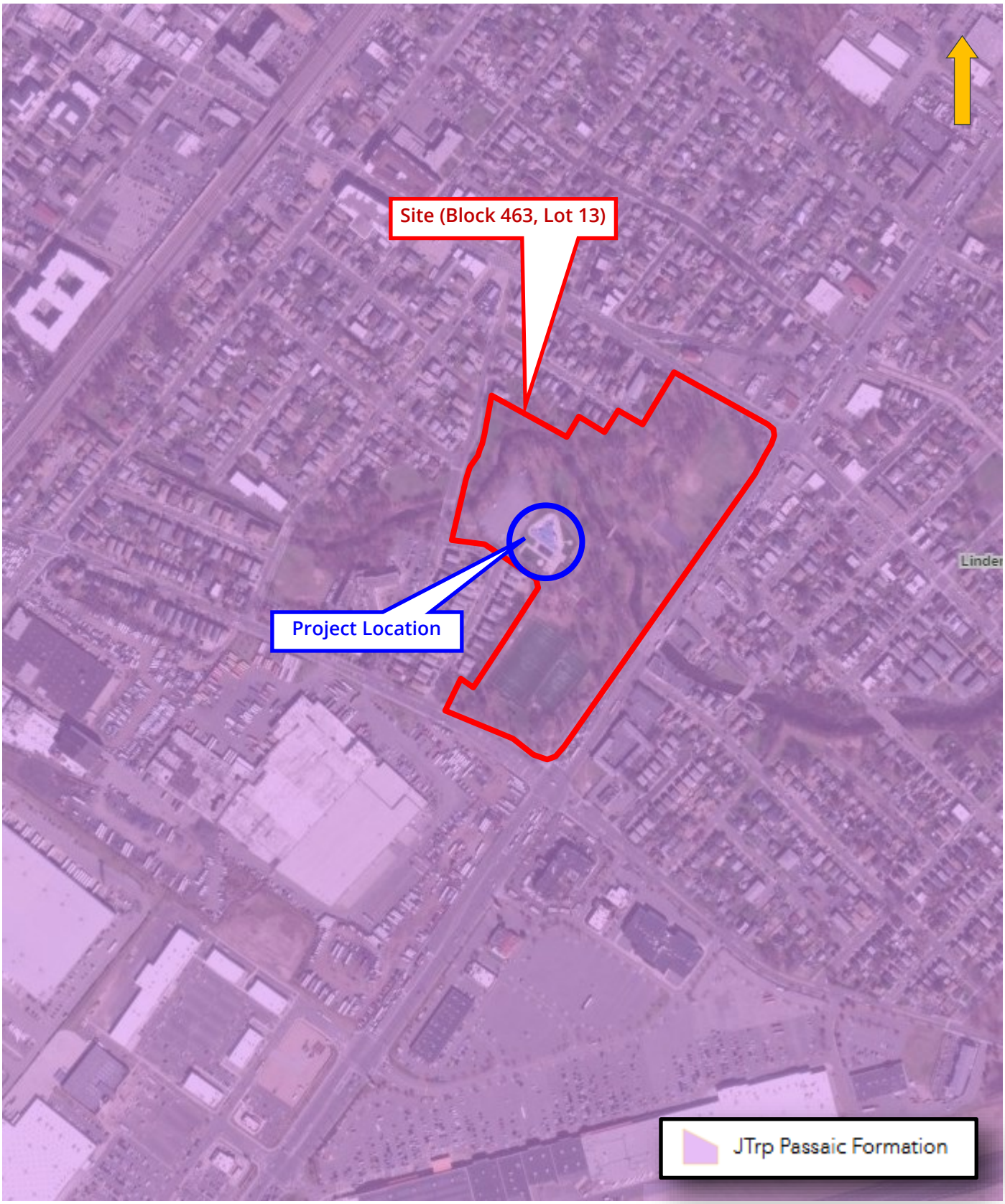

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Figure 7: Bedrock Geology Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

Map Unit Symbol	Map Unit Name
BogB	Boonton loam, 3 to 8 percent slopes
BovB	Boonton-Urban land-Haledon complex, 0 to 8 percent slopes
HcuAt	Hatboro-Codorus complex, 0 to 3 percent slopes, frequently flooded
UR	Urban land

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Figure 8: Soil Survey Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: USDA NRCS Web Soil Survey

