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Watershed Inventory Report

*Phase 1 of the Watershed Improvement Plan –
INITIAL DRAFT= Pre January 1, 2026 filing
deadline*

LAKEWOOD TOWNSHIP OCEAN COUNTY

Date Approved: *Pending (Dec 2025)*

Permit Number: NJG0148067

Stormwater Program Coordinator: Terence Vogt, PE

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DISCLAIMER - STORMWATER MAPPING IS BEING COMPLETED FOR LAKEWOOD TOWNSHIP PRIOR TO THE JANUARY 1 2026 FILING DEADLINE. MAPPING WILL BE FILED WITH NJDEP AND MADE AVAILABLE THROUGH LAKEWOOD TOWNSHIP'S STORMWATER WEBLINK (BELOW).

[HTTPS://WWW.LAKEWOODNJ.GOV/DEPARTMENTS/STORMWATER](https://www.lakewoodnj.gov/departments/stormwater)

THE FINAL PHASE 1 WIP REPORT WILL BE REVISED TO INCLUDE DATA FROM THIS MAPPING WORK AFTER IT IS COMPLETED (BY OR BEFORE SPRING, 2026)

Acronyms & Definitions

1. Acronyms

- i. "BMP" – Best Management Practice
- ii. "DO" – Dissolved Oxygen
- iii. "EPA" – U.S. Environmental Protection Agency
- iv. "GIS" – Geographic Information System
- v. "HUC 14" – Hydrologic Unit Code 14
- vi. "MS4" – Municipal Separate Storm Sewer System
- vii. "MTD" – Manufactured Treatment Device
- viii. "NJPDES" – New Jersey Pollutant Discharge Elimination System
- ix. "NJ-WET" – New Jersey Watershed Evaluation Tool
- x. "TDS" – Total Dissolved Solids
- xi. "TMDL" – Total Maximum Daily Load
- xii. "TSS" – Total Suspended Solids
- xiii. "WIP" – Watershed Improvement Plan

2. Definitions

- i. "HUC 14" or "hydrologic unit code 14" means an area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a 14-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey. (N.J.A.C. 7:9B)
- ii. "Municipal separate storm sewer" (or MS4 conveyance) means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) as defined in more detail at N.J.A.C. 7:14A-1.2.
- iii. "Outfall" means any point source which discharges directly to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.
- iv. "Storm drain inlet" means the point of entry into the storm sewer system.
- v. "Stormwater" means water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities or is conveyed by snow removal equipment.
- vi. "Stormwater facility" means stormwater infrastructure including, but not limited to, catch basins, infiltration basins, detention basins, green infrastructure (GI), filter strips, riparian buffers, infiltration trenches, sand filters, constructed wetlands, wet basins, bioretention systems, low flow bypasses, Manufactured Treatment Devices (MTDs), and stormwater conveyances.
- vii. "Stormwater management basin" means a stormwater management basin as defined in N.J.A.C. 7:8.
- viii. "Stormwater management measure" means a stormwater management measure as defined in N.J.A.C. 7:8.
- ix. "Stormwater runoff" means water flow on the surface of the ground or in storm sewers,

resulting from precipitation.

- x. "Total maximum daily load" or "TMDL" means a total maximum daily load formally established pursuant to Section 7 of the Water Quality Planning Act (N.J.S.A. 58:11A-7) and Section 303(d) of the Clean Water Act, 33 U.S.C. §§12512 et seq. A TMDL is the sum of individual wasteload allocations for point sources, load allocations for nonpoint sources of pollution, other sources such as tributaries or adjacent segments, and allocations to a reserve or margin of safety for an individual pollutant.
- xi. "Waters of the State" means the ocean and its estuaries, all springs, streams and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction" (see N.J.A.C. 7:9B-1.4)

Acknowledgements

Lakewood Township's Phase 1 Watershed Inventory Plan (WIP) report was prepared by Remington & Vernick, Engineers. Funding for preparation of the plan was provided by Lakewood Township.

This WIP Inventory Report was prepared using NJDEP-GIS stormwater infrastructure mapping data obtained by RVE; which was funded in-part by a \$25,000 NJDEP stormwater mapping grant provided to Lakewood Township.

Regional Collaboration

Lakewood Township has not collaborated regionally in the preparation of this Phase 1 Inventory Report. At Lakewood's discretion it may choose to collaborate for preparation of Phase 2 and Phase 3 reports due January 1, 2027 and December 31, 2027, respectively.

Introduction

The purpose of this watershed inventory report is to provide a comprehensive understanding of key, defining features within the watersheds throughout Lakewood Township. This involves gathering, organizing, and presenting information about existing conditions and infrastructure within each watershed. It aims to serve as a tool for informed decision-making, planning, and implementation of sustainable watershed management strategies aimed to protect and enhance the health of the watershed, its associated ecosystems, and the surrounding communities.

Located in Ocean County in central New Jersey, Lakewood Township covers over 25 square miles and is located south of Howell Township, east of Jackson Township and west of Brick Township. Its municipal address is 231 Third Street, Lakewood, NJ 08701.

According to *2020 Census data*, Lakewood, NJ had a population of approximately 135,389 to 139,851, with a racial breakdown of about 82% White, 1.7% Black, 0.7% Asian, and 11.4–11.7% Hispanic. The median age was 18, and about 30,548 households had an average of 4.5 people per household. Median household income was reported as \$69,521. An estimated 20.2% of people were reported below the poverty line. The estimated reported median value of owner-occupied units was \$444,600.

From the 2017 Lakewood, NJ Master Plan Re-examination (by T&M Associates)

There is a total of 25,915 parcels within the township. Of these parcels, a total of 20,908, or 80.7 percent, are Class 2 (Residential) parcels. Other land use classes within the township include: Class 1 (Vacant); Class 3A (Farmland [Regular]); Class 3B (Farmland [Qualified]); Class 4A (Commercial); Class 4B (Industrial); Class 4C (Apartments); Class 5A (Railroad [Class 1]); Class 15A (Public School); Class 15B (Other School); Class 15C (Public Property); Class 15D (Charitable); and, Class 15E (Cemetery).

