Stormwater Pollution Prevention Plan and Compliance Folder for Maplewood Township

Prepared by: The RBA Group

Stormwater Pollution Plan Update

June 2024

Paul J. Kittner Jr, PE, PP, CME

Township Engineer

Township of Maplewood, Essex County, New Jersey

Table of Contents

Section 1

Stormwater Pollution Prevention Team

Tier A Municipal Stormwater Regulation Program

Stormwater Pollution Prevention Team Members

Number of team members may vary.

Completed by: *Paul J. Kittner Jr, PE, PP, CME*
Title: *Township Engineer*
Date: *05/24/2024*
Municipality: *Maplewood Township*
County: *Essex*
NJPDES #: NJG*0154687*
PI ID #: *203744*

Stormwater Program Coordinator: *Paul J. Kittner Jr., P.E, P.P., C.M.E.*
Title: *Township Engineer*
Office Phone #: *973-762-1175*
Emergency Phone #: *201-452-9603*

Public Notice Coordinator: *Elizabeth J. Fritzen*
Title: *Township Clerk*
Office Phone #: *973-762-8120 x2100*
Emergency Phone #: *973-467-0210*

Post-Construction Stormwater Management Coordinator: *Paul J. Kittner Jr, P.E, P.P., C.M.E.*
Title: *Township Engineer*
Office Phone #: *973-762-8120*
Emergency Phone #: *201-452-9603*

Local Public Education Coordinator: *Candice Davenport*
Title: *Health Officer*
Office Phone #: *973-762-8120 x4400*
Emergency Phone #: *201-704-6800*

Ordinance Coordinator: *Elizabeth J. Fritzen*
Title: *Township Clerk*
Office Phone #: *973-762-8120 x2100*
Emergency Phone #: *973-467-0210*

Public Works Coordinator: *Paul J. Kittner Jr.*
Title: *Director of Public Works*
Office Phone #: *973-762-1175 x 1113*
Emergency Phone #: *201-452-9603*

Employee Training Coordinator: *Paul J. Kittner Jr.*
Title: *Director of Public Works*
Office Phone #: *973-762-1175 x 12*
Emergency Phone #: *201-563-8219*

Other: *Paul J Kittner Jr*
Title: *DPW Sewer Supervisor*
Office Phone #: *973-762-1175 x 1113*
Emergency Phone #: *201-452-9603*

Section 2

Public Notice

SPPP Form 2 - Public Notice

Municipality Information

Municipality: *Maplewood Township* County: *Essex*

NJPDES # : NJG*0154687* PI ID #:*203744*

Team Member/Title:*Elizabeth J. Fritzen / Township Clerk*

Effective Date of Permit Authorization (EDPA):*April 4, 2004*

Date of Completion: *March 1, 2005* Date of most recent update: *June 2024*

Briefly outline the principal ways in which you comply with applicable State and local public notice requirements when providing for public participation in the development and implementation of your stormwater program.

For meetings where public notice is required under the Open Public Meetings Act ("Sunshine Law," N.J.S.A. 10:4-6 et seq.), Maplewood Township provides public notice in a manner that complies with the requirements of that Act. Also, in regard to the passage of ordinances, Maplewood Township provides public notice in a manner that complies with the requirements of N.J.S.A. 40:49-1 et seq. In addition, for municipal actions (e.g., adoption of the municipal stormwater management plan) subject to public notice requirements in the Municipal Land Use Law (N.J.S.A. 40:55D-1 et seq.), Maplewood Township complies with those requirements.

Section 3

Post Construction Stormwater Management in New Development and Redevelopment

SPPP Form 3 – New Development and Redevelopment Program

Municipality Information

Municipality: *Maplewood Township* County: *Essex*

NJPDES # : NJG*0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, P.E., P.P. Township Engineer*

Effective Date of Permit Authorization (EDPA): *April 1, 2004*

Date of Completion: *April 1, 2005* Date of most recent update: *May 24, 2024*

Describe in general terms your post-construction stormwater management in new development and redevelopment program (post-construction program), and how it complies with the Tier A Permit minimum standard. This description must address compliance with the Residential Site Improvement Standards for stormwater management; ensuring adequate long-term operation and maintenance of BMPs (including BMPs on property that you own or operate); design of storm drain inlets (including inlets that you install); and preparation, adoption, approval, and implementation of a municipal stormwater management plan and municipal stormwater control ordinance(s). Attach additional pages as necessary. Some additional specific information (mainly about that plan and ordinance(s)) will be provided in your annual reports.

To control stormwater from new development and redevelopment projects throughout Maplewood Township (including projects we operate) we will do the following:

We are already ensuring that all new residential development and redevelopment projects that are subject to the Residential Site Improvement Standards for stormwater mangement (including the NJDEP Stormwater Management rules, N.J.A.C. 7:8, referened in those standards) are in compliance with those standards. Our planning and zoning boards under the guidance of their respective Board Engineers ensure such compliance before issuing preliminary or final subdivision or site plan approvals under the Municipal Land Use Law.

The approved Municipal Stormwater Management Plan (MSWMP) and Stormwater Management & Control ordinance have been adopted. The ordinances will be adminstered by our planning and zoning boards under the guidance of the Board Engineer and code enforcement officer. The new provisons will allow for control of stormwater from non-residential development and redevelopment projects. Where it is necessary to implement the municipal stormwater management plan, the approved ordinance will also control aspects of residential development and redevelopment projects that are not subject to the Residential Site Improvement Standards. Any new development or redevelopment on property owned by the Township of Maplewood will comply with the ordinance requirements also.

Section 4

Local Public Education

SPPP Form 4- Local Public Education Program

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Candice Davenport / Health Officer*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *03/01/05* Date of most recent update: *May 24, 2024*

Local Public Education Program

Describe your Local Public Education Program. Be specific on how you will distribute your educational information, and how you will conduct your annual event. Attach additional pages with the date(s) of your annual mailing and the date and location of your annual event.

In accordance with Attachment E and the new approved activities, Maplewood Township will meet the minimum required activity points. The qualifying activities will vary on annual basis. Maplewood Township will continue to publish the NJDEP literature in the Spring edition of our newsletter that is mailed to all residents. The Township also participates in Spring River Cleanups inviting residents to educate them on the importance of our waterways.

Attachment E
Local Public Education Approved Activities and Point Totals

A. Tier A Municipalities shall conduct educational activities that total a minimum of 10 points annually. Each approved activity is listed below with an assigned point value.

1. **School Presentations** - Present educational classes/assemblies to local elementary, middle, and/or high school classes. (1 point per visit / maximum of 5 points per year)

2. **Website** – Maintain a stormwater related page on the municipal website and include a link to www.cleanwaternj.org. (1 point)

3. **Stormwater Display** – Present a stormwater related display and materials at any municipal event (e.g., Earth Day, town picnic) or maintain a display at the municipal building (2 points)

4. **Giveaway** – Distribute an item with a stormwater related message (e.g., refrigerator magnets, temporary tattoos, bookmarks, coloring books, and pens or pencils). Municipality must purchase a minimum number of the item equal to 10% of the municipal population. (2 points)

5. **Citizen Stormwater Advisory Committee** – Establish a subcommittee to the Environmental Commission to identify, coordinate and implement stormwater related programs. (2 points)

6. **Utilize Department Materials** - Use Department created stormwater education materials, which can be found on www.cleanwaternj.org to publish an ad in a newspaper that serves the municipality; broadcast a radio or television commercial on a local radio or municipal public service channel; produce a billboard or sign which can be displayed on a bus, bus stop shelter, or at a recreation field (outfield sign). (2 points each / maximum of 4 points per year)

7. **Poster Contest** – Organize a poster contest with a local school district. Poster themes shall have an appropriate stormwater message. Posters are to be displayed at buildings within the municipality such as at the town hall, library, or school. (2 points)

8. **Stormwater Training for Elected Municipal Officials** – Conduct a program for all elected municipal officials which educates them on the Stormwater Management Rules (N.J.A.C. 7:8), Tier A Permit and what steps the municipality has already taken to minimize stormwater pollution. (3 points)

9. **Mural** – Facilitate the planning and painting of a stormwater pollution themed mural at a local downtown/commercial area. (3 points)

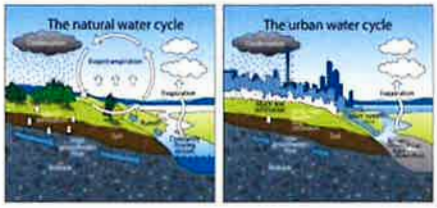
10. **Mailing** – Distribute any of the Department's educational brochures, tip cards, or a municipally produced equivalent (e.g, calendar, recycling schedule), to every resident and business in the municipality. (3 points)

11. **Partnership Agreement / Local Event** - Identify and enter into a partnership

