Watershed Inventory Report

Pennsauken Township

Camden County, New Jersey

5605 N. Crescent Boulevard
Pennsauken, NJ 08110

Stormwater Program Coordinator: John Doyle

Permit Number: *NJG0148989*
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Key Terms and 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*

Catch Basin
A cistern, vault, chamber, or well that is typically built along a street and below a Storm Drain Inlet's grate as part of the storm sewer system that is designed to capture and retain sediment, debris, and pollutants so those particles do not pass on to the stormwater sewer system.

Drainage Area (Catchment)
The land area that drains to a particular storm drain inlet, outfall, or interconnection. Mapping drainage areas helps the Township understand where runoff and any pollutants are coming from.

Hydrologic Unit Code (HUC) system
The United States Geological Survey (USGS) created a standard system to describe watersheds based on their size and position. Each watershed, or "hydrologic unit," is identified by a Hydrologic Unit Code (HUC) that can range from 2 to 14 digits.

- HUC2 watersheds are the largest and divide the country into 21 major regions.
- HUC4, HUC8, and HUC11 watersheds are smaller parts of those regions.
- HUC14 watersheds ("subwatersheds") are very local, averaging about nine square miles.

Impervious Surface
Hard surfaces such as rooftops, sidewalks, driveways, roads, and parking lots that do not allow water to soak into the ground. More impervious surface means more and faster runoff, which can increase flooding and erosion.

Interconnection
A location where the Township's stormwater system connects with another stormwater system, such as Camden County, adjacent Municipalities or a private system. Interconnections help define who is responsible for maintenance and how water and pollutants move between jurisdictions.

MS4 (Municipal Separate Storm Sewer System)
The Township's stormwater drainage system, including streets, curbs, storm drain inlets, pipes, ditches, and outfalls that carry rain and snowmelt to local streams and lakes. It is separate from the sanitary sewer system, which carries wastewater from homes and businesses to a treatment plant.

Outfall
The point where stormwater from the Township's MS4 system is discharged into a surface waterbody, such as Cooper River, Pennsauken Creek Tributary, or Pennsauken Creek.

Overburdened Community
An area identified by the State where residents face higher environmental and public health burdens compared to other communities. When overburdened communities are present, they receive extra attention when planning improvements.

Storm Drain Inlet
An opening along a curb or in a street where stormwater enters the MS4. These are often called "storm drains," or "grates."

Stormwater
Rain or snowmelt that runs off roofs, driveways, parking lots, streets, and lawns instead of soaking into the ground. As it flows, it can pick up oil, litter, fertilizers, and other pollutants and carry them to streams and lakes.

Stormwater Facility (Stormwater Management Measure)
A structure or practice built to manage stormwater, such as a detention basin, infiltration basin, wet pond, rain garden, or manufactured treatment device. Some facilities are owned by the Township, while others are privately owned.

Subwatershed / HUC 14
A smaller part of a watershed used by NJDEP and engineers to study water quality. Each one has a 14 digit Hydrologic Unit Code (HUC 14) and a name, such as "Cooper River (Rt 130 to Wallworth gage)."

TMDL (Total Maximum Daily Load)
A pollution "budget" for a stream or lake that has water quality problems. A TMDL sets the maximum amount of a pollutant (such as bacteria or PCBs) that the waterbody can receive and still meet State standards, and identifies how much reduction is needed.

Water Quality Impairment
When a stream or lake does not meet New Jersey's water quality standards for one or more pollutants, such as bacteria, temperature, or nutrients. Impaired waters are placed on NJDEP's 303(d) list and must be addressed in plans like this WIP.

Watershed
The area of land where all the water drains to the same place, such as a stream, lake, or river. If rain falls anywhere in Pennsauken Township and eventually ends up in Cooper River or Pennsauken Creek, that land is part of the same watershed.

The Township of Pennsauken is in two (2) HUC11 watersheds, the Cooper River and Pennsauken Creek, and five (5) HUC14 subwatersheds. NJDEP evaluates water quality and stormwater issues at the HUC11 and HUC14 scales, and this report mainly uses the HUC14 level.

Watershed Improvement Plan (WIP)
A three phase planning process required under the Township's MS4 permit:

- Phase 1 – Watershed Inventory Report (this document): Collects and maps existing conditions

(outfalls, drainage areas, interconnections, water quality, etc.).

- Phase 2 – Watershed Assessment Report: Uses the Phase 1 data to assess problems, identify and rank potential projects, estimate costs for the potential projects and estimate pollution reductions.
- Phase 3 – Final Watershed Improvement Plan Report: Finalizes selected projects, costs, schedules, and documents public feedback.

Acknowledgements

The Township of Pennsauken's Phase I Watershed Inventory Report has been prepared by **Consulting Engineer Services (CES)**, in cooperation with the **Township of Pennsauken**. This report focuses on Pennsauken's municipal stormwater system, outfalls, drainage areas and the subwatershed in which they contribute.

Regional Collaboration

No regional WIP collaboration was pursued for Phase 1. This Phase 1 Watershed Inventory Report focuses on the Township of Pennsauken's stormwater system and conditions within or bordering the Township.

However, the Township recognizes that water and flooding do not stop at municipal borders or property lines. **Maple Shade Township, Cherry Hill Township, Merchantville Borough, City of Camden, Camden County, New Jersey Department of Transportation (NJDOT), Delaware River Port Authority (DRPA) and private commercial facilities** share subwatersheds, roadways, and stormwater systems with Pennsauken. Their facilities and drainage patterns influence how stormwater and pollutants move through the shared watersheds. The Township will coordinate with these neighboring municipalities, the County, NJDOT, DRPA and nearby private commercial facilities in future phases of the Watershed Improvement Plan where shared drainage or project opportunities are identified. These entities own and operate roads and stormwater infrastructure that influence flows to streams and lakes with The Township of Pennsauken which include: Chandlers Run, Pochack Creek, South Branch Pennsauken Creek Tributary, Pennsauken Creek and Cooper River Lake.

Pennsauken also recognizes that a portion of the township has combined sewer and stormwater and is working with CCMUA to disconnect the sanitary sewer. This work is currently underway and once storm infrastructure is separated and under Pennsauken MS4 maintenance the section of Pennsauken storm system will need to be updated on the inventory map and report.

For Phase 2 (Watershed Assessment Report), the Township intends to:

- Coordinate with **Maple Shade Township, Cherry Hill Township, Merchantville Borough, City of Camden**, **Camden County**, **NJDOT** and **DRPA** to review shared stormwater interconnections, flooding locations, and potential joint projects within the shared subwatersheds;
- Use NJDEP guidance and resources, including the MS4 County Case Manager and WIP Frequently Asked Questions (FAQ), to help identify opportunities where a regional or joint approach would be more effective or more efficient than separate efforts; and
- If any **formal regional agreement** is established, document that agreement in the Phase 2 report, including each entity's responsibilities, consistent with NJDEP's guidance.

At this time, the Township has not committed to a regional WIP. Any future regional approach, if pursued, will be based on mutual interest and agreement among participating entities and will be clearly described in Phase 2 documentation.

Introduction

The Township of Pennsauken is preparing a Watershed Improvement Plan (WIP) to better understand how stormwater moves through the community and how it affects local streams and lakes. This Phase 1 Watershed Inventory Report under the MS4 permit #NJG0148989, is the first step in that process. It documents where the Township's stormwater infrastructure is located, where it discharges, and what is known about water quality and flooding within the Township lakes and streams.

The Township of Pennsauken is located in Camden County, New Jersey. The location of this plan is at 5605 N. Crescent Boulevard, Pennsauken, NJ 08110. Pennsauken is surrounded by Delaware River to the north and west, City of Camden to the south and southwest, Township of Cherry Hill and Maple Shade to the east, and Borough of Merchantville to the southeast. According to the 2020 United States Census, the Township has a population of 37,074. The Township's demographics include 36.9% Hispanic, 25.6% White, 25.5% Black, 8.3% Asian, 2.6% Multiracial, and 1.1% other.

Land use in Pennsauken predominately consists of urban land, along with some forest, wetlands, water, and barren land. The Township is predominantly residential and commercial development, with buildings, streets, and parking areas surrounded by known water bodies to the north, south, and west. This mix of land uses influences how quickly stormwater runs off and how much pollution is carried to nearby waters.

A watershed is the area of land that contributes runoff to a lake, river, stream, wetland, estuary, or bay. Watersheds have natural boundaries defined by the height and shape of the land, such as ridges and other features that direct the flow of water from higher to lower elevations. The Township of Pennsauken is part of the Cooper River and Pennsauken Creek watershed (HUC 11). NJDEP and the U.S. Geological Survey describe smaller "subwatersheds" using 14-digit Hydrologic Unit Codes (HUC 14). Within and bordering Pennsauken, there are five HUC 14 subwatersheds:

- HUC 02040202100050 – Pennsauken Ck SB (below Rt 41)
- HUC 02040202100060 – Pennsauken Ck (below NB/SB)
- HUC 02040202110050 – Cooper River (Rt 130 to Wallworth gage)
- HUC 02040202110060 – Cooper River (below Rt 130)
- HUC 02040202110070 – LDRV tribs (Pennsauken Ck to 28th St)

NJDEP and the U.S. Geological Survey describe smaller 'subwatersheds' using Hydrologic Unit Codes (HUCs). See the Key Terms and Acronyms section for more information on the HUC system.

When it rains, stormwater in Pennsauken flows over rooftops, driveways, and streets into storm drain inlets. From there, it travels through the Township's Municipal Separate Storm Sewer System (MS4) and eventually discharges at outfalls into Chandlers Run, Pochack Creek, South Branch Pennsauken Creek Tributary, Pennsauken Creek and Cooper River. The path that water takes depends on the shape of the land (the watershed) and the layout of the Township's pipes, ditches, and other stormwater infrastructure.

A 516± acre of land in Pennsauken is part of the combined sewer system and is not part of the MS4 permit at this time. This area of land is located in HUC 02040202110060 – Cooper River (below Rt 130) and HUC 02040202110070 – LDRV tribs (Pennsauken Ck to 28th St) subwatersheds. The project is underway to separate the sewer and storm and Pennsauken is working with CCMUA to allow this project to come to completion in the coming years.

There are several flood prone areas in Pennsauken Township including but not limited to, the following:

- Petty Island
- Areas along the Delaware River waterfront
- Areas along the Pennsauken Creek and its tributaries
- Areas along the Cooper River and its tributaries
- Impervious areas with undersized stormwater conveyances

The Township of Pennsauken intends to use the Watershed Improvement Plan to track identified pollutant parameters throughout the Township so that future phases can plan and implement actions to reduce or eliminate the Township's contribution of pollutant loads to waters within and bordering its jurisdiction.

In this Phase 1 Watershed Inventory Report, the Township will:

- Map and describe all Township-owned stormwater outfalls and their receiving waters;
- Identify interconnections between the Township's MS4 and neighboring systems;
- Delineate drainage areas to outfalls and interconnections;
- Summarize applicable TMDLs and water quality impairments;
- Identify any overburdened communities;
- Quantify impervious cover by subwatershed; and
- Identify non-municipally owned stormwater facilities within the Township.

In Phase 2, the Watershed Assessment Report, the Township will use this Phase 1 information to assess which areas and outfalls contribute most to water quality problems and flooding, to screen and prioritize potential stormwater projects, and to estimate expected pollutant load reductions and other benefits. Together, Phases 1 and 2 will help Pennsauken develop a practical list of projects and actions to protect local waterways and reduce flooding for Township residents.

Public Participation

Public participation is an important part of the Watershed Improvement Plan (WIP) process. Residents and local stakeholders can help identify problem areas, suggest potential projects, and provide feedback on proposed solutions.

For this Phase 1 Watershed Inventory Report, no formal public information sessions specific to the WIP have been held. The focus of Phase 1 has been on collecting accurate data on stormwater infrastructure, drainage areas, water quality, and related conditions to establish a solid technical foundation.

Stakeholders for this WIP include:

- The Township of Pennsauken elected officials and staff; and
- Consulting Engineer Services (CES), the Township's MS4 Permitting consultant.

Beginning in 2026, the Township intends to hold two public information sessions, one in the month of February, and another in the month of September. During these meetings, the Township will:

- Present key findings from this Phase 1 inventory;
- Share proposed project ideas and priorities for addressing water quality impairments and flooding; and
- Receive feedback and suggestions from residents and other local stakeholders.

Meeting dates, times, and materials will be posted on the Township's stormwater webpage:
Stormwater Management | Pennsauken Township, NJ

Comments and ideas received during Phase 2 public participation will be summarized in the Watershed Assessment Report and will help shape the final list of projects and actions in Phase 3.

Stormwater Outfall(s)

Stormwater Outfalls Owned/Operated by the Township of Pennsauken

The Township of Pennsauken hired Consulting Engineer Services (CES) to survey all owned and operated stormwater infrastructure within the Township's MS4 jurisdiction. The data collection began in July 2025 where the CES survey crew located visible stormwater infrastructure along municipality owned roads and followed conveyance network to locate outfall and hidden structures. Additional information was gathered in December of 2025, following a review of the initial data and identifying missing structures. The data collection has identified forty (40) municipality owned and operated outfall structures. The distribution of these outfalls by subwatershed is summarized below.

- Seventeen (17) outfalls are in HUC 02040202100050 – Pennsauken Ck SB (below Rt 41)
- One (1) outfall is in HUC 02040202100060 – Pennsauken Ck (below NB/SB)
- Six (6) outfalls are in HUC 02040202110050 – Cooper River (Rt 130 to Wallworth gage)
- Three (3) outfalls are in HUC 02040202110060 – Cooper River (below Rt 130)
- Thirteen (13) outfalls are in HUC 02040202110070 – LDRV tribs (Pennsauken Ck to 28th St)

Stormwater outfalls and their associated attributes are summarized in Appendix A, Table 1, and are graphically depicted on Figures 2 through 6. Further information regarding the drainage infrastructure is presented on the map entitled *"Pennsauken MS4 Infrastructure Map."*

Receiving Surface Waters

The Township of Pennsauken utilized the New Jersey Watershed Evaluation Tool (NJ-WET) to gather the receiving surface water body identification for each outfall. Within the Township of Pennsauken's jurisdiction there are six (6) receiving surface waters:

- Chandlers Run: 15% of the Township outfalls discharge to Chandlers Run.
- Delaware River: 10% of the Township outfalls discharge to Delaware River
- Pochack Creek: 30% of the Township outfalls discharge to Pochack Creek.
- Pennsauken Creek: 2.5% of the Township outfalls discharge to Pennsauken Creek.
- South Branch Pennsauken Creek: 12.5% of the Township outfalls discharge to South Branch Pennsauken Creek.
- South Branch Pennsauken Creek Tributary: 30% of the Township outfalls discharge to South Branch Pennsauken Creek Tributary.

Water Quality Classifications

The Township of Pennsauken utilized the New Jersey Watershed Evaluation Tool (NJ-WET) to gather the water quality classifications of the receiving surface waters at the locations of Township owned outfalls. Within the Township of Pennsauken's jurisdiction there is one (1) water quality classification:

- FW2-NT (freshwater subject to man-made wastewater discharge and non-trout): 90% of the Township's outfalls discharge to FW2-NT water quality classification.
- Water Quality Classification not applicable: 10% of the Township's outfalls discharge to Delaware River, which doesn't have a water quality classification in accordance with NJ-WET.

Purpose of this section for Township residents

For residents, this section answers two simple questions:

1. Where does the water go when it enters a storm drain on my street? and
2. What kind of waterbody does it flow into?

By identifying each outfall, showing where it discharges, and noting the State's water quality classification at that location, the Township can see which outfalls most directly affect important local resources like Pennsauken Creek, Cooper River, and Delaware River. This information will help the Township decide where to focus future monitoring, maintenance, and improvement projects.

To help residents visualize this information, a map of permittee-owned and operated outfalls will be included in this report, and posted on Township's stormwater webpage showing:

- The location of each Township-owned outfall, labeled with its ID number;
- Clear symbols or colors for outfalls that discharge to known water bodies within the Township.

In Phase 2, these maps will be used to analyze outfalls that drain to impaired or TMDL-listed waters and to communicate where stormwater projects could have the greatest benefit.

Figure 1: Overall Exhibit of Subwatersheds (HUC14s)

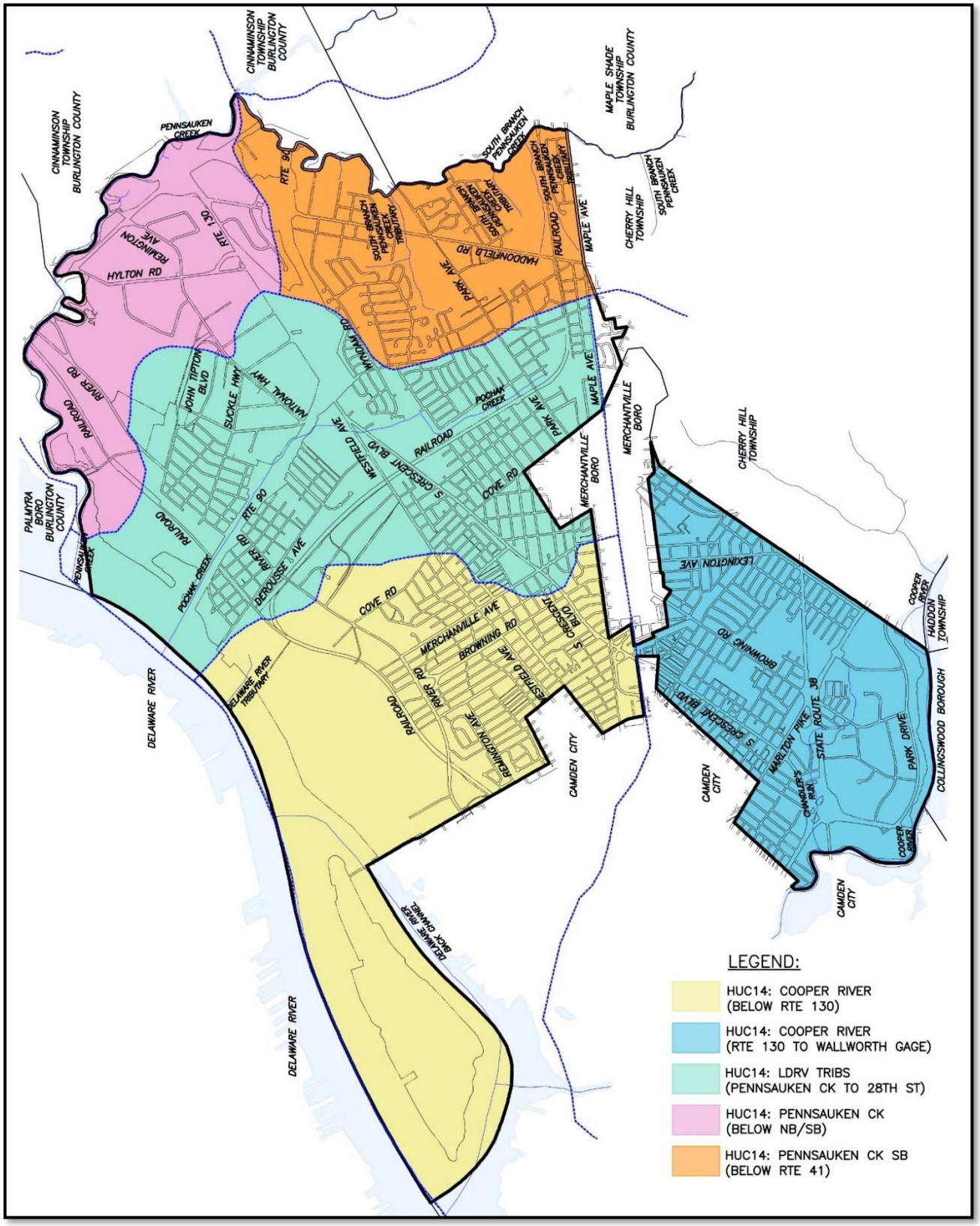


Figure 2: Permittee Owned/Operated Stormwater Outfalls in Cooper River (Below Rte 130 to Wallworth Gage) Subwatershed

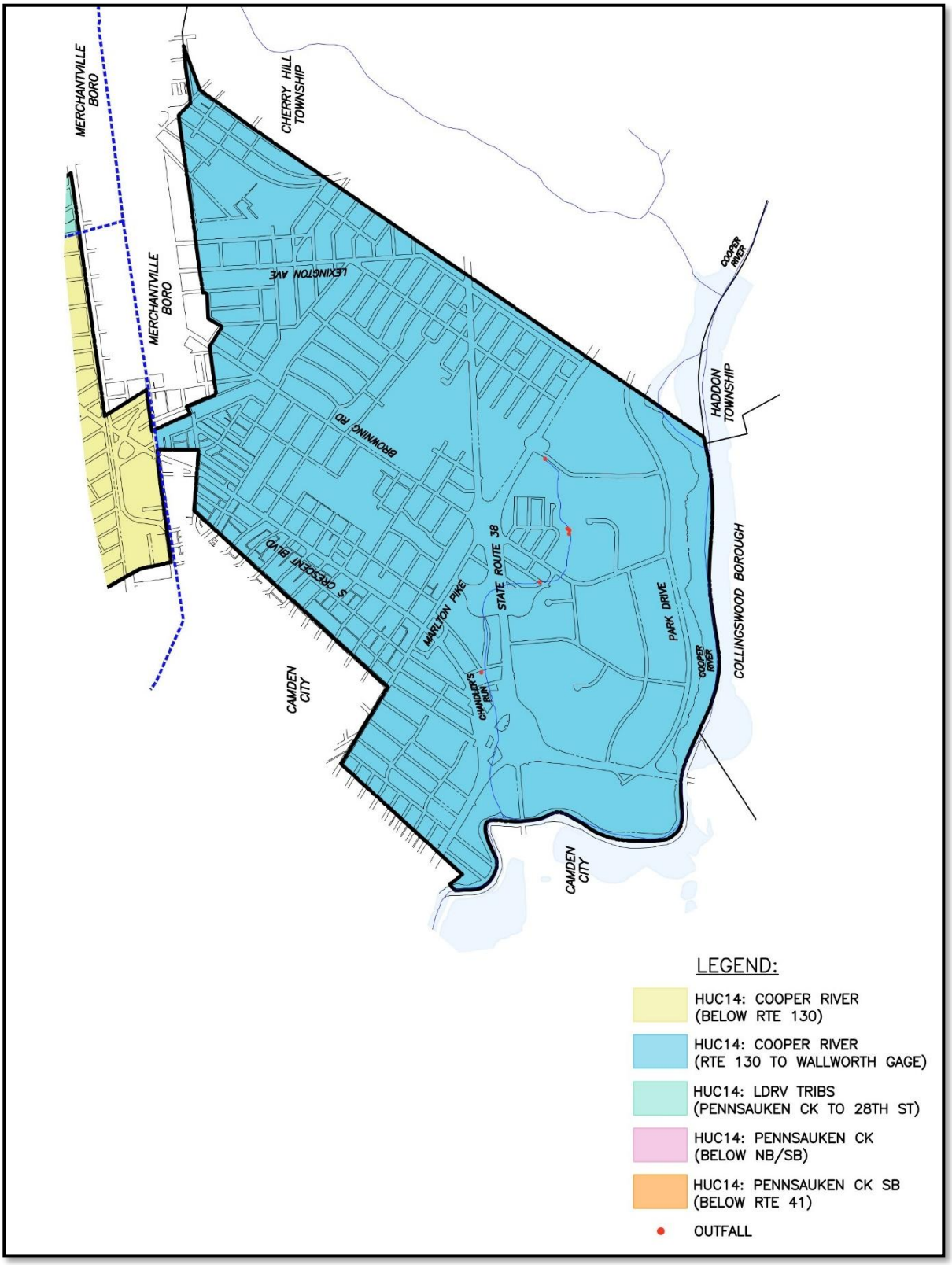


Figure 3: Permittee Owned/Operated Stormwater Outfalls in Cooper River (Below Rte 130) Subwatershed