Class 2 (Residential) properties represent 34.4 percent of the total area of real property in the township; this makes Class 2 (Residential) properties the largest land use, by acreage, in the township. Class 15C (Public Property) represent the second-largest land use of real property in the township, with approximately 21.5 percent of real property being comprised of Class 15C (Public Property), including the township's many parks, recreation and open space areas.

Lakewood Township contains portions of nine (9) HUC-14 watersheds, listed below:

- Toms River (Rt 70 to Hope Chapel Road)
- Toms River (Oak Ridge Parkway to Rt 70)
- Muddy Ford Brook
- Metedeconk R SB (Rt 9 to Bennetts Pond)
- Metedeconk R SB (confluence to Rt 9)
- Metedeconk R NB(Rt 9 to I-195)
- Metedeconk R NB (confluence to Rt 9)
- Metedeconk R (Beaverdam Ck to confl)
- Kettle Creek (below Lake Riviera outlet)
- Kettle Creek (above Lake Riviera outlet)

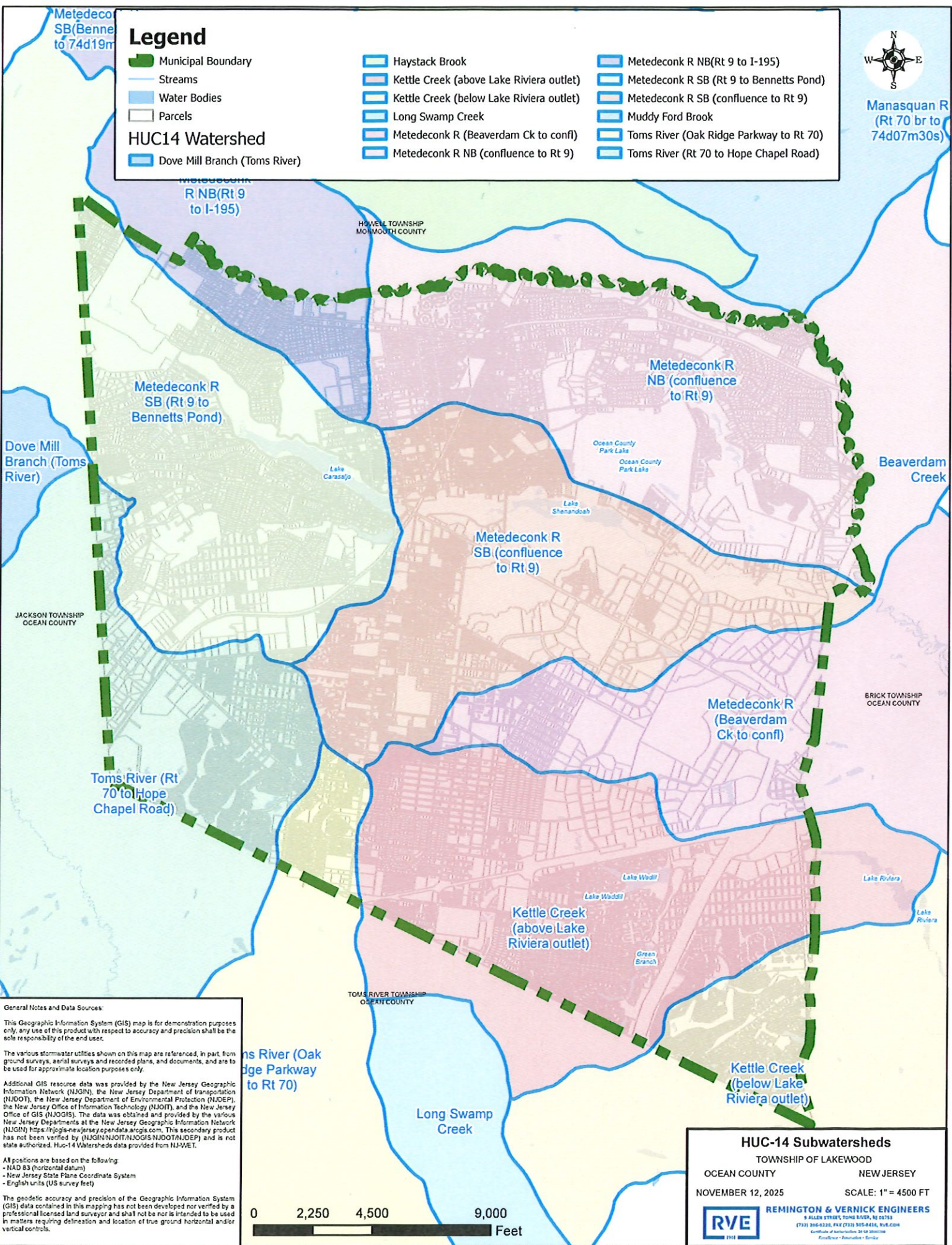
A 10th subwatershed, Muddy Ford Brook, exists north of the Township (in Monmouth County).

Water bodies within Lakewood Township include the following:

- Lake Carasaljo: A large lake located in the center of town, with a 4.5-mile perimeter and adjacent parkland for activities like fishing and swimming.
- Lake Shenandoah: A 48-acre lake in a county park, south of NJ Route 88.
- Lake Manetta: Located south of Lake Shenandoah, west of Route 9.
- Lake Wadill: Located south of Route 70, adjoining the Leisure Village Development.
- Ocean County Park Lake: A swimming lake located within the 565-acre Ocean County Park (north of NJ Route 88).

Additionally, the North Branch of the Metedeconk River flows through the northern portion of the Township.

Lakewood Township is located primarily within two Watershed Management Areas (WMAs) in New Jersey: the Barnegat Bay watershed (WMA 13) and the Metedeconk River watershed. The Barnegat Bay watershed covers all of Ocean County, where Lakewood is located, and parts of Monmouth County. The Barnegat Bay watershed is in the Atlantic Coastal region and is fed by a number of smaller watersheds, including the Metedeconk River.