Stormwater Management Regulations

Prepared by the Township of Maplewood Engineering Department

Effect of Development on the Water Cycle



Stormwater Requirement Objectives

- Stormwater Quantity – Rates and volumes of stormwater runoff from a development site
  - Reduce peak post-development runoff rates
- Stormwater Quality – Accumulation of pollutants that stormwater runoff transports to waterways
  - Remove Total Suspended Solids (TSS)
  - Maximize nutrient removal from post-development runoff
- Groundwater Recharge – Downward movement of water replenishing subsurface groundwater supplies
  - Prevent the loss of groundwater recharge from pre- to post-development conditions

Stormwater Inlet Retrofit with Eco-Safe Bar and Bicycle-Safe Grate

Solids and Floatable Control

- Street Sweeping
- Storm Drain Inlet Retrofitting
  - NJDOT Bicycle Safe Grate
  - Curb Inlet Openings
- Stormwater Facility Maintenance
- Road Erosion Control
- Outfall Pipe Stream Scouring Remediation

Low Impact Development (LID)

An innovative stormwater management approach that uses Best Management Practices (BMPs) that work with nature to manage stormwater as close to its source as possible

Structural BMPs

- Bioretention System
- Constructed Stormwater Wetlands
- Dry Wells
- Extended Detention Basins
- Infiltration Basins
- Manufactured Treatment Devices
- Pervious Paving Systems
- Rooftop Vegetation
- Sand Filters
- Vegetative Filters
- Wet Ponds

Nonstructural BMPs

- Preservation of Natural Areas
- Native Ground Cover
- Vegetative Buffers
- Minimization of Land Disturbance
- Impervious Area Management
- Surface Roughness Changes
- Land Slope Reduction
- Utilization of Natural Flow Pathways
- Vegetated Conveyance
- Enhancement of Riparian Areas
- Utilization of Cluster Development Design

Improper Disposal of Waste

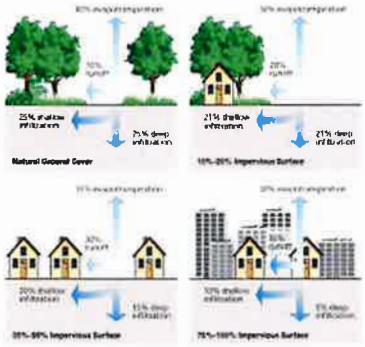
- Pet Waste Collection and Proper Disposal
- Litter Collection and Proper Disposal
- No Dumping into Storm Sewers
- Wildlife Feeding Prohibited
- Outfall Pipe Mapping and Inspections
- Illicit Connections Prohibited

Maintenance of Yard Operations

Areas of focus for preventing spillage of harmful chemicals containing pollutants from washing into the storm sewer systems and eventually discharging into surface waters:

- Deicing Material and Sand Storage
- Fueling Operations
- Vehicle Maintenance
- Good Housekeeping

Effects of Development on Runoff and Infiltration

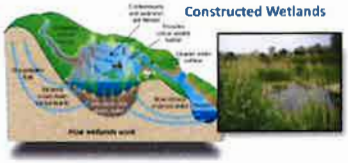


Best Management Practices (BMPs)

Pervious Pavement

Dry Well

Constructed Wetlands

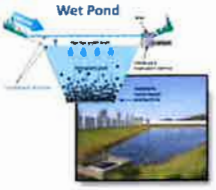


Rain Garden / Bioretention Basin

Rooftop Vegetation

Manufactured Treatment Device

Wet Pond



Township website

Engineering

Stormwater

EARTH DAY MAPLEWOOD RAHWAY RIVER CLEAN UP

SATURDAY APRIL 20
10 am – 1 pm

Help from all ages is appreciated!

Two Check-in Tables:

- **124 Dunnell Road (at the bridge to the Civic House**
- **CHS parking lot (West Parker Road at the river crossing)**

Wear footwear suitable for wading in shallow water.
Or if you want to stay dry, please help clean the riverbanks, gutters, parking lots etc. that drain into the river

Trash removed from Rahway River 4/20/2024

Memorial Park area

West Parker Ave area

Essex County announces 3 fireworks displays

Essex County has three fireworks displays with concerts planned as part of its Fourth of July celebrations.

"Our Free Concert Series offers a diverse lineup of performers who will take center stage in venues throughout our historic Essex County Park System," said County Executive Joseph N. DiVincenzo Jr. "Pack a blanket, enjoy the cool evening breeze and dance to the sounds of classical, rock and roll, jazz, big band, Latin and more. We have an outstanding line-up that is sure to entertain and impress."

Fireworks are scheduled to accompany the following concerts:

On June 28, the New Jersey Symphony Orchestra will play at 7:30 p.m. in Branch Brook Park, The Great Lawn, Heller Parkway, Newark;

On July 2, Men of Soul will play at 7:30 p.m. in Weequahic Park, Meeker Avenue, Newark;

On July 3, The Infernos will play at 7:30 p.m. in Brookdale Park, Watchung Avenue and Belleville Avenue, Bloomfield.

The New Jersey Symphony will play a medley of timeless classics, Broadway themes and patriotic favorites. The program also celebrates the Garden State with pieces such as John Williams' "Liberty Fanfare" and John Philip Sousa's "Atlantic City Pageant March."

Men of Soul will play soul and R&B music and The Infernos' will play a wide range of music, including big band, oldies and motown.

Individuals who require special accommodations or assistance are asked to call at least two weeks prior to the concert to alert staff as to their needs. Admission to the concerts is free.

For more information, please call the Department of Parks, Recreation and Cultural Affairs at 973-268-3500.

allow after school activities to go on as planned when there were no further sightings after 10 a.m.

The South Orange Police Department issued a warning about the bear and suggested that people should not run from the animal if they encountered it. Police suggest walking back slowly while facing the bear.

South Amboy and at Port Liberte in Jersey City. Riders can also reach many NY Waterway ferry terminals by the Hudson-Bergen Light Rail Line, NJ Transit rail and bus and free NY Waterway buses.

Check out nywaterway.com/KidsFree for more information.

IF YOU LITTER

IN THE STREET,

YOU MIGHT AS WELL

LITTER IN THE RIVER.

Rain washes pollutants into storm drains
and directly into our lakes,
rivers and the ocean.
So what can you do?

CLEAN WATER
It's Up to You New Jersey

WHAT'S THE PROBLEM WITH LITTER?

When was the last time you saw someone littering? Litter just doesn't appear — it's the result of careless actions. No matter where litter is discarded, it usually ends up in the street, where it washes down storm drains and ultimately flows to local waterways.

Littering is not only unsightly, it's a threat to wildlife and their habitat. Before you flick a cigarette butt out of your window or throw out a plastic bottle, consider this: Cigarette filters have been found in the stomachs of marine life, birds, and other animals, because they thought it was food. Birds and marine life have also been found trapped or tangled in plastic items such as six-pack drink holders, plastic bags and fishing line. Please be considerate, and protect our wildlife and our water.

YOU CAN HELP!

- Set an example for others, especially children, by not littering.
- Carry a litterbag in your car.
- Make sure trash cans have lids that can be securely fastened.
- If you have curbside trash collection, don't put loose trash in boxes.
- Prevent trash cans from being knocked over by the wind and animals.
- Tie papers in a bundle before placing them in a curbside recycling bin.
- If you own a business, check dumpsters daily to see that top and side doors are closed.
- If you or a family member is involved in a civic group, scouting, or recreational sports program, encourage the group to "adopt" a spot in your town and maintain it on a regular basis.
- Report areas where people have illegally dumped garbage and debris and ask that the material be removed.
- Volunteer to help organize a cleanup.

WHY SHOULD YOU CARE ABOUT CLEAN WATER?

Stormwater pollution is one of the greatest threats to New Jersey's clean water supply. Clean water provides access to safe drinking water, places for recreation, commercial opportunities, healthy wildlife habitats, and adds beauty to our landscape. Rain washes pollution from streets, parking lots, and lawns into storm drains, then directly to our streams, rivers, lakes and the ocean.

Did you know more than 60 percent of water pollution comes from things such as motor oil, fertilizers, pet waste and detergents? By sharing the responsibility and making small, easy changes in our daily lives, we can keep common pollutants out of stormwater.

CLEAN WATER
It's Up to You New Jersey
www.cleanwaterNJ.org

Solutions to Stormwater Pollution

Easy Things You Can Do Every Day To Protect Our Water

A Guide to Healthy Habits for Cleaner Water

Pollution on streets, parking lots and lawns is washed by rain into storm drains, then directly to our drinking water supplies and the ocean and lakes our children play in. Fertilizer, oil, pesticides, detergents, pet waste, grass clippings: You name it and it ends up in our water.