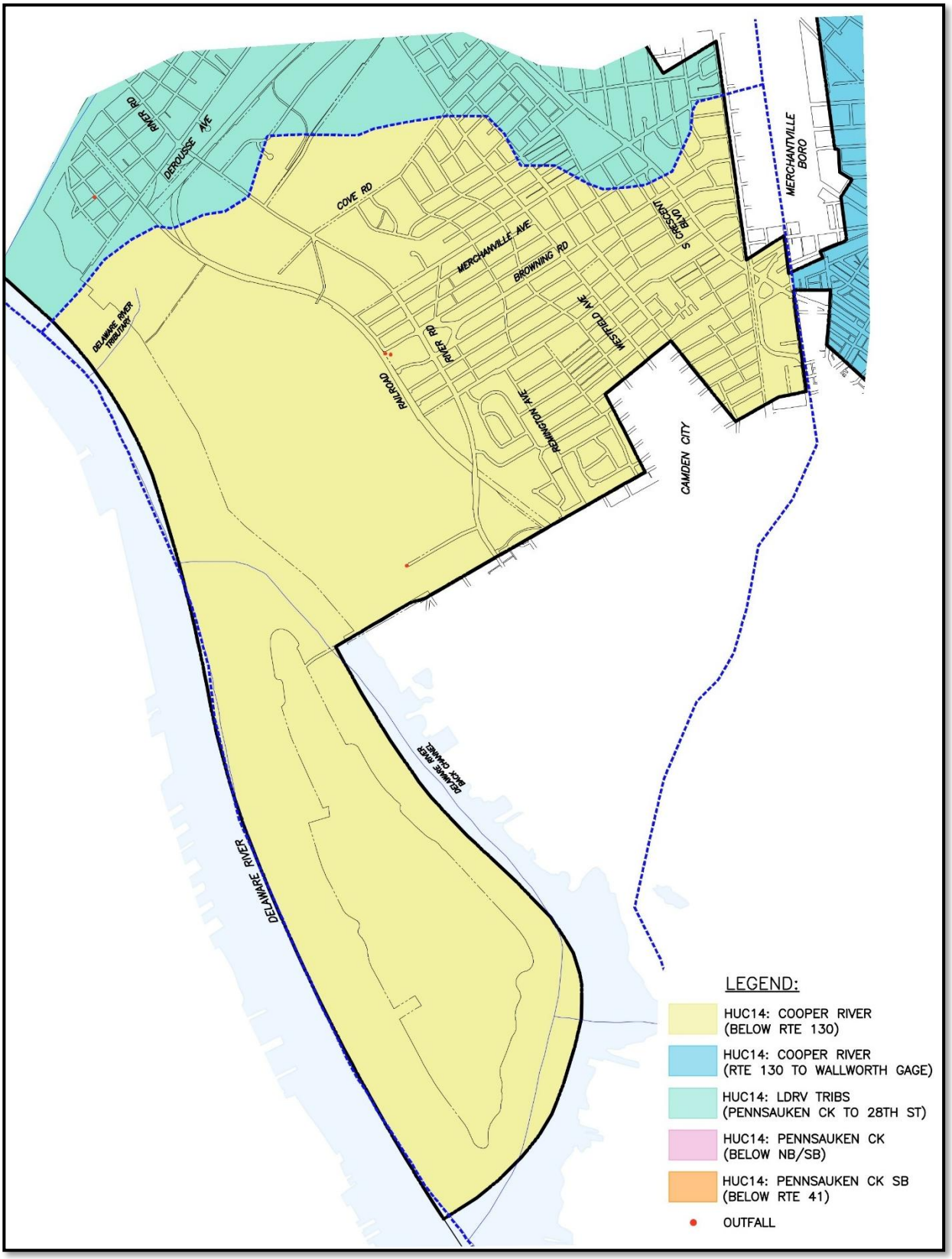


Figure 4: Permittee Owned/Operated Stormwater Outfalls in LDRV Tribs (Pennsauken Ck to 28th St) Subwatershed

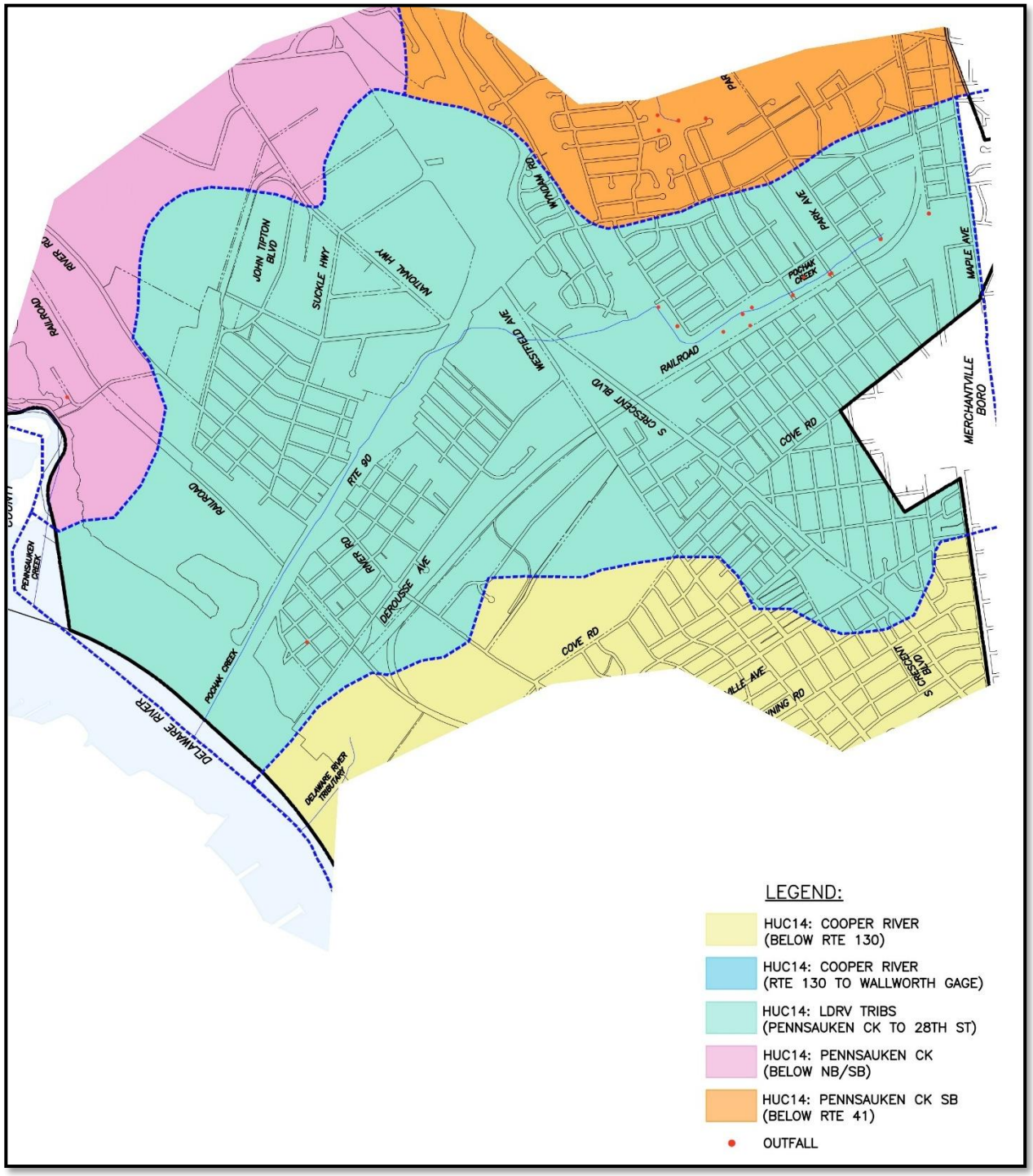


Figure 5: Permittee Owned/Operated Stormwater Outfalls in Pennsauken Ck SB (Below Rte 41) Subwatershed

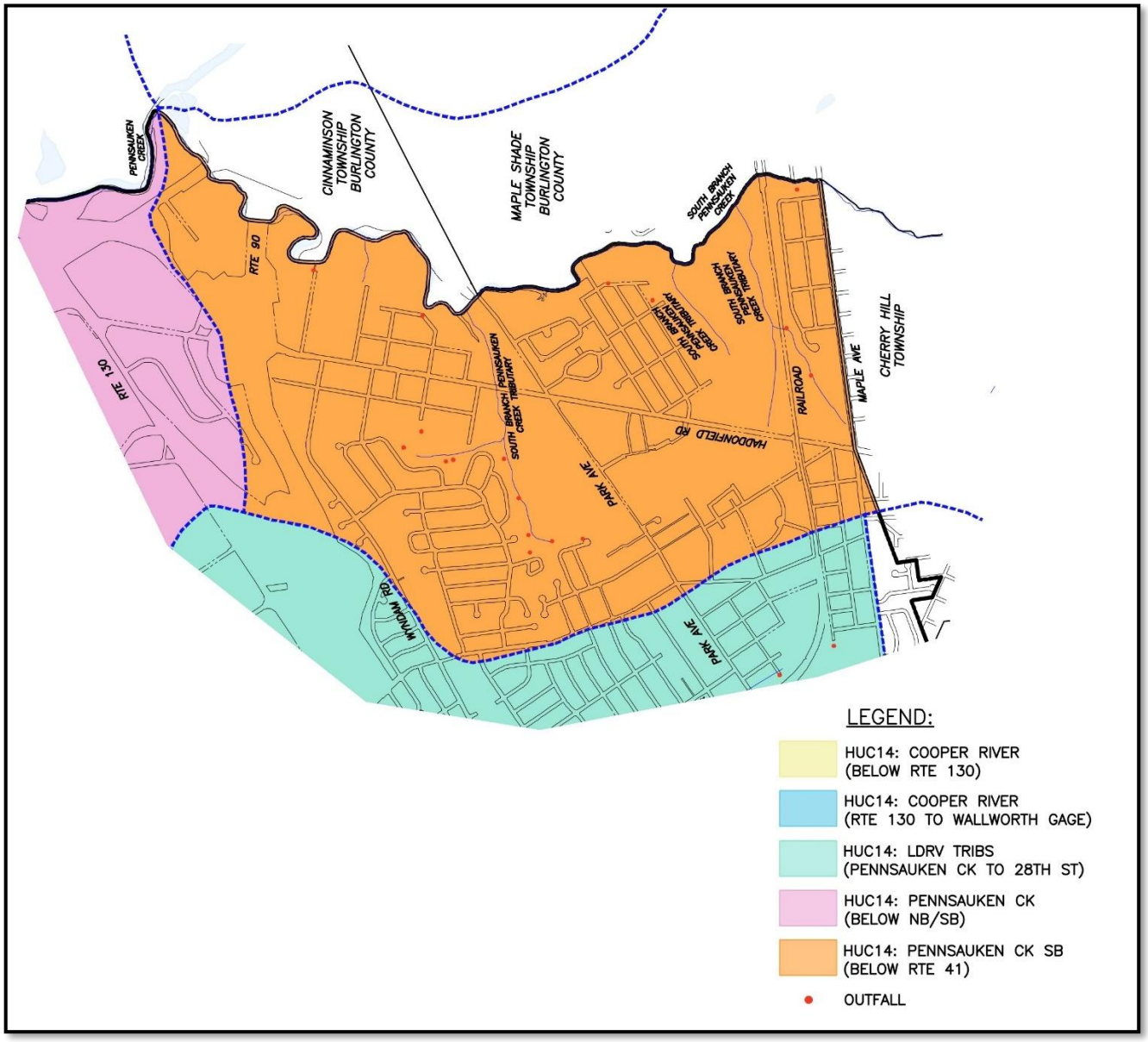
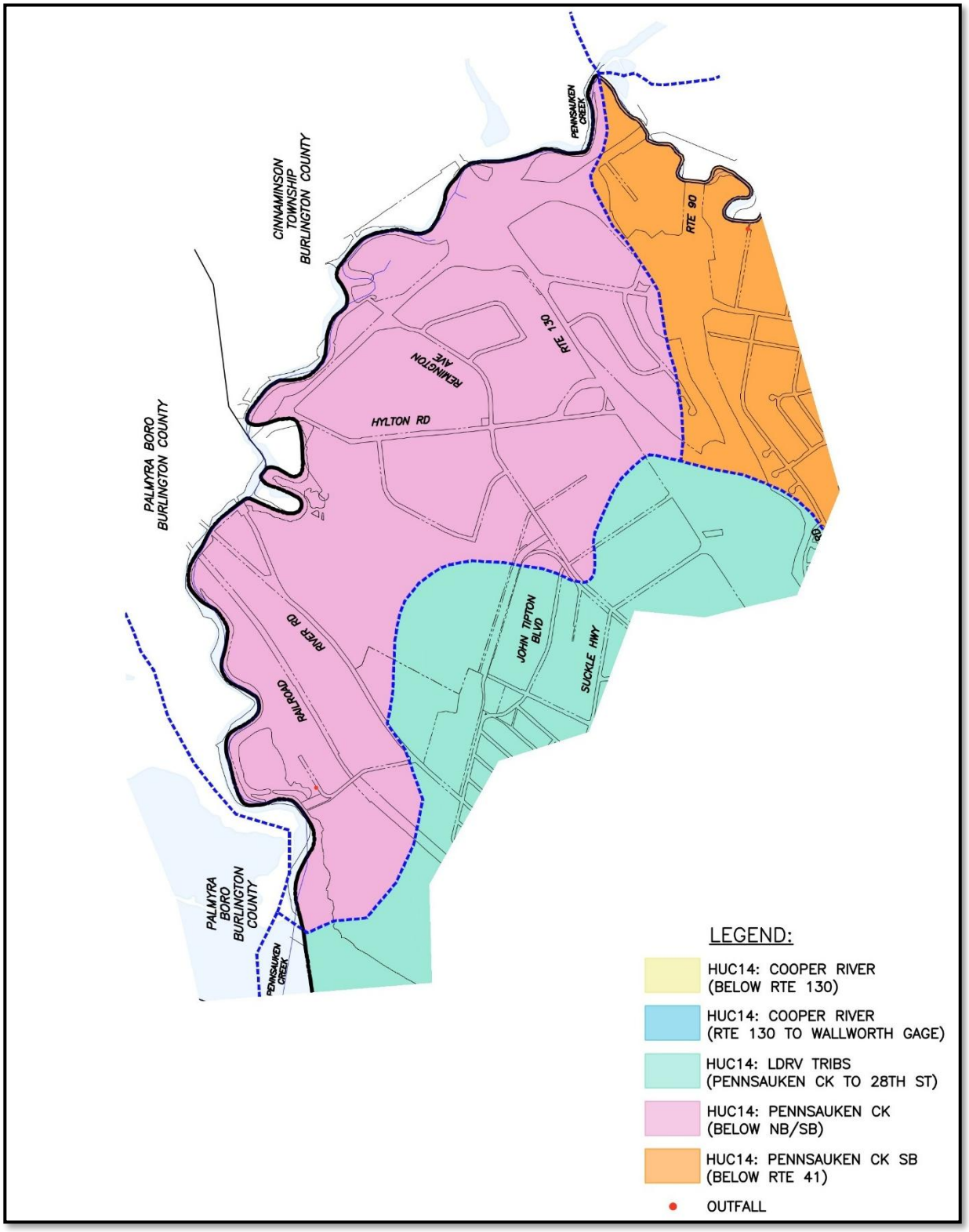


Figure 6: Permittee Owned/Operated Stormwater Outfalls in Pennsauken Ck (Below NB/SB) Subwatershed



Stormwater Interconnection(s)

An interconnection is a point where the Township's stormwater system connects to another stormwater system, such as Camden County, Cherry Hill Township, NJDOT or a private system or vice versa. Understanding interconnections is important because it shows how water and pollutants move between Pennsauken Township and its neighbors and helps clarify who is responsible for maintaining particular pipes and outfalls. A table of interconnections can be found in Appendix A – Table 2 and are graphically depicted on Figures 7 through 11. Further information regarding the drainage infrastructure is presented on the map entitled *"Pennsauken MS4 Infrastructure Map."*

Interconnection(s) from the permittee's MS4 into another entity

The Township of Pennsauken's MS4 discharges to systems operated by the NJDOT, NJ Transit, DRPA, Camden County, CCMUA Combined Sewer, and Private Facilities. Based on GPS field surveys and review of state parcel data to establish property boundaries, conducted/verified between June 2025 and December 2025, 151 interconnections from the Township's MS4 to downstream systems were identified: 113 direct piped connections and 38 overland flow to downstream systems. All identified Interconnection locations are shown on MS4 Infrastructure Map; see table provided in the Appendix of this report for a detailed breakdown of these interconnections.

Interconnection(s) into the permittee's MS4 from another entity (for Tier A permittees only)

The Township of Pennsauken receives stormwater from systems operated by the NJDOT, DRPA, Camden County, and/or private systems. Based on GPS field surveys and review of state parcel data to establish property boundaries, conducted/verified between June 2025 and December 2025, 92 interconnections from other entities into the Township's MS4 were identified. Of these, 91 are direct piped interconnections, and 1 is an overland flow interconnection. All identified Interconnection locations are shown on MS4 Infrastructure Map; see table provided in the Appendix of this report for a detailed breakdown of these interconnections.

Combined Sanitary Sewer System

The Township of Pennsauken has interconnections to a combined sanitary sewer system that is in the process of being separated into distinct sanitary and stormwater systems. This separation project is anticipated to be completed by **early 2027**. Because the final configuration and routing of these separated stormwater connections are not yet in place, the drainage areas associated with these interconnections have not been delineated as part of this Phase 1 Watershed Inventory Report. Once the separation work is completed, the Township will map and evaluate these drainage areas and incorporate them into a future phase of the Watershed Improvement Plan, where they will be included in the assessment of pollutant loading and project opportunities.

Why interconnections matter for residents and for Phase 2

For residents, interconnections explain how stormwater from outside the Township can reach Pennsauken's pipes and outfalls, and how stormwater from Pennsauken can travel into County, State or neighboring municipal systems. In Phase 2, the Township will use this information to:

- Coordinate with Camden County, NJDOT, DRPA, and private owners on shared flooding and water quality concerns; and
- Identify potential joint projects or maintenance activities at key interconnection points.

These coordinated efforts, consistent with NJDEP's WIP guidance, can be more effective at improving water quality and reducing flooding than actions taken by each jurisdiction alone.

Electronic data submission

Electronic data for interconnections will be submitted via NJDEP online in georeferenced CAD format with required attributes.

Figure 7: Stormwater Interconnections in Cooper River (Below Rte 130 to Wallworth Gage) Subwatershed

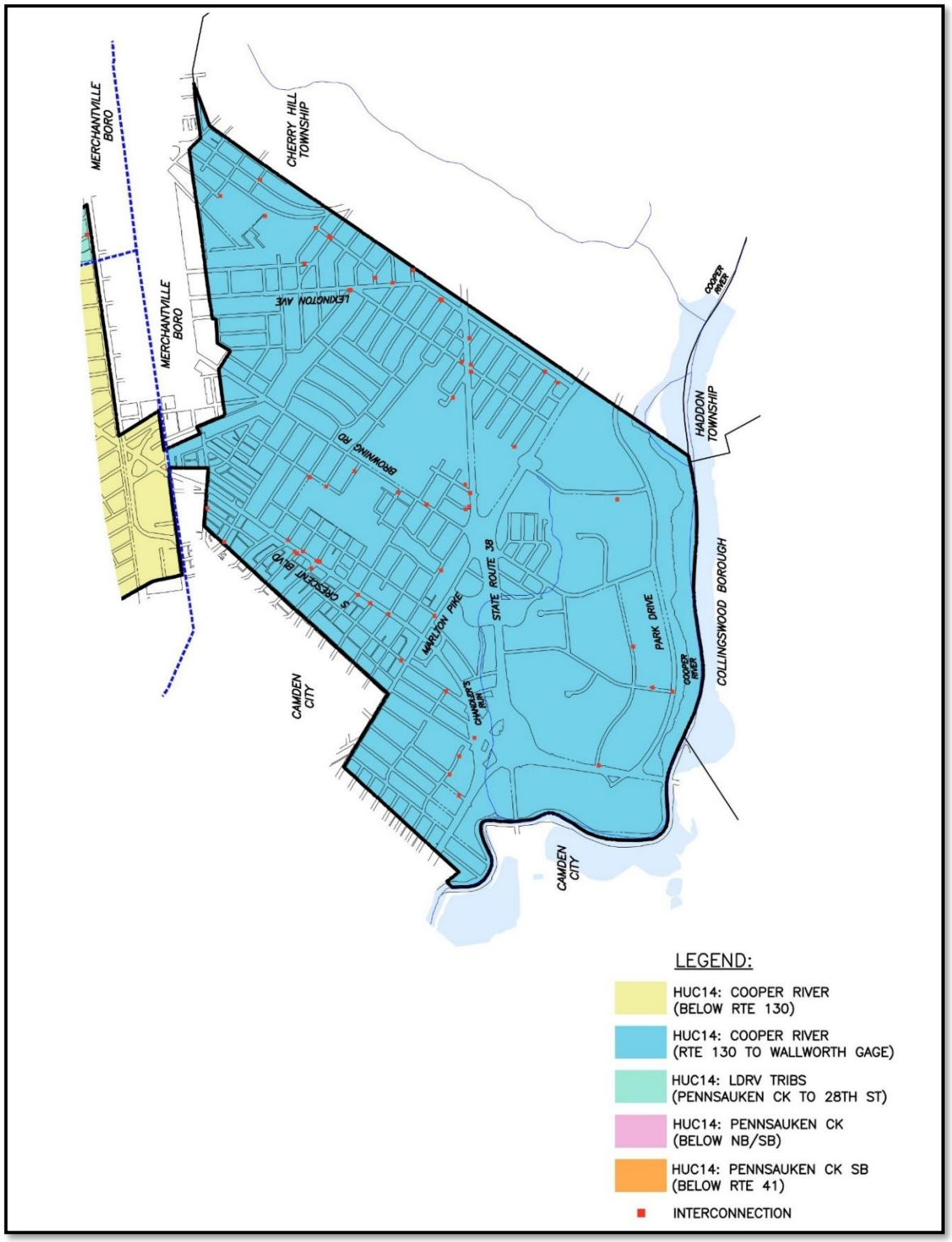


Figure 8: Stormwater Interconnections in Cooper River (Below Rte 130) Subwatershed

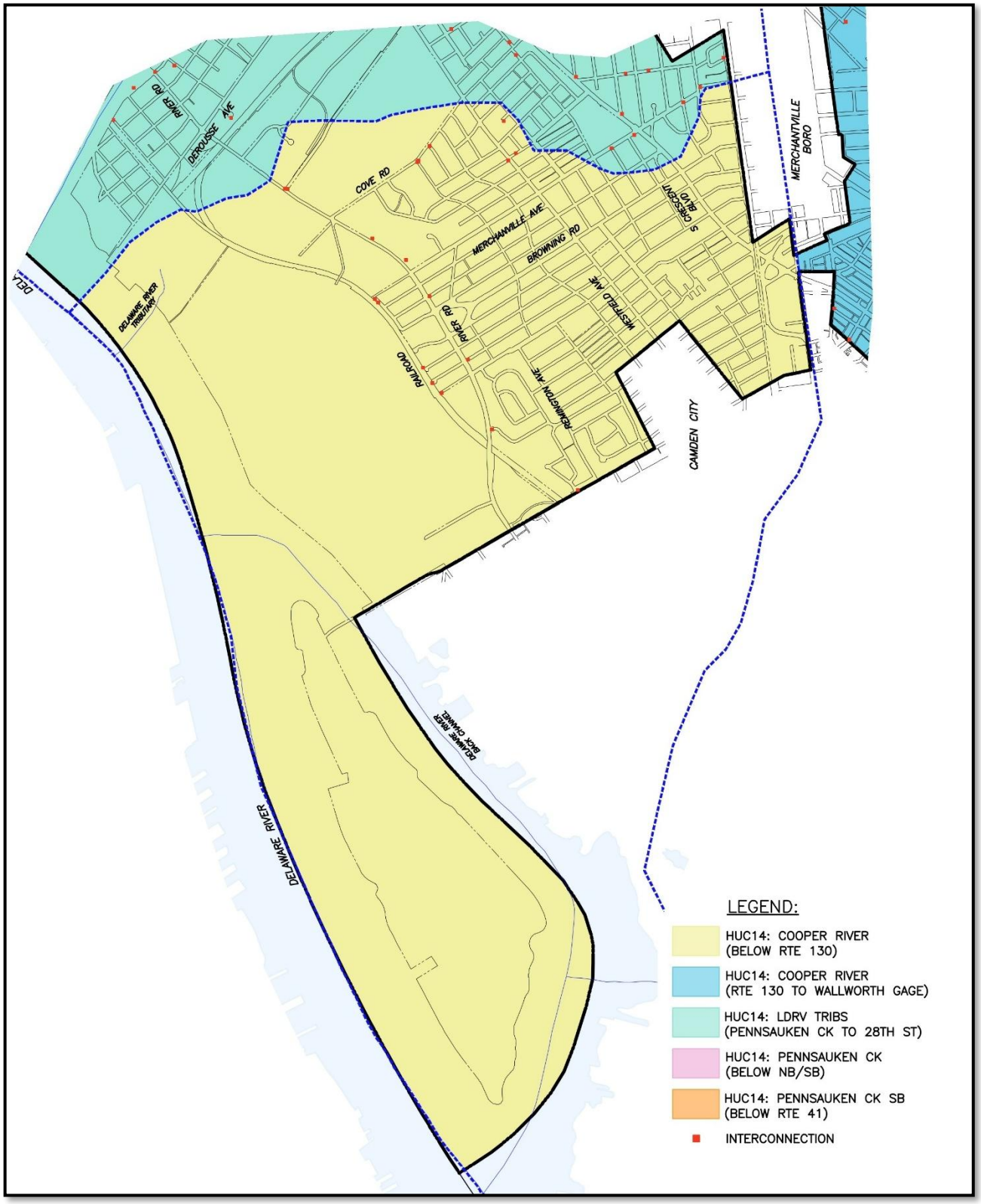


Figure 9: Stormwater Interconnections in LDRV Tribs (Pennsauken Ck to 28th St) Subwatershed