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

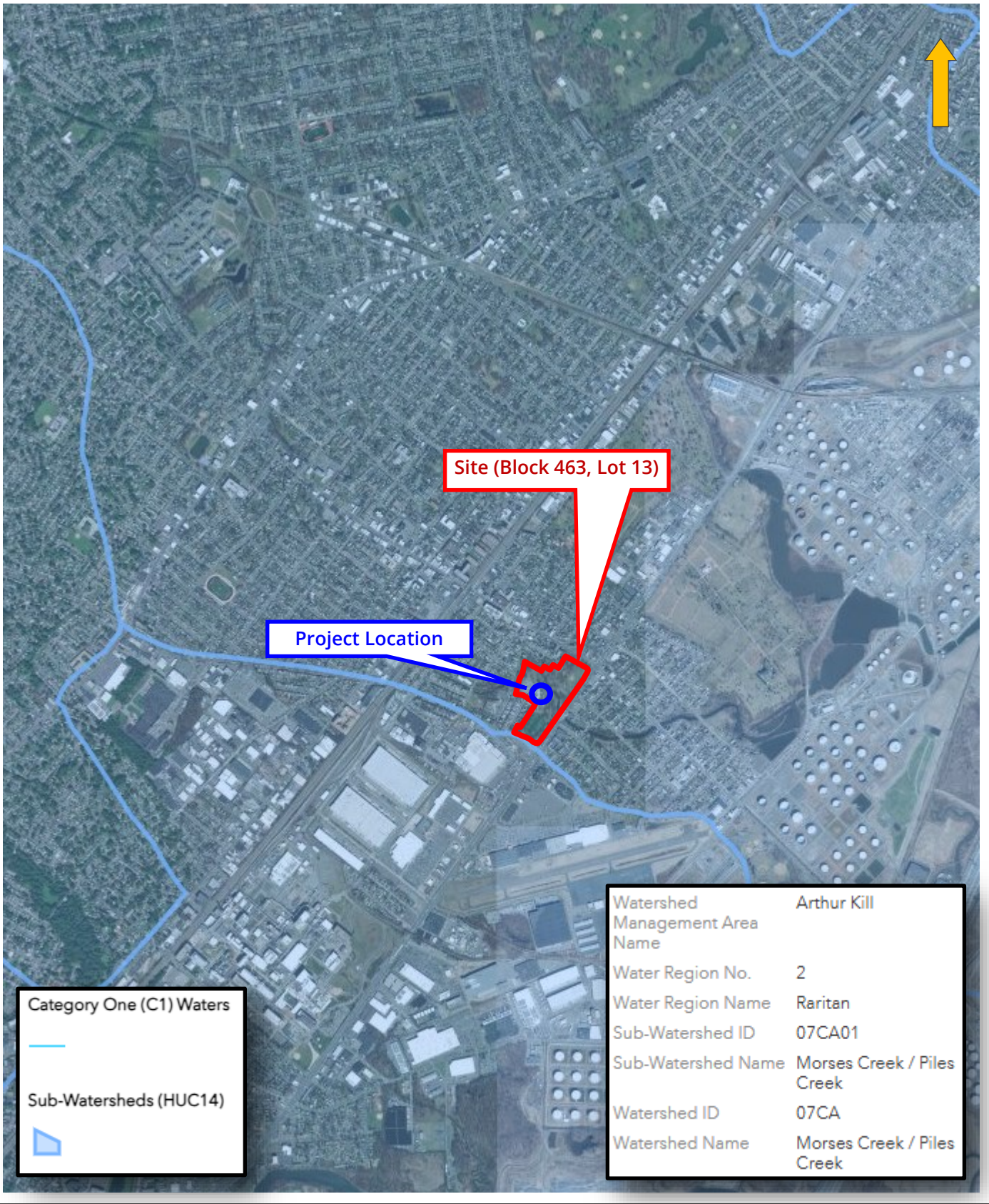

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Figure 9: HUC14 & C1 Waters Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

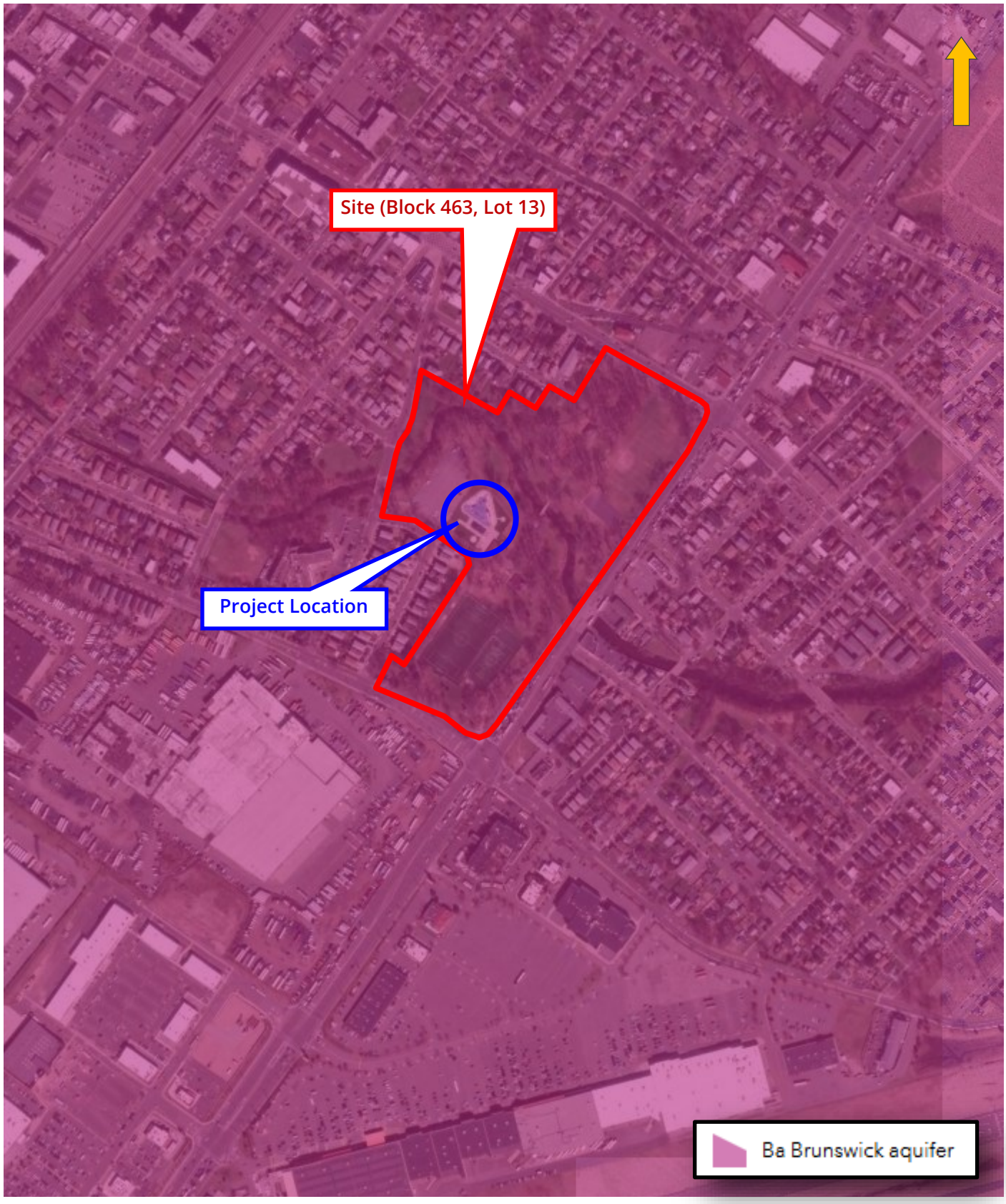

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Figure 10: Bedrock Aquifer Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