Stormwater pollution is one of New Jersey's greatest threats to clean and plentiful water, and that's why we're all doing something about it.

By sharing the responsibility and making small, easy changes in our daily lives, we can keep common pollutants out of stormwater. It all adds up to cleaner water, and it saves the high cost of cleaning up once it's dirty.

As part of New Jersey's initiative to keep our water clean and plentiful and to meet federal requirements, many municipalities and other public agencies including colleges and military bases must adopt ordinances or other rules prohibiting various activities that contribute to stormwater pollution. Breaking these rules can result in fines or other penalties.

As a resident, business, or other member of the New Jersey community, it is important to know these easy things you can do every day to protect our water.

Limit your use of fertilizers and pesticides

- Do a soil test to see if you need a fertilizer.
- Do not apply fertilizers if heavy rain is predicted.
- Look into alternatives for pesticides.
- Maintain a small lawn and keep the rest of your property or yard in a natural state with trees and other native vegetation that requires little or no fertilizer.
- If you use fertilizers and pesticides, follow the instructions on the label on how to correctly apply it.

Make sure you properly store or discard any unused portions.

Properly use and dispose of hazardous products

- Hazardous products include some household or commercial cleaning products, lawn and garden care products, motor oil, antifreeze, and paints.
- Do not pour any hazardous products down a storm drain because storm drains are usually connected to local waterbodies and the water is not treated.

People for Animals

(973) 282-0890 x222

Partner in Controlling the Feral Cat Colonies– Trap Neuter Vaccinate Release (TNVR) Program

Maplewood township is working with People for Animals to do low cost spay/ neuter, rabies vaccinations, distemper and microchipping for stray, feral cats. We work with local volunteer caretakers to help identify these feral cat colonies.

Call People for Animals for further information or if you would like to volunteer.

Note that owned cats and dogs can receive low cost spay / neutering by making an appointment.

St. Hubert's Animal Welfare

(973) 377-2295

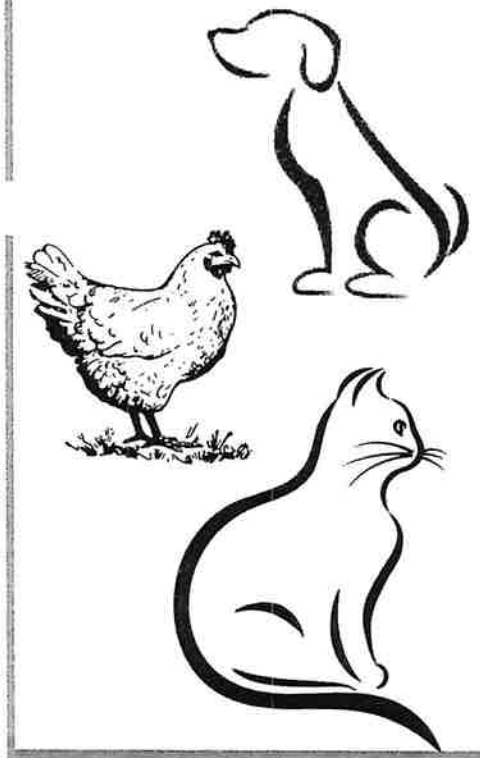
As of 2016, St. Hubert's Animal Welfare is the contracting agency for animal control services for the Township of Maplewood.

Contact St. Hubert's Animal Welfare for the following services:

- Injured dogs and cats
- Retrieval of expired pets, inside the home
- Dogs running at large
- Stray cats
- Animal bite reporting
- Bats in the home
- Healthy wildlife consultation
- Transport assistance of owned dogs and cats to a veterinarian if owner is homebound or disabled.

Township of Maplewood

Responsible Pet Ownership



Maplewood Health Department
Municipal Building, 574 Valley St.

Tel: (973) 762-8120

Rev 9/17

Pet Ownership in Maplewood

Congratulations on having a new pet! The care and companionship of domesticated animals can be a rewarding experience and improve one's health and wellbeing.

This brochure will inform residents of the expectations and requirements of **Responsible Pet Ownership**.

The Maplewood Health Department oversees the enforcement, and provision, of animal control services working with community partners to offer programs such as:

⇒ Trap, Neuter, Vaccinate and Release (TNVR) programs
⇒ Annual Animal Licensing
⇒ Dog Bite Complaints
⇒ Bat inside a residence
⇒ Sick wildlife on premises

Success of these programs relies on the participation and efforts by all residents and pet owners.

Annual Dog and Cat Licensing
(Ord. 113-2:113-7)

Dogs and cats, age seven (7) months and older are required to obtain or renew their license by January 31, every year. After January 31, an additional $7.00 will be charged to the license.

Obtain a license at the Maplewood Municipal Building, 574 Valley St., during regular business hours. Call the Health Department if you need an application to be mailed to you.

Fee: $15 for spayed/ neutered pets

$18 for non-spayed/ neutered pets

Rabies Vaccination

Rabies in wild animals is still found in our area. Dogs and cats can become infected with rabies through a bite, scratch or contact with a rabid animal. The first line of defense is to vaccinate your domesticated dog/ cat from getting the virus. The Health Department conducts a free dog/cat rabies clinic annually.

Quality of Life Maintenance (Ord. 113-12)

- Dog Noise– Please refrain your dog from excessive barking and howling.
- Pet Waste - Residents are required to clean up after their dog/cat and dispose of dog/cat waste in a garbage receptacle. Do not throw dog waste down the storm drain. This pollutes the river and clogs pipes.
- Leash law– Dogs are prohibited from running off leash in township public spaces. Dogs must be securely controlled by an adequate leash no more than six (6) feet long.
- Feeding of Stray Animals (Ord. 113-30/ 113-31) Do not feed stray or unlicensed cats or leave food outdoors for stray animals. Violators shall be subject to a $100.00 fine in the first instance and $250.00 thereafter.

Raising chickens in Maplewood
(Ch. 13, Ord. # 2709-13)

Up to 15 selected households within the Township of Maplewood will be permitted to raise up to five chickens per property for the purpose of household egg gathering. Roosters are not permitted. Contact the Health Officer Robert Roe for more information on permit requirements and fees.

What do I need to bring to get my dog/ cat licensed

Provide general description of the dog/ cat: breed, sex, age, color and markings, and whether such dog is of a long- or short-haired variety. Provide the name, street and address of the owner. For DOGS: Provide rabies certificate from a licensed veterinarian indicating the dog has been inoculated against rabies and that the inoculation shall be current through **September 30 of the licensing year.**

You can now apply for/ renew your dog and cat license ONLINE!

Visit the Township website page, "Animal License":
http://www.twp.maplewood.nj.us/index.aspx?nid=114

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS COOPERATIVE EXTENSION
New Jersey Agricultural Experiment Station
www.rce.rutgers.edu

FS074

Fact sheet

Backyard Leaf Composting

Franklin Flower, Extension Specialist Emeritus in Environmental Science
Peter Strom, Assistant Professor in Environmental Science

Many New Jersey homeowners have an excessive quantity of leaves in the fall. One alternative for deal-ing with leaves is backyard composting. This process involves primarily the microbial decomposition of organic matter. Compost - the end result - is a dark, friable, partially decomposed substance similar to natural organic matter found in the soil.

The Composting Process

Composting speeds natural decomposition under semi-controlled conditions. Raw organic materials can be converted into compost by microorganisms. As microorganisms decompose organic matter, temperatures within the pile increase, sometimes approaching 150 degrees F. at the center. These inside-pile temperatures speed the process, and kill many weed and disease organisms.

Leaves may be composted by piling them in a heap. Locate the pile where drainage is adequate and there is no standing water. The composting pile should be damp enough that when a sample taken from the interior is squeezed by hand a few drops of water will appear. A shaded area will reduce moisture evaporation from the surface, but tree roots may grow into the pile. If the surface of the pile becomes excessively dry, it will not compost, and those leaves may blow away.

The leaf pile should be at least 4 feet in diameter and 3 feet in height. If it is too small, it is difficult to maintain adequate temperatures for rapid decomposition. The maximum size should be about 5 feet in height and 10 feet in diameter. If the pile is too large, the interior will not obtain the oxygen needed for adequate, odor-free decomposition. If more material is available, lengthen the pile into a rectangular shape while keeping it 10 feet wide and 5 feet high. If there is sufficient space and material, two or three piles will provide greater flexibility. One pile can contain compost for immediate use; the second is actively composting; and the third receives newly fallen leaves. If there is space for only one pile, new material may be added gradually to the top while removing the decomposed product from the bottom.

Containing the Pile

Composting may be done in a loose pile. However, for the most efficient use of space, it can be contained in a bin or other enclosure. The sides of this bin should be loose enough to permit air movement. One side should be open, or easily opened, for turning the pile and for removing the finished compost.