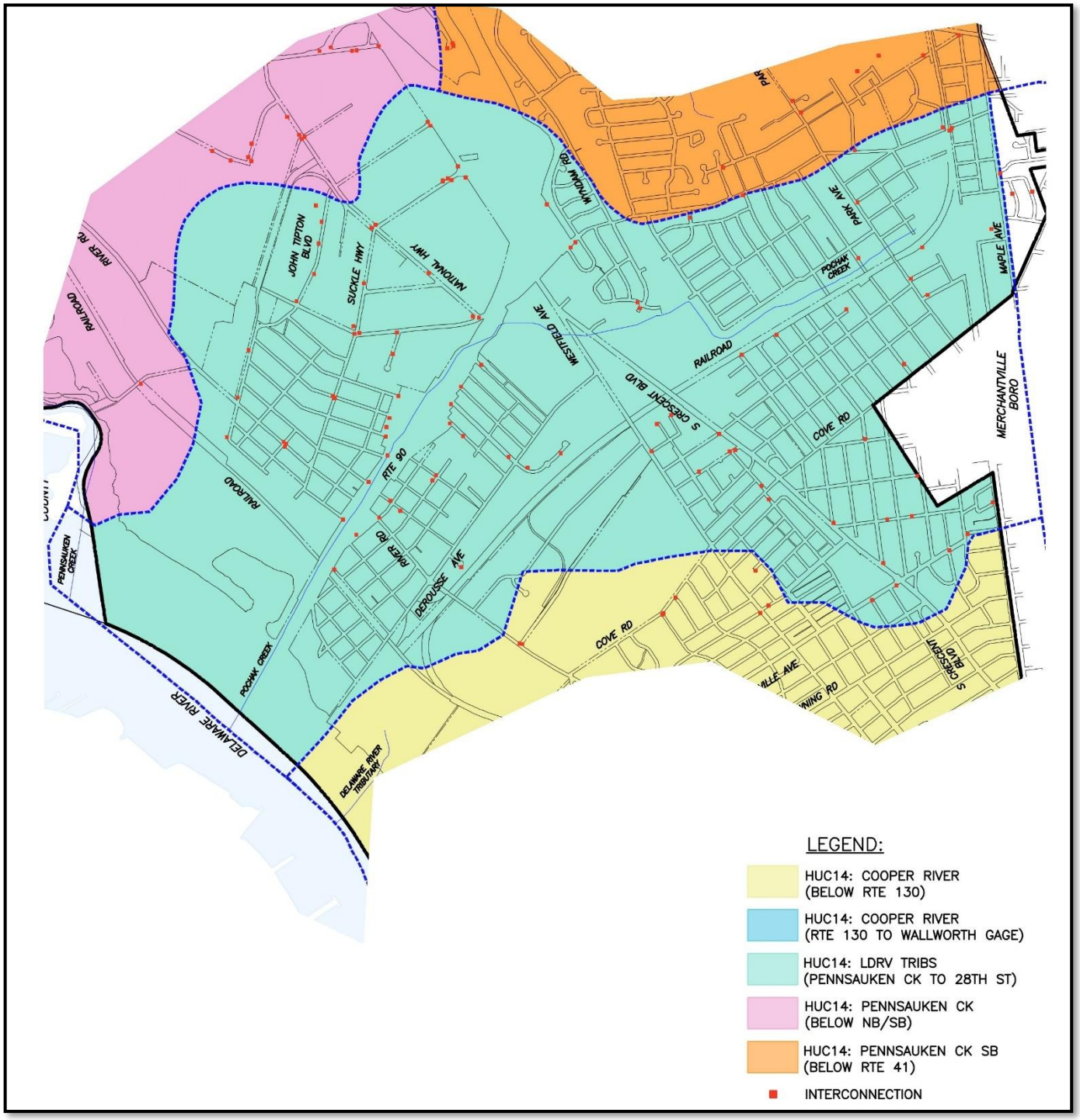


Figure 10: Stormwater Interconnections in Pennsauken Ck SB (Below Rte 41) Subwatershed

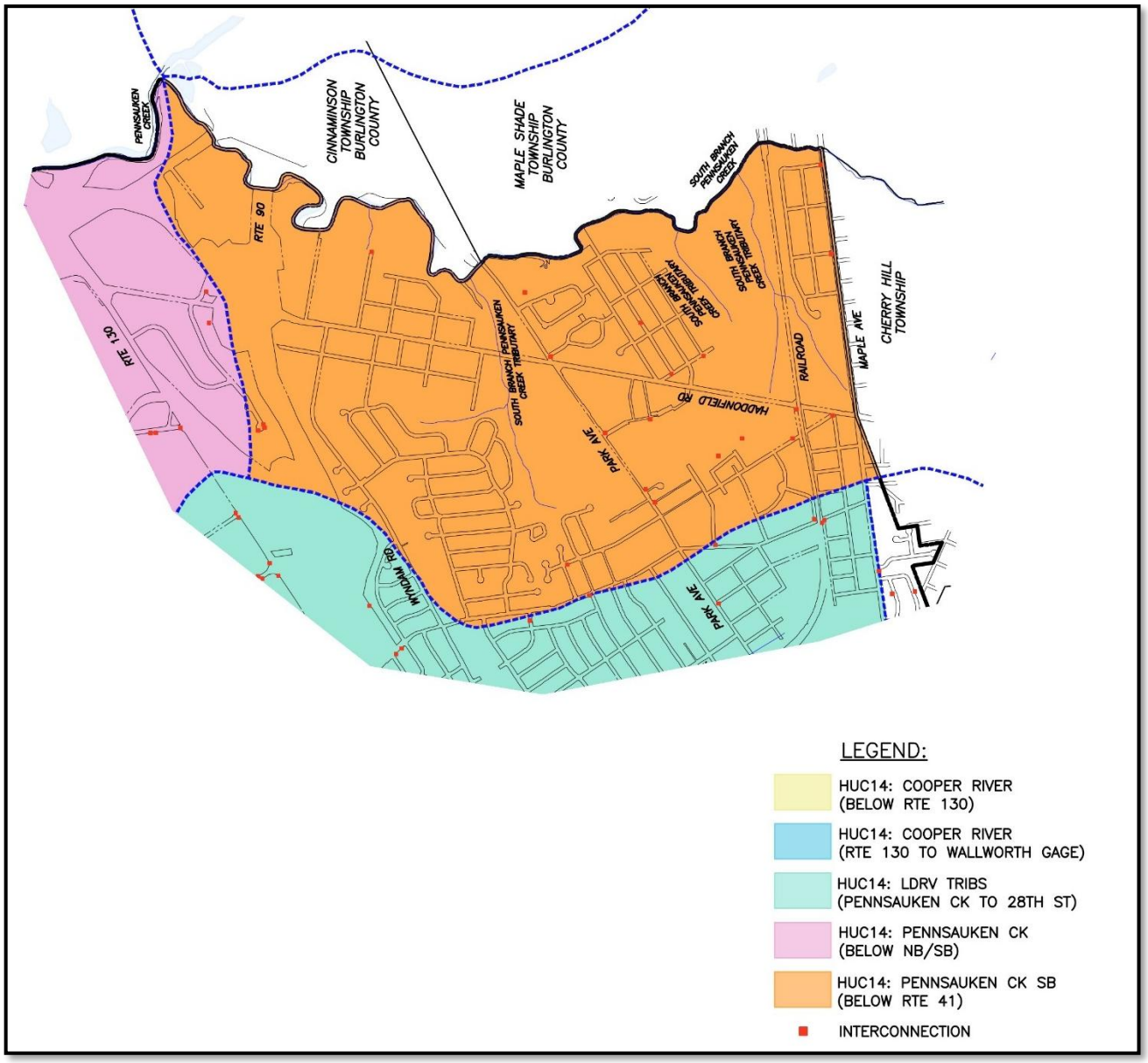
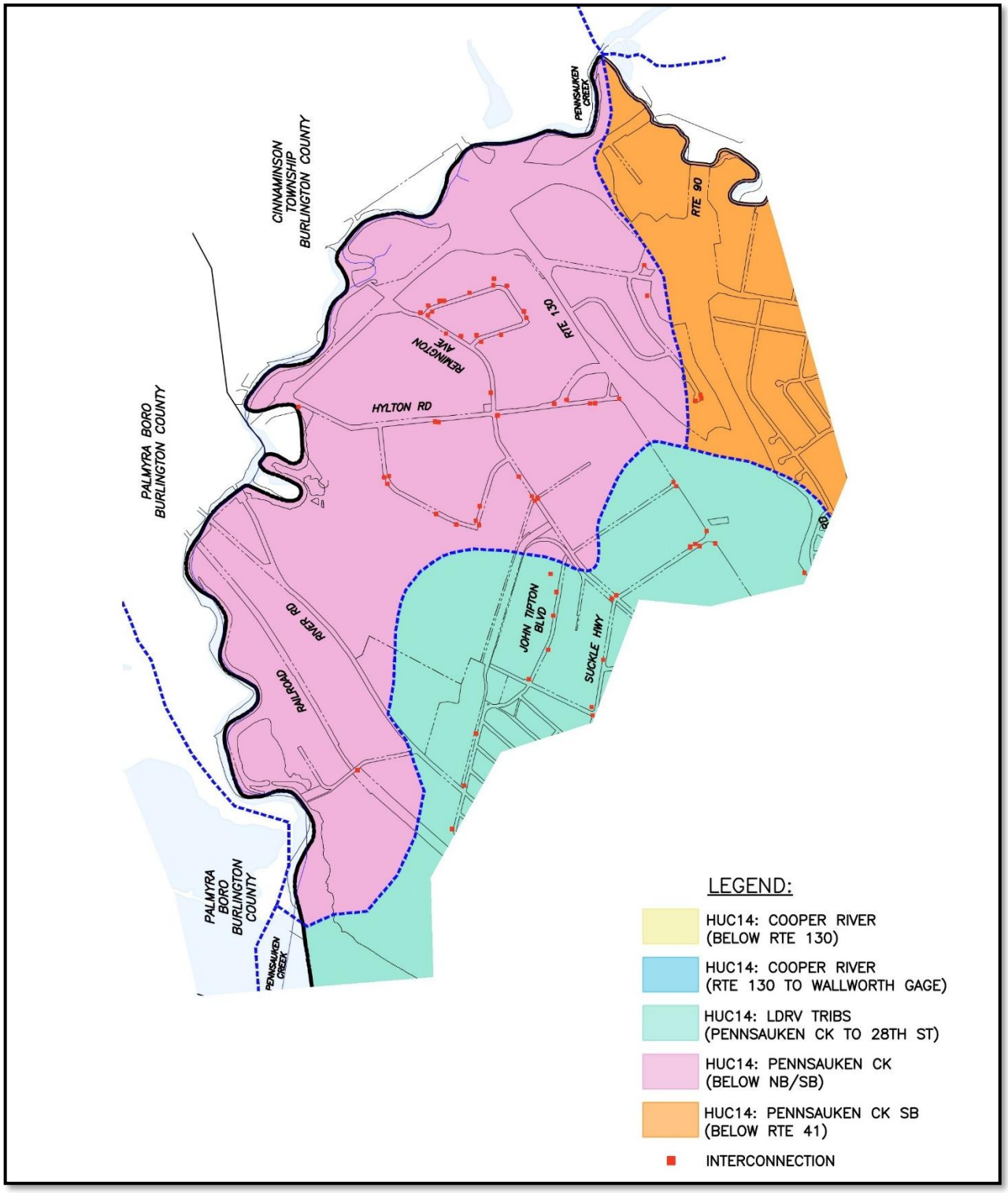


Figure 11: Stormwater Interconnections in Pennsauken Ck (Below NB/SB) Subwatershed



Drainage Area(s) for Stormwater Outfalls and Stormwater Interconnections

Drainage Areas

The Township has delineated Drainage Areas that define a boundary around the area of land that drains to each outfall and interconnection. The drainage areas for the Storm Drain Inlets, Outfalls, and Interconnection(s) were delineated through visual analysis of the latest LiDAR-derived topographic data, supplemented with field-surveyed inlet and pipe network locations, along with invert and grate elevations. AutoCAD Civil 3D was used to integrate the LiDAR topography with the surveyed data, while aerial imagery was reviewed to identify physical features such as curb lines, pavement edges, buildings, and other site elements. These drainage areas show which streets, properties, and land uses contribute runoff to each outfall or interconnection. A list of Drainage Areas and the associated attributes can be found in Appendix A – Table 3, and are graphically depicted on Figures 12 through 22. Further information regarding the drainage infrastructure is presented on the map entitled *"Pennsauken MS4 Infrastructure Map."*

Storm Drain Inlets, Outfalls, & Interconnection(s)

Storm drain inlets and outfalls were inventoried to support the MS4 Infrastructure Map and drainage area delineations. Between June 2025 and December 2025, field crews from Consulting Engineer Services (CES) surveyed inlet locations in the public right-of-way using GPS. The inventory includes only municipally owned/operated inlets; county and private inlets were not collected, which is in accordance with the guidelines issued by NJDEP. Interconnections where the municipal system ties into county/state roads—or receives flow from them—were identified and noted. In total, 1,164 storm drain inlets, 40 outfalls, and 243 interconnections were identified as of December 2025. Refer to *Pennsauken MS4 Infrastructure Map* for detailed information such as the inlet type and NJDEP required attributes.

The drainage areas for the Storm Drain Inlets, Outfalls, and Interconnection(s) were delineated through visual analysis of the latest LiDAR-derived topographic data, supplemented with field-surveyed inlet and pipe network locations, along with invert and grate elevations. AutoCAD Civil 3D was used to integrate the LiDAR topography with the surveyed data, while aerial imagery was reviewed to identify physical features such as curb lines, pavement edges, buildings, and other site elements.

Electronic submission

Outfall drainage areas and drainage areas for interconnections from the Township to other entities will be submitted electronically in georeferenced CAD file with required attributes via NJDEP Online

Figure 12: Overall Exhibit of Interconnection and Outfall Drainage Areas

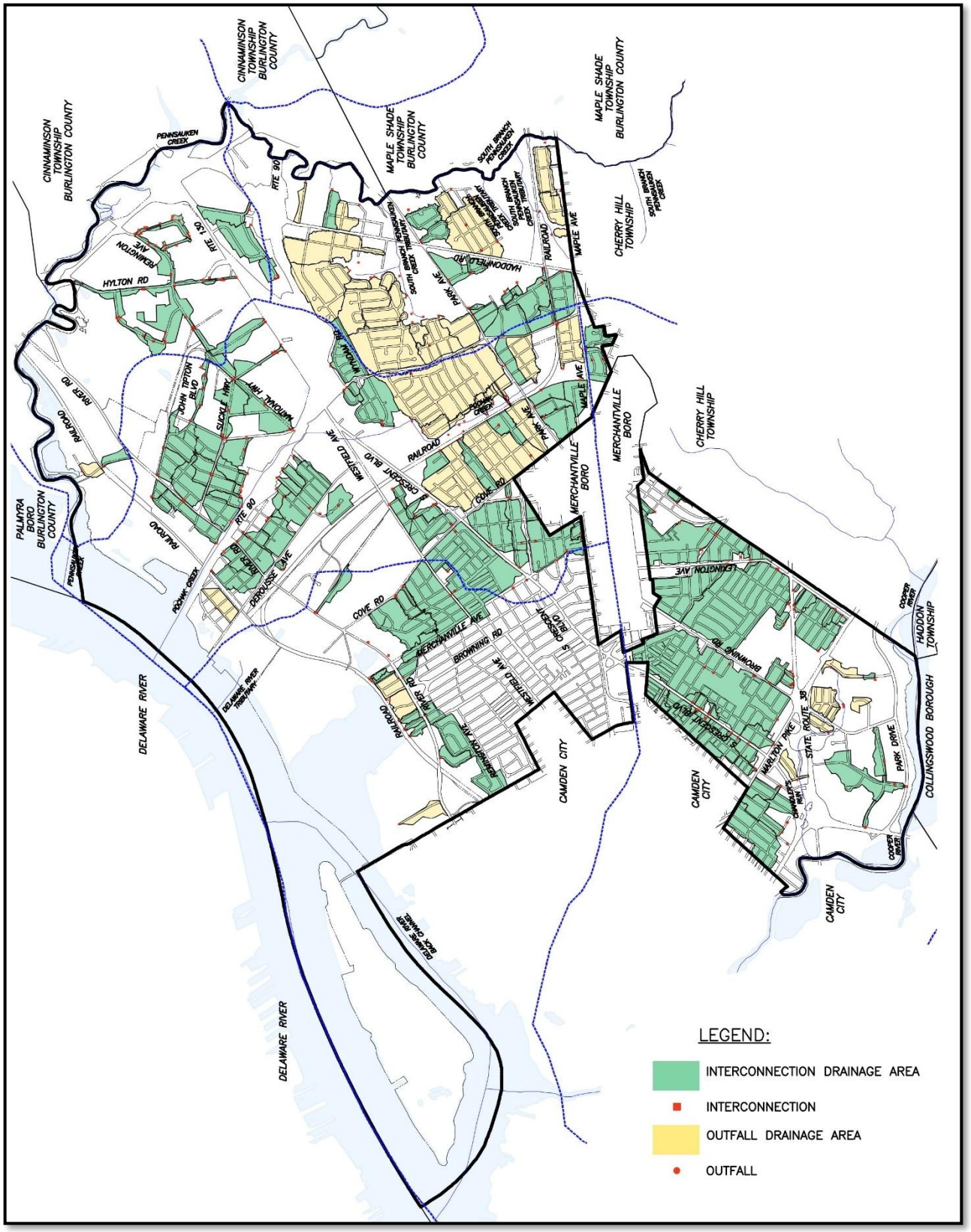


Figure 13: Interconnection Drainage Areas in Cooper River (Below Rte 130 to Wallworth Gage) Subwatershed

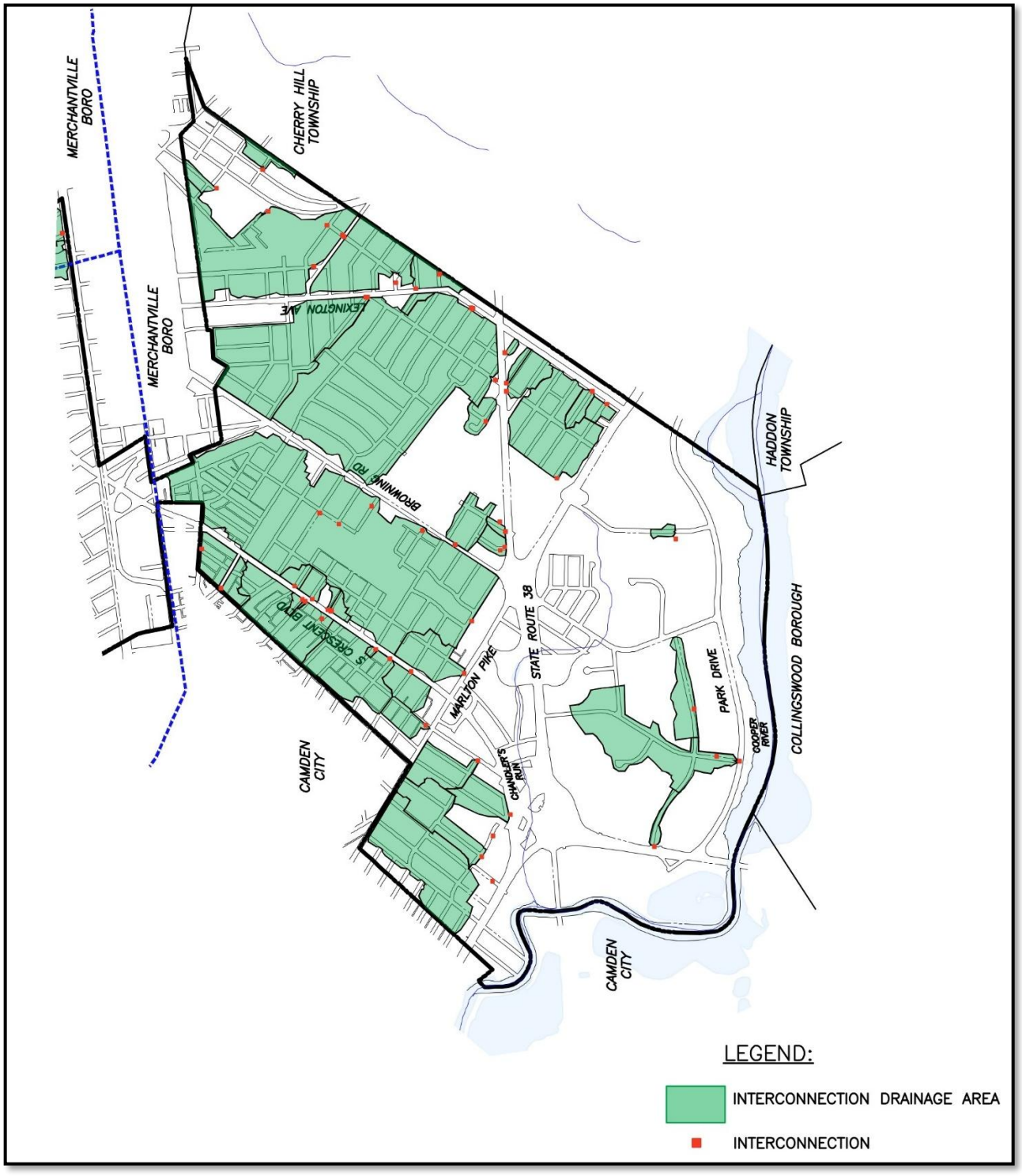


Figure 14: Interconnection Drainage Areas in Cooper River (Below Rte 130) Subwatershed

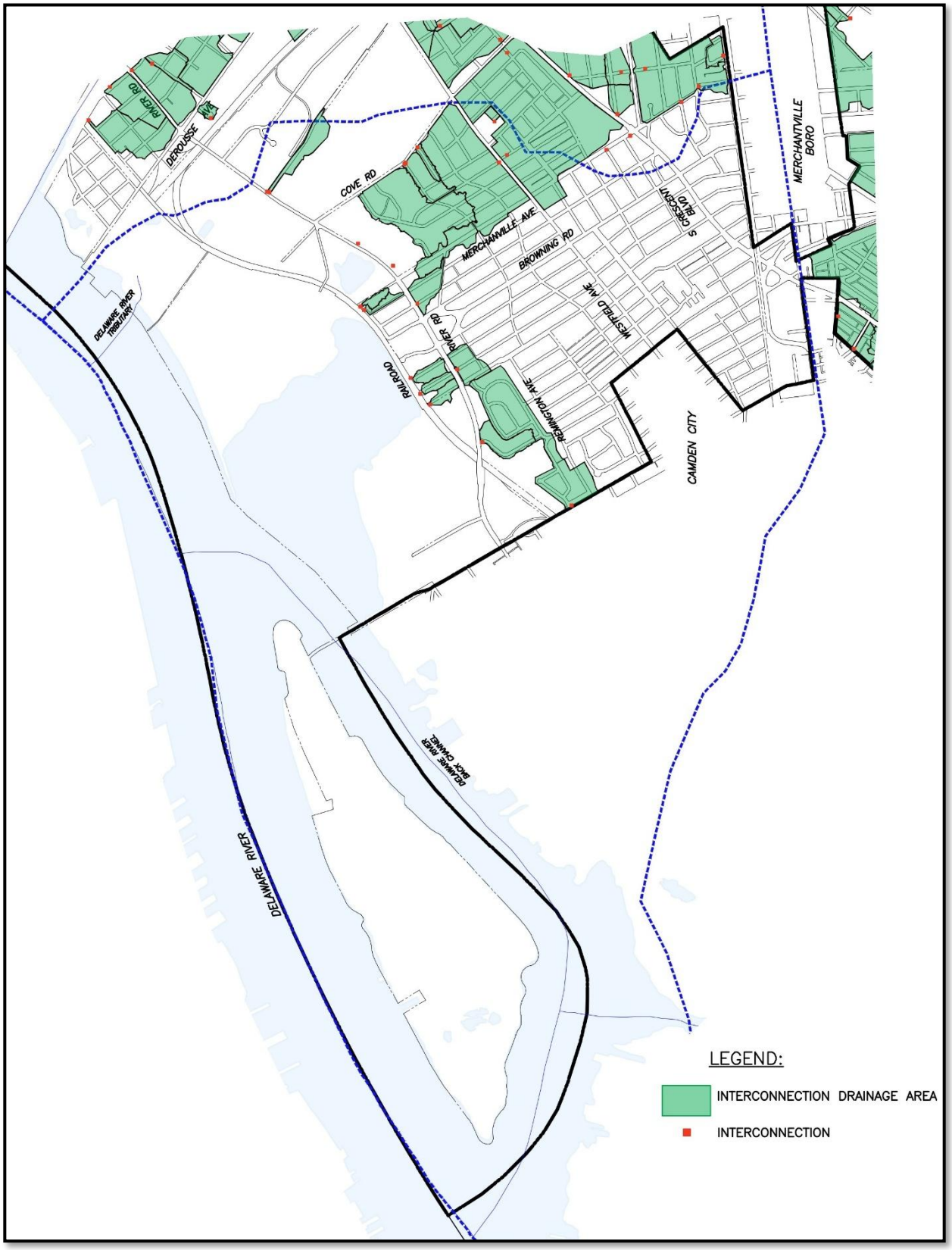


Figure 15: Interconnection Drainage Areas in LDRV Tribs (Pennsauken Ck to 28th St) Subwatershed