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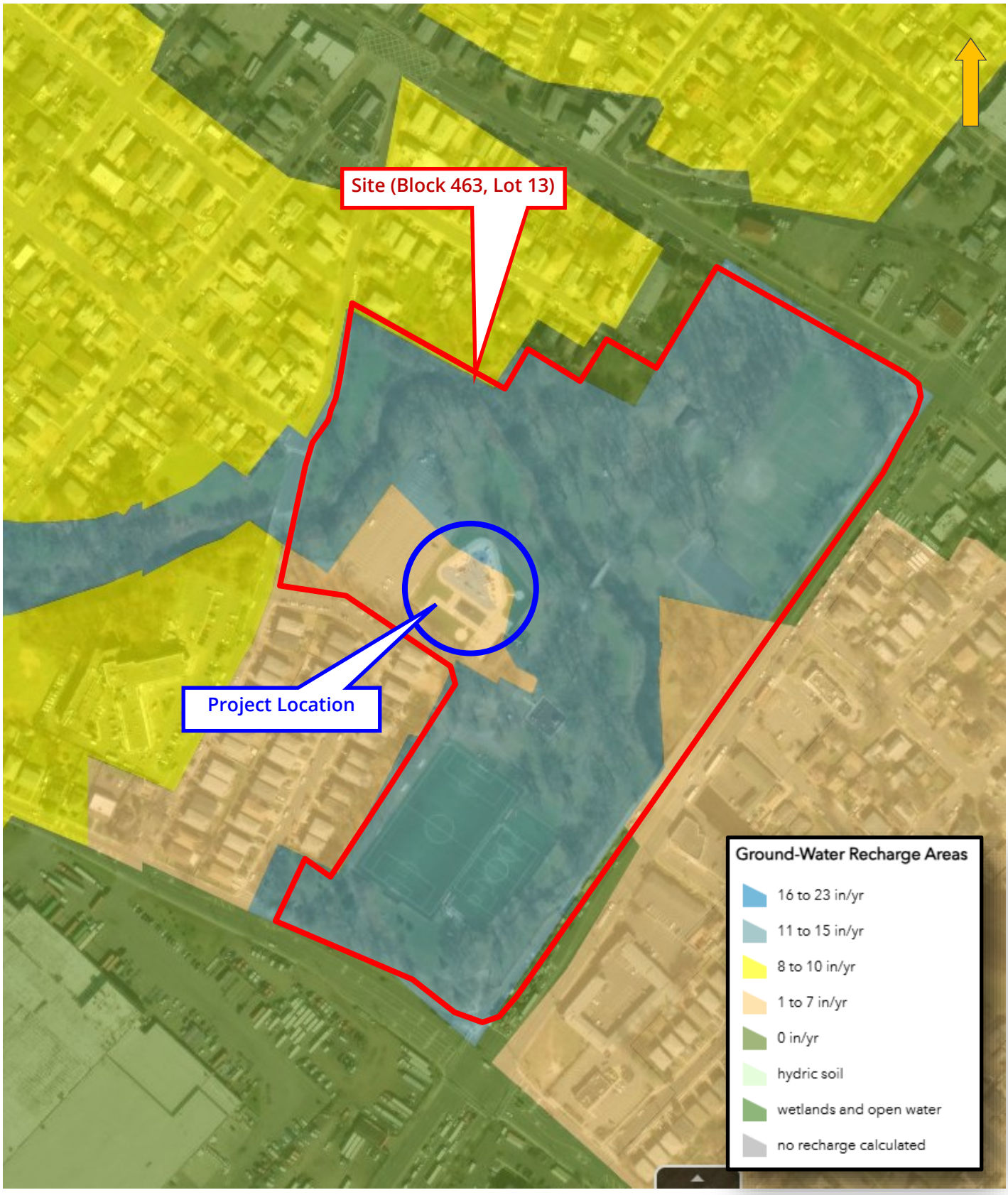

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Figure 11: Groundwater Recharge Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

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Figure 12: Landscape Project Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