Woven wire or wooden slat fencing, or cement blocks on their sides have been used successfully. Wood gradually decomposes, and wire fencing may rust, so these materials will need periodic replacement. Wooden stakes driven into the ground may attract termites, so lumber treated with wood preservative or metal snow-fence posts may be better.

Constructing the Pile

Many instruction sheets advocate constructing the pile in layers that may include grass clippings, fertilizer, limestone, manure, soil, and leaves. However, we have found this practice to be unnecessary. The pile can be constructed of leaves only. A small amount of grass clippings may be added to the leaves as the pile is being constructed. However, because of its high demand for oxygen, too much grass tends to cause an anaerobic (without oxygen) condition. This greatly reduces the composting rate, and can produce unpleasant odors. Fresh vegetable peelings may be included, but do not add meat or grease because they may cause odors or attract pests.

Unless leaves are collected in a very wet condition, add water while placing them in the pile. Without moisture, the microorganisms will not function. Moist-en to the point

where it is possible to squeeze droplets of water from a hand-held mass of leaves.

Dead leaves lack adequate nitrogen for rapid decomposition. Therefore, a high-nitrogen fertilizer added to the pile may speed up decomposition. However, since leaves fall only for about 2 months a year, there are 10 months for decomposition before space is needed for the next batch. So, while it is generally unnecessary to add fertilizer, for more rapid decomposition and a product with a higher nutritive content, 5 ounces (about 1/2 cup) of 10% nitrogen fertilizer per 20-gallon can of hand-compacted leaves could be added. Fresh manure could be substituted, but it may cause odor problems.

Ordinarily it is unnecessary to add ground limestone because the pile seldom becomes too acidic. If fertilizer has been added, an equivalent quantity of limestone will counteract any acidity. Little or no limestone should be added if the compost is to be used on acid-loving plants.

Some guides on leaf composting recommend adding layers of soil periodically to the piles to supply the microorganisms needed for decomposition. We have not found this practice to be necessary, because leaves, themselves, contain a multitude of microorganisms. Available commercial activators or starters definitely are not needed.

Avoid packing the materials too tightly. Too much compaction will limit movement of air through the pile. Shredding the leaves generally speeds up composting.

To reduce weed germination, weeds in flower or with seeds should not be composted. Also, it is best to avoid composting diseased plants, or herbicide-treated lawn clippings until after at least three mowings.

Care of the Pile

The composting pile must be kept moist, but not soggy, for proper decomposition. Inadequate moisture reduces microbial activity, while excessive water may cause anaerobic conditions. A thin outer layer of dry leaves is unavoidable.

The pile should be periodically turned or mixed. The main objectives of turning are to shift materials from the outer parts of the pile closer to the center for better decomposition, and to incorporate oxygen. During warm weather, turn the pile once a month. In cool weather frequent turning is not recommended because it allows too much heat to escape. Piles should be turned immediately if ammonia or other offensive odors are detected. If space is available, turning may be accomplished by shifting the entire pile to an adjacent area or bin.

Within a few weeks after starting, the pile should be hot in the center. Heating generally indicates that the pile is decomposing properly. Failure to heat may be caused by too little or too much water, improper aeration, packing too tightly, or a pile that is too small. As leaves decompose, they should shrink to less than one-half of their original volume. During dry weather it may be necessary to add more water. The moisture content of the interior of the pile should be observed while turning.

Using Leaf Compost

Finished compost should be dark and crumbly with much of the original appearance no longer visible. It should have an earthy odor. Normally, compost will be ready in 4-9 months.

The major horticultural use for leaf compost is to improve the organic content of soil. Most New Jersey soils need an increase of 1/2 to 1% in organic content, particularly to improve moisture-holding capacity and tilth. Leaf compost is not normally a fertilizer, because it is too low in nutrients. Compost serves primarily as an organic amendment and as a soil conditioner. Soil mulch is another valuable use for leaf compost.

Based in part on Experiment Station Research Project No. 07526.

Desktop publishing by RCE/Resource Center

Revised: December 1991

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N.J. AGRICULTURAL EXPERIMENT STATION
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New Jersey Agricultural Experiment Station
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FS389

Fact sheet

Minimizing Waste Disposal: Grass Clippings

Peter F. Strom, Ph.D., Associate Professor of Environmental Science; James A. Murphy, Ph.D., Specialist in Turfgrass Management; and Henry W. Indyk, Ph.D., Specialist Emeritus in Turfgrass Management

Since refuse disposal costs have dramatically increased, and some landfills no longer accept grass clippings, many individuals and governmental agencies are seeking alternatives for disposal of clippings. During the maximum grass growing period, the municipal refuse load in some New Jersey suburban communities may contain nearly one-third grass clippings. Collected clippings become anaerobic very quickly because of their high demand for oxygen. After becoming anaerobic they emit strongly unpleasant odors. Therefore, grass clippings (in quantity) are difficult to handle and to process.

From our own experience with the handling and disposal of grass clippings, and discussions with others such as lawn care professionals, we suggest considering the following methods to reduce landfilling:

1. RETURN TO LAWN — It is most desirable to leave grass clippings uncollected on the lawn so that they are recycled, contributing to soil organic matter and supplying part of the fertilizer needs of the lawn. Adopt a mowing schedule to keep clippings short enough to filter through growing grass and not remain as a mat on top of the lawn. Research and experience indicate that only 1/3 of the grass length should be removed during mowing. Never allow the lawn grass to double its height between mowings. This approach not only eliminates clipping collection and disposal problems, but also can contribute to improvement of the lawn.

Clippings are not a cause of thatch in lawns. Rather, thatch is formed primarily from a dense accumulation of grass roots and stemmy material. Returning clippings along with proper mowing frequency will not increase disease problems.

Use caution when removing collection bags from mowers. Some machines are not designed to operate safely without a bag or other attachment in place. If you are unsure, check with your equipment supplier.

2. GARDEN MULCH — Grass clippings can be used as a garden mulch. To minimize any tendency to protect slugs, clippings can be dried in the sun for a day prior to being used in this way. Clippings can be spread on garden soil to check weed growth, reduce soil spattering and crusting, moderate soil temperatures, etc. As a precaution, do not use grass clippings from herbicide-treated lawns until after two grass cuttings have been made.

3. SOIL INCORPORATION — Clippings can serve as a source of organic matter for soil improvement when incorporated into the garden.

4. BACKYARD COMPOSTING — Grass clippings can be composted, particularly when incorporated into a backyard leaf composting pile. However, grass has a high nitrogen content, a much higher demand for oxygen than leaves, and a tendency to mat, thereby greatly reducing the passage of oxygen. Composting piles containing

grass clippings thus readily become anaerobic. This, in turn, can produce strong, unpleasant odors. These odors are particularly noticeable when the pile is disturbed.

Because of these problems, grass clippings should not be composted alone, but rather mixed with composting leaves. The partially decayed leaves which now (6-9 months after leaf fall) have a low demand for oxygen, will serve as a bulking agent permitting more oxygen to reach the grass. Grass, which is high in nitrogen, will provide a more rapid decomposition of the remaining leaves as long as it remains under aerobic conditions. Grass clippings will also contribute to a better end product (higher nitrogen content) than that obtained from composting leaves alone. One must be aware, however, that an excess of damp grass in the pile will soon become anaerobic, produce very unpleasant odors, and reduce the rate of decomposition. The objective is to keep the material **aerobic**. Also, to ensure that excess nitrogen is not given off as ammonia, do not add more than 1 part fresh grass clippings to 3 parts partially composted leaves.

The resulting compost can be used as a soil amendment, as a mulch for gardens, flower or shrub beds, or as a potting medium.

5. MUNICIPAL COMPOSTING — Some grass clippings can be incorporated into a municipal leaf composting operation. However, problems that may be experienced with backyard grass composting could be greatly magnified at a municipal facility. Even grass stored for one day or less in plastic bags or the back of a lawn maintenance pick-up truck may emit very unpleasant odors when being unloaded at the site. For this reason, grass clippings are banned at many leaf composting facilities, unless they are very isolated. Research is continuing in this area, but other problems include the high cost of collection and an inadequate supply of leaves for the amount of clippings.

Partially composted leaves should be mixed with the grass in a 3:1 ratio, or more. Because the leaves have already decomposed by the time the grass comes to the site, however, this means the ratio actually collected must be at least 6:1. For most towns this would be possible only if most of the grass clippings are handled directly by residents on their own property.

6. CLIPPING REDUCTION — Fertilizing and watering above the requirements of the grasses may be more detrimental than beneficial to the lawn. One of the effects is increased production of clippings. (Another is potential ground or surface water pollution.) Judicious and proper use of fertilizer and water can provide an attractive lawn with a reduction in the costs, effort, susceptibility to disease, and amount of clippings produced. A fertilization program should emphasize fertilizing the lawn in the fall season rather than in the spring. This can be effective not only in reducing the amount of clippings produced, but also in contributing to a better lawn.