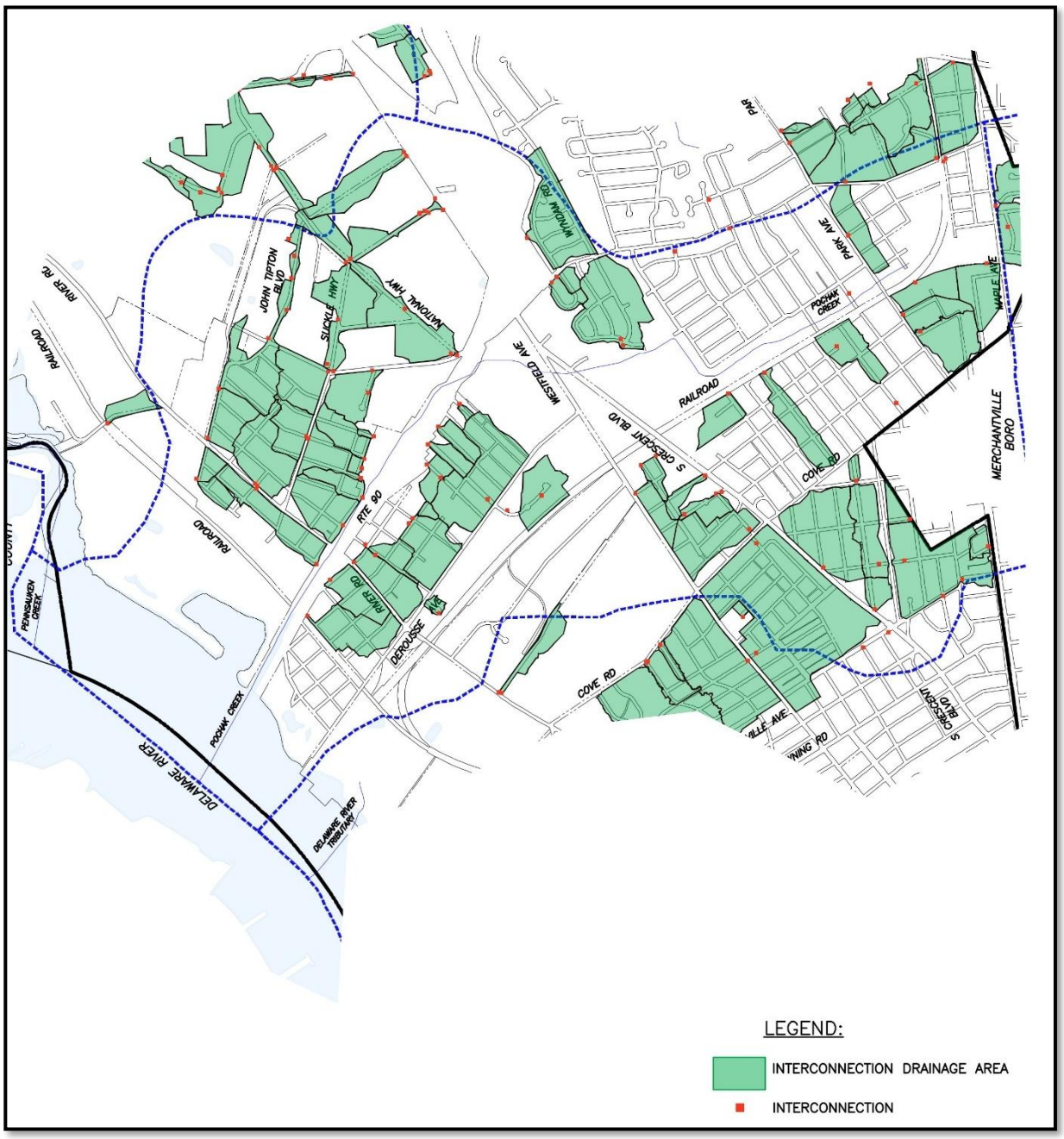


Figure 16: Interconnection Drainage Areas in Pennsauken Ck SB (Below Rte 41) Subwatershed

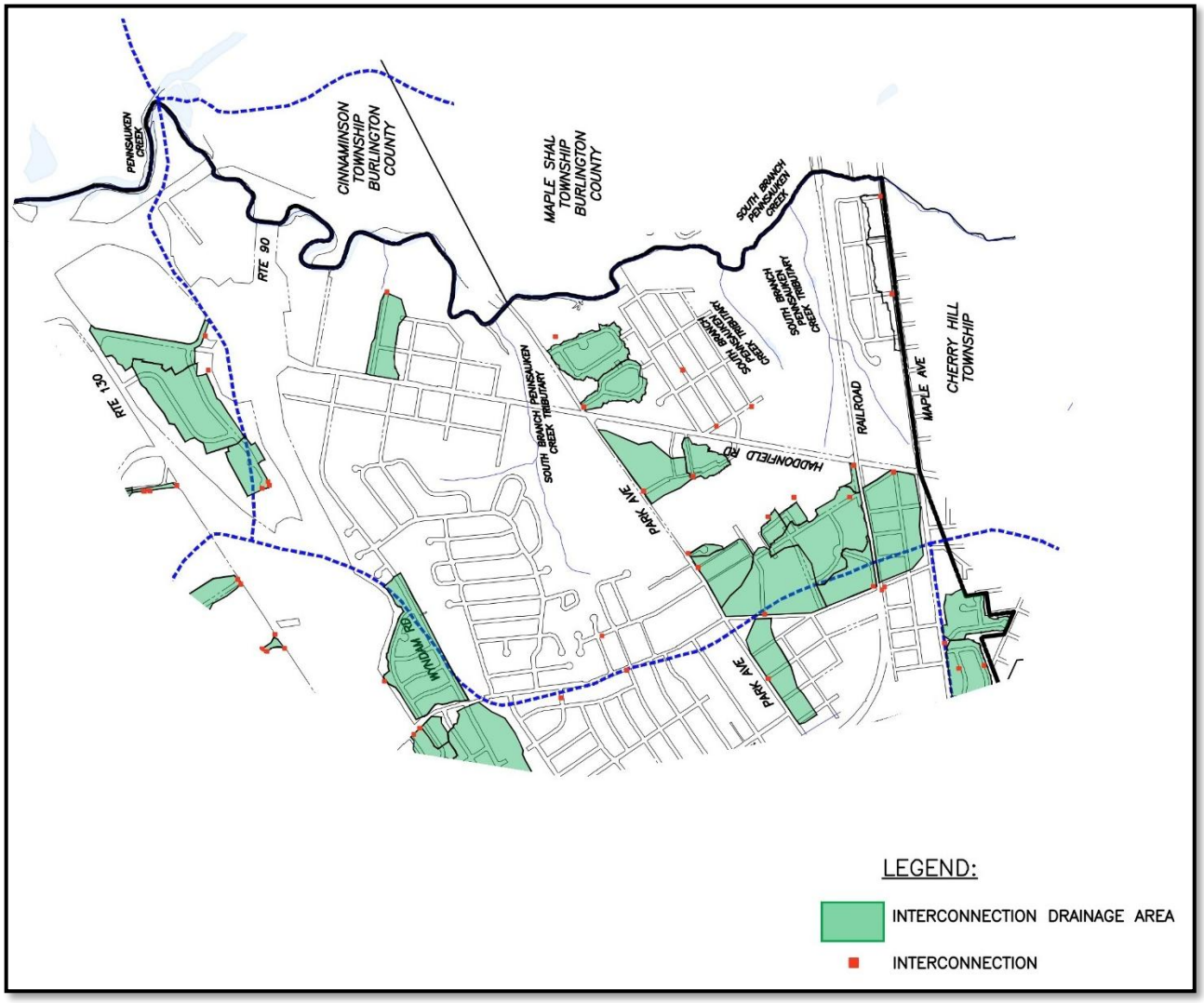


Figure 17: Interconnection Drainage Areas in Pennsauken Ck (Below NB/SB) Subwatershed

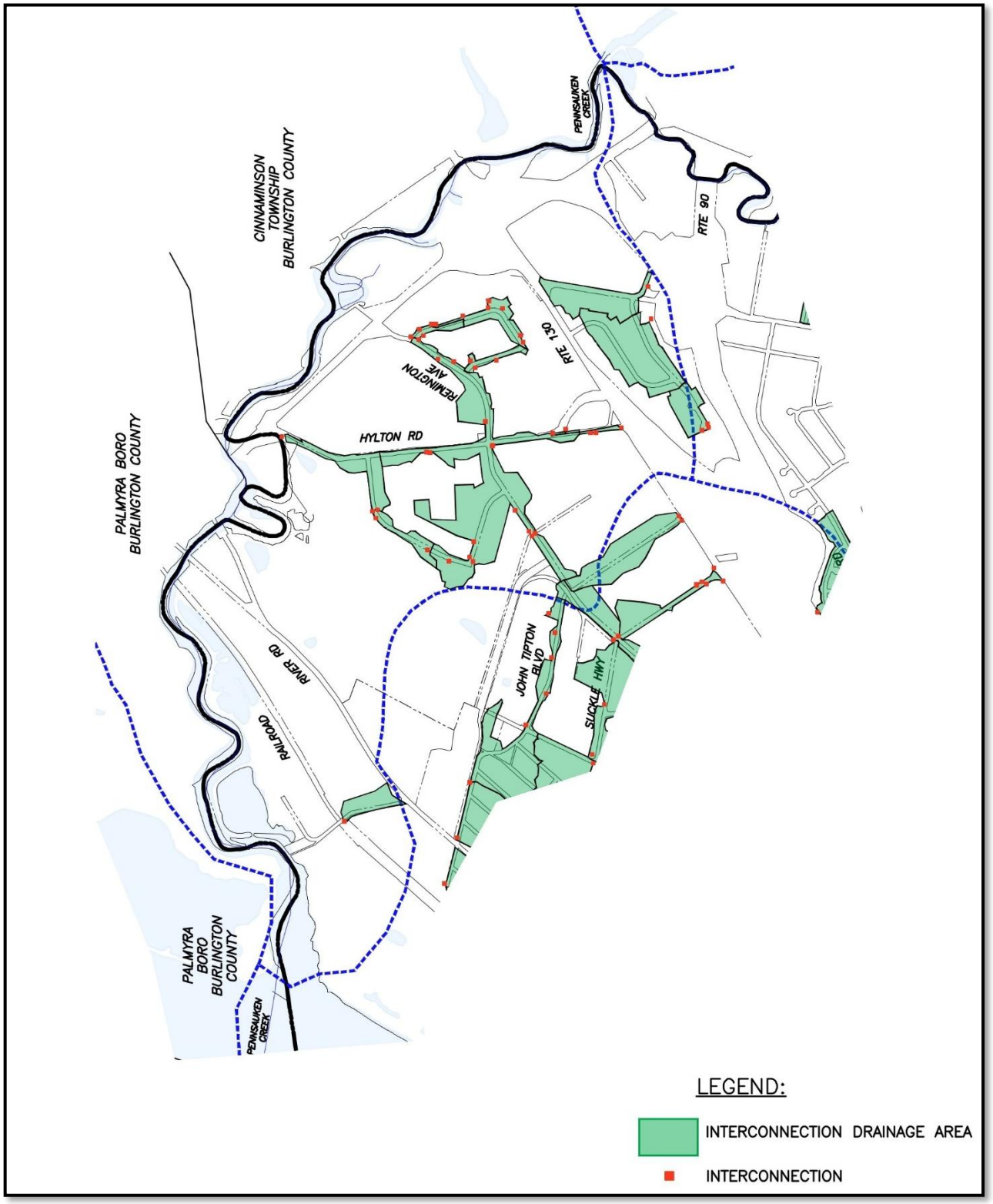


Figure 18: Outfall Drainage Areas in Cooper River (Below Rte 130 to Wallworth Gage) Subwatershed

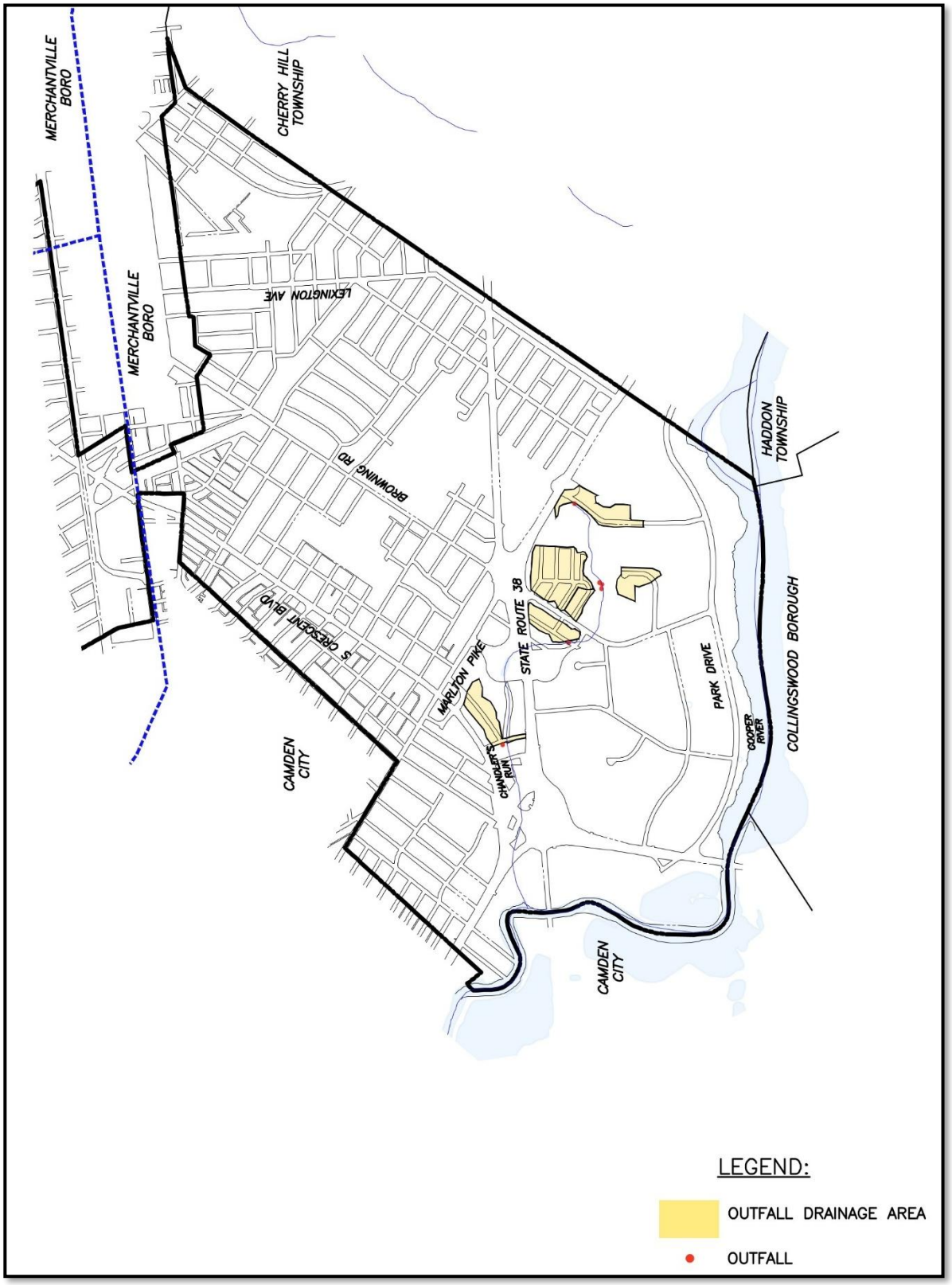


Figure 19: Outfall Drainage Areas in Cooper River (Below Rte 130) Subwatershed

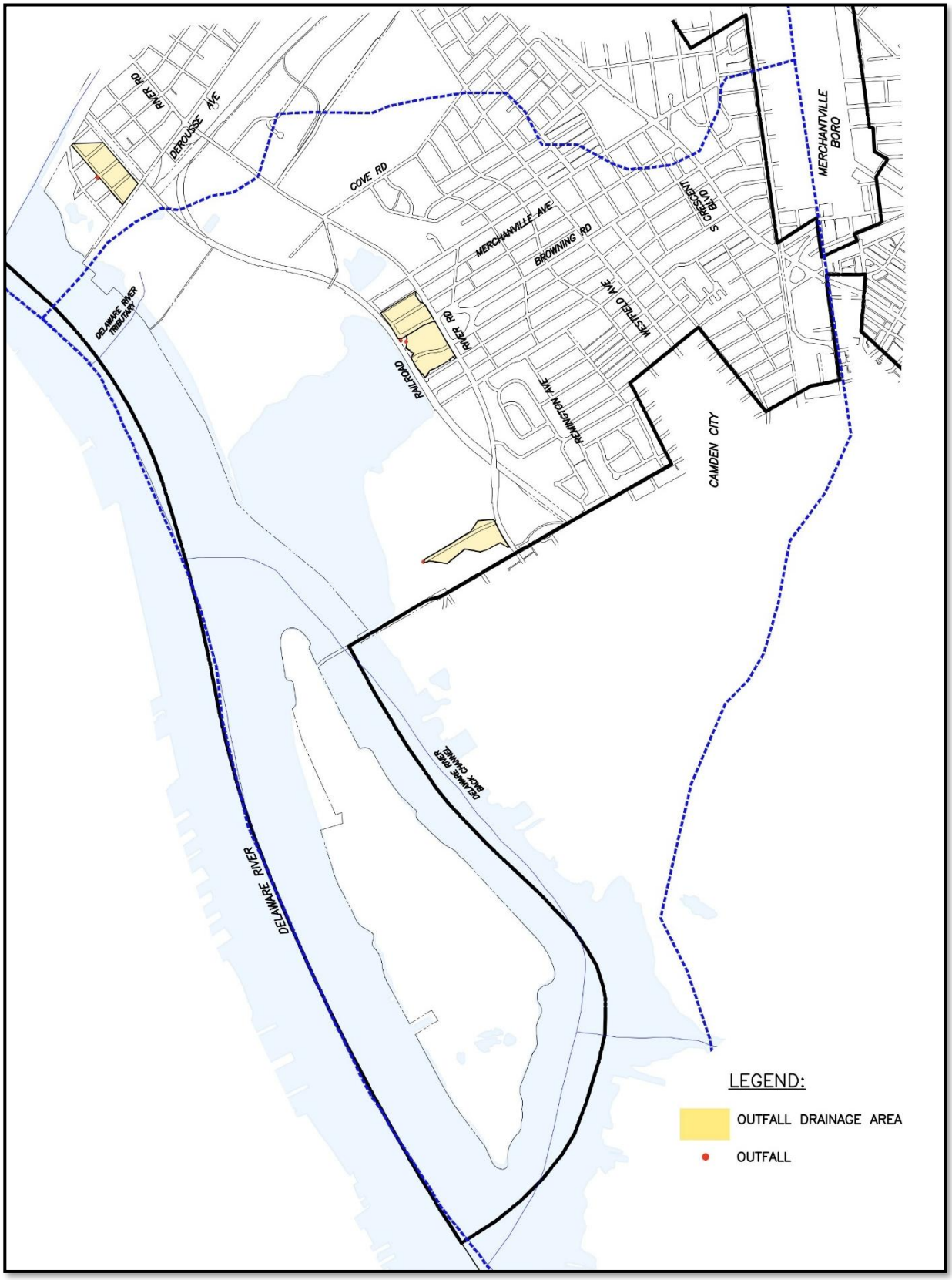


Figure 20: Outfall Drainage Areas in LDRV Tribs (Pennsauken Ck to 28th St) Subwatershed

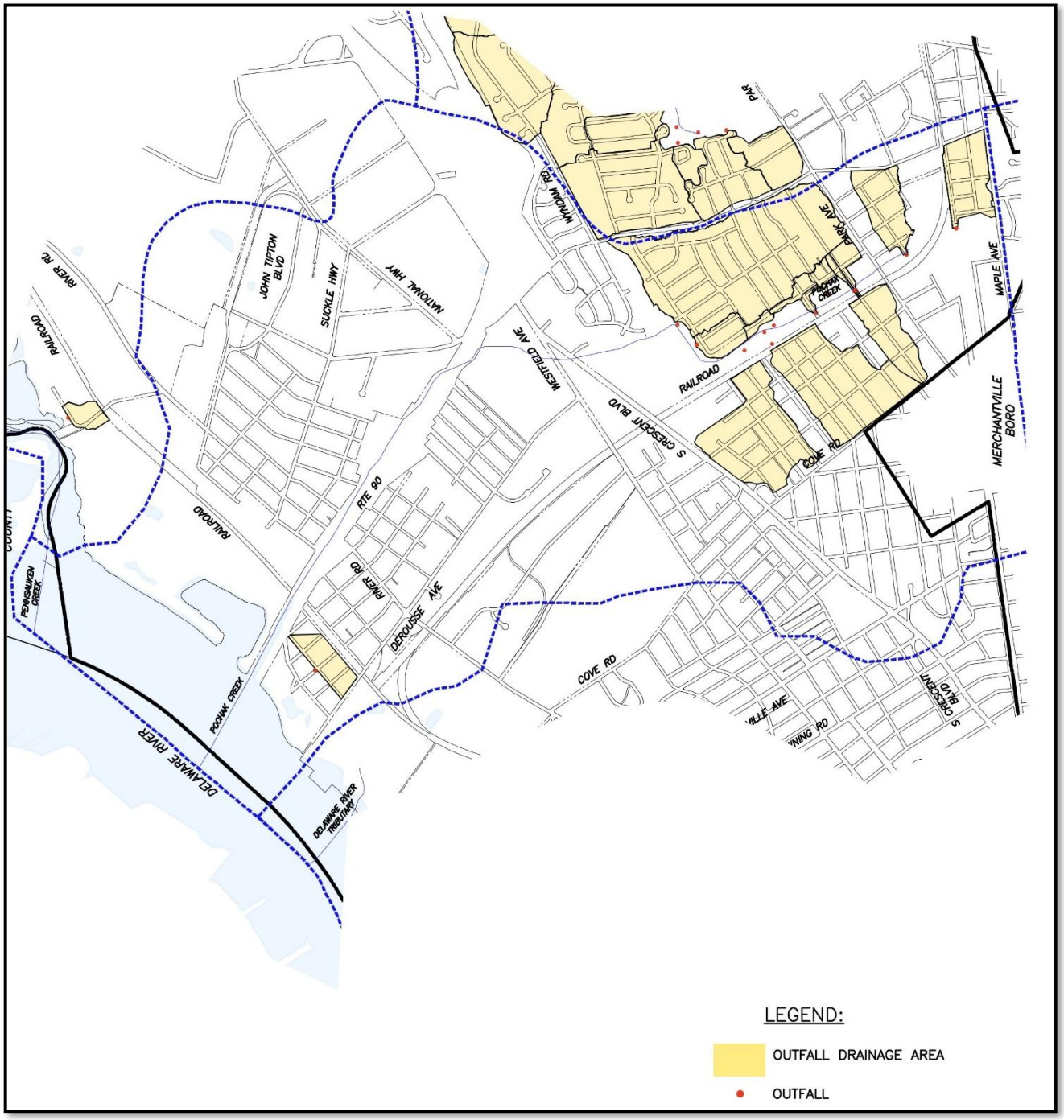


Figure 21: Outfall Drainage Areas in Pennsauken Ck SB (Below Rte 41) Subwatershed