Legend

Municipal Boundary

Streams

Water Bodies

Parcels

HUC14 Watershed

Dove Mill Branch (Toms River)

Haystack Brook

Kettle Creek (above Lake Riviera outlet)

Kettle Creek (below Lake Riviera outlet)

Long Swamp Creek

Metedeconk R (Beaverdam Ck to confl)

Metedeconk R NB (confluence to Rt 9)

Metedeconk R NB (Rt 9 to I-195)

Metedeconk R SB (Rt 9 to Bennetts Pond)

Metedeconk R SB (confluence to Rt 9)

Muddy Ford Brook

Toms River (Oak Ridge Parkway to Rt 70)

Toms River (Rt 70 to Hope Chapel Road)



Manasquan R
(Rt 70 br to
74d07m30s)

General Notes and Data Sources:

This Geographic Information System (GIS) map is for demonstration purposes only. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the end user.

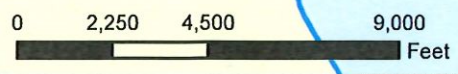
The various stormwater utilities shown on this map are referenced, in part, from ground surveys, aerial surveys and recorded plans, and documents, and are to be used for approximate location purposes only.

Additional GIS resource data was provided by the New Jersey Geographic Information Network (NJGIN), the New Jersey Department of Transportation (NJDOT), the New Jersey Department of Environmental Protection (NJDEP), the New Jersey Office of Information Technology (NJGIT), and the New Jersey Office of GIS (NJOGIS). The data was obtained and provided by the various New Jersey Departments at the New Jersey Geographic Information Network (NJGIN) <https://njgin-newjersey.opendata.arcgis.com>. This secondary product has not been verified by (NJGIN/NJDOT/NJDEP/NJGIT) and is not state authorized. HUC-14 Watersheds data provided from NJWET.

All positions are based on the following:

- NAD 83 (horizontal datum)
- New Jersey State Plane Coordinate System
- English units (US survey feet)

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HUC-14 Subwatersheds

TOWNSHIP OF LAKEWOOD
OCEAN COUNTY NEW JERSEY

NOVEMBER 12, 2025 SCALE: 1" = 4500 FT

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Certificate of Authorization: 34 04 00001006
Professional Seal: 3400001006

Area(s) Prone to Flooding

Areas in Lakewood, NJ, with a history of flooding include **South Lakewood**, near the Brick Township line along **Lanes Mill Road**, and areas with smaller tributaries attached to the [Metedeconk River](#).

Additionally, the entire city has a moderate to high overall risk of flooding, and specific streets may be prone to flooding during heavy rains, sometimes due to stormwater runoff.

Specific areas include:

- **South Lakewood:** This neighborhood has a high flood risk, with properties concentrated in the area.
- **Lanes Mill Road:** This road has experienced several feet of flooding in the past, especially near the Brick Township border.
- **Metedeconk River tributaries:** Smaller waterways connected to the river can flood when the river is high, preventing adequate drainage.

First Street reported that less than 14% of Lakewood properties have risk for flooding from 100-year storm events, compared to a reported State average of 23.9%.

Public Participation (Lakewood Township Phase 1 WIP Inventory Report)

- **List of stakeholders**

The Phase 1 Watershed Inventory Report (WIP) was prepared for Lakewood Township by Remington & Vernick, Engineers (RVE).

Stakeholders for this plan include Lakewood Township, Lakewood Township Committee, Lakewood Township Planning Board, Lakewood Township Zoning Board and the Lakewood Township Department of Public Works (DPW).

- **List of Previously Held Meetings (Lakewood December 4, 2025 Committee meeting)**

Lakewood Township is soliciting input from stakeholders, including residents, business owners, owners of private stormwater facilities (as per b.xiii below), and other municipalities and/or dischargers to the subwatershed(s) to be involved in the Plan development process

Lakewood Township shall conduct semi-annual public information sessions (in-person or virtual) beginning on or before January 1 2026, throughout the development of the Plan. These sessions could be included on the agenda for Township Committee (or equivalent) meetings.

- **Summary of Feedback**

- *Summarize any feedback received from informational or stakeholder sessions. Include notes and meeting minutes from any public meetings for the WIP*

- **Future Scheduled Meetings**

A second (and final) semi-annual public information session shall be held by or before June, 2026. The final draft of the Phase 1 Watershed Inventory Report will be available on Lakewood Township's Stormwater Webpage at the link below:

<https://www.lakewoodnj.gov/departments/stormwater>

The second meeting date and time will be advertised on Lakewood's municipal website:

<https://www.lakewoodnj.gov/>

Stormwater Outfall(s)

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Receiving Surface Water Bodies & Water Quality Classifications

As illustrated in the enclosed "Surface Water Quality Classifications" Map, surface water bodies within the northern portion of the Township, including the North Branch of the Metedeconk River (along the northerly Township Border) are classified as *Freshwater 2 Trout Maintenance, Category One (FW2-TMCI)* designation. This acronym stands for:

- **FW2:** General freshwater classification for waters not designated as FW1 or Pinelands Waters.
- **TM:** Trout Maintenance. The water is designated for the support of trout throughout the year.
- **C1:** Category One. This is a high-level antidegradation designation that protects the water's quality from any measurable changes. This classification often includes waters with high ecological significance.

Surface water bodies within the central portion of the Township, including the South Branch of the Metedeconk River and tributaries are classified as *Freshwater 2 Non-Trout, Category One (FW2-NTCI)* designation. This acronym stands for:

- **FW2:** Freshwater 2 (a general classification for freshwaters not designated as FW1 or Pinelands waters).
- **NT:** Non-Trout (waters that are not capable of sustaining a natural or stocked trout population).
- **C1:** Category One. This is a high-level antidegradation designation that protects the water's quality from any measurable changes. This classification often includes waters with high ecological significance.