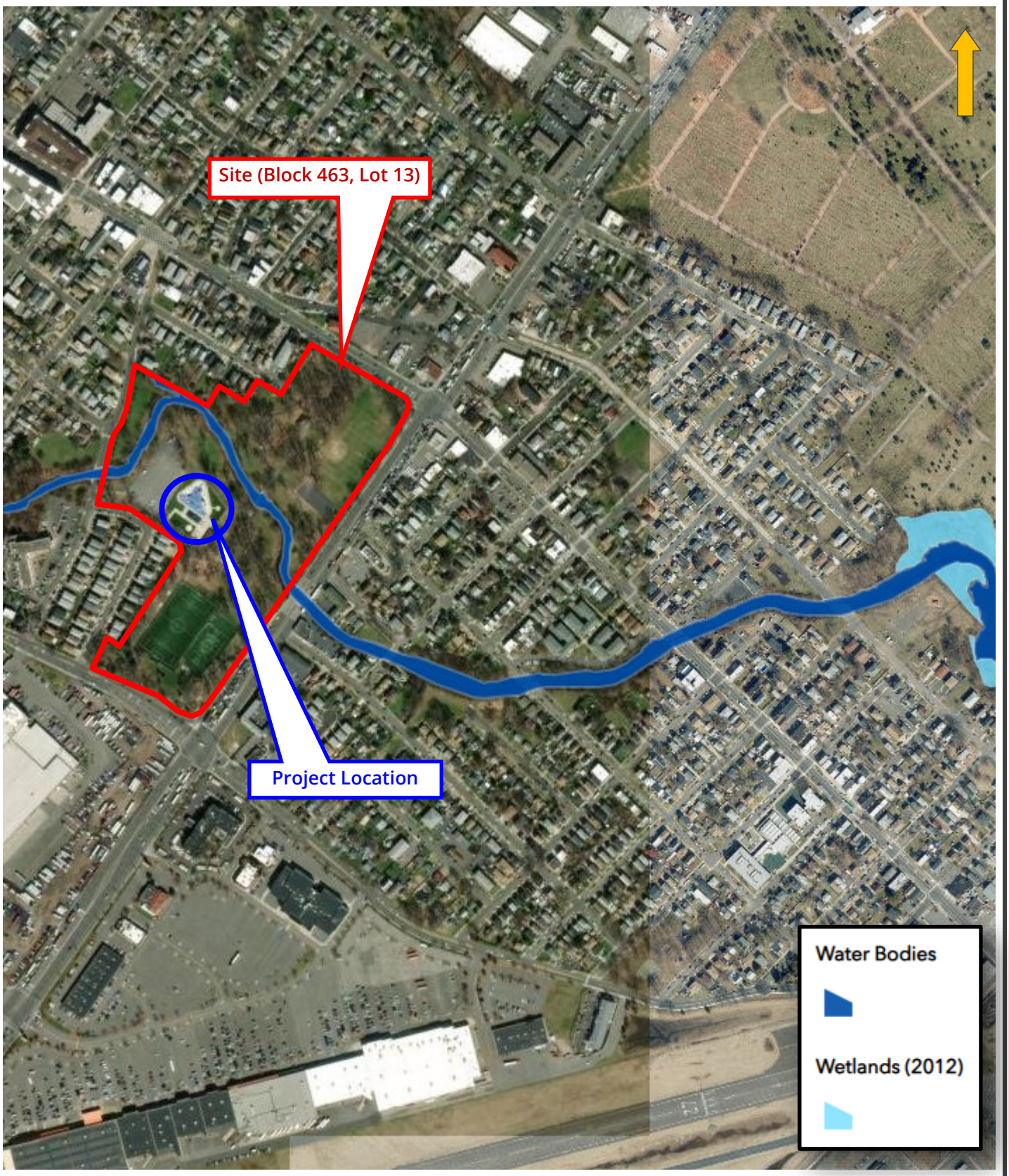

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Figure 13: State Wetlands & Waters Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

CED Project No. 24012642A

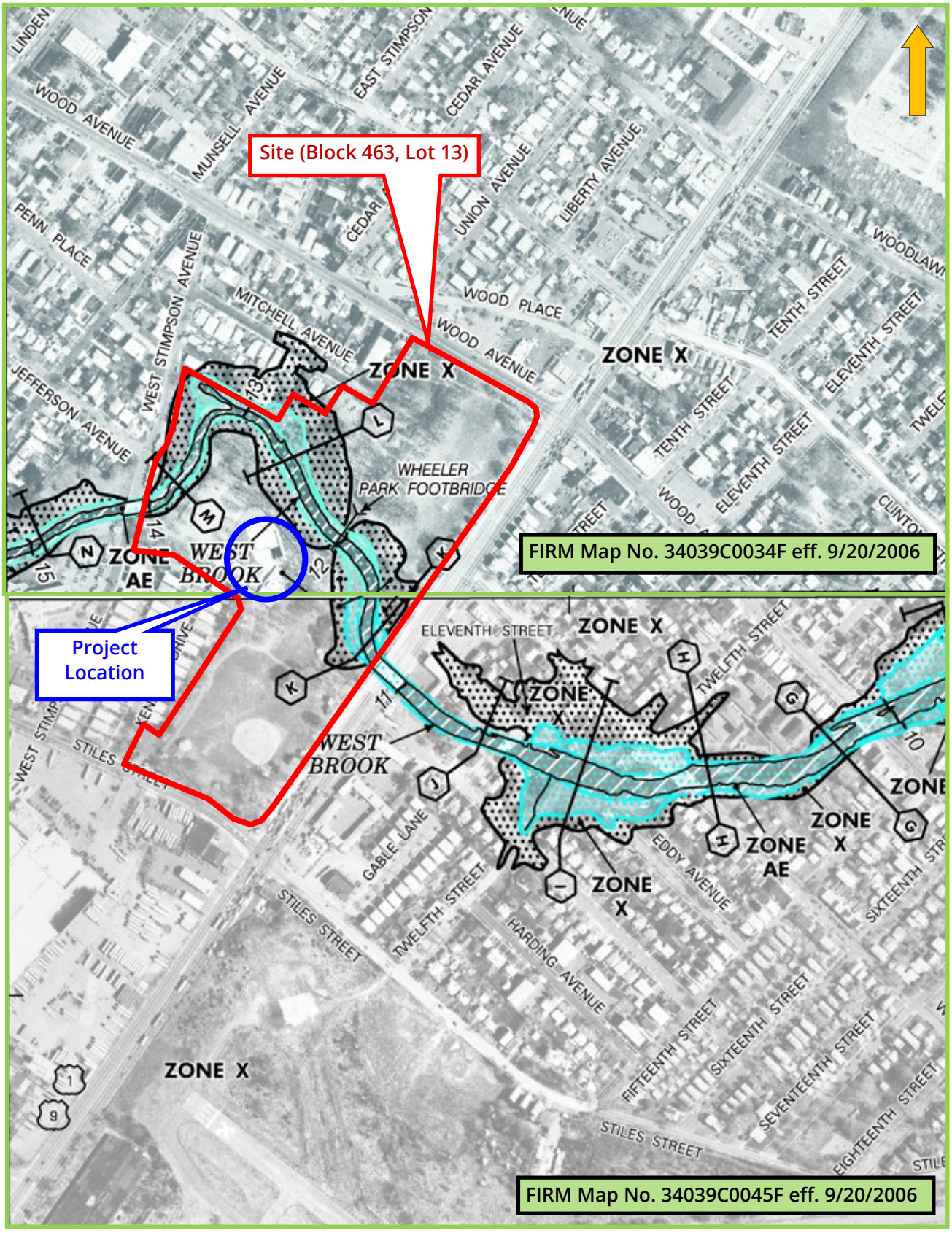

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Figure 14: FEMA Flood Insurance Rate Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: FEMA Flood Map Service Center