Two related fact sheets: "Backyard Leaf Composting" (FS074) and "Using Leaf Compost" (FS117), and assistance with procedures covered above, may be obtained from the Rutgers Cooperative Extension office in your county. The telephone number appears under County Government in your local phone directory.

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FS117

Fact sheet

Using Leaf Compost

Roy L. Flannery, Specialist in Soils, Emeritus and
Franklin Flower, Specialist in Environmental Science, Emeritus

Composting involves primarily the microbial decomposition of organic matter. Compost - the end product - is a dark, friable, partially decomposed substance similar to natural organic matter found in the soil. The organic matter content of soils is very important. It influences the physical condition, water-holding capacity, and temperature of the soil, and especially the soil bacterial processes which affect the availability of mineral salts to plants.

Why Compost Leaves

If newly fallen leaves are added directly to the soil without first being composted, the microbes that decompose the leaves compete with growing plants for soil nitrogen. The temporary nitrogen shortage caused by the microbes can reduce plant growth. To reduce or eliminate this competition for nitrogen, composting of the leaves is recommended prior to incorporating them into soils.

Need for Organic Matter

Most New Jersey soils need an increase of 1/2 to 1% in organic matter. Sandy soils, such as loamy sands and sands, and soils with very high clay content are improved the most by an increase in organic matter content.

Benefits of Adding Leaf Compost to Soil

- Among the benefits derived from adding leaf compost to New Jersey soils are:
- Drought damage to plants is reduced because of an increased water-holding capacity of the soils.
- Soil tilth is improved making the soils easier to cultivate.
- Very small amounts of the 16 essential elements needed for plant growth are supplied.
- Adverse effects of excessive alkalinity, acidity, or over-fertilization are reduced by the added buffering of the soil.
- The cation exchange capacity of soils is increased, enabling the soils to hold more plant nutrients for longer periods.
- Decomposition of the organic matter produces organic acids which combine with iron and aluminum ions, thereby reducing their potential toxicity to plants. This also makes more phosphorus available for plants because free iron and aluminum can tie up the phosphates.
- The added organic matter provides a food source for desirable soil micro-organisms.
- When incorporated into the soil, or used in a thin mulch 1/16- to 1/8-inch thick, compost helps seeds to germinate.

Overall, compost improves the physical, chemical, and biological properties of soils. Leaf compost, however, is not normally considered a fertilizer as it is too low in nutrient content. It serves primarily as an organic amendment and a soil conditioner. The nitrogen content of composted leaves on a dry basis is about 1/2 to 1% by weight. For other materials commonly added to backyard leaf compost piles, the nitrogen content is: blood meal 10-14%; grass clippings 2-4%; coffee grounds 1 1/2-2%; eggshells 1-2%; horse manure 1-5%; cow manure 1-1 1/2%; poultry manure 3-5%; ammonium sulfate 20 1/2%; urea 45%; bone meal 1 1/2-4%; and cotton seed meal 6-7%.

When Compost is Ready to Use

When compost is ready to use (6 to 18 months after starting) its temperature will generally have decreased to slightly above air temperature. Finished compost will usually be drier than leaves during composting. The material also will be crumbly in texture. Before using compost, "screening" may be necessary to remove the larger partially decomposed materials. These materials will sometimes be present in composting piles because not all items decompose at the same rate. The undecomposed organic matter clumps may be broken up and added to another active compost pile for additional decomposition.

Adding Leaf Compost to the Soil

A good rate of organic matter to work into the top 6 1/2 to 7 inches of most New Jersey cultivated soils is 0.5 to 1.0% organic matter by weight. This is equivalent to adding 900 to 1,800 wet pounds (25 to 50 bushels) of leaf compost per 1,000 square feet of area. To accomplish this, spread a 3/8- to 3/4-inch depth of leaf compost uniformly over the soil surface and mix into the top 6 to 8 inches of soil.

Little or no nitrogen will be released from compost for plant use during the season immediately following incorporation into the soil. It is generally necessary to add nitrogen to soils containing compost to prevent the compost from "robbing" the soil of nitrogen and creating deficiency problems in plants grown in the soil. Adding 1 to 1 1/2 lbs. of 10% nitrogen fertilizer to each 100 lbs. (about 3 bushels) of leaf compost is recommended.

The preceding recommendations supply only the needs of the leaf compost. Most plants require an additional 1 to 3 lbs. of actual nitrogen per 1,000 square feet for normal feeding. This nitrogen should be applied to the soil in addition to that applied in the leaf compost.

Using Leaf Compost as a Mulch

Leaf compost can also be used as an organic mulch on the surface of soil in place of peatmoss, straw, etc. Organic mulches are valuable because they:

- Reduce rainfall runoff, thereby making more water available for plant growth.
- Decrease water evaporation losses from the soil.
- Keep the soils cooler in hot weather and warmer in cold weather.
- Reduce alternate freezing and thawing of soils which can injure the fibrous roots of plants.
- Help to prevent soil erosion by wind or water.
- Keep soils friable, therefore easier to cultivate.
- Increase biological activity of earthworms and other soil organisms.
- Prevent soil spattering on leaves, flowers, or fruits such as strawberries.
- Reduce soil compaction from rain and irrigation water.
- Help to control weeds.
- Present a pleasing appearance.

Recommended thicknesses of mulch layers: 2-3 inches for deciduous shrubs and trees, vegetables, and rosebeds; 3 inches for flower beds; and 3-4 inches for shallow-rooted, acid-loving plants.

Other Uses for Leaf Compost

Leaf compost may also be used in potting soil. However, no more than 25 to 30% of the potting soil should be leaf compost. Frequently leaf compost will continue to decompose. If more that 25 to 30% of the potting soil is leaf compost, there will be a significant volume reduction of the potting soil after 1 year.

Composting generally destroys most weed seeds contained in the compost material; however, not all of them will be destroyed. Some are heat resistant, and others will not be fully exposed to the high temperatures. If a completely pasteurized leaf compost is desired for potting soil, it will be necessary to heat it in an oven until the temperature of the center of the mass reaches 180°F and is maintained for 30 minutes.

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What's a watershed?

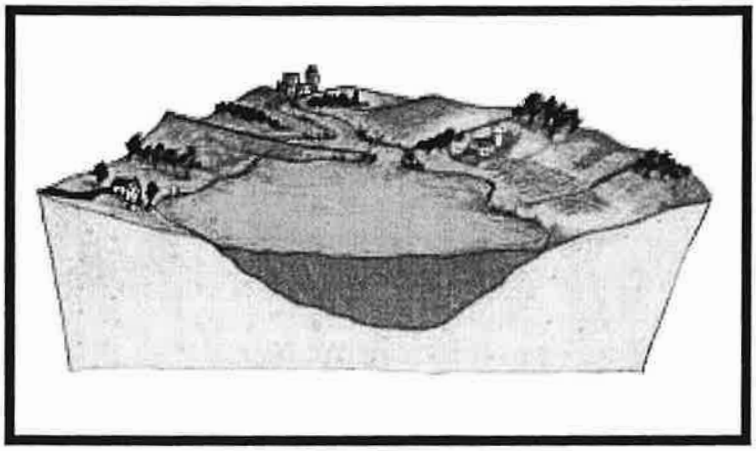
No matter where you are in New Jersey, you are in a watershed. Watersheds are everywhere ... from your front doorstep to the local park to the shopping mall to the creek down the road. Watersheds are the link between our land, our water and our communities because the quality of our water is linked to how we use the watershed surrounding it.

So what is a watershed?





What's a watershed?



A watershed is the area of land that drains into a body of water such as a river, lake, stream or bay. It is separated from other watersheds by high points in the area such as hills or slopes. It includes not only the waterway itself but also the entire land area that drains to it. For example, the watershed of a lake would include not only the streams entering that lake but also the land area that drains into those streams and eventually the lake. Drainage basins generally refer to large watersheds that encompass the watersheds of many smaller rivers and streams.

What's the water cycle?

For millions of years, water has been used. It is constantly being recycled and reused. It is important to understand how water moves through the Earth's water cycle, which is defined as the movement of water from the Earth's surface into the atmosphere and back to the Earth's surface again.

When it rains, the rainwater flows over land into waterways or is absorbed by the ground or plants. Water evaporates from land and water bodies becoming water vapor in the atmosphere. Water is also released from trees and other plants through "transpiration." The water vapor from evaporation and transpiration forms clouds in the atmosphere which in turn provide precipitation (rain, hail, snow, sleet) to start the cycle over again. This process of water recycling, known as the water cycle, repeats itself continuously.

What's your watershed address?