Surface water bodies in the south of the Township (including but not limited to Kettle Creek, Lake Waddle, and Green Branch) are classified as *Freshwater Non-Trout, Saline Estuary (FW2-NT/SE1)*. This acronym stands for:

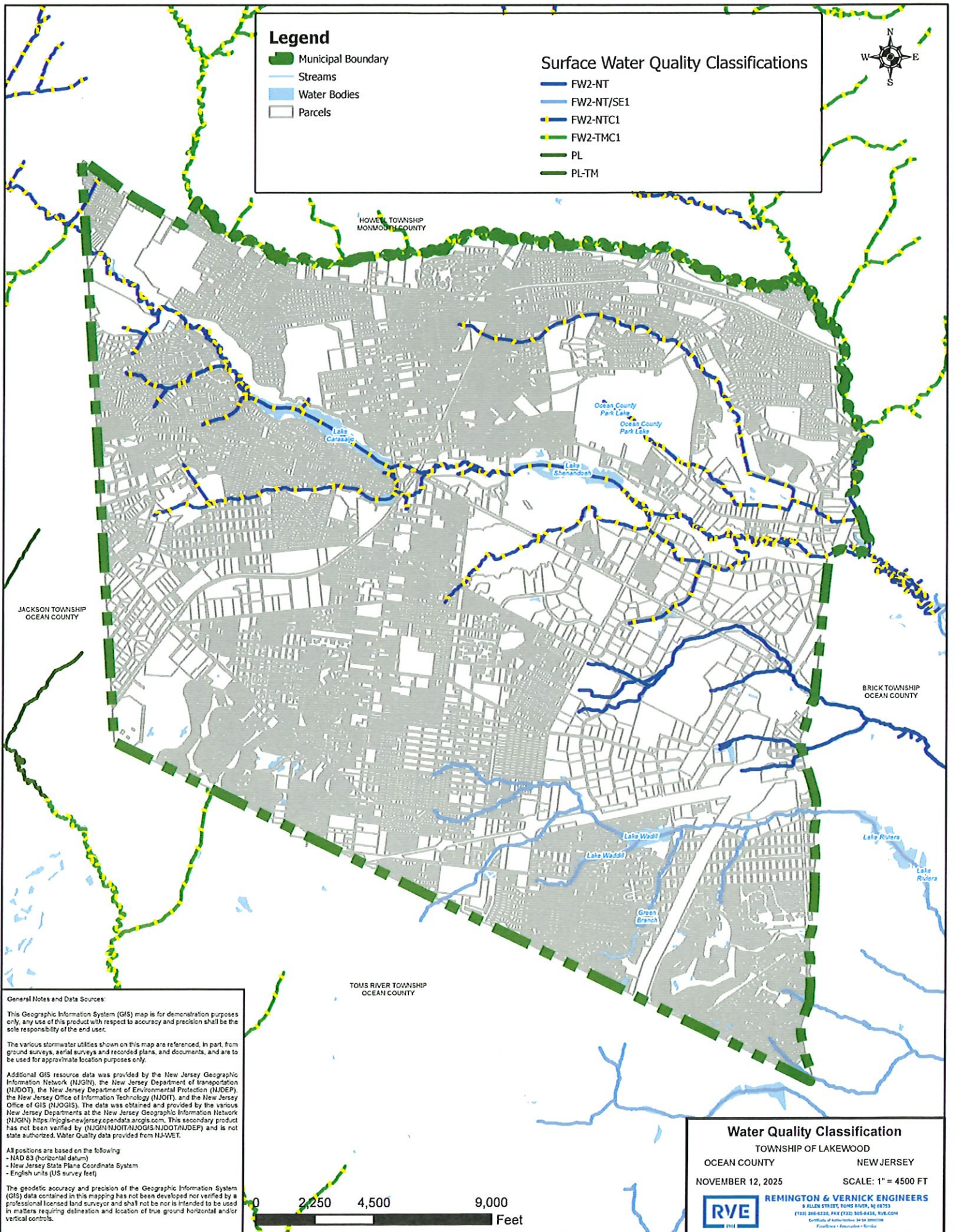
- **FW2:** Freshwater 2 (a general classification for freshwaters not designated as FW1 or Pinelands waters).
- **NT:** Non-Trout (waters that are not capable of sustaining a natural or stocked trout population).
- **SE1:** This sub-classification applies to the saline (saltwater) portion of the water body and designates it as "saline estuarine 1." This is the highest quality classification for saline waters, indicating it supports uses like swimming and shellfish harvesting.

Legend

- Municipal Boundary
- Streams
- Water Bodies
- Parcels

Surface Water Quality Classifications

- FW2-NT
- FW2-NT/SE1
- FW2-NTC1
- FW2-TMC1
- PL
- PL-TM



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0 2,250 4,500 9,000 Feet

Water Quality Classification

TOWNSHIP OF LAKEWOOD

OCEAN COUNTY NEW JERSEY

NOVEMBER 12, 2025

SCALE: 1" = 4500 FT



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 Certificate of Authorization: 24 SA 0000108
 Professional - Remington Vernick

Stormwater Interconnection(s)

Interconnections between MS4s should have been acquired as part of the MS4 Infrastructure Map requirements, this section will go beyond those requirements to include any entities that interconnect with the permittee' MS4 system, including private systems. This section should detail the following information for all interconnections into and from the permittee's MS4:

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[HTTPS://WWW.LAKEWOODNJ.GOV/DEPARTMENT/STORMWATER](https://www.lakewoodnj.gov/department/stormwater)

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Drainage Area(s) for Stormwater Outfalls and Stormwater Interconnections

This section should detail the following information for outfalls owned/operated by the permittee and interconnection(s) from the permittee's MS4 into another entity's system:

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Storm Drain Inlets

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TMDLs and Water Quality Impairments

In accordance with Section 305(b) and 303(d) of the Federal Clean Water Act, New Jersey is required to assess the overall water quality of the state's waters and identify those waterbodies with a water quality impairment for which total maximum daily loads (TMDLs) may be necessary. NJDEP fulfills its assessment obligation under the Clean Water Act through the Integrated Water Quality Monitoring and Assessment Report (i.e., Integrated Report), which includes the Integrated List of Waterbodies, issued biennially. A TMDL represents the assimilative or carrying capacity of a waterbody, taking into consideration point and nonpoint sources of pollutants of concern, the natural background, and surface water withdrawals. A TMDL can be thought of as a "budget" for the total amount of a pollutant that can enter a waterbody while still maintaining surface water quality standards. TMDLs have been developed for various pollutants in various waterbodies throughout the state. Tier A MS4 discharges are considered point sources under the Clean Water Act;

Lakewood Township's surface water quality is impaired by pollutants from urban stormwater runoff, including nutrients, sediment, oils, and trash, which are carried from impervious surfaces like roads and parking lots. The Metedeconk River also has documented impairments for dissolved oxygen and temperature, as noted in the *Metedeconk River Watershed Protection and Restoration Plan*.