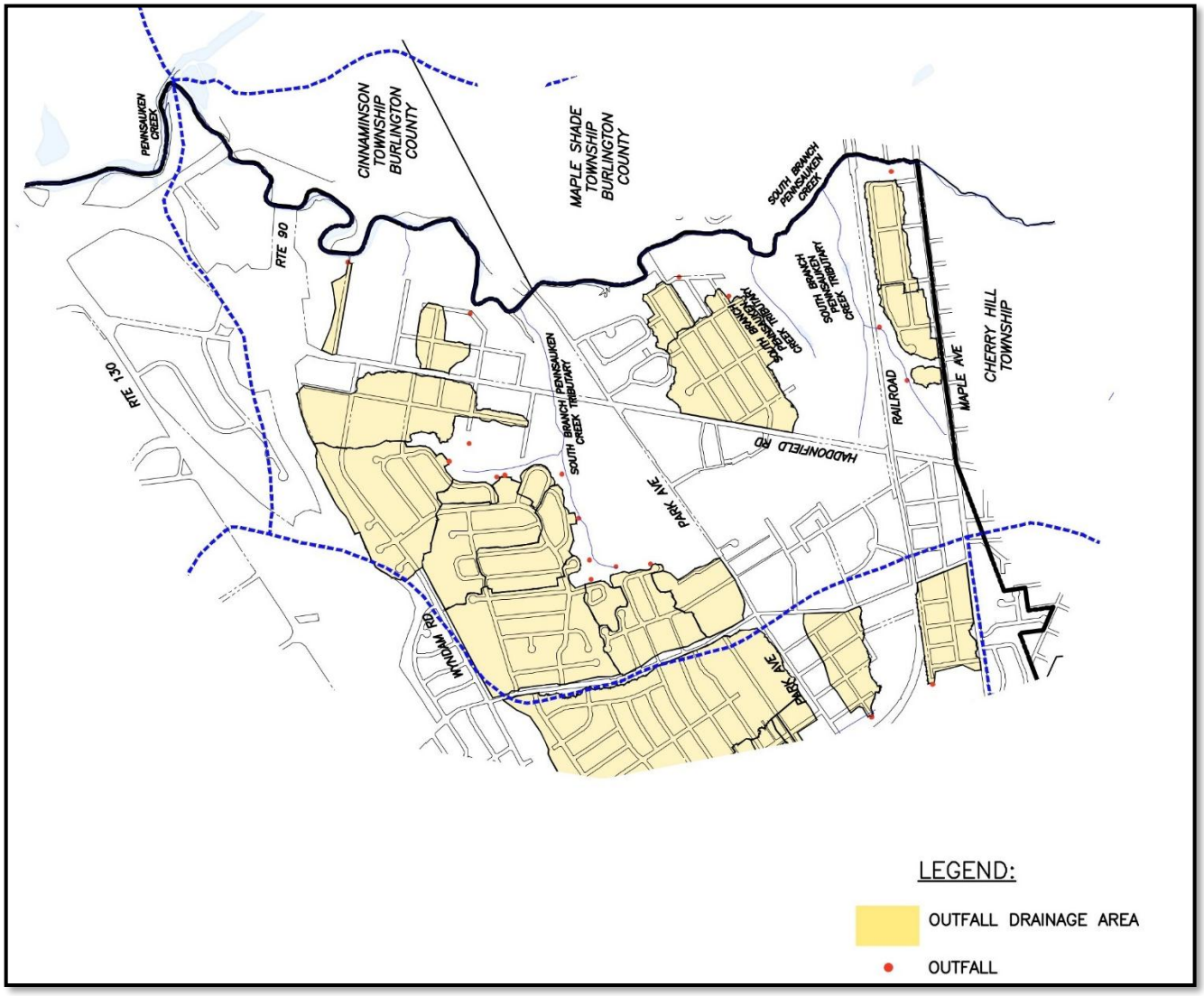
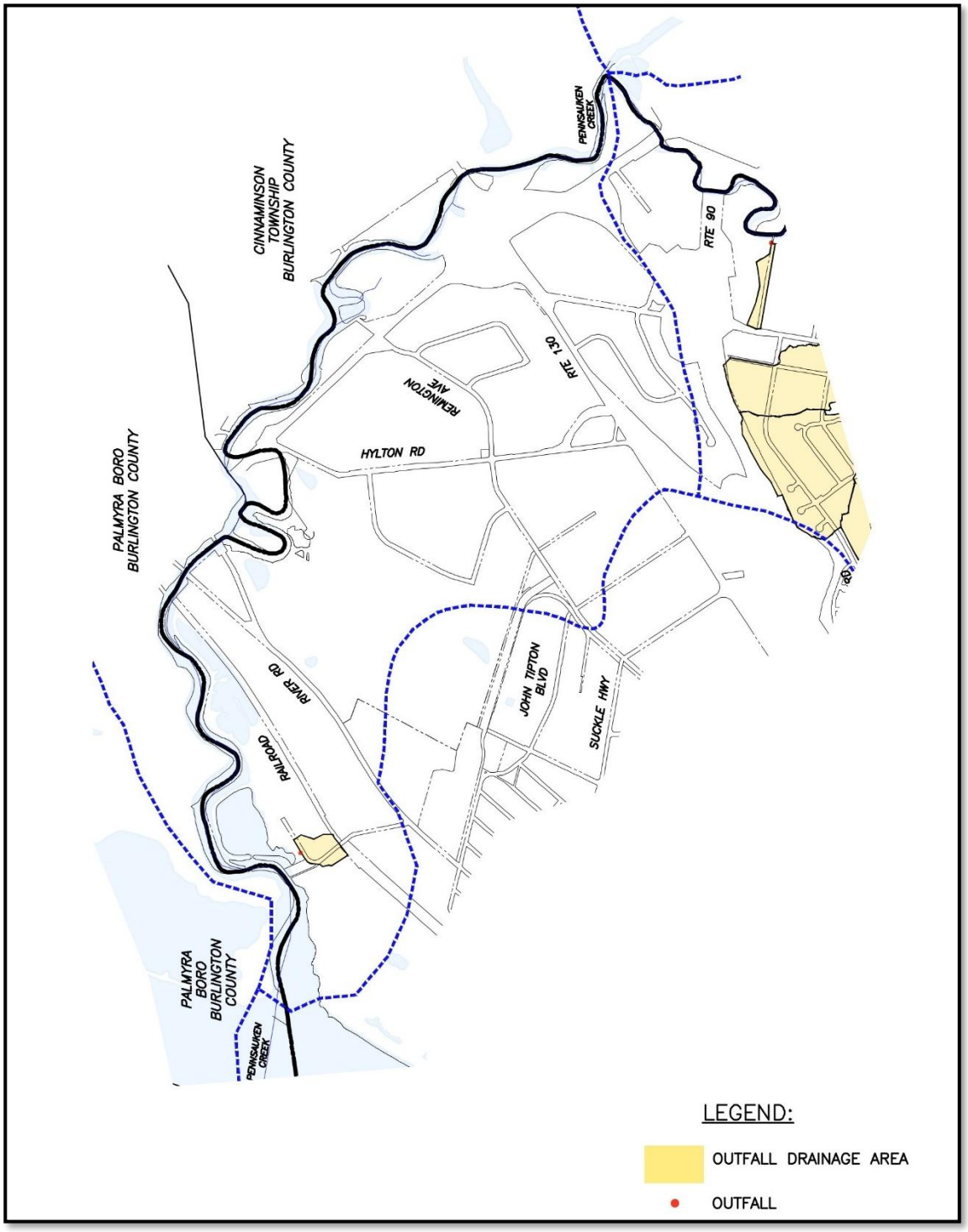


Figure 22: Outfall Drainage Areas in Pennsauken Ck (Below NB/SB) Subwatershed



TMDLs and Water Quality Impairments

Pennsauken Township utilized the New Jersey Watershed Evaluation Tool (NJ-WET) to gather all HUC14 TMDL and Water Quality Impairment data. Data was collected on or about November 12, 2025, 2025. The Township has three (5) HUC14s that lie within or bordering its jurisdiction: Pennsauken Ck SB (below Rt 41), Pennsauken Ck (below NB / SB), LDRV tribs (Pennsauken Ck to 28th St), Cooper River (Rt 130 to Wallworth gage), and Cooper River (below Rt 130).

Total Maximum Daily Load (TMDL) is a calculated federal regulation maximum pollutant load a water body can take while staying healthy and still meet water quality standards to allow waters to be fishable and/or swimmable. Under the Clean Water Act the TMDL focuses on pollutants like bacteria or nutrients that harm designated uses. The TMDL calculation is developed for a specific impaired water (stream or lake) based on the boundaries of its surrounding watershed. In essence, the "streamshed" or "lakeshed" is the geographic area of study and management used to develop the specific TMDL plan for the water body it drains. The TMDLs listed below for each HUC 14 show the TMDL loading for the streamshed areas and the lakeshed areas. New Jersey also specified that shellfish waters shall meet the guidelines of the National Shellfish Sanitation Program (NSSP). The NSSP guidelines include stringent criteria, expressed in terms of indicator organisms, to protect against the harvest of shellfish in waters where the sanitary quality could have health risks for consumers. The TMDLs listed below for each HUC 14 also include the Shellfish maximum loadings.

Each HUC14 is evaluated for TMDL limits based on Streamshed, Lakeshed and Shellfish based on the New Jersey Water Quality standards. Also NJDEP also evaluates watersheds based on 2020 water quality impairments. All HUC14s impacting the Township and their TMDL(s) and Impairments are as follows:

1. HUC 02040202100050: Pennsauken Ck SB (below Rt 41)
    - Total Maximum Daily Loads (TMDLs)
        - Streamsheds – PCBs and VOCs (see figure 23)
        - Lakesheds – None (see figure 24)
        - Shellfish – None (see figure 25)
    - 2020 Water Quality Impairments Related to Stormwater
        - Total Phosphorus and Total Suspended Solids (TSS)
2. HUC 02040202100060: Pennsauken Ck (below NB / SB)
    - Total Maximum Daily Loads (TMDLs)
        - Streamsheds – PCBs and VOCs (see figure 23)
        - Lakesheds – None (see figure 24)
        - Shellfish – None (see figure 25)
    - 2020 Water Quality Impairments Related to Stormwater
        - E. Coli, Dissolved Oxygen, Lead, Total Phosphorus, and PCBs in Fish Tissue
3. HUC 02040202110050: Cooper River (Rt 130 to Wallworth gage)
    - Total Maximum Daily Loads (TMDLs)
        - Streamsheds – PCBs and VOCs (see figure 23)
        - Lakesheds – Total Phosphorus (see figure 24)
        - Shellfish – None (see figure 25)

- 2020 Water Quality Impairments Related to Stormwater
  - E. Coli, Lead, pH, and PCBs in Fish Tissue

4. HUC 02040202110060: Cooper River (below Rt 130)

   - Total Maximum Daily Loads (TMDLs)
     - Streamsheds –PCBs and VOCs (see figure 23)
     - Lakesheds – None (see figure 24)
     - Shellfish – None (see figure 25)

   - 2020 Water Quality Impairments Related to Stormwater
     - E. Coli and PCBs in Fish Tissue

5. HUC 02040202110070: LDRV tribs (Pennsauken Ck to 28th St)

   - Total Maximum Daily Loads (TMDLs)
     - Streamsheds – PCBs and VOCs (see figure 23)
     - Lakesheds – None (see figure 24)
     - Shellfish – None (see figure 25)

   - 2020 Water Quality Impairments Related to Stormwater
     - E. Coli

Each TMDL and Impairment listed above is a pollutant that is a concern as the elevated levels exist in the waterways within the Township of Pennsauken. The following is a brief description of each TMDL and Impairment and areas where the municipality can regulate and review the parameter. This information is taken directly from the NJDEP "Pollutants of Concern" document provided to each municipality

1. **Dissolved Oxygen**

   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.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

2. Lead

Lead is a naturally occurring elemental metal that is extremely toxic to humans and animals. Some common uses of lead today are lead acid batteries, including those used in automobiles, bullets and shotgun shot, fishing sinkers, industrial grade and non-domestic paint, boat keels, radiation shielding, and soldering.

Lead enters the environment through the manufacture and use of consumer products and by contamination of soils and water. Any lead occurring in soils can be mobilized into waterbodies through stream scouring and erosion. Lead in these forms makes its way into waterbodies, including those used for drinking water sources, through stormwater runoff. The Tier A MS4 permit prohibits the improper disposal of waste, such as paint, as well as a program to detect and eliminate illicit discharges.

MS4 permit conditions that regulate this parameter:

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Storm Drain Inlet Retrofitting
- Roadside Erosion Control
- BMPs at Municipal Maintenance Yards
- Stream Scouring Program
- Illicit Discharge Detention and Elimination Program

3. Pathogens (Enterococcus, E. Coli, Fecal Coliform, Total Coliform)

Pathogens, including enterococcus, E. Coli, 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.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

4. pH

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. Microsoft Word - Rain Events Newsletter - June 2010 - CA (wgr-sw.com)

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program

- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

5. **Phosphorous/Total Phosphorous**

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 (a process called eutrophication) 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.

Additionally, high levels of phosphorus can also lead to HABs, that produce toxins which can be harmful to human and animal health. The presence of excessive plant biomass can also interfere with other designated uses, such as swimming or boating. When algae are present in large amounts, drinking water purveyors must also increase the use of disinfectants and oxidants to treat the algae, which can lead to an increase in disinfection byproducts such as trihalomethanes, listed as likely carcinogens by EPA.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

6. **Polychlorinated Biphenyls (PCBs)**

The term ‘PCBs’ (Polychlorinated Biphenyls) represents a broad class of toxic industrial chemicals

first discovered and synthesized in the late 19th century. Their novel chemical properties led to widespread industrial production and usage peaking between the 1930's and late-1960's. Some products may continue to contain PCBs, including electrical equipment, motor and hydraulic oils, oil-based paint, and some plastics. The recognition of PCB associated health hazards were first noted in the 1960's and their production finally banned in 1979. PCBs can accumulate in the leaves and above-ground parts of plants and food crops. They are also taken up into the bodies of small organisms and fish. As a result, people who ingest fish may be exposed to PCBs that have bioaccumulated in the fish they are ingesting. Their oily nature allows them to accumulate in fatty animal tissues and bioaccumulate up the global food chain where they contribute to organ damage and carcinogenesis in higher-tiered species.

PCBs are easily carried away as TSS by stormwater runoff from products containing the compounds which are exposed to stormwater and known and unknown contaminated areas. PCBs have a moderate level of volatility, which means that their vapors are also readily carried aloft by the wind. They are then deposited on exposed surfaces via air deposition.

MS4 permit conditions that regulate this parameter:

- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Roadside Vegetative Waste Management
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Illicit Discharge Detection and Elimination Program

7. Total Suspended Solids (TSS)

Stormwater runoff can pick up particulates, also known as Total Suspended Solids (TSS), from the land surface and carry the particulates into the receiving waterbodies. TSS is one of the most common pollutants found in stormwater runoff. TSS originates from many sources including areas such as roadways, parking lots and developments, erosion of pervious surfaces such as construction sites and dust, litter and other particles deposited on impervious surfaces from human activities. TSS can be made up of particles from pavement (from wear), vehicle exhaust emissions, vehicle parts, building and construction material, road salt, road paint, pedestrian debris, soil material, plant and leaf litter, and may contain heavy metals as well as atmospheric deposition of particles that may be transported from outside of the municipality (Hopke et al., 1980; Taylor and Owens, 2009; Total Suspended Solids (TSS) in stormwater - Minnesota Stormwater Manual (state.mn.us)).

High concentrations of TSS in the receiving waters can cause problems and negatively impact multiple designated uses, including those related to human health and aquatic life. Excessive TSS can bury benthic organisms and affect the viability of organisms that reside in the water column. These materials can easily become suspended due to stormwater runoff, erosion, and resuspension from seasonal water flow. TSS can impact not only aquatic organisms but drinking water as well. Organic TSS, such as decomposing matter or sewage effluent from illicit connections and/or SSOs include high levels of microorganisms such as protozoa, bacteria, and viruses. Such pathogens contribute to waterborne diseases like cryptosporidiosis, cholera, and giardiasis. Turbid water, whether due to organic or inorganic material, cannot be easily disinfected at potable water treatment facilities, as the suspended particles will "hide" these microorganisms. Turbidity may also reduce visibility of underwater structures such as logs or large boulders, negatively affecting a water body's recreational use.

MS4 permit conditions that regulate this parameter:

- Pet Waste Ordinance
- Wildlife Feeding Ordinance
- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Yard Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Roadside Vegetative Waste Management
- Roadside Erosion Control
- Inspection and Maintenance of Stormwater Facilities
- Stream Scouring Program
- Illicit Discharge Detection and Elimination Program

8. **Volatile Organic Compound (VOCs)**

Volatile Organic Compounds (VOCs) is the name given to a large group of chemical compounds that vaporize into the air and can dissolve into the water from certain solids or liquids at varying rates. VOCs are released or "off-gassed" into the air by many products that are used to build and maintain motor vehicles and houses, such as paints, glues, caulk, solvents, fuels and other vehicle fluids, cleansers and disinfectants, aerosol sprays, pesticides, and wood preservatives. Common examples of VOCs are benzene, ethylene glycol, formaldehyde, methylene chloride, tetrachloroethylene, toluene, xylene, and 1,3-butadiene. While many VOCs can cause adverse effects on aquatic life, there are also several adverse human health risks associated with encountering VOCs, including worsening asthma symptoms, cancer, liver and kidney damage, and central nervous system damage.

Stormwater can come in contact with VOCs from vehicle surfaces, roads, parking lots, driveways, and litter or other wastes. Once these improperly disposed materials containing VOCs encounter stormwater runoff they are discharged to the surface and ground waters of the state which are in turn used for drinking water supplies and the protection and propagation of aquatic life.

Surface water quality criteria serve to protect water quality for designated uses such as supporting the survival, growth, and reproduction of aquatic life, protecting the quality of drinking water sources, maintaining good water quality for primary and secondary contact recreational uses, and keeping fish safe for human consumption.

MS4 permit conditions that regulate this parameter:

- Litter Control Ordinance
- Improper Disposal of Waste Ordinance
- Street Sweeping Program
- Herbicide Application Management
- Inspection and Maintenance of Stormwater Facilities
- BMPs at Municipal Maintenance Yards
- Illicit Discharge Detection and Elimination Program

In simple terms, this means that stormwater runoff from streets, parking lots, and other hard surfaces in

Pennsauken can carry these pollutants into Pennsauken Creek, its tributaries, the Cooper River, and other known water bodies in the Township. Over time, this pollution can make the water less safe for fish and wildlife, increase algae growth and unpleasant odors, and make it harder and more expensive to treat water for drinking and recreation. The information in this section will be used in Phase 2 of the Watershed Improvement Plan to identify projects in Pennsauken that can most effectively reduce these pollutants and improve the health of known water bodies within the Township.

Figure 23: TMDL (Streamsheds) – Polychlorinated Biphenyls (PCBs) and Volatile Organic Compound *(VOCs)*

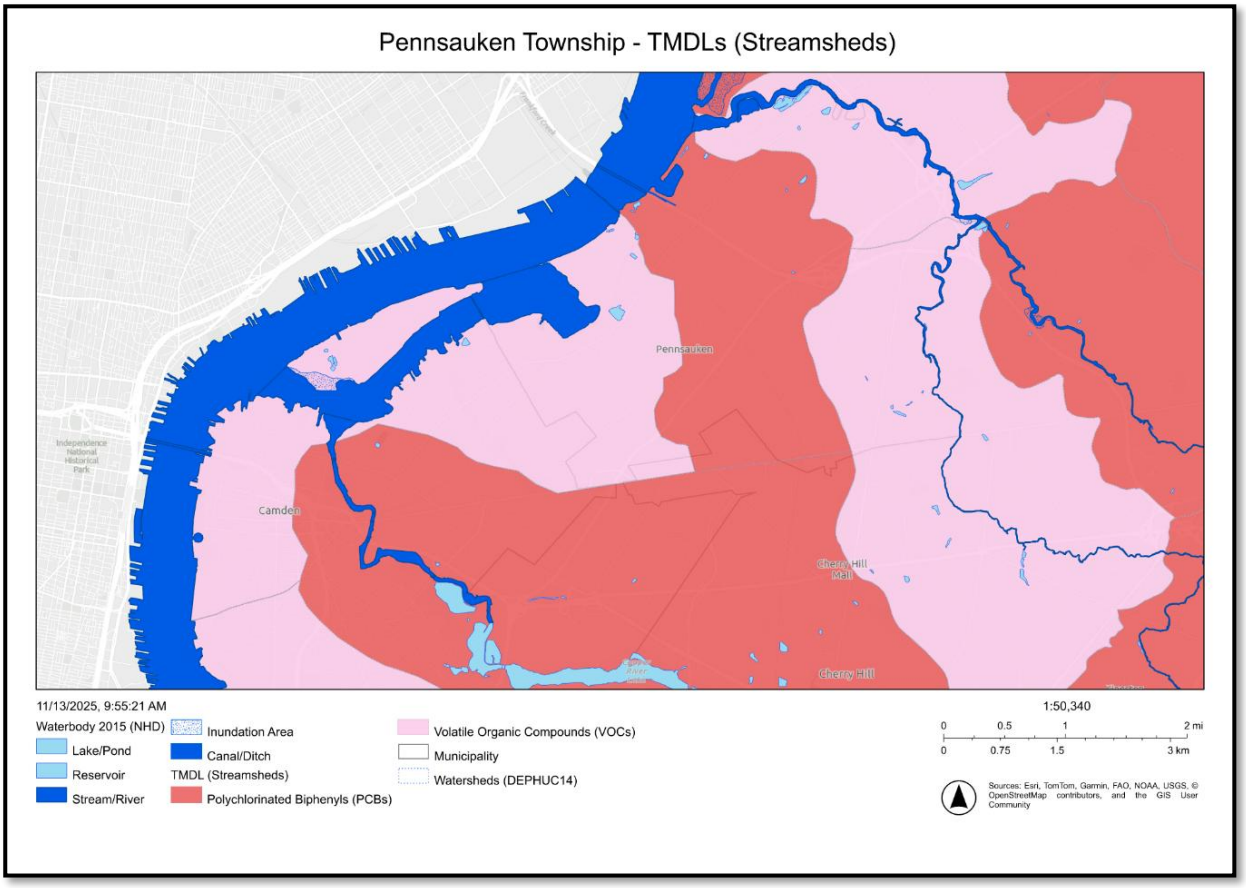


Figure 24: TMDL (Lakesheds) – Total Phosphorus

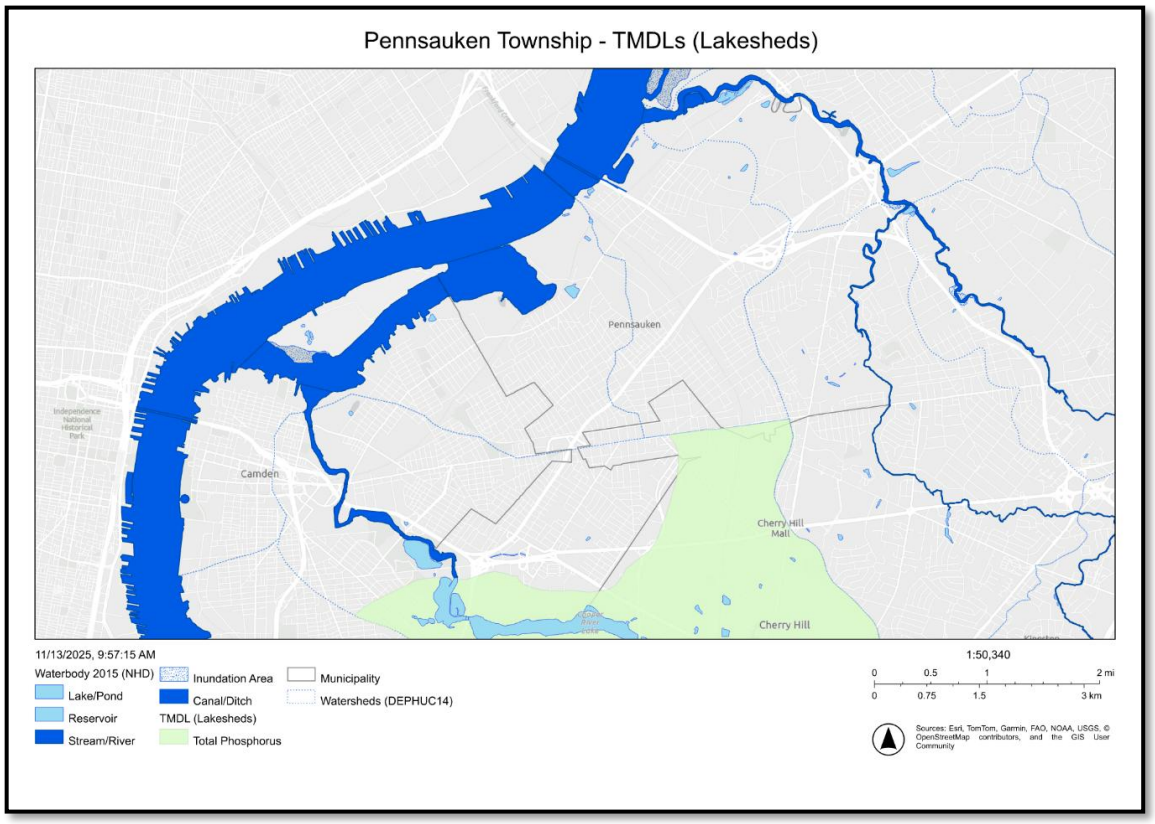
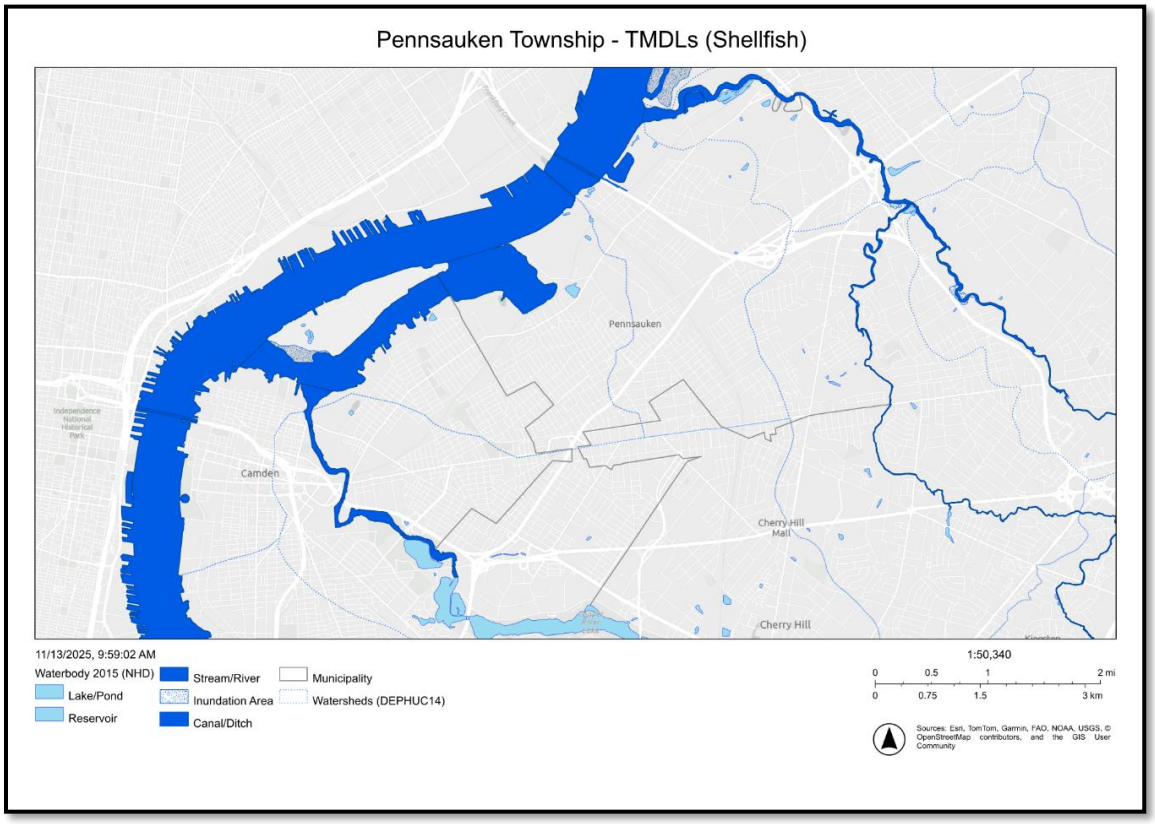