Where does the water that rains on your home go? After it leaves your lawn, street or sidewalk where is it headed? Does it flow downhill straight to a nearby stream or lake? Does it wander into a wetlands? Does it puddle in your backyard? Does it zip down a storm drain to a local creek?

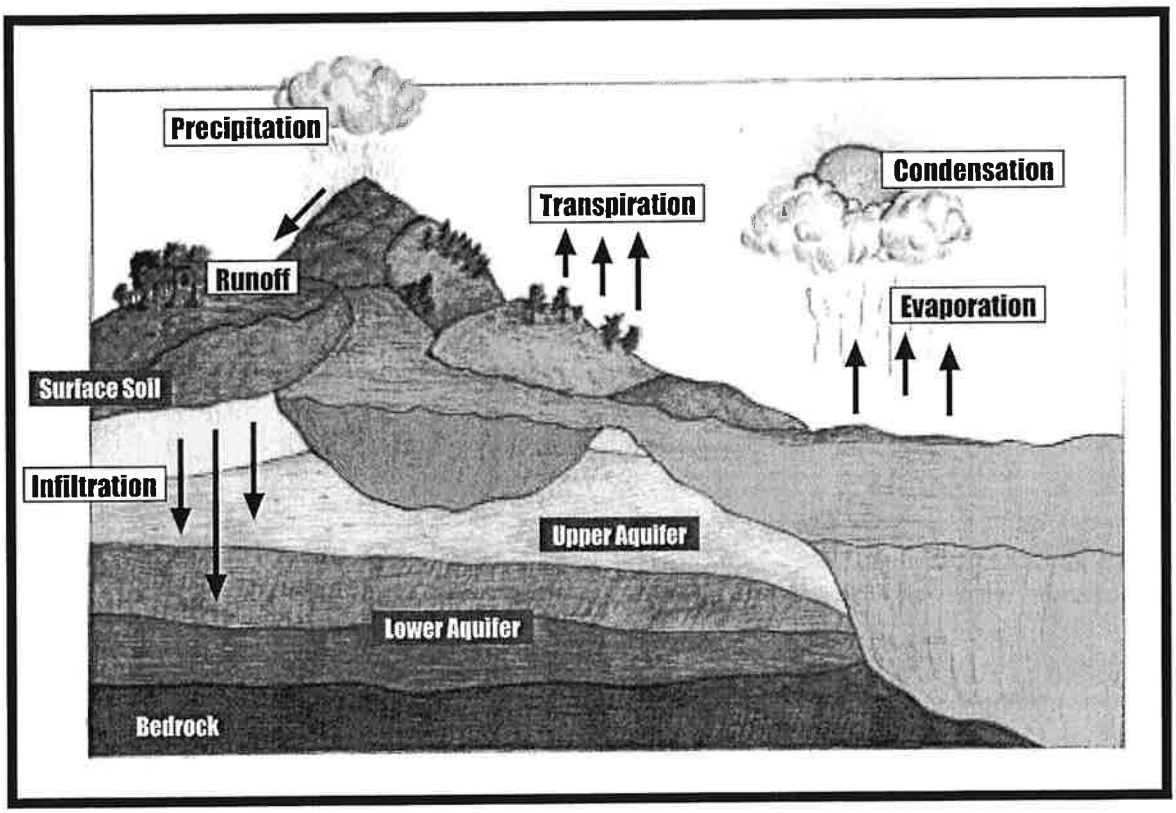
That destination, whether it's a puddle, a pond, a bay or a lake, is your watershed address. It could be Duck Pond, Spring Lake, Millstone River, Barnegat Bay or Beaver Brook. Just like there are towns within counties within states, there are subwatersheds within watersheds within drainage basins. For example, the rain that falls on your driveway might flow into Lake Hopatcong, which flows into the Musconetcong River, which flows into the Delaware River. So your watershed address would be Lake Hopatcong, Musconetcong River, Delaware River even though your mail finds you through Jefferson Township, Morris County, New Jersey.

What's ground water?

A sizable amount of rainwater runoff seeps into the ground to become ground water. Ground water moves into water-filled layers of porous geological formations called aquifers. If the aquifer is close to the surface, its ground water can flow into nearby waterways or wetlands, providing a base flow. Depending on your location, aquifers containing ground water can range from a few feet below the surface to several hundred feet underground. Aquifer recharge areas are locations where rainwater and other precipitation seeps into the Earth's surface to enter an aquifer. Contrary to popular belief, aquifers are not flowing underground streams or lakes.

Ground water moves at an irregular pace, seeping from more porous soils, from shallow to deeper areas and from places where it enters the Earth's surface to where it is discharged or withdrawn. A system of more than 100 aquifers is scattered throughout New Jersey, covering 7,500 square miles.

Why is ground water important?
Ground water is the primary drinking water source for half of the state's population. Most of this water is obtained from individual domestic wells or public water supplies which tap into aquifers. New Jersey agriculture also depends on a steady supply of clean ground water for irrigation.



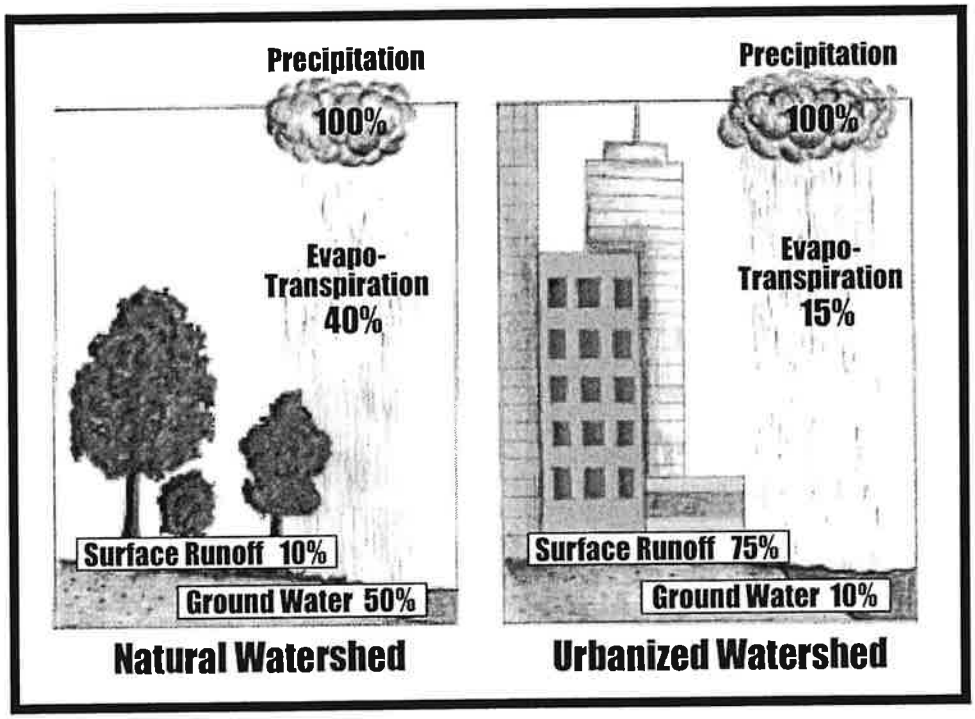
How does urbanization change a watershed?

Urbanization (or development) has a great effect on local water resources. It changes how water flows in the watershed and what flows in the water. Both surface and ground water flow are changed.

As a watershed becomes developed, trees, shrubs and other plants are replaced with impervious surfaces (roads, rooftops, parking lots and other hard surfaces that do not allow stormwater to soak into the ground). Without the plants to store and slow the flow of stormwater, the rate of stormwater runoff is increased. Less stormwater soaks into the ground because the sidewalks, roads, parking lots and rooftops block this infiltration. This means a greater volume of water reaches the waterway faster and less water infiltrates to ground water. This in turn leads to more flooding after storms and reduced flow in streams and rivers during dry periods. The reduced amount of infiltrating water can lower ground water levels, which in turn can stress local waterways that depend on steadier flows of water.

In the stream, more erosion of stream banks and scouring of channels will occur due to volume increase. This in turn degrades habitat for plant and animal life that depend on clean water. Sediment from eroded stream banks clogs the gills of fish and blocks light needed for plants. The sediment settles to fill in stream channels, lakes and reservoirs. This also increases flooding and the need for dredging to clear streams or lakes for boating.

In addition to the high flows caused by urbanization, the increased runoff also contains increased contaminants. These include litter, cigarette butts and other debris from sidewalks and streets, motor oil poured into storm sewers, heavy metals from brake linings, settled air pollutants from car exhaust and pesticides and fertilizers from lawn care. These contaminants reach local waterways quickly after a storm.










What's watershed management?