Scale: Not to Scale

Date: December 17, 2024

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Figure 15: Historical Resources Map

Wheeler Park (Block 463, Lot 13)
City of Linden, Union County, NJ

Source: NJ-GeoWeb

Scale: Not to Scale

Date: December 17, 2024

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Appendix B

Qualifications of Preparers

Resume

Courtney Rybak

Environmental Technician | Natural Resources

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Experience

Ms. Rybak is an Environmental Technician with 4 years of experience in ecological and regulatory consulting. She specializes in wetland assessment and delineation, environmental impact analyses, and environmental permitting and compliance at the local, state, and federal levels.

As an Environmental Technician, Ms. Rybak has prepared applications to secure permit authorizations for public and private residential, commercial, and industrial projects. This includes U.S. Army Corps of Engineers Permits, and New Jersey Department of Environmental Protection Freshwater Wetland Permits, Freshwater Wetland Transition Area Waivers, Individual Permits, Waterfront Development Permits and CAFRA Permits. She has hands-on ecological field experience surveying suitable bog turtle habitat and previously working as a student research assistant at Rowan University studying the effects of urbanization on aquatic turtle populations.

With the aforementioned experience and technical skills acquired, Ms. Rybak has successfully assisted clients with regulatory compliance.

Representative Projects

Wetland Investigations & Delineation Projects

Wetland Delineations, Various Clients
Locations visited in NJ include Spotswood, West Caldwell, Monroe, Vernon, Hazlet, Hamilton, Sewaren, Howell, Mansfield
Assisted in the identification and delineation of freshwater wetlands and waters throughout New Jersey to obtain general permitting compliance. The assessment of wetland value (resource classification) was involved for many of these wetlands.

Permitting & Compliance Projects

Wildwood Boardwalk Rehabilitation
City of Wildwood, Cape May County, NJ
Prepared NJDEP CAFRA Individual Permit application for the proposed boardwalk rehabilitation from East Oak Avenue to East 26th Avenue.

Point Pleasant Wildlife Management Area Boat Ramp & Fishing Access
Borough of Point Pleasant, Ocean County, NJ
Prepared NJDEP CAFRA Individual Permit and Waterfront Development Individual Permit application along with a U.S. Army Corps of Engineers Permit application for proposed boat ramp and fishing access improvements.

Mosquito Landing - Tuckahoe Wildlife Management Area
Township of Upper, Cape May County, NJ

Education

B.S. Biological Sciences, minor in Environmental Science, Rowan University, 2019

Professional Certifications

Wetland Delineation Certification, Rutgers University, The New Jersey Agricultural Experiment Station Office of Continuing Professional Education, 2021

Internship & Volunteer Experience

Aquatic Turtle Population Structure Research, Rowan University, (2018-2019)

Manalapan Township Environmental Commission Projects (2018-2019)

Affiliations & Memberships

Member of Association of State Wetland Managers

Speaking Engagements

Rowan University's Student Scholars Symposium (RUSSS). Rowan University, Glassboro, New Jersey. *Effects of Urbanization on Aquatic Turtle Population Structure in Southern New Jersey*; 2019.

Resume

Prepared NJDEP CAFRA Individual Permit and Waterfront Development Individual Permit application and U.S. Army Corps of Engineers Permit application for the replacement of the existing boat ramp and bulkhead and construction of a new barrier free dock and fishing access improvements.

Residences at Bancroft
Borough of Haddonfield, Camden County, NJ
Prepared NJDEP Freshwater Wetlands General Permits and Transition Area Waivers application for residential redevelopment consisting of 90 townhomes including 10 affordable housing units.

White Street Bridge D4.108
Township of Mount Holly, Burlington County, NJ
Prepared NJDEP Waterfront Development Individual Permit, Freshwater Wetland General Permit and Flood Hazard Area Individual Permit application and U.S. Army Corps of Engineers Permit application for the rehabilitation of the historic bridge that has been classified as in poor condition.

Threatened & Endangered Species

Bog Turtle Surveying
2602 NY-17M - Town of Goshen, Orange County, NY
2300 NY-300 - Town of Wallkill, Ulster County, NY
Provided pre-construction surveying services for proposed commercial/industrial development within freshwater wetlands that were determined to be suitable habitat for bog turtle in accordance with freshwater wetland permit conditions.

Environmental Impact Statements and Assessments

Commercial Development
Township of Hamilton, Mercer County, NJ
Prepared Environmental Impact Assessment (EIA) and site location maps for the development of a 245,670 SF single-loaded warehouse building located on property containing approximately 35.7 acres of land.

Residential Development
Township of Jackson, Ocean County, NJ
Prepared Environmental Impact Statement (EIS) along with site location maps for the development of 465 residential townhome units located on property containing approximately 117.8 acres of land.

Commercial Development
Borough of Tinton Falls, Monmouth County, NJ
Prepared Environmental Impact Report (EIS) along with site location maps for the development of 29 buildings, consisting of 6-18 units, along with a 4,500 SF clubhouse located on approximately 47.3 acres of land.

Training/Continuing Education

Vegetation Identification for Wetland Delineation – North, Rutgers University.
Methodology for Delineating Wetlands, Rutgers University.