Figure 25: TMDL (Shellfish) – None



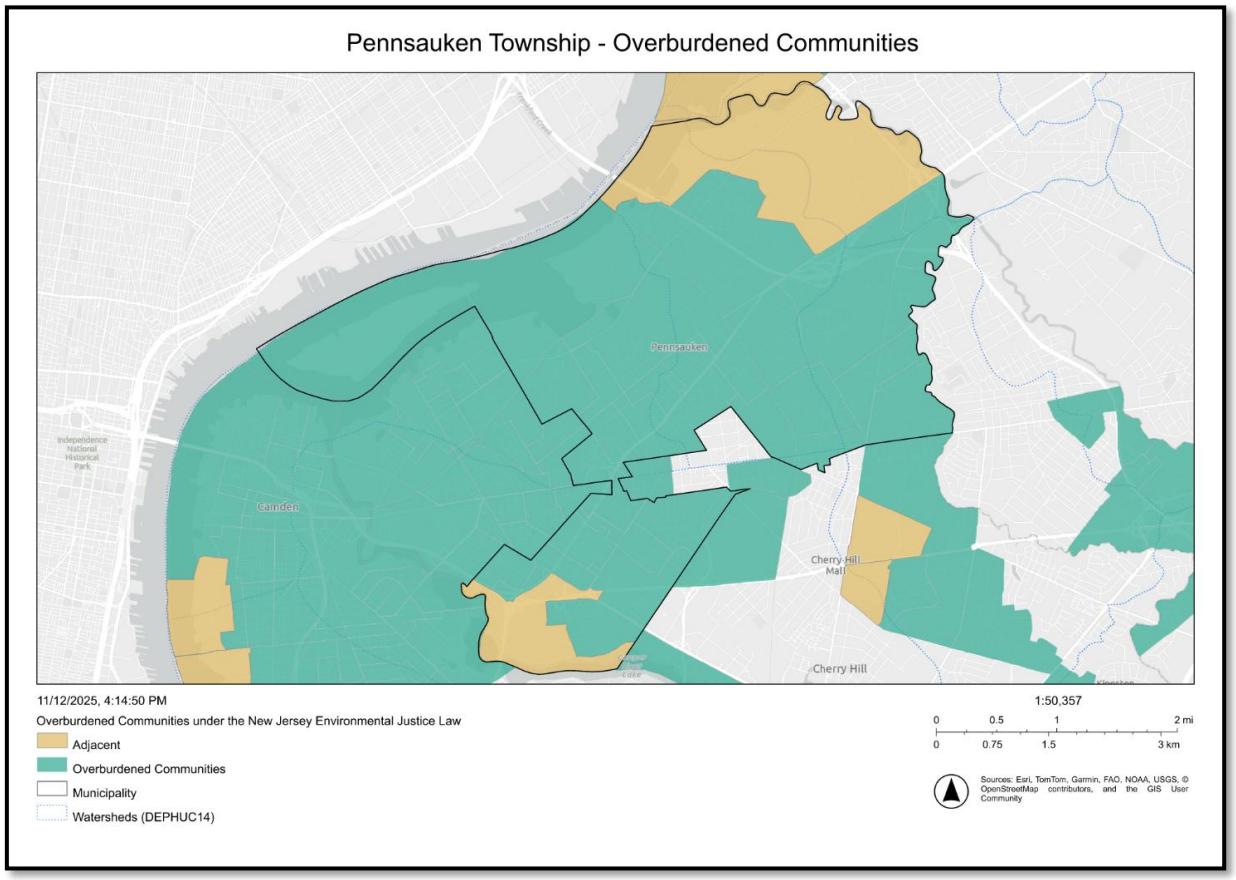
Overburdened Communities

Overburdened communities are locations identified by the State as experiencing relatively higher environmental and public health stressors compared to other areas. These conditions are typically associated with a combination of factors, which may include the presence of pollution sources, flooding risk, and certain social and economic characteristics. When overburdened communities are identified, the MS4 permit and NJDEP's Watershed Improvement Plan (WIP) guidance encourage municipalities to consider these areas when evaluating and prioritizing potential stormwater-related needs and opportunities.

Pennsauken Township used the New Jersey Watershed Evaluation Tool (NJ-WET) to identify overburdened communities within its jurisdiction. The NJ-WET data used for this analysis were obtained in November 2025. Based on this evaluation, overburdened communities are present within all subwatersheds (HUC14s) in the Township and encompass a notable portion of the municipal area, as shown on Figure 26. In general, these areas are located within older, more densely developed portions of the Township, as well as along major transportation and commercial corridors.

In many communities, aging infrastructure and limited resources can contribute to an increased vulnerability to stormwater-related concerns such as localized flooding or runoff-related water quality impacts. These conditions may also intersect with broader public health and quality-of-life considerations. Understanding where such conditions exist allows municipalities to better evaluate how stormwater management efforts may relate to environmental and community-level concerns.

Figure 26: Overburdened Communities within Pennsauken Township



How this information may be used in Phase 2

For residents, the identification of overburdened communities indicates that certain areas of Pennsauken may be more susceptible to stormwater-related challenges, even if those challenges are not always evident on a day-to-day basis. The mapping and analysis completed in Phase 1 does not change zoning, land use, or property status. Rather, they provide contextual information to assist the Township and NJDEP in understanding existing watershed conditions.

During Phase 2 of the Watershed Improvement Plan, Pennsauken anticipates using the overburdened communities mapping, in combination with drainage area characteristics, impervious cover, and outfall information, to help inform future evaluations of stormwater conditions and potential improvement opportunities. This information may be used to:

- Help identify locations where stormwater- or flooding-related concerns may warrant further evaluation, particularly in or near overburdened communities;
- Support the consideration and relative prioritization of potential water quality or drainage improvement concepts, where feasible and subject to available resources; and
- Inform the development of public outreach or engagement efforts intended to solicit input from a broad range of residents, including those living within overburdened communities.

The consideration of overburdened communities as part of the Watershed Improvement Plan is intended to provide additional context for future planning efforts and to support informed decision-making, while recognizing that the implementation, timing, and scope of any stormwater projects remain subject to regulatory requirements, funding availability, and further study.

Impervious Area

Pennsauken Township used the New Jersey Watershed Evaluation Tool (NJ-WET) to obtain impervious area mapping on November 2025. In addition, publicly available New Jersey Geographic Information System (GIS) data were imported into AutoCAD to estimate the percentage of impervious cover within each HUC14 subwatershed located within the Township. The resulting impervious cover estimates are summarized below:

- Pennsauken Creek South Branch (below Route 41): **60.63%**
- Pennsauken Creek (below North Branch/South Branch confluence): **57.62%**
- Cooper River (Route 130 to Wallworth gage): **89.90%**
- Cooper River (below Route 130): **40.14%**
- Delaware River tributaries (Pennsauken Creek to 28th Street): **67.11%**

Impervious cover consists of hard, man-made surfaces such as roads, parking lots, driveways, and rooftops that limit the ability of rainfall to infiltrate into the ground. As impervious cover increases, a greater portion of rainfall typically becomes stormwater runoff, which is conveyed more rapidly to storm drains and nearby waterways. Elevated levels of impervious cover are commonly associated with the following conditions:

- Increased stream temperatures, as runoff is warmed by paved surfaces prior to entering surface waters;
- Reduced dissolved oxygen levels, which can place stress on aquatic organisms; and
- Increased turbidity and streambank erosion, as more frequent and higher-velocity flows transport sediment and can destabilize channel banks.

Over time, these conditions may contribute to degraded stream health, water quality impairments, and increased demand on stormwater infrastructure.

Roles of Surrounding Jurisdictions and Use in Phase 2

Several of the HUC14 subwatersheds evaluated as part of this Watershed Improvement Plan extend beyond the boundaries of Pennsauken Township and are shared with neighboring municipalities and agencies, including Maple Shade Township, Merchantville Borough, Cherry Hill Township, Collingswood Borough, Camden City, Cinnaminson Township, Palmyra Borough, Haddonfield Borough, Haddon Township, the New Jersey Department of Transportation (NJDOT), the Delaware River Port Authority (DRPA), Private Facilities and Camden County. Stormwater runoff reaching Pennsauken's waterways is influenced by drainage patterns and impervious surfaces both within the Township and portions of these shared subwatersheds located outside of Pennsauken's jurisdiction.

While this report focuses on conditions within Pennsauken Township, NJDEP guidance recognizes that watershed boundaries do not align with municipal boundaries and encourages municipalities to be aware of regional watershed conditions when evaluating stormwater issues. It is important to note that the presence of shared subwatersheds does not imply a requirement for inter-municipal coordination or joint stormwater projects.

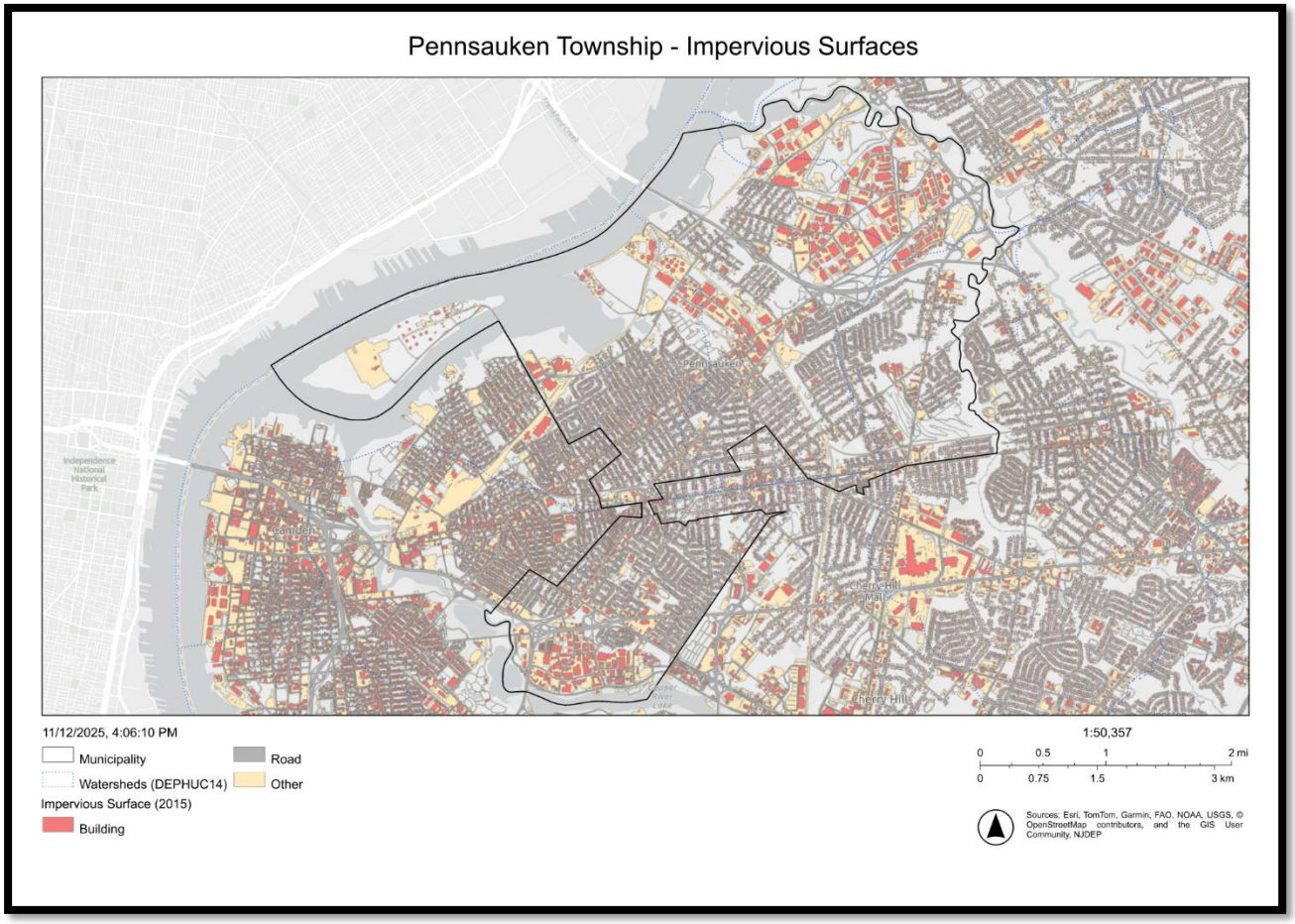
During Phase 2 of the Watershed Improvement Plan, Pennsauken may, where relevant, evaluate the feasibility of considering regional watershed factors as part of its planning-level review of stormwater

conditions. This evaluation will include:

- Reviewing how impervious cover and drainage areas within shared subwatersheds may influence flows received at Pennsauken stormwater outfalls and waterways;
- Assessing whether information exchange or limited coordination with neighboring municipalities or agencies could be practicable or beneficial for understanding watershed conditions; and
- Considering whether regional context should be factored into the evaluation of potential stormwater management concepts within Pennsauken, recognizing jurisdictional, regulatory, and resource constraints.

Any consideration of regional or inter-jurisdictional approaches would be exploratory in nature and subject to further evaluation. The implementation of coordinated efforts or shared stormwater projects is not assumed and would depend on feasibility, available funding, regulatory requirements, and the independent priorities and authorities of the involved entities.

Figure 27: Impervious Area within Pennsauken Township



Non-Municipally Owned or Operated Stormwater Facilities

Non-Municipally owned stormwater facilities (NMSF) are structures that help manage rain and snowmelt so that it does not cause flooding or carry too many pollutants into nearby streams and lakes that are not owned or operated by the Township. Common examples include:

- **Detention basins** – Stormwater detention shallow ponds that **temporarily hold** stormwater and release it slowly to reduce downstream flooding.
- **Infiltration basins** – Stormwater Facilities that are designed so that stormwater can **soak into the ground**, helping to recharge groundwater and filter pollutants.
- **Retention basins / wet ponds** – Stormwater detention ponds that keep a **permanent pool of water** and provide extra storage during storms. As water moves through them, some pollutants can settle out or break down.

The stormwater facilities in this section are not owned by the Township. They are owned and operated by private property owners (for example, medical offices, banks, commercial plazas, and other businesses). A table is shown in the Appendix A – Table 5 of this report and it lists each identified facility together with its associated property owner. Figures 28 through 32 depict the location of each Non-Municipally Owned or Operated Stormwater Facilities. Even though the Township does not maintain these systems, they function as part of the overall drainage network and influence how stormwater and pollutants move through each subwatershed (HUC14).

To identify non-municipally owned or operated stormwater facilities within Pennsauken's jurisdiction, the Township used:

- The Rutgers hydrologic and hydraulic (H&H) modeling database (accessed November 2025);
- A list prepared by the Township describing the locations and types of non-municipal stormwater facilities; and
- Field observations collected during the Phase 1 field survey.

All identified non-municipal stormwater facilities are located throughout the Township in multiple subwatersheds. These facilities include a mix of basins and structural stormwater practices that manage runoff from private properties but ultimately discharge to the same creeks and rivers evaluated in this Watershed Improvement Plan.

Electronic data for non-municipally owned or operated stormwater infrastructure will be submitted electronically in georeferenced CAD file with required attributes via NJDEP Online.

How this information will be used in Phase 2

In Phase 2 (Watershed Assessment Report), the Township will use this inventory of private stormwater facilities to:

- Understand how much stormwater is already being managed on private properties within each subwatershed;
- Identify whether additional improvements or retrofits to these facilities could help reduce pollutant loads or flooding, especially where they are located within drainage areas to Township outfalls; and
- Where appropriate, coordinate with willing private owners to encourage good maintenance and explore opportunities for voluntary upgrades that align with the Township's watershed and flooding goals.

These non-municipal facilities will be evaluated alongside Township-owned infrastructure when the

Township identifies and prioritizes potential water quality and flooding projects in Phase 2.

Figure 28: Non-municipally Owned/Operated Stormwater Infrastructure in Cooper River (Below Rte 130 to Wallworth Gage) Subwatershed

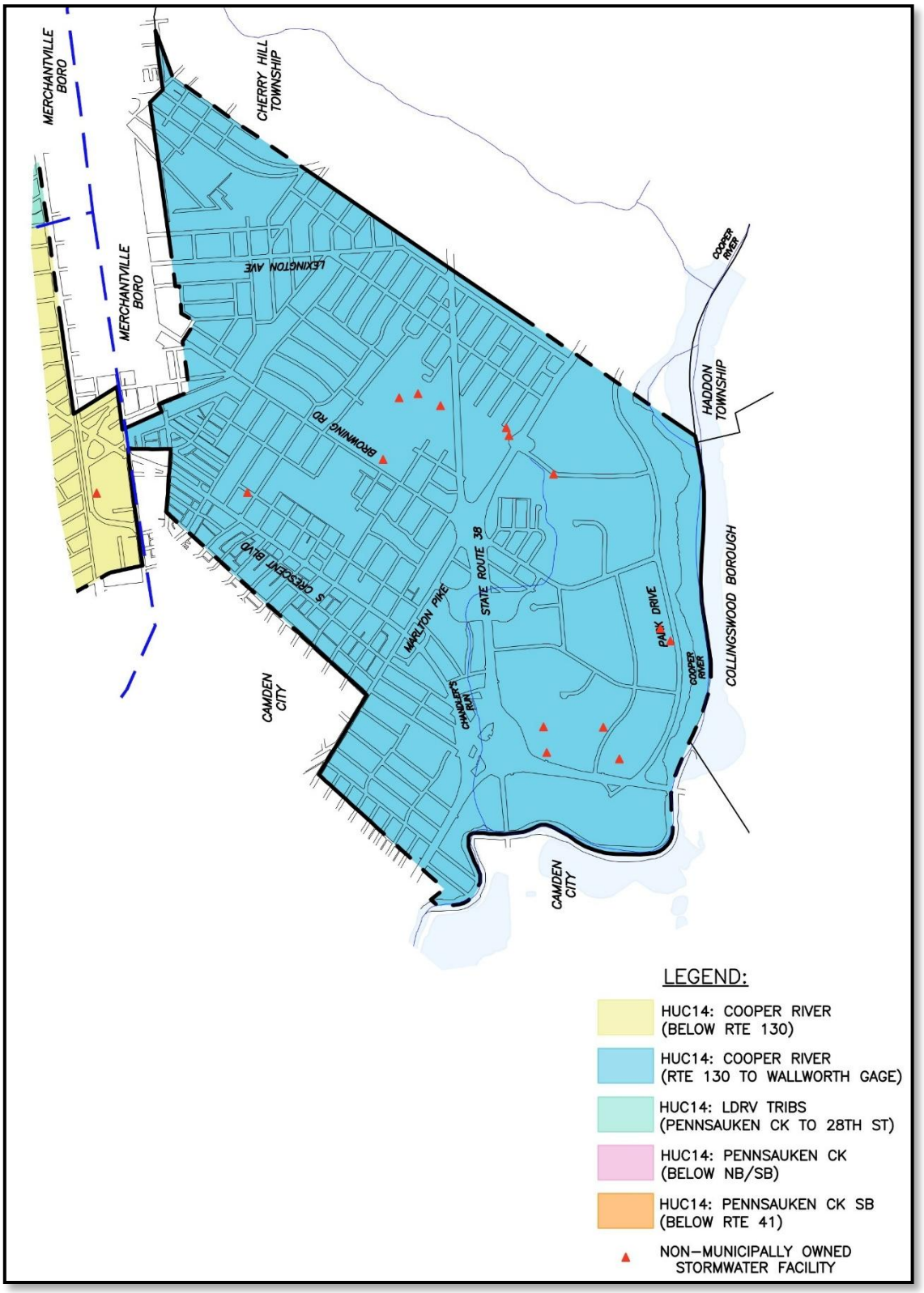


Figure 29: Non-municipally Owned/Operated Stormwater Infrastructure in Cooper River (Below Rte 130) Subwatershed

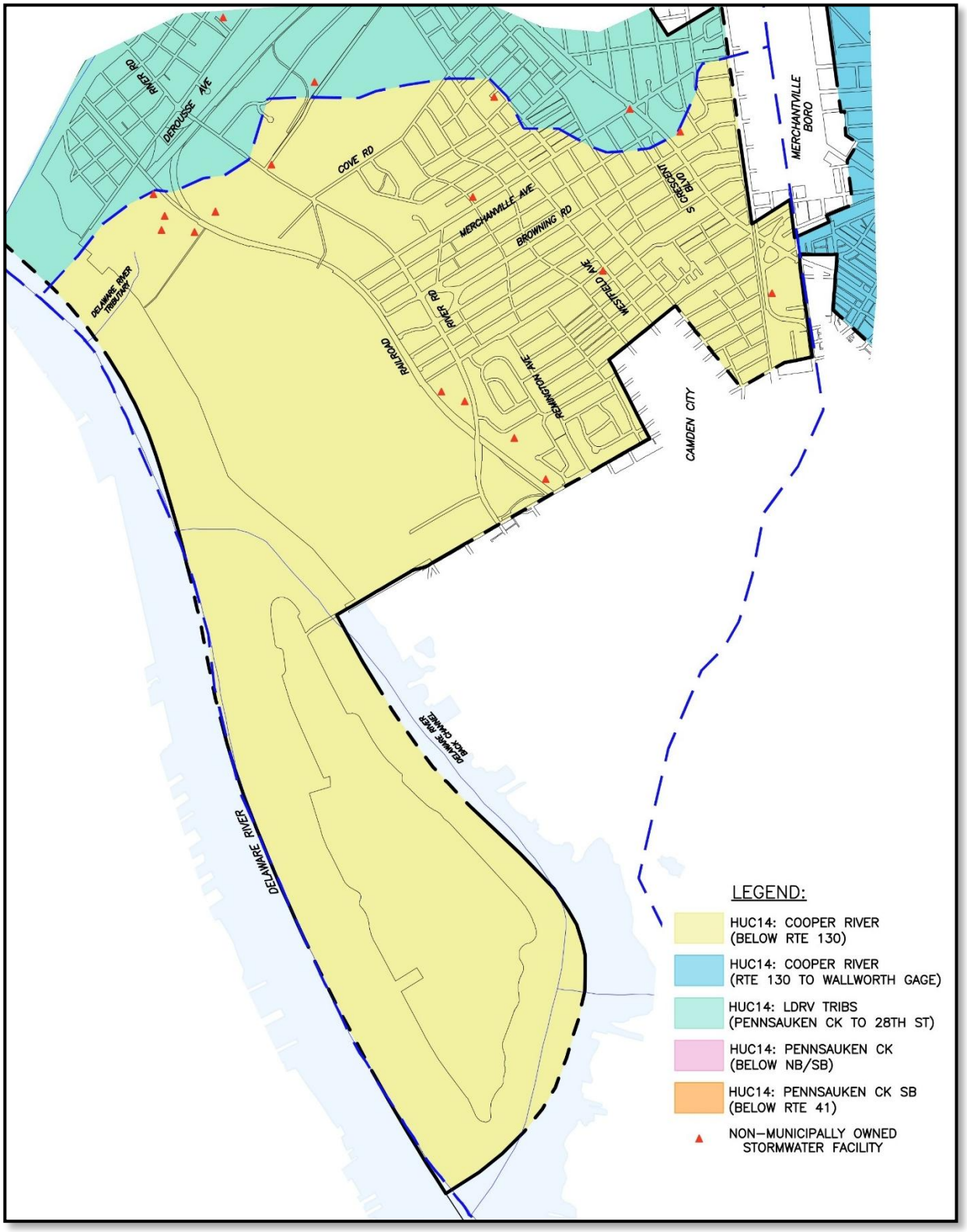


Figure 30: Non-municipally Owned/Operated Stormwater Infrastructure in LDRV Tribs (Pennsauken Ck to 28th St) Subwatershed