Legend

- Municipal Boundary
- Streams
- Water Bodies
- Parcels

TMDL (Lakesheds)

- Fecal Coliform
- Total Phosphorus

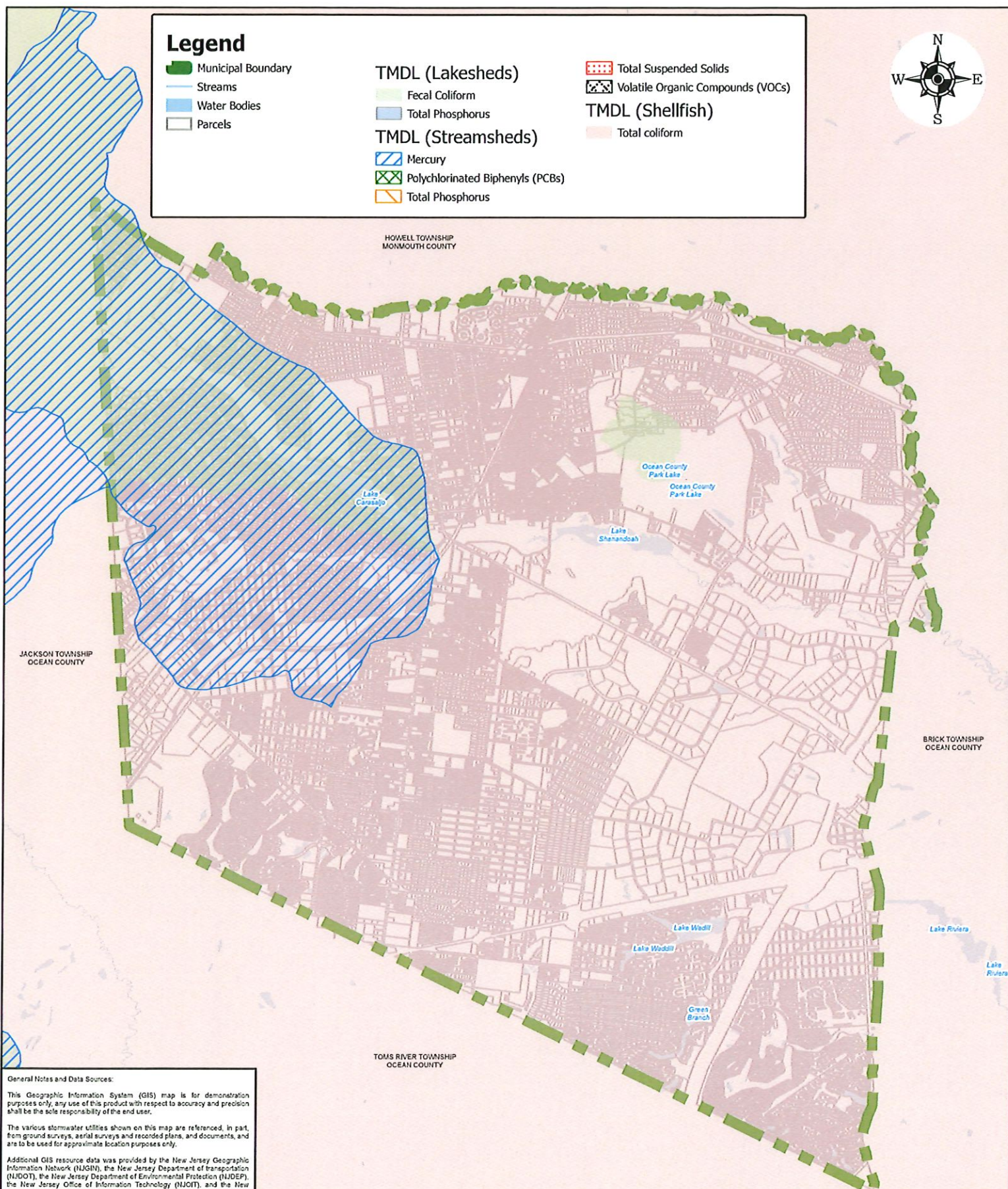
TMDL (Streamsheds)

- Mercury
- Polychlorinated Biphenyls (PCBs)
- Total Phosphorus

- Total Suspended Solids
- Volatile Organic Compounds (VOCs)

TMDL (Shellfish)

- Total coliform



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0 2,250 4,500 9,000 Feet

Total Maximum Daily Loads (TMDL)

TOWNSHIP OF LAKEWOOD
 OCEAN COUNTY NEW JERSEY

NOVEMBER 12, 2025

SCALE: 1" = 4500 FT



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 Certificate of Authorization: 34 00000008
 Engineering & Inspection Member

Table(s) #: TMDLs and Impairments for Subwatersheds within or bordering (Lakewood Township)

HUC 14	Subwatershed Name	TMDL(s)	Impairment(s)
02040301020010	Metedeconk River North Branch including Haystack Brook, Muddy Ford Brook, Titmouse Creek, Snipe Creek	<u>Stream sheds</u> Fecal Coliform (2003)	Dissolved Oxygen, Turbidity
02040301020020	Metedeconk River South Branch	<u>Stream sheds</u> Fecal Coliform (2003)	Dissolved Oxygen, Turbidity
02040301060050	Toms River/Dove Mill Branch	<u>Stream sheds</u> Fecal Coliform (2003)	PH
02040301020040	Metedeconk R SB (Rt 9 to Bennetts Pond)	<u>Stream sheds</u> Mercury (2010)	Total Phosphorous
02040301020020	Lake Carasaljo	<u>Lakebeds</u> Fecal Coliforms (2007)	Dissolved Oxygen, Turbidity
02040301020010	Ocean County Park Lake	<u>Lakebeds</u> Fecal Coliforms (2007)	Dissolved Oxygen, Turbidity
02040301020050	Barnegat Bay-D, Metedeconk-A	<u>Shellfish</u> Total Coliforms (2006)	Dissolved Oxygen, Turbidity
02040301020050	Barnegat Bay-E	<u>Shellfish</u> Total Coliforms (2006)	Dissolved Oxygen, Turbidity
02040301020050	Barnegat Bay-L, Toms River-A	<u>Shellfish</u> Total Coliforms (2006)	Dissolved Oxygen, Turbidity

Dissolved oxygen (DO) refers to the concentration of oxygen gas incorporated into the water. Oxygen enters the water by direct absorption from the atmosphere and is enhanced by turbulence. Running water, such as that of a swift moving stream, normally contains more dissolved oxygen than the still water of a pond or lake. Water also absorbs oxygen released by aquatic plants during photosynthesis. Sufficient DO is essential to growth and reproduction of aerobic aquatic life (e.g., see Murphy 2006, Giller and Malmqvist 1998, Allan 1995; <https://www.epa.gov/caddis-vol2/dissolved-oxygen>). Low levels of oxygen (hypoxia) or no oxygen levels (anoxia) can occur when excess organic materials are decomposed by microorganisms. During this decomposition process, the DO in the water is consumed. In some water bodies, DO levels fluctuate periodically, seasonally, and even as part of the natural daily ecology of the aquatic resource. As DO levels drop, some sensitive animals may move away, decline in health, or even die.