The watershed management approach seeks to effectively protect our water resources by taking into account the entire watershed. Successful watershed management requires the participation and involvement of the entire community within the watershed boundaries, including industry, government, business and citizens. Since everyone may contribute to watershed problems, all should be involved in identifying both the problems and the solutions.

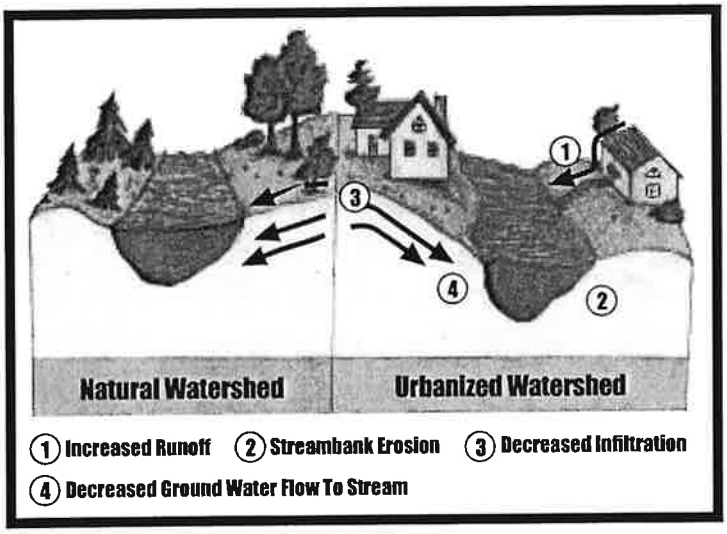
One of the first steps in watershed management is problem identification. Does the local lake choke with weeds in the summer? Are failing septic systems closing shellfish beds? Is increased runoff causing stream banks to erode?

Once the problems and their causes have been identified, practical solutions must be chosen. The watershed community must identify traditional or innovative solutions that will work in their area. These solutions can range from changes to municipal stormwater ordinances to homeowner education about lawn care to stream bank restoration projects.

Identifying which solutions are right for a particular watershed is a crucial component of the watershed management process. Different solutions work in different communities. Developed with the watershed community of industry, government, business and citizens, watershed management planning reflects the concerns and priorities of that community.

Once solutions have been identified, they must be implemented to be successful. This can be the most difficult part of the process. How can implementation be ensured? Who will carry out the plan? Is the community committed to implementing the plan? Are there resources available to do it?

The advantage of watershed management planning is that it addresses all sources of pollution within the watershed and is developed by the community most affected by it. Nonpoint source pollution is particularly suited to this approach because it is frequently beyond the scope of traditional regulatory programs. The plan can incorporate solutions ranging from change in local land use to integrated pest management. Each plan will uniquely fit the problems and solutions of its watershed.










New Jersey's five watershed bureaus and 20 watershed management areas

Northwest Bureau
(609) 633-3812

1. Upper Delaware River
2. Walkill, Pochuck, Papakating
11. Central Delaware Tributaries

Northeast Bureau
(609) 633-1179

3. Pompton, Pequannock, Wanaque, Ramapo
4. Lower Passaic, Saddle
5. Hackensack, Pascack, Hudson
6. Upper and Mid-Passaic, Whippany, Rockaway

Raritan Bureau
(609) 633-7020

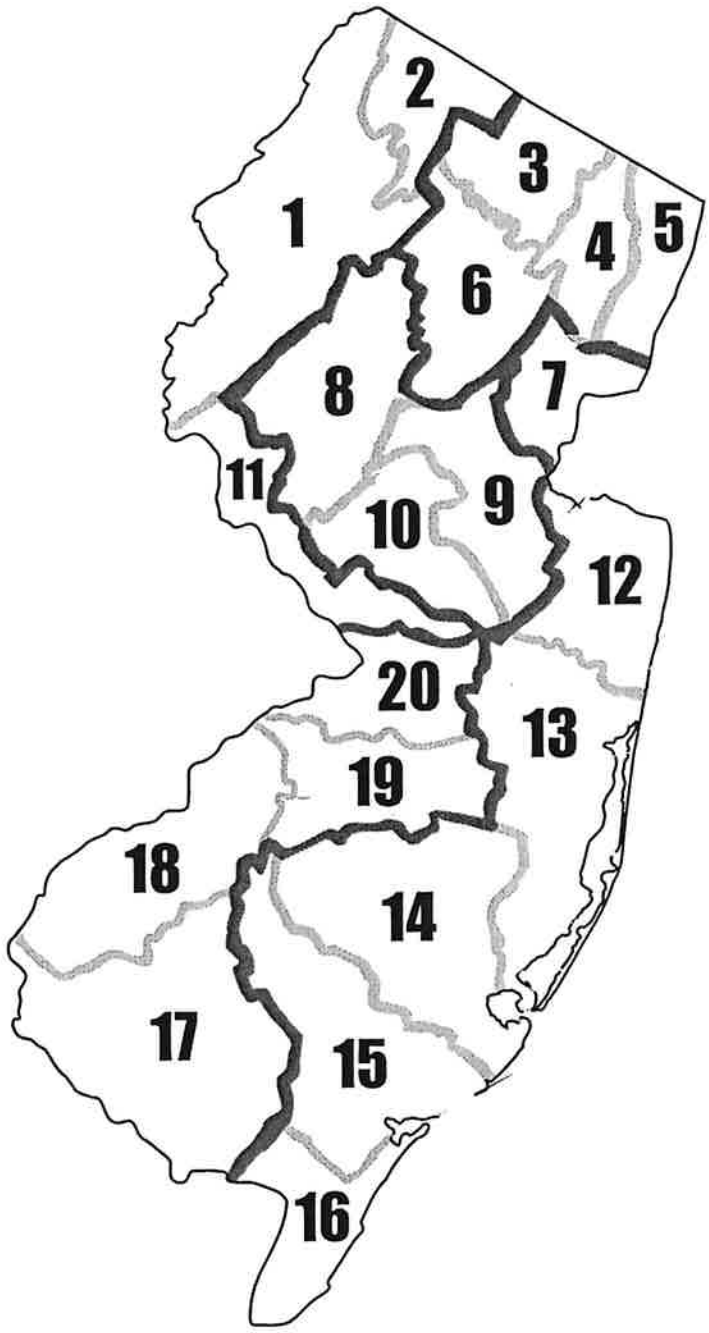
7. Elizabeth, Rahway, Woodbridge
8. North and South Branch Raritan
9. Lower Raritan, South River, Lawrence Brook
10. Millstone River

Atlantic Coastal Bureau
(609) 984-6888

12. Monmouth Watersheds
13. Barnegat Bay Watersheds
14. Mullica, Wading River
15. Great Egg Harbor, Tuckahoe
16. Cape May Watersheds