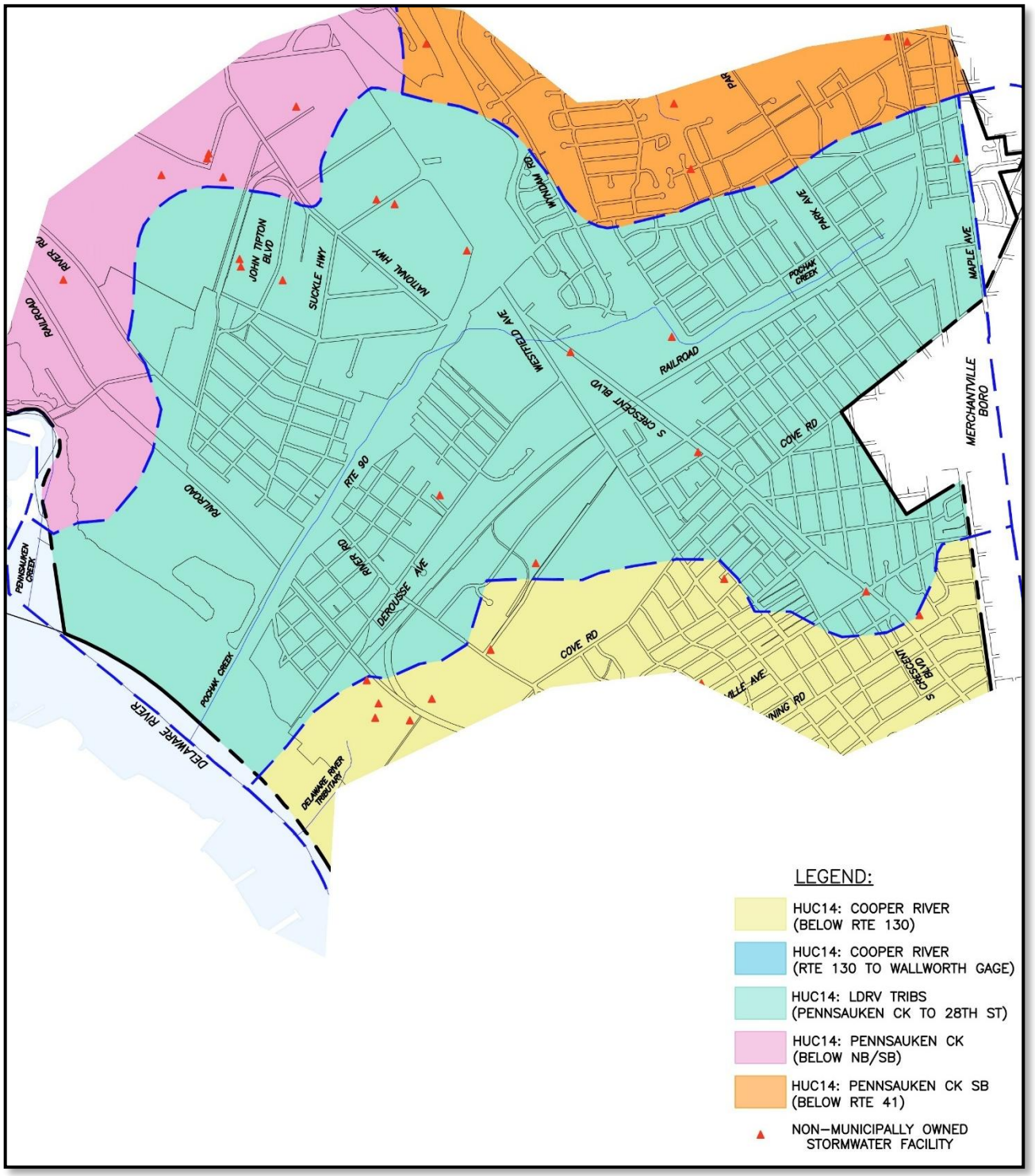


Figure 31: Non-municipally Owned/Operated Stormwater Infrastructure in Pennsauken Ck SB (Below Rte 41) Subwatershed

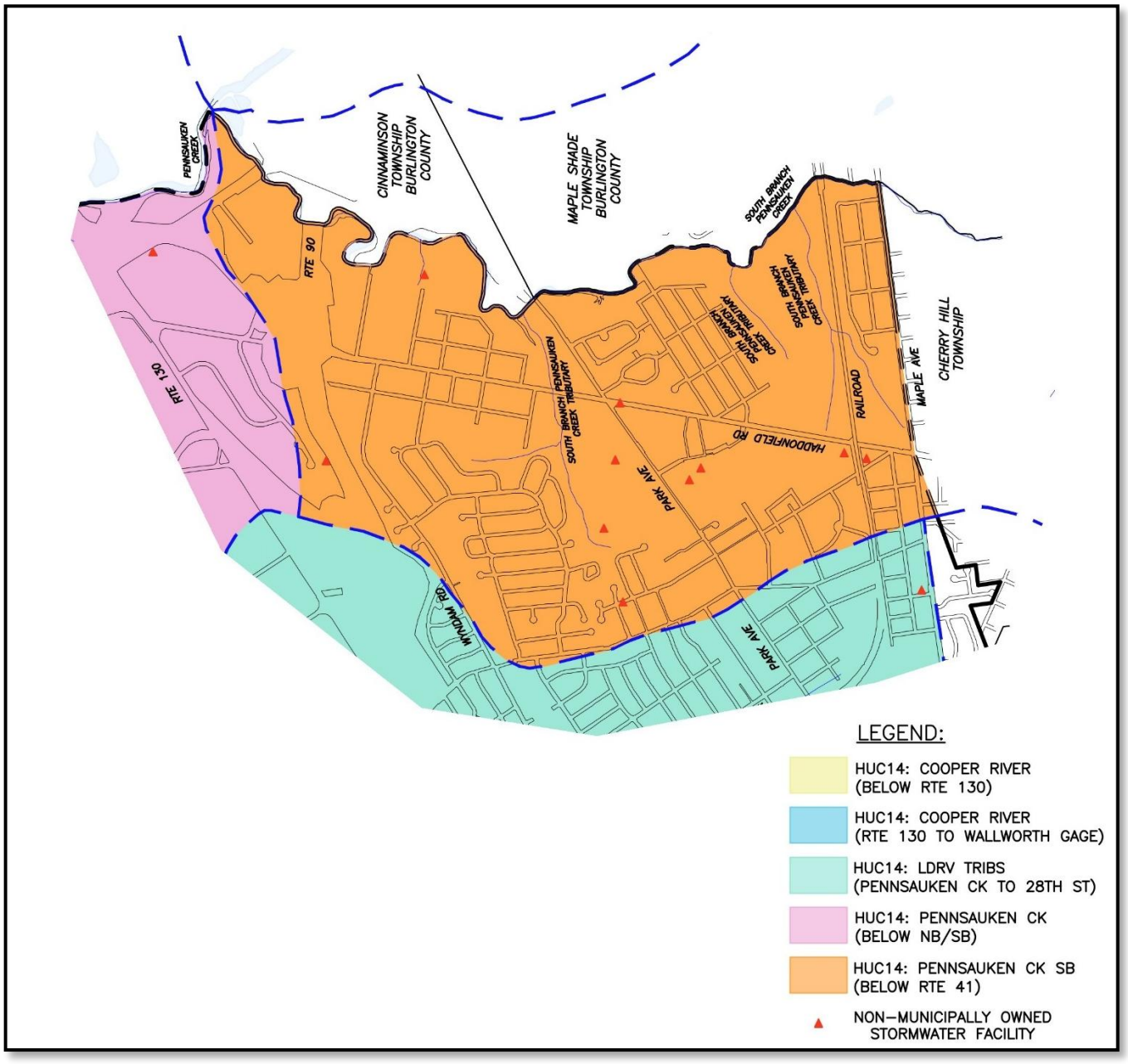
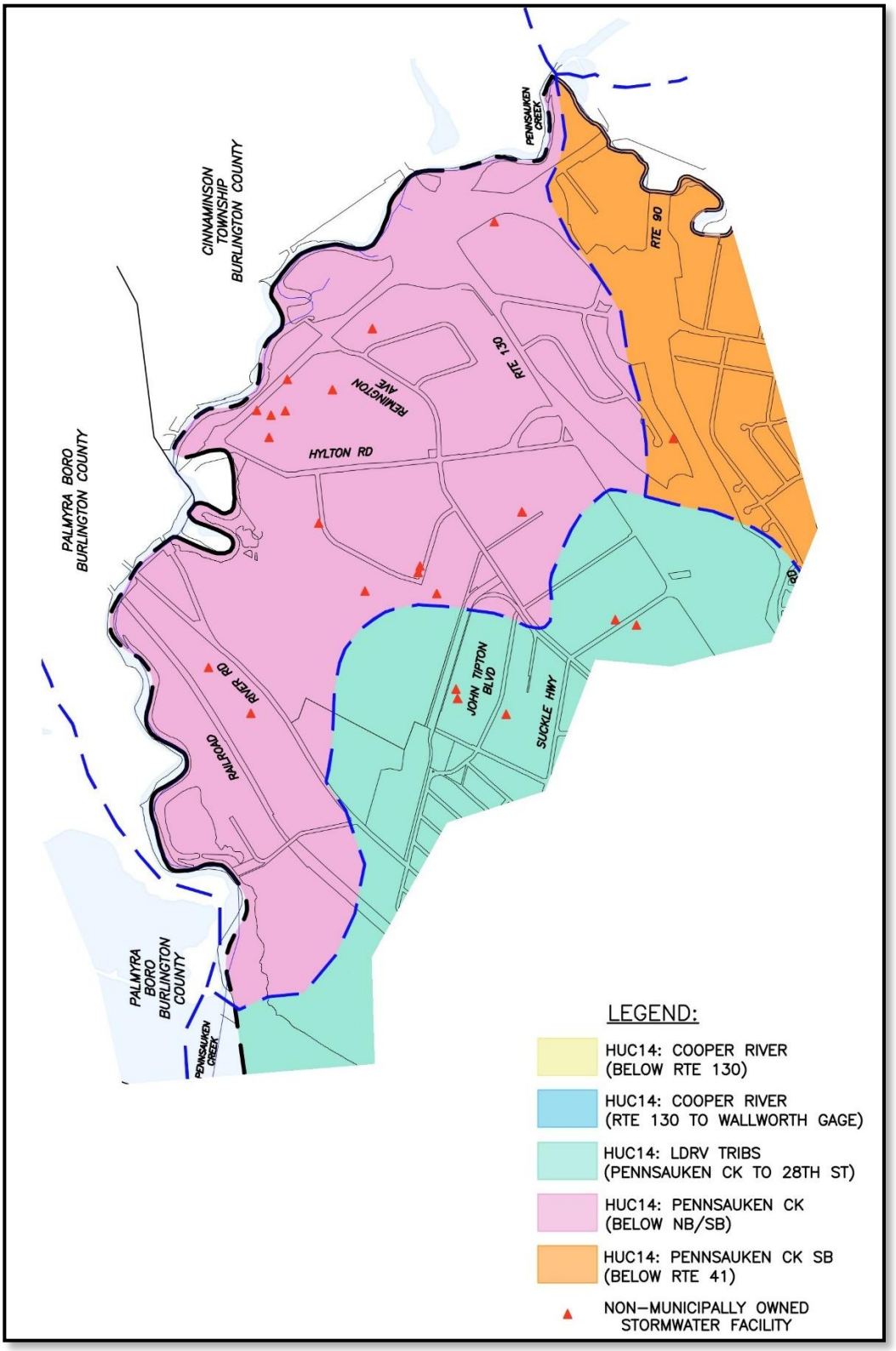

PENNSAUKEN CREEK
CINNAMINSON TOWNSHIP BURLINGTON COUNTY
MAPLE SHADE TOWNSHIP BURLINGTON COUNTY
SOUTH BRANCH PENNSAUKEN CREEK
RTE 90
RTE 130
SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY
SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY
HADDONFIELD RD
PARK AVE
RAILROAD
MAPLE AVE
CHERRY HILL TOWNSHIP
WINDOM RD
PARK AVE
LEGEND:
HUC14: COOPER RIVER (BELOW RTE 130)
HUC14: COOPER RIVER (RTE 130 TO WALLWORTH GAGE)
HUC14: LDRV TRIBS (PENNSAUKEN CK TO 28TH ST)
HUC14: PENNSAUKEN CK (BELOW NB/SB)
HUC14: PENNSAUKEN CK SB (BELOW RTE 41)
NON-MUNICIPALLY OWNED STORMWATER FACILITY

Figure 32: Non-municipally Owned/Operated Stormwater Infrastructure in Pennsauken Ck (Below NB/SB) Subwatershed



Conclusion

The Township of Pennsauken's Phase 1 Watershed Inventory Report documents MS4 infrastructure, interconnections, drainage areas, and water-quality context to support subsequent phases of the Watershed Improvement Plan (WIP). This inventory establishes a technical baseline that will be used in Phase 2 to assess stormwater-related water quality and flooding concerns and to identify and prioritize potential projects.

Using GPS field surveys and municipal parcel data to establish property boundaries, collected/verified between June 2025 and December 2025, the Township identified 151 interconnections from its MS4 to downstream systems operated by the New Jersey Department of Transportation (NJDOT), Camden County, the Delaware River Port Authority (DRPA), and private facilities. These include 113 piped connections, and 38 overland flow connections. The Township also identified 92 incoming interconnections from NJDOT, Camden County, DRPA, and private systems into its MS4, all of which are piped connections. Interconnection locations and entity breakdowns are provided on the MS4 Infrastructure Map and summarized in the Stormwater Interconnection(s) section. Electronic interconnection data will be submitted in georeferenced CAD format with required attributes.

Pennsauken also has interconnections to a combined sanitary sewer system that is currently being separated into distinct sanitary and stormwater systems, with completion anticipated by early 2027. Because the final routing and configuration of the separated stormwater connections are not yet in place, drainage areas associated with these combined-sewer-related interconnections have not been delineated as part of this Phase 1 Watershed Inventory Report. Once the separation work is completed, the Township will map and evaluate those drainage areas and incorporate them into a future phase of the WIP for pollutant loading and project-opportunity assessment.

Phase 1 compiles the Township's stormwater outfalls, drainage areas, and receiving waters. The Township identified 40 municipal outfalls (including discharges from inlets, pipes, and open channels) that discharge to Chandlers Run, Pochack Creek, South Branch Pennsauken Creek Tributary, Pennsauken Creek, Cooper River and its tributaries, and the Delaware River. Pennsauken lies within or borders five (5) HUC14 subwatersheds:

- Pennsauken Ck SB (below Rt 41)
- Pennsauken Ck (below NB/SB)
- Cooper River (Rt 130 to Wallworth gage)
- Cooper River (below Rt 130)
- LDRV tribs (Pennsauken Ck to 28th St)

Using the New Jersey Watershed Evaluation Tool (NJ-WET), the Township identified applicable TMDLs and water quality impairments in these subwatersheds. TMDL pollutants of concern include PCBs and VOCs in streamsheds and Total Phosphorus in certain lakesheds. Impairments include E. Coli, Dissolved Oxygen, Lead, pH, Total Phosphorus, TSS, PCBs in fish tissue, and related parameters, as summarized in the TMDLs and Water Quality Impairments section. Descriptions of how these pollutants affect water quality and public health are taken directly from NJDEP's "Pollutants of Concern" document.

Impervious cover was quantified by subwatershed using NJ-WET and NJ GIS data imported into AutoCAD. The resulting estimates for the portions of each HUC14 within Pennsauken are:

- Pennsauken Creek South Branch (below Route 41): 60.63%

- Pennsauken Creek (below North Branch/South Branch confluence): 57.62%
- Cooper River (Route 130 to Wallworth gage): 89.90%
- Cooper River (below Route 130): 40.14%
- Delaware River tributaries (Pennsauken Creek to 28th Street): 67.11%

These values confirm that much of Pennsauken's drainage area is highly urbanized, with extensive hard surfaces that increase runoff volume and speed, influence stream temperature and dissolved oxygen, and contribute to sediment and pollutant transport.

Overburdened communities, as identified using the New Jersey Watershed Evaluation Tool (NJ-WET), were mapped within all five HUC14 subwatersheds in Pennsauken Township based on data obtained in November 2025. These mapped areas encompass a notable portion of the Township and are generally located within older, more densely developed areas and along major transportation and commercial corridors. The identification of overburdened communities provides contextual information regarding existing watershed and land-use conditions within Pennsauken. Documentation of these areas as part of Phase 1 allows the Township to consider this information, where appropriate, as part of future planning-level project screening and community outreach efforts.

Non-municipally owned or operated stormwater facilities were identified using the Rutgers hydrologic and hydraulic (H&H) modeling database (accessed November 2025), Township-provided facility lists, and Phase 1 field observations. These privately owned systems—such as detention basins, wet ponds, and other structural practices serving commercial and institutional properties—are distributed throughout multiple subwatersheds and ultimately discharge to the same waterbodies evaluated in this WIP. While the Township does not own or maintain these facilities, they form an integral part of the broader drainage network and will be considered in Phase 2 when evaluating pollutant sources and opportunities for voluntary retrofits or coordination with property owners.

Public participation specific to the WIP did not occur during Phase 1; the focus of this phase has been on data collection, mapping, and characterization of existing conditions. Beginning in 2026, the Township intends to conduct public information sessions during Phase 2 to present key findings, share potential project concepts, and gather feedback from residents and other stakeholders, including those in overburdened communities.

The information compiled in this Phase 1 Watershed Inventory Report will be used in Phase 2 (Watershed Assessment Report) to:

- Analyze drainage areas to outfalls and interconnections to determine which locations and subwatersheds contribute most to TMDL pollutants and water quality impairments;
- Evaluate how impervious cover, land use, and stormwater infrastructure (municipal and non-municipal) influence runoff and pollutant loading;
- Identify and screen potential water quality and flooding-related projects, including green infrastructure and retrofit opportunities;
- Consider how overburdened communities and combined-sewer-related areas should be reflected in project prioritization and community engagement; and
- Develop planning-level estimates of pollutant load reductions, costs, and implementation timeframes for candidate projects.

As interconnection counts, outfall totals, and any remaining elements are finalized, the Township will

update figures and tables and submit required electronic data through NJDEP Online in georeferenced CAD format consistent with WIP submittal requirements.

Limitations

This report reflects conditions documented during the 2025 field surveys and the NJDEP, Rutgers, and GIS datasets available at the time of analysis. Interconnections, drainage areas, privately owned facilities, and system conditions may change due to construction, maintenance, redevelopment, or data updates. Phase 2 assessments and any project recommendations will be refined as new information becomes available and as the combined sewer separation work progresses toward its anticipated completion in early 2027.

References

Data Sources

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New Jersey Watershed Evaluation Tool (NJ-WET). Retrieved on November, 2025 from Division of Watershed and Land Management, Bureau of NJPDES Stormwater Permitting & Water Quality Management website: https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/watershed-improvement-plan-guidance/

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Total Maximum Daily Load (TMDL) Look-Up Tool. Retrieved on November, 2025 from New Jersey Department of Environmental Protection, Bureau of NJPDES Stormwater Permitting and Water Quality Management website: https://dep.nj.gov/njpdes-stormwater/municipal-stormwater-regulation-program/tmdl/.

Appendix A – Tables

Table 1: Stormwater Outfalls

STORMWATER OUTFALLS

LOCAL OUTFALL ID	TYPE	RECEIVING SURFACE WATER BODY	WATER QUALITY CLASSIFICATION
OF13001	OPEN CHANNEL	DELAWARE RIVER	N/A
OF13002	27" RCP	DELAWARE RIVER	N/A
OF13003	24" HDPE	DELAWARE RIVER	N/A
OF13004	OPEN CHANNEL	DELAWARE RIVER	N/A
OF13005	B INLET	PENNSAUKEN CREEK	FW2-NT
OF13006	36" VCP	POCHACK CREEK	FW2-NT
OF13007	24"x43" RECT.	POCHACK CREEK	FW2-NT
OF13008	B INLET	POCHACK CREEK	FW2-NT
OF13009	B INLET	POCHACK CREEK	FW2-NT
OF13010	OPEN CHANNEL	POCHACK CREEK	FW2-NT
OF13011	OPEN CHANNEL	POCHACK CREEK	FW2-NT
OF13012	28" RCP	POCHACK CREEK	FW2-NT
OF13013	12" HDPE	POCHACK CREEK	FW2-NT
OF13014	18" RCP	POCHACK CREEK	FW2-NT
OF13015	58"x113" ERCP	POCHACK CREEK	FW2-NT
OF13016	34"x53" ERCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13017	48" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13018	48" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13019	30" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13020	18" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13021	18" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13022	18" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13023	48" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13024	15" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13025	18" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13026	OPEN CHANNEL	SOUTH BRANCH PENNSAUKEN CREEK	FW2-NT
OF13027	15" RCP	SOUTH BRANCH PENNSAUKEN CREEK	FW2-NT
OF13028	OPEN CHANNEL	POCHACK CREEK	FW2-NT
OF13029	36" RCP	SOUTH BRANCH PENNSAUKEN CREEK	FW2-NT
OF13030	30" HDPE	SOUTH BRANCH PENNSAUKEN CREEK	FW2-NT
OF13031	18" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13032	24" RCP	SOUTH BRANCH PENNSAUKEN CREEK TRIBUTARY	FW2-NT
OF13033	24" RCP	SOUTH BRANCH PENNSAUKEN CREEK	FW2-NT
OF13034	12" RCP	CHANDLERS RUN	FW2-NT
OF13035	12" PVC	CHANDLERS RUN	FW2-NT
OF13036	21" RCP	CHANDLERS RUN	FW2-NT
OF13037	24" RCP	CHANDLERS RUN	FW2-NT
OF13038	30" RCP	CHANDLERS RUN	FW2-NT
OF13039	18" DIP	CHANDLERS RUN	FW2-NT
OF13040	24" RCP	POCHACK CREEK	FW2-NT

Table 2: Interconnections

INTERCONNECTIONS

LOCAL ID	TYPE	UPSTREAM ENTITY	DOWNSTREAM ENTITY
ITC14001	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14002	24" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14003	Open Channel	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14004	24" CMP	PENNSAUKEN TWP MS4	NJ TRANSIT MS4
ITC14005	15" CMP (2)	PENNSAUKEN TWP MS4	NJ TRANSIT MS4
ITC14006	24" HDPE	PENNSAUKEN TWP MS4	NJ TRANSIT MS4
ITC14007	10" PVC	PENNSAUKEN TWP MS4	NJ TRANSIT MS4
ITC14008	18" RCP	PENNSAUKEN TWP MS4	NJ TRANSIT MS4
ITC14009	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14010	24" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14011	36" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14012	12" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14013	15" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14014	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14015	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14016	OPEN CHANNEL	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14017	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14018	OPEN CHANNEL	PENNSAUKEN TWP MS4	STATE MS4
ITC14019	24" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14020	30" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14021	15" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14022	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14023	12" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14024	18" RCP HW	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14025	OPEN CHANNEL	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14026	24" CIP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14027	42" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14028	42" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14029	60" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14030	60" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14031	24" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14032	18" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14033	18" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14034	18" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14035	24" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14036	18" HDPE	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14037	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14038	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14039	30" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14040	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14041	15" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14042	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14043	18" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14044	24" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14045	18" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14046	15" CIP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14047	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14048	30" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14049	18" RCP	PENNSAUKEN TWP MS4	PORT AUTHORITY MS4
ITC14050	18" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14051	18" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4