DO is considered an important measure of water quality as it is a direct indicator of an aquatic resource's ability to support aquatic life. While each organism has its own DO tolerance range, generally, DO levels below 3 milligrams per liter (mg/L) are of concern and waters with levels below 1 mg/L are considered hypoxic and are usually devoid of life. Stormwater runoff containing nutrients such as nitrate, phosphorus, and organic TSS matter and animal and pet waste cause the levels of dissolved oxygen to decrease in the receiving waters. An increase in these materials transported via stormwater runoff will have a greater impact on receiving waters.

Pathogens, including fecal coliform, and total coliform, enter the receiving waters when stormwater comes into contact with sources of these pathogens, such as pet waste, animal waste from geese and other wildlife, some farming activities, illicit discharges, failing sewage conveyance systems and septic systems, combined sewage overflows, and sanitary sewer overflows (SSOs).

While sewage treatment plants contribute a steady input of treated sewage to their receiving waters, stormwater runoff is the primary contributor to pathogen loads in the surface waters of the state. Many of these pathogens affect the designated uses of the receiving waters and are harmful to human or animal health when ingested causing intestinal disease. Pathogens can attack the immune system and cause infections that may result in abdominal issues, respiratory problems, fever, headache, skin rashes, etc. (Water Quality Topics: Pathogens | US EPA).

When receiving surface waters include shellfish harvesting as a designated use, pathogens also pose additional concerns. Proximity to potential sources such as marinas, development served by septic systems and concentrated stormwater outfall locations warrant precautionary closures of shellfish waters on a seasonal or full-time basis. The National Shellfish Sanitation Program has established criteria for pathogens that are used to determine support of the shell fishing use.

pH (scientifically referred to as the Potential of Hydrogen) measures the concentration of hydrogen ions in a solution and is the indicator of the acidity or alkalinity of a substance, representing its ability to donate or accept hydrogen ions. pH values can range from 0 to 14, with 0 representing the most acidic and 14 representing the most basic. Fluctuations in pH and pH levels outside of the typical levels for a waterbody can negatively impact aquatic life, including reduced biodiversity if those values exceed critical thresholds. These impacts happen when the receiving waters experience even slight changes in pH levels that negatively impact reproduction, growth, and the ability to sustain life for species that live within them.

Pure water has a neutral pH equal to 7 but when chemicals or pollutants are mixed with stormwater runoff, the mixture can become either acidic or basic. Such is the case when stormwater comes into contact with ammonia, sulfur, battery acids, lime, cement, wet or fresh concrete, fertilizers, compost, and other pollutants. This mixing can happen on the ground with runoff or can happen in the atmosphere with air pollutants causing “acid rain.” When acid rain or pH impacted storm water runoff collect in streams and ponds, the pH of that water body is changed.

Phosphorus is a key nutrient for plant growth and is often the limiting nutrient in a freshwater setting. **Total phosphorous** is the sum of particulate and dissolved phosphorous which includes the total amount of phosphorous in both organic and inorganic forms. High concentrations of phosphorus in receiving waters may result from stormwater runoff due to poor agricultural practices, urban areas, leaking septic systems, illicit discharges or SSOs. Additional stormwater runoff sources of phosphorous include the breakdown of plant and leaf litter (including grass clippings), soil particles, pet and animal waste, fertilizer from lawns, and atmospheric deposition of phosphorus particles. Contribution from runoff from lawns and roads accounts for the greatest loading in many receiving waters. An excess of phosphorus into a water body can have a detrimental effect on designated uses related to both public health and aquatic health. For instance, too much phosphorus in a surface water can cause increased growth of algae and large aquatic plants causing significant swings in pH and dissolved oxygen, which can in turn result in the violation of surface water quality criteria for these parameters and adversely affect the aquatic community.

Turbidity refers to water's transparency and the amount of TSS that the water contains and is measured by how well light can pass through water. Turbid waters containing a larger amount of TSS have a low transparency and visibility, which can allow the waterbody to absorb more heat from the sunlight, thus increasing the temperature and decreasing the dissolved oxygen. High turbidity can negatively impact a waterbody's designated uses by reducing the ability of the waterbody to support aquatic life due to these effects, reducing the aesthetic quality of the receiving water, having a harmful impact on recreation and tourism, and increasing the cost of water treatment for drinking and industrial uses such as food processing. Municipal stormwater runoff can create turbid conditions in water when it picks up particulate debris from hard surfaces and transports it to water bodies. Turbidity in stormwater runoff is usually made up of rock and soil fragments, dirt and debris from roads and vehicles, and other materials as noted under TSS.

Overburdened Communities

Overburdened communities with limited financial resources have less capacity to invest in adequate stormwater management systems, increasing the vulnerability of the community to flooding. Flooding in overburdened communities can also lead to public health issues since these communities are already more susceptible to health disparities. This dataset was extracted from NJDEP's GIS Open Data source in October, 2025. The following table is a summary of low-income populations by watershed (obtained using NJ WET tool).