Resume

Joseph P. Layton

Principal Associate | Discipline Leader | Natural Resources

Colliers Engineering & Design

Education

B.S. Environmental Planning and Natural Resource Management, Rutgers University, Cook College, 1992

Professional Certifications

NJDEP Certified Subsurface Evaluator, License #229606

NJDEP Certified Underground Storage Tank Closure

Environmental Assessment Association - Certified Environmental Specialist

Certified Remediation Specialist

Radon Measurement Specialist #MES11066

40 Hr NJ/EPA Model Lead Inspector/Risk Assessor

OSHA 40 Hr HAZWOPER Training

8-Hour OSHA HAZWOPER Refresher Training

Affiliations & Memberships

Ecological Society of America

Society of Wetland Scientists

Experience

Mr. Layton is an Environmental Scientist with over 24 years of experience including an extensive background and expertise in environmental sciences. His expertise includes an emphasis on wetland delineation, regulatory permitting and compliance, environmental assessment, environmental impact analysis, and soil evaluation. His diversified experience also includes natural resource evaluations, ecological research, watershed management, subsurface explorations, underground storage tank exploration and removal, soil classification systems, and environmental sampling design and protocol in accordance with State and Federal regulations. He utilizes Geographic Information Systems (GIS) and Global Positioning Systems (GPS) in environmental sampling and studies, including site remediation design and sampling, groundwater and surface water quality monitoring and management, and lake rehabilitation and restoration.

As Assistant Department Manager, Mr. Layton has utilized the aforementioned experience and technical skills to successfully assist clients with litigation support and regulatory compliance and has been deemed an expert in the field by various Planning and Zoning Boards while providing testimony regarding the same. His proven dedication to client satisfaction has resulted in long standing professional relationships. His client base includes private development and redevelopment companies, municipalities, county governments, infrastructure authorities, daycare facilities, higher education institutions, financial institutions, utility companies, and law firms.

Representative Projects

Groundwater Quality Monitoring/ Management
Responsible for designing, implementing, and preparing groundwater monitoring and management plans. A sampling of representative projects includes the following:

- **New Jersey National Golf Club Groundwater Quality Monitoring Plan**
  Township of Bernards, Somerset County, NJ
  Responsible for determining location and depth of monitoring wells; coordinating and supervising well installation; sampling and analyzing results; and determining groundwater flow and fate of contaminants.
- **Leisure Glen Retirement Community**
  Township of Manchester, Ocean County, NJ
  Responsible for determining the location, depth and sampling parameters of groundwater monitoring wells in a 2,500-unit retirement and 18-hole golf course community widening, complete

resurfacing of all 13 miles of existing roadway, safety improvements and implementation, as well as construction of IVHS systems in this corridor.

- **Trump National Hudson Valley Golf Club Groundwater Quality Monitoring Plan**
  Township of Bernards, Somerset County, NJ
  Responsible for determining location and depth of monitoring wells; coordinating and supervising well installation; sampling and analyzing results; and determining groundwater flow and fate of contaminants.

Watershed Management /Lake Restoration
Responsible for determining sources of non-point pollution using available mapping and field reconnaissance, determining watershed boundaries, and preparing best management practices manuals.

- **The Great Swamp National Wildlife Refuge Watershed Management Study, Morris & Somerset Counties, NJ**
- **Wemaconk Lake Restoration, Borough of Englishtown, Monmouth County, NJ**

Wetland Delineation
Involved in the identification and delineation of numerous freshwater and tidal wetlands (over 10,500 acres) in New Jersey and New York. The assessment of wetland value (resource classification) was involved for many of these wetlands.

- **Runyon Interceptor Trunk Sanitary Sewer Line Alignment**
  Township of Old Bridge, Middlesex County, NJ
  Determined alignment of two miles of sanitary sewer on a 400-acre+ site using aerial photography and site inspections minimizing impacts to numerous wetland communities.
- **Oakwood at Old Bridge**
  Township of Old Bridge, Middlesex County, NJ
  Delineated freshwater wetlands on a 235-acre site, half of which was wetlands.
- **Ashland/Former Hercules Plant**
  Parlin, Middlesex County, NJ
  Delineated freshwater wetlands on a 300-acre site formerly utilized as a munitions plant in 1930s-1960s.
- **MEC Power Generating Facility**
  Sayreville Borough, Middlesex County, NJ
  Delineated freshwater and tidal wetlands on a 40-acre site formerly utilized as a landfill. Site recently delisted as a Superfund site and will be developed as an electric power generating facility.
- **Gates Landfill**
  Jersey City, Hudson County, NJ
  Delineated freshwater and tidal wetlands on a 60-acre site formerly utilized as a fly-ash landfill of a PSEG power generating facility. Site recently delisted as a Superfund site and will be developed as an electric power generating facility.

Permit Applications
Prepared environmental permits for private residential, commercial and industrial projects. This has included U.S. Army Corps of Engineers Permits and New Jersey Department of Environmental Protection

Freshwater Wetland Permits, Freshwater Wetland Transition Area Waivers, Individual Permits, Waterfront Development Permits, and CAFRA Permits.