INTERCONNECTIONS

LOCAL ID	TYPE	UPSTREAM ENTITY	DOWNSTREAM ENTITY
ITC14052	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14053	36" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14054	12" CMP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14055	28" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14056	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14057	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14058	18" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14059	24" RCP (2)	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14060	24" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14061	18" RCP (2)	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14062	24" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14063	12" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14064	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14065	30" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14066	12" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14067	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14068	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14069	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14070	18" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14071	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14072	18" RCP	STATE MS4	PENNSAUKEN TWP MS4
ITC14073	STMEGR TRENCH	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14074	15" CMP (2)	STATE MS4	PENNSAUKEN TWP MS4
ITC14075	12" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14076	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14077	12" CIP (3)	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14078	12" CIP (3)	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14079	30" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14080	12" PVC (2)	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14081	24" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14082	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14083	15" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14084	30" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14085	10" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14086	36" CMP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14087	30" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14088	12" PVC	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14089	12" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14090	15" CMP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14091	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14092	24" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14093	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14094	15" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14095	36" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14096	15" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14097	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14098	24" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14099	24" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14100	18" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14101	18" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14102	24" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4

INTERCONNECTIONS

LOCAL ID	TYPE	UPSTREAM ENTITY	DOWNSTREAM ENTITY
ITC14103	15" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14104	24" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14105	48" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14106	42" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14107	60" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14108	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14109	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14110	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14111	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14112	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14113	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14114	24" VCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14115	18" CMP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14116	24" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14117	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14118	12" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14119	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14120	12" CIP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14121	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14122	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14123	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14124	OPEN CHANNEL	PENNSAUKEN TWP MS4	STATE MS4
ITC14125	OPEN CHANNEL	PENNSAUKEN TWP MS4	STATE MS4
ITC14126	18" VCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14127	18" VCP (2)	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14128	48" VCP	PENNSAUKEN TWP MS4	PENNSAUKEN COMBINED SEWER SYSTEM
ITC14129	42" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14130	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14131	OPEN CHANNEL	PENNSAUKEN TWP MS4	MERCHANTVILLE BORO MS4
ITC14132	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14133	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14134	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14135	18" VCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14136	18" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14137	18" VCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14138	18" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14139	18" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14140	18" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14141	36" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14142	15" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14143	15" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14144	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14145	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14146	24" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14147	30" RCP FES	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14148	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14149	15" HDPE (2)	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14150	18" RCP (2)	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14151	15" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14152	24" RCP to 24" HDPE	PENNSAUKEN TWP MS4	STATE MS4
ITC14153	24" RCP	PENNSAUKEN TWP MS4	STATE MS4

INTERCONNECTIONS

LOCAL ID	TYPE	UPSTREAM ENTITY	DOWNSTREAM ENTITY
ITC14154	12" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14155	12" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14156	18"x30" Weir	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14157	15" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14158	18" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14159	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14160	15" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14161	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14162	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14163	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14164	15" CMP FES	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14165	18" CMP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14166	24"x38" ERCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14167	6" HDPE	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14168	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14169	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14170	12" DIP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14171	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14172	15" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14173	15" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14174	24" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14175	24" RCP	CHERRY HILL TWP MS4	PENNSAUKEN TWP MS4
ITC14176	36" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14177	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14178	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14179	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14180	OPEN CHANNEL	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14181	15" HDPE	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14182	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14183	15" CMP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14184	15" HDPE	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14185	36" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14186	42" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14187	42" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14188	42" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14189	24" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14190	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14191	30" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14192	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14193	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14194	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14195	36" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14196	12" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14197	18" CIP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14198	63"x96" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14199	15" HDPE	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14200	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14201	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14202	8" PVC	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14203	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14204	18" DIP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4

INTERCONNECTIONS

LOCAL ID	TYPE	UPSTREAM ENTITY	DOWNSTREAM ENTITY
ITC14205	36" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14206	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14207	18" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14208	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14209	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14210	OPEN CHANNEL	PENNSAUKEN TWP MS4	STATE MS4
ITC14211	24" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14212	24" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14213	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14214	18" VCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14215	15" RCP	STATE MS4	PENNSAUKEN TWP MS4
ITC14216	8" PVC	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14217	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14218	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14219	18" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14220	OPEN CHANNEL	PENNSAUKEN TWP MS4	STATE MS4
ITC14221	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14222	15" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14223	OPEN CHANNEL	PENNSAUKEN TWP MS4	STATE MS4
ITC14224	15" CMP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14225	48" RCP	PENNSAUKEN TWP MS4	STATE MS4
ITC14226	24" CMP	PENNSAUKEN TWP MS4	STATE MS4
ITC14227	48" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14228	24"x36" ERCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14229	30" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14230	OPEN CHANNEL	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14231	60" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14232	15" RCP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14233	36"x72" BRICK ARCH	PENNSAUKEN TWP MS4	STATE MS4
ITC14234	36" CMP	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14235	36" RCP	PRIVATE MS4	PENNSAUKEN TWP MS4
ITC14236	18" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14237	18" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14238	15" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14239	18" RCP	PENNSAUKEN TWP MS4	CAMDEN COUNTY MS4
ITC14240	48" RCP	PENNSAUKEN TWP MS4	PENNSAUKEN COMBINED SEWER SYSTEM
ITC14241	15" HDPE	PENNSAUKEN TWP MS4	PRIVATE MS4
ITC14242	30" RCP	CAMDEN COUNTY MS4	PENNSAUKEN TWP MS4
ITC14243	15" CMP	PRIVATE MS4	PENNSAUKEN TWP MS4

Table 3: Stormwater Drainage Areas

STORMWATER DRAINAGE AREAS

DRAINAGE AREA ID	DRAINAGE AREA (ACRES)	INTERCONNECTION OR OUTFALL	PRIMARY CONTRIBUTING DRAINAGE AREA TYPE
1	8.27	MS4 OUTFALL (OF13001)	URBAN
2	30.98	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
3	6.59	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
4	5.74	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
5	2.31	INTERCONNECTION TO PRIVATE MS4	URBAN
6	2.09	INTERCONNECTION TO PRIVATE MS4	URBAN
7	2.91	INTERCONNECTION TO PRIVATE MS4	URBAN
8	9.32	MS4 OUTFALL (OF13002)	URBAN
9	7.86	MS4 OUTFALL (OF13003)	URBAN
10	1.50	INTERCONNECTION TO PRIVATE MS4	URBAN
11	1.51	INTERCONNECTION TO PRIVATE MS4	URBAN
12	5.49	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
13	14.76	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
14	42.18	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
15	6.54	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
16	1.66	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
17	39.56	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
18	6.29	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
19	10.22	MS4 OUTFALL (OF13004)	URBAN
20	16.79	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
21	7.86	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
22	1.36	INTERCONNECTION TO PRIVATE MS4	URBAN
23	11.57	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
24	4.85	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
25	14.65	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
26	1.14	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
27	30.00	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
28	4.30	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
29	11.93	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
30	3.71	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
31	4.36	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
32	0.66	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
33	14.59	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
34	3.27	INTERCONNECTION TO PRIVATE MS4	URBAN
35	3.08	INTERCONNECTION TO PRIVATE MS4	URBAN
36	13.84	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
37	17.51	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
38	10.06	INTERCONNECTION TO PRIVATE MS4	URBAN
39	5.28	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
40	1.19	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
41	8.40	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
42	8.79	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
43	7.84	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
44	0.50	INTERCONNECTION TO PORT AUTHORITY MS4	URBAN
45	26.11	INTERCONNECTION TO PRIVATE MS4	URBAN
46	12.63	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
47	4.78	MS4 OUTFALL (OF13005)	URBAN
48	4.48	INTERCONNECTION TO PRIVATE MS4	URBAN
49	26.98	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN

STORMWATER DRAINAGE AREAS

DRAINAGE AREA ID	DRAINAGE AREA (ACRES)	INTERCONNECTION OR OUTFALL	PRIMARY CONTRIBUTING DRAINAGE AREA TYPE
50	17.23	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
51	1.88	INTERCONNECTION TO PRIVATE MS4	URBAN
52	22.26	INTERCONNECTION TO PRIVATE MS4	URBAN
53	5.83	INTERCONNECTION TO PRIVATE MS4	URBAN
54	0.48	INTERCONNECTION TO STATE MS4	URBAN
55	13.14	INTERCONNECTION TO PRIVATE MS4	URBAN
56	48.09	INTERCONNECTION TO PRIVATE MS4	URBAN
57	3.52	INTERCONNECTION TO PRIVATE MS4	URBAN
58	7.42	INTERCONNECTION TO STATE MS4	URBAN
59	0.12	INTERCONNECTION TO STATE MS4	URBAN
60	0.13	INTERCONNECTION TO STATE MS4	URBAN
61	0.54	INTERCONNECTION TO STATE MS4	URBAN
62	1.81	INTERCONNECTION TO PRIVATE MS4	URBAN
63	4.90	INTERCONNECTION TO PRIVATE MS4	URBAN
64	1.46	INTERCONNECTION TO PRIVATE MS4	URBAN
65	88.09	INTERCONNECTION TO PENNSAUKEN COMBINED SEWER SYSTEM	URBAN
66	0.75	INTERCONNECTION TO PRIVATE MS4	URBAN
67	3.82	INTERCONNECTION TO STATE MS4	URBAN
68	27.38	INTERCONNECTION TO STATE MS4	URBAN
69	12.82	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
70	1.32	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
71	31.68	INTERCONNECTION TO PENNSAUKEN COMBINED SEWER SYSTEM	URBAN
72	3.15	INTERCONNECTION TO MERCHANTVILLE BORO MS4	URBAN
73	2.64	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
74	17.27	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
75	6.04	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
76	4.92	INTERCONNECTION TO STATE MS4	URBAN
77	3.23	INTERCONNECTION TO STATE MS4	URBAN
78	3.16	INTERCONNECTION TO STATE MS4	URBAN
79	42.28	MS4 OUTFALL (OF13006)	URBAN
80	7.32	INTERCONNECTION TO PRIVATE MS4	URBAN
81	11.85	INTERCONNECTION TO PRIVATE MS4	URBAN
82	48.38	MS4 OUTFALL (OF13007)	URBAN
83	10.89	INTERCONNECTION TO PRIVATE MS4	URBAN
84	21.11	MS4 OUTFALL (OF13008)	URBAN
85	1.31	MS4 OUTFALL (OF13009)	URBAN
86	2.60	MS4 OUTFALL (OF13010)	URBAN
87	1.20	MS4 OUTFALL (OF13011)	URBAN
88	2.96	MS4 OUTFALL (OF13012)	URBAN
89	1.64	MS4 OUTFALL (OF13013)	URBAN
90	8.04	MS4 OUTFALL (OF13014)	URBAN
91	102.79	MS4 OUTFALL (OF13015)	URBAN
92	27.18	INTERCONNECTION TO PRIVATE MS4	URBAN
93	3.74	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
94	2.03	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
95	22.10	INTERCONNECTION TO STATE MS4	URBAN
96	44.28	MS4 OUTFALL (OF13016)	URBAN
97	38.45	MS4 OUTFALL (OF13017)	URBAN
98	5.63	INTERCONNECTION TO PRIVATE MS4	URBAN

STORMWATER DRAINAGE AREAS

DRAINAGE AREA ID	DRAINAGE AREA (ACRES)	INTERCONNECTION OR OUTFALL	PRIMARY CONTRIBUTING DRAINAGE AREA TYPE
99	19.67	INTERCONNECTION TO STATE MS4	URBAN
100	10.84	INTERCONNECTION TO STATE MS4	URBAN
101	48.99	MS4 OUTFALL (OF13018)	URBAN
102	19.38	MS4 OUTFALL (OF13019)	URBAN
103	28.52	MS4 OUTFALL (OF13020)	URBAN
104	4.02	MS4 OUTFALL (OF13021)	URBAN
105	3.58	MS4 OUTFALL (OF13022)	URBAN
106	22.16	MS4 OUTFALL (OF13023)	URBAN
107	4.80	MS4 OUTFALL (OF13024)	URBAN
108	14.61	MS4 OUTFALL (OF13025)	URBAN
109	3.49	MS4 OUTFALL (OF13026)	URBAN
110	7.69	INTERCONNECTION TO PRIVATE MS4	URBAN
111	8.09	MS4 OUTFALL (OF13027)	URBAN
112	12.97	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
113	7.45	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
114	8.18	INTERCONNECTION TO PRIVATE MS4	URBAN
115	11.56	INTERCONNECTION TO PRIVATE MS4	URBAN
116	10.20	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
117	16.79	MS4 OUTFALL (OF13040)	URBAN
118	18.80	MS4 OUTFALL (OF13028)	URBAN
119	10.90	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
120	7.76	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
121	18.80	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
122	8.47	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
123	0.96	INTERCONNECTION TO PRIVATE MS4	URBAN
124	7.54	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
125	17.57	INTERCONNECTION TO PRIVATE MS4	URBAN
126	1.98	INTERCONNECTION TO PRIVATE MS4	URBAN
127	1.48	INTERCONNECTION TO PRIVATE MS4	URBAN
128	0.74	INTERCONNECTION TO PRIVATE MS4	URBAN
129	18.55	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
130	11.39	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
131	4.47	INTERCONNECTION TO PRIVATE MS4	URBAN
132	7.00	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
133	11.06	INTERCONNECTION TO PRIVATE MS4	URBAN
134	42.88	MS4 OUTFALL (OF13029)	URBAN
135	7.07	MS4 OUTFALL (OF13030)	URBAN
136	1.77	MS4 OUTFALL (OF13031)	URBAN
137	9.99	MS4 OUTFALL (OF13032)	URBAN
138	13.83	MS4 OUTFALL (OF13033)	URBAN
139	4.85	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
140	2.53	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
141	28.64	INTERCONNECTION TO STATE MS4	URBAN
142	16.98	INTERCONNECTION TO PRIVATE MS4	URBAN
143	6.59	INTERCONNECTION TO STATE MS4	URBAN
144	7.92	INTERCONNECTION TO STATE MS4	URBAN
145	3.97	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
146	5.55	INTERCONNECTION TO STATE MS4	URBAN
147	19.43	INTERCONNECTION TO STATE MS4	URBAN

STORMWATER DRAINAGE AREAS

DRAINAGE AREA ID	DRAINAGE AREA (ACRES)	INTERCONNECTION OR OUTFALL	PRIMARY CONTRIBUTING DRAINAGE AREA TYPE
148	0.34	INTERCONNECTION TO STATE MS4	URBAN
149	18.91	INTERCONNECTION TO STATE MS4	URBAN
150	0.12	INTERCONNECTION TO STATE MS4	URBAN
151	0.75	INTERCONNECTION TO STATE MS4	URBAN
152	2.62	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
153	5.05	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
154	5.35	MS4 OUTFALL (OF13034)	URBAN
155	8.89	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
156	137.73	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
157	1.29	INTERCONNECTION TO STATE MS4	URBAN
158	0.59	INTERCONNECTION TO STATE MS4	URBAN
159	2.26	INTERCONNECTION TO STATE MS4	URBAN
160	1.82	INTERCONNECTION TO STATE MS4	URBAN
161	1.68	INTERCONNECTION TO STATE MS4	URBAN
162	26.60	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
163	7.28	INTERCONNECTION TO PRIVATE MS4	URBAN
164	3.89	MS4 OUTFALL (OF13035)	URBAN
165	1.94	MS4 OUTFALL (OF13036)	URBAN
166	11.42	MS4 OUTFALL (OF13037)	URBAN
167	3.48	MS4 OUTFALL (OF13038)	URBAN
168	0.99	INTERCONNECTION TO PRIVATE MS4	URBAN
169	6.17	MS4 OUTFALL (OF13039)	URBAN
170	2.28	INTERCONNECTION TO STATE MS4	URBAN
171	0.81	INTERCONNECTION TO STATE MS4	URBAN
172	6.22	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
173	1.98	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
174	25.74	INTERCONNECTION TO STATE MS4	URBAN
175	2.44	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
176	5.02	INTERCONNECTION TO STATE MS4	URBAN
177	1.00	INTERCONNECTION TO STATE MS4	URBAN
178	0.48	INTERCONNECTION TO STATE MS4	URBAN
179	3.16	INTERCONNECTION TO STATE MS4	URBAN
180	103.94	INTERCONNECTION TO STATE MS4	URBAN
181	40.22	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
182	1.14	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
183	19.38	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
184	45.08	INTERCONNECTION TO PRIVATE MS4	URBAN
185	3.24	INTERCONNECTION TO CAMDEN COUNTY MS4	URBAN
186	0.25	INTERCONNECTION TO PRIVATE MS4	URBAN

Table 4: TMDLs and Water Quality Impairments

TMDLS AND WATER QUALITY IMPAIRMENTS

HUC 14	SUBWATERSHED NAME	TMDL(S)	IMPAIRMENT(S)
02040202100050	PENNSAUKEN CK SB (BELOW RT 41)	STREAMSHEDS PCBS AND VOCS LAKESHEDS NONE SHELLFISH NONE	TOTAL PHOSPHORUS AND TOTAL SUSPENDED SOLIDS (TSS)
02040202100060	PENNSAUKEN CK SB (BELOW NB/SB)	STREAMSHEDS PCBS AND VOCS LAKESHEDS NONE SHELLFISH NONE	E. COLI, DISSOLVED OXYGEN, LEAD, TOTAL PHOSPHORUS, AND PCBS IN FISH TISSUE
02040202110050	COOPER RIVER (RT 130 TO WALLWORTH GAGE)	STREAMSHEDS PCBS AND VOCS LAKESHEDS TOTAL PHOSPHORUS SHELLFISH NONE	E. COLI, LEAD, PH, AND PCBS IN FISH TISSUE
02040202110060	COOPER RIVER (BELOW RT 130)	STREAMSHEDS PCBS AND VOCS LAKESHEDS NONE SHELLFISH NONE	E. COLI, AND PCBS IN FISH TISSUE
02040202110060	LDRV TRIBS (PENNSAUKEN CK TO 28TH ST)	STREAMSHEDS PCBS AND VOCS LAKESHEDS NONE SHELLFISH NONE	E. COLI

Table 5: Non-Municipally Owned or Operated Stormwater Facilities

NON-MUNICIPALLY OWNED OR OPERATED STORMWATER FACILITIES

LOCAL ID	TYPE	OWNER	BLOCK	LOT
NSF18001	DETENTION BASIN	RIVERFRONT VILLAGE AT PENNSAUKEN	302	1
NSF18002	INFILTRATION BASIN	RIVERFRONT VILLAGE AT PENNSAUKEN	302	1
NSF18003	DETENTION BASIN	SKATE ZONE	1101	1
NSF18004	DETENTION BASIN	B&H PHOT WAREHOUSE	1002	11
NSF18005	INFILTRATION BASIN	MCDONALDS (RT 73)	2001	10
NSF18006	INFILTRATION BASIN	DUNKIN (RT 73)	2001	3
NSF18007	INFILTRATION BASIN	AFR FURNITURE CLEARANCE CENTER	2001	4
NSF18008	INFILTRATION BASIN	AFR FURNITURE CLEARANCE CENTER	2001	5
NSF18009	INFILTRATION BASIN	BURGER KING (RT 73)	2001	6
NSF18010	INFILTRATION BASIN	WAWA (RT 73)	2002	25
NSF18011	INFILTRATION BASIN	KEYSTONE SAFTEY CLEAN ROOM PRODUCTS	2107	6
NSF18012	DETENTION BASIN	PURATOS WAREHOUSE	2105	1
NSF18013	RETENTION BASIN/WET POND	PURATOS US HEADQUARTERS	2106	2
NSF18014	DETENTION BASIN	MCLEAN PACKING CORP.	1905	3
NSF18015	INFILTRATION BASIN	RESTURANT DEPOT	1905	6
NSF18016	INFILTRATION BASIN	SUPPLY ONE PHILADELPHIA INC.	1905	7
NSF18017	RETENTION BASIN/WET POND	FOOD BANK OF SOUTH JERSEY	2103	2
NSF18018	RETENTION BASIN/WET POND	DISC MAKERS	2105	5
NSF18019	INFILTRATION BASIN	BRITTIN VILLAGE	4517	2
NSF18020	DETENTION BASIN + FILTER	WAWA (RT 130 SB)	2207	3
NSF18021	INFILTRATION BASIN	RT 130 SHOPPING CENTER	5106	1
NSF18022	DETENTION BASIN	PSEG SUBSTATION	2315	1
NSF18023	DETENTION BASIN	HADDON POINTE PHASE II	2604	1
NSF18024	INFILTRATION BASIN	FAITH INDEPENDENT BIBLE CHURCH	3306	4
NSF18025	INFILTRATION BASIN	SUBARU OF AMERICA	6303	5
NSF18026	DETENTION BASIN	SUPREMO FOOD MARKET OF PENNSAUKEN	6403	11
NSF18027	DETENTION BASIN	DEVON SELF STORAGE	6403	13
NSF18028	DETENTION BASIN	EXTRA SPACE STORAGE	6403	14
NSF18029	DETENTION BASIN	STONEGATE AT STEPHANS	6210	73
NSF18030	DETENTION BASIN	STONEGATE	6210	73
NSF18031	DETENTION BASIN	THE POINT SHOPPING CENTER	6208	1
NSF18032	DETENTION BASIN	THE POINT SHOPPING CENTER	6208	1
NSF18033	INFILTRATION BASIN	LENDING SMILES	4207	1
NSF18034	RETENTION BASIN/WET POND	PENNSAUKEN COUNTY CLUB	3402	1
NSF18035	DETENTION BASIN	CAMDEN COUNTY TECH SCHOOL	6210	74
NSF18036	DETENTION BASIN	AUTO TOY STORE OF NJ, INC	3814	1
NSF18037	DETENTION BASIN	WALGREENS	805	8
NSF18038	DETENTION BASIN	CONRAIL CORP.	7004	2
NSF18039	DETENTION BASIN	PENNSAUKEN LUTHERAN HOUSING INC	5727	1
NSF18040	RETENTION BASIN/WET POND	CORBETT EXTERMINATION	2601	6
NSF18041	INFILTRATION BASIN	CRYSTAL CLEAN	1105	9
NSF18042	DETENTION BASIN	KEVON OFFICE CENTER II	6305	6
NSF18043	DETENTION BASIN	SAIGON PLAZA SHOPPING MALL	6210	54
NSF18044	DETENTION BASIN	DATWYLER PHARMA USA	2502	7
NSF18045	DETENTION BASIN	NJ TRANSIT SYSTEM (RT 73) 9425 RIVER RD	1802	10
NSF18046	DETENTION BASIN	UNION RIVER REALTY CO. INC.	1802	8
NSF18047	DETENTION BASIN	NJ TRANSIT SYSTEM	304	36

NON-MUNICIPALLY OWNED OR OPERATED STORMWATER FACILITIES

LOCAL ID	TYPE	OWNER	BLOCK	LOT
NSF18048	DETENTION BASIN	EMNJ RE LLC (WENDYS RT 130)	2301	3
NSF18049	INFILTRATION BASIN	CALVARY COM CHURCH	601	1
NSF18050	INFILTRATION BASIN	DUPONT	1901	3
NSF18051	INFILTRATION BASIN	THE RESTURAUNT STORE	1906	13
NSF18052	INFILTRATION BASIN	THE RESTURAUNT STORE	1906	13
NSF18053	DETENTION BASIN	WAWA RT 130	6402	11
NSF18054	INFILTRATION BASIN	ALLIANCE HSP PENNSAUKEN LLC	7003	12
NSF18055	INFILTRATION BASIN	ALLIANCE HSP PENNSAUKEN LLC	7003	21
NSF18056	INFILTRATION BASIN	ALLIANCE HSP PENNSAUKEN LLC	7003	21
NSF18057	DETENTION BASIN	FAMILY DOLLAR	4210	8
NSF18058	RETENTION BASIN/WET POND	DUPONT	1901	3
NSF18059	INFILTRATION BASIN	PENNSAUKEN COUNTY CLUB	3402	1
NSF18060	DETENTION BASIN	PENNSAUKEN HS STADIUM	2001	8
NSF18061	DETENTION BASIN	DELAIR ELEMENTARY SCHOOL	1316	7
NSF18062	DETENTION BASIN	PENNSAUKEN INTERMEDIATE SCHOOL	3401	14
NSF18063	DETENTION BASIN	HM OHIFER MIDDLE SCHOOL	3401	14
NSF18064	DETENTION BASIN	BALDWIN ELEMENTARY SCHOOL	304	18
NSF18065	DETENTION BASIN	FINE ELEMENTARY SCHOOL	3908	31
NSF18066	INFILTRATION BASIN	STARBUCKS RT 130	4808	1
NSF18067	INFILTRATION BASIN	ASSOCIATED SUPERMARKET	620	19
NSF18068	INFILTRATION BASIN	BEEF INTERNATIONAL	6303	2