<u>HUC-14</u>	<u>Watershed</u>	<u>Watershed Pop. Poverty</u>	<u>% of Low Income</u>
02040301020050	Metedeconk River, NB (Confluence to Route 9)	3707	43.2%
02040301030040	Metedeconk River, SB (Route 9 to Bennett's Pond)	2380	59.8%
02040301020020	Metedeconk River, NB (Route 9 to I-195)	1352	41.3%
02040301040020	Metedeconk R (Beaverdam Creek to Confluence)	8688	51.8%
02040301050010	Kettle Creek (above Lake Riviera outlet)	636	38.5%
02040301060070	Toms River (Rt 70 to Hope Chapel Road)	1784	45.3%
02040301030050	Metedeconk R SB (confluence to Rt 9)	7647	45.1%
02040301050020	Kettle Creek (below Lake Riviera outlet)	641	39.2%
02040301080080	Toms River (Oak Ridge Parkway to Rt 70)	1230	78.6%

See Lakewood Overburden Communities Map (attached)

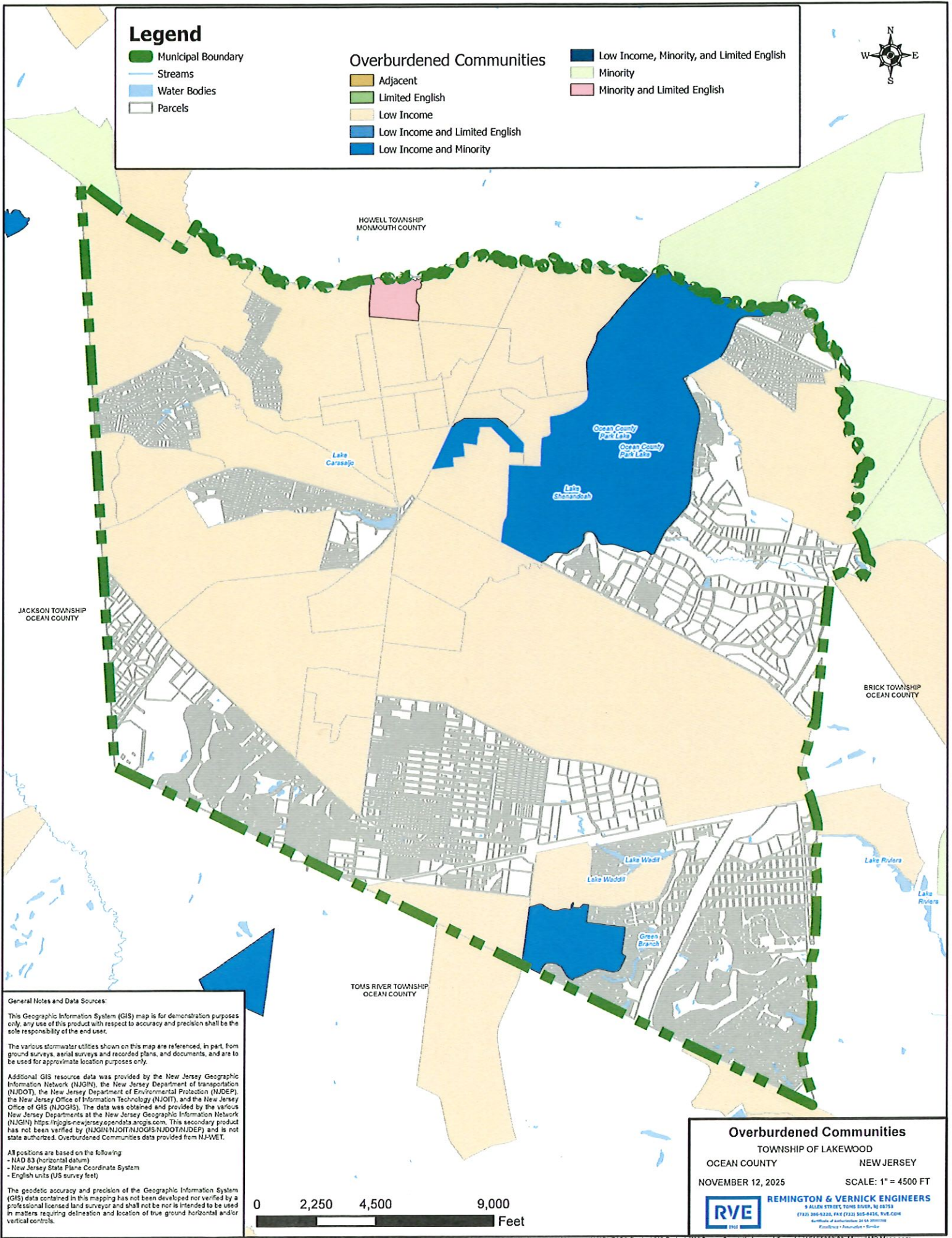
Legend

- Municipal Boundary
- Streams
- Water Bodies
- Parcels

Overburdened Communities

- Adjacent
- Limited English
- Low Income
- Low Income and Limited English
- Low Income and Minority

- Low Income, Minority, and Limited English
- Minority
- Minority and Limited English



General Notes and Data Sources:

This Geographic Information System (GIS) map is for demonstration purposes only. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the end user.

The various stormwater utilities shown on this map are referenced, in part, from ground surveys, aerial surveys and recorded plans, and documents, and are to be used for approximate location purposes only.

Additional GIS resource data was provided by the New Jersey Geographic Information Network (NJGIN), the New Jersey Department of Transportation (NJDOT), the New Jersey Department of Environmental Protection (NJDEP), the New Jersey Office of Information Technology (NJGIT), and the New Jersey Office of GIS (NJOGIS). The data was obtained and provided by the various New Jersey Departments at the New Jersey Geographic Information Network (NJGIN) <https://njgis-newjersey.opendata.arcgis.com>. This secondary product has not been verified by (NJGIN/NJGIT/NJOGIS/NJDOT/NJDEP) and is not state authorized. Overburdened Communities data provided from NJ-WET.

All positions are based on the following:
 - NAD 83 (horizontal datum)
 - New Jersey State Plane Coordinate System
 - English units (US survey feet)

The geodetic accuracy and precision of the Geographic Information System (GIS) data contained in this mapping has not been developed nor verified by a professional licensed land surveyor and shall not be nor is intended to be used in matters requiring delineation and location of true ground horizontal and/or vertical controls.