- **National Lead Redevelopment**
  Borough of Sayreville, Middlesex County, NJ
  Determined alignment of two miles of sanitary sewer on a 400-acre+ site using aerial photography and site reconnaissance minimizing impacts to numerous wetland communities.
- **Transcontinental Gas Pipeline Armoring**
  Township of Hopewell, Mercer County, NJ
  Prepared and obtained an Individual Permit from the NJDEP-LURP to permanently disturb a stream and its associated wetland to construct armoring to protect a Transcontinental Gas Pipeline.
- **The Hills Development**
  Township of Bernards, Somerset County, NJ
  Prepared and obtained majority of wetland permitting for a 5,300 residential unit, 400,000 SF of commercial and professional office space and an 18-hole golf course planned development in an environmentally sensitive ecosystem.
- **Apple Cove Development Township of Middletown,**
  Monmouth County, NJ
  Prepared and obtained freshwater wetland and CAFRA permits for single-family, residential subdivision located along a tidally influenced watercourse.
- **Trump National Pine Hill Golf Club**
  Pine Hill, Camden County, NJ
  Prepared and obtained freshwater wetland Individual permits for redeveloping a former amusement park into a premier golf course. Rehabilitating/reconstructing the only remaining native Brook trout stream in southern New Jersey was required as part of permit approval.
- **Frenchtown Nishisakawick Creek Stream Bank Restoration**
  Borough of Frenchtown, Hunterdon County, NJ
  Through funding by the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), the Borough of Frenchtown sought to restore and stabilize eroded streambanks along Nishisakawick Creek, a highly protected water in the state of New Jersey. Mr. Layton provided oversight and management of the ecological team. The scope included delineation of wetlands and open waters, restoration design oversight, and prepared applications to the NJDEP for a Freshwater Wetlands Individual Permit and Flood Hazard Area Individual Permit.

Environmental Assessments/Regulatory Compliance

Prepared and conducted Environmental Phase I Assessments for residential, commercial, and industrial property transfers in accordance with ASTM and Fannie Mae guidelines. Also prepared and conducted Preliminary Assessments, Site Investigations, Remedial Investigations, and Remedial Action Work Plans in accordance with N.J.A.C. 7:26E.

- **Heavenly Farms**
  Township of East Brunswick, Middlesex County, NJ
  Prepared and performed Preliminary Remedial Investigation/Action to obtain a “Letter of No Further Action” for a 230-acre farm with contaminated soils for development of recreational fields.

- **Marlboro Psychiatric State Hospital**
  Marlboro Township, Monmouth County, NJ
  Consultant to the Township of Marlboro regarding the municipality purchasing a 411-acre State-owned psychiatric hospital. Responsible for identifying areas of environmental concern, review of environmental investigation and remediation reporting generated by State contractors and making recommendations to the municipality regarding environmental concerns and purchase of the property.
- **Columbian Chemicals Mapico Iron Oxide Plant**
  South Brunswick Township, Middlesex County, NJ
  Prepared and performed preliminary assessment/site investigation, remedial Investigation/Action and Baseline Ecological Evaluation to obtain a "Letter of No Further Action" from the NJDEP to develop an 86-acre former chemical plant in a residential land use. Extensive soil and groundwater contamination was remediated.
- **The Villas at Shoregate**
  City of South Amboy, Middlesex County, NJ
  Prepared and performed Preliminary Assessment/Site investigation to obtain a "Letter of No Further Action" for a 16-acre, former dredge disposal area adjacent to the Raritan Bay.
- **Rolling Acres Subdivision**
  Monroe Township, Middlesex County, NJ
  Prepared and performed Preliminary Assessment, Site Investigation, and Remedial Investigation/Action to obtain a "Letter of No Further Action" for a 168-acre farm with contaminated soils.
- **Stewart International Airport**
  Town of New Windsor, Orange County, NY
  Consultant to potential leaseholders to the Port Authority New York and New Jersey to determine potential environmental areas of concern to development. This included Phase I and Phase II investigations in accordance with ASTM standards.

Subsurface Exploration/Evaluation
Capable of evaluating soils in accordance with NJDEP's Chapter 199 for subsurface sewage disposal systems. Able to establish depth of water tables, evaluate suitability of sites for subsurface disposal systems, perform percolation tests, basin flood tests, pit bail tests and tube permeameter tests. Capable of evaluating subsurface conditions utilizing the Burmister classification system, USDA Soil Taxonomy terminology and the Unified classification system.

Environmental Impact Assessment
Prepared numerous environmental impact statements and assessments for a wide variety of projects, including residential and commercial developments for both the public and private sector.

- **Taconic Homes Site Bog Turtle Survey and Wildlife Inventory**
  Village of Pleasant Valley, Dutchess County, NY
  Performed survey for bog turtle on a 76± acre tract using Phase II survey methods. Also performed a limited wildlife inventory during the spring season. This work was performed to satisfy lead agency requirements under the NY SEQRA.

- **Middlesex County Educational Services Commission Special Education Facility**
  Borough of Sayreville, Middlesex County, NJ
  Provided environmental services to conduct a Phase I environmental assessment associated with professional engineering services for a 65,000 SF special education facility with a pool, a future building, associated parking lot, and a playground. Tasks included a historical review of project site, industrial / commercial historical review, site visit to identify obvious visual signs of contamination and use of hazardous materials, project approval status review, review of existing, local, state and federal records, review of adjacent lands, preparation of site location map, and report preparation.
- **Capodagli Property Company Phase I Assessment**
  North Arlington Borough, Bergen County, NJ
  Provided environmental services to delineate wetlands, prepare an application for a Letter of Interpretation to the New Jersey Department of Environmental Protection, and prepare a Phase I Environmental Assessment for the property that is between .5 to 1.0 acres and adjacent to the Passaic River, and regulatory permitting (NJDEP upland waterfront development and waterfront development, NJDEP tidelands conveyance, and US Army Corps of Engineers Section 10 – installation of outfall structure).
- **New Gregory Elementary School (NJSCC Funded)**
  City of Long Branch, Monmouth County, NJ
  Provided site design, civil, and environmental engineering services for a proposed three-story, 45,000 SF elementary school to accommodate children from pre-kindergarten through 5th grade located on a six-acre tract of land. Environmental services included wetlands evaluation, preliminary assessment (PA), site investigation (SI), and environmental impact statement (EIS)/ EO 215), and environmental regulatory permitting (NJDEP statewide general, and NJDEP treatment and water works). The preliminary assessment (PA) report indicated four areas of Concern (AOC). Three UST's, waste piles (plastic bottles, plastic bags, aluminum cans, etc.), one pole mounted electrical transformer and capacitor, and a former railroad easement adjacent to property with inactive rail lines with possible polynuclear aromatic hydrocarbons (PAHs). A site investigation (SI) will be performed to evaluate the presence or absence of soil and groundwater impact associated with UST's and the former railroad easement. A report will be prepared containing all lab results and recommendations for further investigation and/or remedial action as well as projected cost estimates for remedial investigation and cleanup.
- **Diversified Developers, LLC – Retail Store and Day Care Facility**
  Jackson Township, Ocean County, NJ
  Provided environmental services to conduct a Phase I environmental assessment associated with the site design and civil engineering services associated with the development of a 35,000 SF retail facility including a day care facility along with typical appurtenant site improvements on approximately 3.8-acres of land. Services included historical review to evaluate past conditions of sites as they relate to existing and proposed uses, industrial/commercial historical review, site visit to identify all obvious visual signs of contamination and the use of hazardous materials, review existing local, State, and federal records, review of adjacent lands, prepared site location map depicting the approximate parcel boundaries, and an area of at least one-mile radius around the site.