0 2,250 4,500 9,000 Feet

Overburdened Communities

TOWNSHIP OF LAKEWOOD

OCEAN COUNTY NEW JERSEY

NOVEMBER 12, 2025

SCALE: 1" = 4500 FT

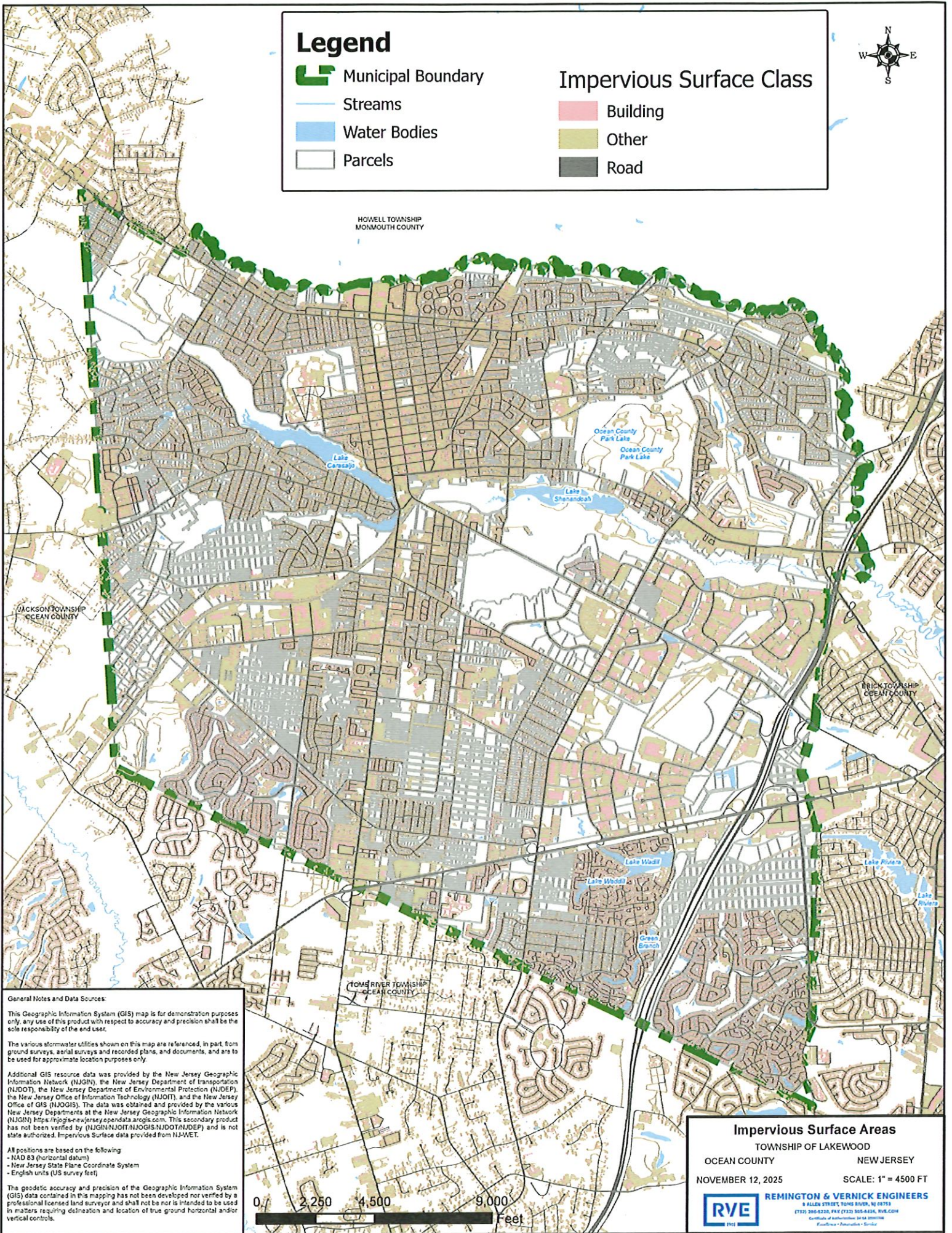


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Impervious Area (see *"Impervious Cover" Map enclosed*)

NJDEP's Open Data impervious surface GIS data layer depicts surfaces throughout Lakewood Township that have been covered with materials that are highly resistant to infiltration by water, rendering them impervious. These impervious cover values were used to estimate the impervious coverage for Lakewood Township. NJWET data was used in November, 2025 to obtain data for Lakewood Township.

Impervious cover can have considerable impacts on ecosystem and stream health. Due to an increase in stormwater runoff caused by impervious cover, the potential for pollutants to be carried to streams and rivers increases, which in turn can impact stream quality. *Additionally*, stormwater runoff discharging into streams increases the volume of water traveling within those streams. Increases in stream volume can lead to changes in stream conditions as it reaches equilibrium, such as increases in erosion, sediment load, and other stream attributes.



Non-Municipally Owned or Operated Stormwater Facilities

STORMWATER MAPPING IS BEING COMPLETED FOR LAKEWOOD TOWNSHIP PRIOR TO THE JANUARY 1 2026 FILING DEADLINE. MAPPING WILL BE FILED WITH NJDEP AND MADE AVAILABLE THROUGH LAKEWOOD TOWNSHIPS STORMWATER WEBLINK (BELOW).

[HTTPS://WWW.LAKEWOODNJ.GOV/DEPARTMENT/STORMWATER](https://www.lakewoodnj.gov/departments/stormwater)

THE FINAL PHASE 1 WIP REPORT WILL BE REVISED TO INCLUDE DATA FROM THIS WORK ONCE IT IS COMPLETED

Conclusion

This Watershed Inventory Report shall serve as a record of the known stormwater infrastructure, water quality data, and additional relevant information within Lakewood Township. All the datasets contained in this report have been compiled into a GIS digital map that can be utilized to look at the data in far more detail than the static maps included will provide. This report will be followed by a Watershed Assessment Report, which will provide an assessment of potential water quality improvement projects that can be done to address water quality issues that have been identified in this report.

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2017 Lakewood Township Master Plan, prepared by T&M Associates, adopted October 2017.

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Metedeconk River Watershed Protection Plan, Watershed Management Area 13, prepared by NJDEP Division of Water Monitoring and Standards, Bureau of Environmental Analysis, Restoration and Standards, dated February, 2021.

NJDEP *Pollutants of Concern* document, not dated.

First Street statistical summary of Lakewood, NJ property flooding, 2024.
https://firststreet.org/city/lakewood-nj/3438580_fsid/flood