- **Thomas Associates – Site Assessment Proposed School Site**
  City of Bordentown, Burlington County, NJ
  Provided environmental services for a Phase I Environmental Assessment for a 75-acre parcel of land previously historically farmed for a proposed new school facility. Services included preliminary assessment, SI & RI historical review, industrial and commercial historical review, review of existing local, state and federal records, review of adjacent lands, preparation site location map, preliminary soil screening, delineation of wetlands and LOI and regulatory permitting (stream encroachment, land use regulations freshwater wetlands and soil erosion and sediment control), Colonial Pipeline Crossing/Encroachment and Environmental Impact Statement (EIS).

Continuing Education

Methodology for Delineating Wetlands, Cook College

Vegetation Identification for Wetland Delineation, Cook College

Hydrology of Wetlands, Cook College

Endangered & Threatened Species of New Jersey, Cook College

Lake Management, Cook College

Soils and Site Evaluation for Septic Disposal Systems & Stormwater BMP's , Cook College

Site Remediation Basics, Cook College

Remedial Decision Making, Cook College

Ecological Risk Management, Cook College

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Appendix C

Site Photographs

Site Photographs

Wheeler Spray Park (Block 463, Lot 13)
City of Linden, Union County, New Jersey

CED Project No. 24012642A

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Appendix D

Natural Heritage Database

State of New Jersey
Department of Environmental Protection
Natural Heritage Data Request Form

The New Jersey Natural Heritage Program - Office of Natural Lands Management
Mail Code 501-04, P.O. Box 420, Trenton, New Jersey 08625-0420
Phone: (609) 984-1339; Fax: (609) 984-1427

Please print clearly. All sections are required.

1. Name: Courtney Rybak Agency/Company: Colliers Engineering & Design
   Billing Address: 101 Crawfords Corner Road, Suite 3400 City, State, Zip: Holmdel, New Jersey 07733
   Phone: (732) 704-5180 E-mail: courtney.rybak@colliersengineering.com cc: daniel.geran@colliersengineering.com on results/invoices
2. Project Name &/or Project Address: Wheeler Park
   Municipality(ies): Linden City County(ies): Union County
   Block(s): 463 Lot(s): 13
   Coordinates (NAD 1983 State Plane feet [6 digits] or Lat/Long):
   E(x) / Longitude: 562,350 N(y) / Latitude: 652,869
3. Project Description: The proposed project involves improvements to the existing Spray Park at Wheeler Park. This involves replacing the surfacing, upgrading the existing fencing, creating a sun shelter, and a concession area, amongst other potential improvements.
4. Mapping Information: Please provide a map showing the project boundary (e.g., USGS quad, aerial imagery, street map, tax or parcel map with block and lot, etc.). Responses will be delayed if site locations are not clearly delineated. Alternatively, you may submit electronic GIS data (e.g., shapefile, geodatabase, *.kml/kmz, etc.) by attaching it to your email submittal.
   Site Location Map Included: Yes ☑ No ☐
   Electronic GIS Data Files Included: Yes ☐ No ☑
   USGS quad name (if known): Elizabeth, NJ-NY and Arthur Kill, NY-NJ
5. Riparian Zone or FHACA: Is this request submitted as part of a Riparian Zone width determination (e.g., Flood Hazard Area Control Act application N.J.A.C. 7:13)? Yes ☑ No ☐
6. Acknowledgement & Signature: Any material supplied by the Office of Natural Lands Management will not be published without crediting the Natural Heritage Database as the source of the material. It is understood that there will be a charge of $70.00 per hour for the services requested. An invoice will be sent with the request response. **Please pay by check or money order (credit card not accepted) payable to: "DEP – Office of Natural Lands Management" (please do not reference "NJ State Treasury").**
   Signed: Courtney Rybak Date: 12-17-2024

Time Frame for Response:
Data requests are processed in the order in which they are received; PLEASE ALLOW AT LEAST 30 DAYS FOR A RESPONSE.
All responses will be emailed to the address provided above unless other arrangements are specifically requested.

Please Submit Completed Forms And Attachments To The Following Email Address: NATLANDS@DEP.NJ.GOV. You may also fax your data request to: (609) 984-1427. If you would like to send in your data request via regular mail, please use the following address:

NJDEP Office of Natural Lands Management
Mail Code 501-04, PO Box 420
Trenton, NJ 08625-0420

FOR OFFICE USE ONLY

Item Code: REG____ ST ____ NC ____ Hrs: _____
Project Code: 2 - _____ Inv.#: _____

Revised February 2022

Colliers Engineering & Design

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Infrastructure • Geotechnical/Environmental • Telecommunications • Utilities/Energy