Lower Delaware Bureau
(609) 633-1441

17. Maurice, Salem, Cohansey
18. Lower Delaware Tributaries
19. Rancocas Creek
20. Crosswicks Creek





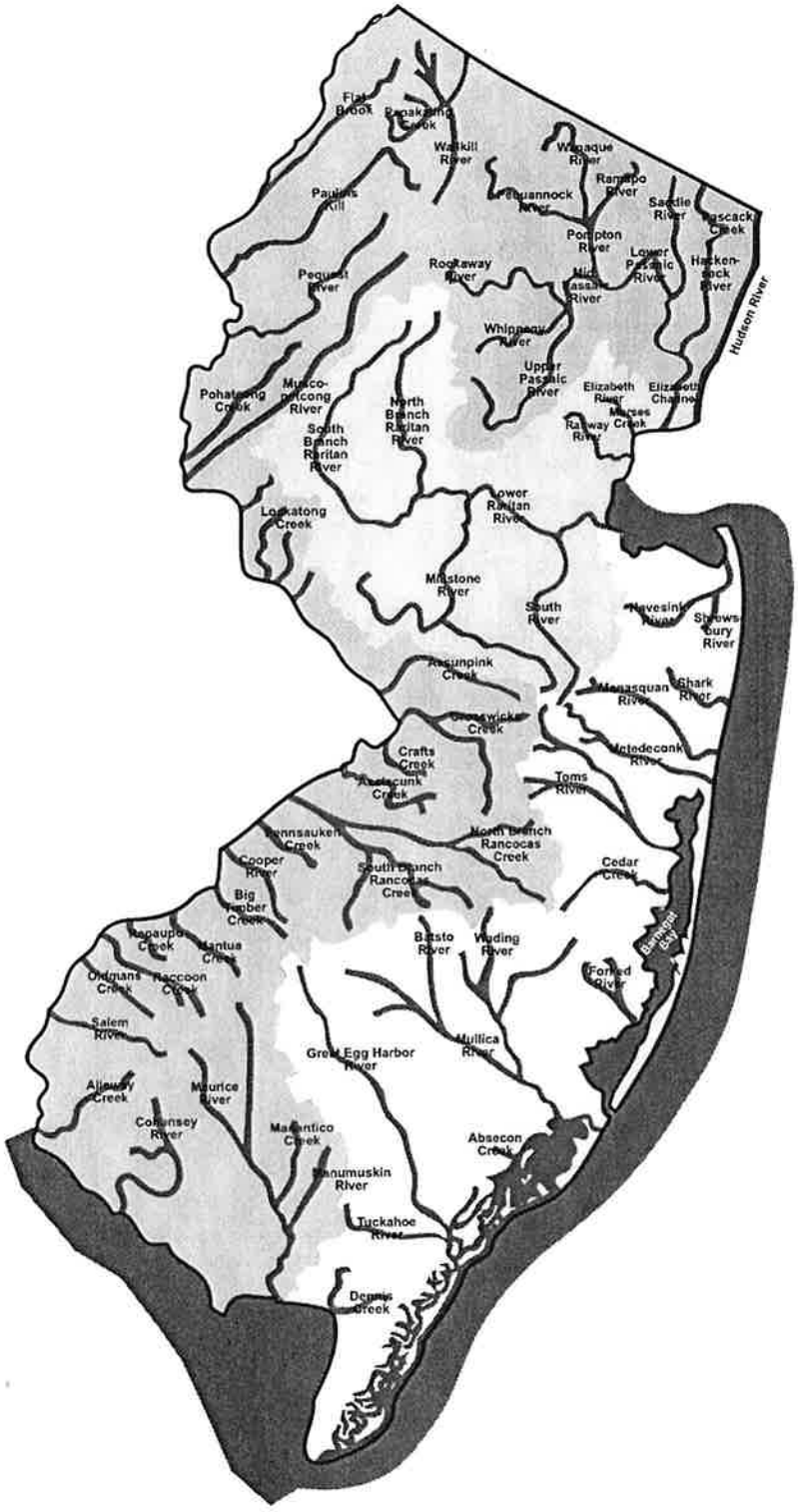





New Jersey's five watershed regions and major waterways

watershed regions

- ☐ Atlantic Coastal
- ☐ Lower Delaware
- ☐ Northeast
- ☐ Northwest
- ☐ Raritan



Watershed protection and nonpoint source pollution
what you can do today!

One way you can protect your watershed is to reduce nonpoint source pollution. Nonpoint source pollution or "people pollution" is contamination of our watersheds, ground water, waterways and ocean that results from everyday activities such as fertilizing the lawn, walking pets, changing motor oil and littering. With each rainfall, pollutants generated by these activities are washed from the entire watershed into local waterways. They can also soak into the ground contaminating the ground water below.

But there is good news - in our everyday activities we can stop nonpoint source pollution and keep our environment clean. Simple changes in your daily lifestyle can make a tremendous difference in the quality of New Jersey's water resources. Here are a few ways that you can reduce nonpoint source pollution:

Place litter in trash receptacles. Never throw litter, including cigarette butts and fast food containers, in streets or down storm drains. Recycle as much as possible.

Avoid the overuse of fertilizers. Do not apply them before a heavy rainfall. Do a soil test to see if fertilizers are necessary. Fertilizers contain nitrates and phosphates that, in abundance, cause blooms of algae that can lead to fish kills.

Use alternative to pesticides whenever possible. If you do use a pesticide, follow the label directions carefully. Many household products made to exterminate pests are also toxic to humans, animals, aquatic organisms and plants.

Pick up after your pet. Pet owners should use newspaper, bags or scoopers to pick up after their pets and dispose of wastes in the garbage or toilet, not the storm drain. Animal wastes contain bacteria and viruses that can contaminate shellfish and cause the closing of bathing beaches. Animal waste also contains nutrients that can cause algae blooms that are unsightly and can lead to fish kills.

Do not feed ducks and geese. Feeding ducks, geese and other waterfowl causes them to concentrate in small areas resulting in concentrated animal waste, causing the same problems as pet waste.

Dispose of household hazardous waste properly. Do not pour household hazardous products down any drain or toilet. Do not discard with the regular household trash. Use natural and less toxic alternatives whenever possible. Contact your County Solid Waste Management Office for information regarding household hazardous waste collection in your area. Many common household products (paint thinners, mothballs, drain and oven cleaners, to name a few) contain toxic ingredients. When improperly used or discarded, these products are a threat to public health and the environment.

Recycle all used motor oil. Do not dump used motor oil down storm drains or on the ground. Take it to a local public or private recycling center. Used motor oil contains toxic chemicals that are harmful to animals, humans and fish.

Wash your car only when necessary. Consider using a commercial car wash that recycles its wash water. Like fertilizers, many car detergents contain phosphate. If you wash your car at home, use a non-phosphate detergent.

Treat your septic system with respect. Avoid adding unnecessary grease, household hazardous products and solids to your septic system. Conserve water. Inspect your tank annually and pump it out every three to five years depending on its use. An improperly working septic system can contaminate ground water and create public health problems.

Use marine sanitation devices and pump-out facilities at marinas when boating. Observe the state's no discharge zones. Dumping boat sewage overboard introduces bacteria and viruses into the water.

For additional information please contact:
New Jersey Department of Environmental Protection · Watershed Management
P.O. Box 418 · 401 East State Street · Trenton · New Jersey · 08625-0418
609-292-2113 · www.state.nj.us/dep/watershedmgt

NJ Department of Environmental Protection
Division of Watershed Management
PO Box 418
Trenton, NJ 08625-0418
609-984-0058

WATER RESOURCE PROTECTION PRACTICES

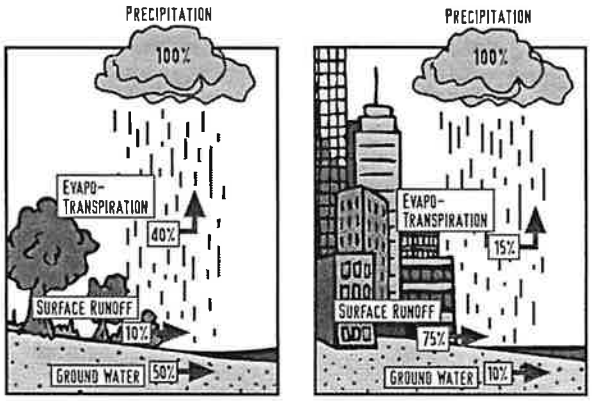
State of New Jersey
Christine Todd Whitman, Governor
Department of Environmental Protection
Robert C. Shinn, Jr., Commissioner

Printed on Recycled Paper
Reprinted March 1999

HOW DOES URBANIZATION CHANGE A WATERSHED?

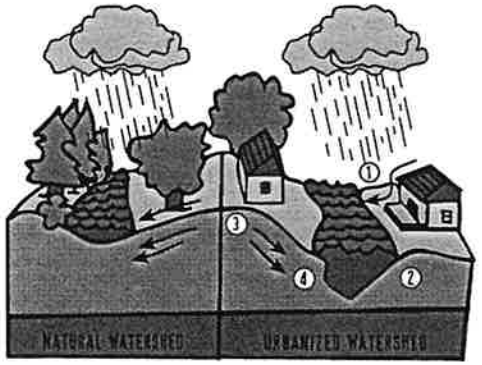
Urbanization (or development) has a great effect on local water resources. It changes how water flows in the watershed and what flows in the water. Both surface and ground water flow are changed.

As a watershed becomes developed, trees, shrubs and other plants are replaced with impervious surfaces (roads, rooftops, parking lots and other hard surfaces that do not allow stormwater to soak into the ground). Without the plants to store and slow the flow of stormwater, the rate of stormwater runoff is increased. Less stormwater is able to soak into the ground because sidewalks, roads, parking lots and rooftops block this infiltration. This means a greater volume of water reaches the waterway faster and less of that water is able to infiltrate to ground water. This in turn leads to more flooding after storms but reduced flow in streams and rivers during dry periods. The reduced amount of infiltrating water can lower ground water levels, which in turn can stress local waterways that depend on steadier flows of water.



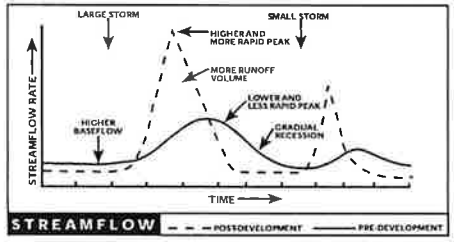
NATURAL WATERSHED URBANIZED WATERSHED

In the stream, more erosion of stream banks and scouring of channels will occur due to volume increase. This in turn degrades habitat for plant and animal life that depend on clear water. Sediment from eroded stream banks clogs the gills of fish and blocks light needed for plants. The sediment settles to fill in stream channels, lakes and reservoirs. This also increases flooding and the need for dredging to clear streams or lakes for boating.

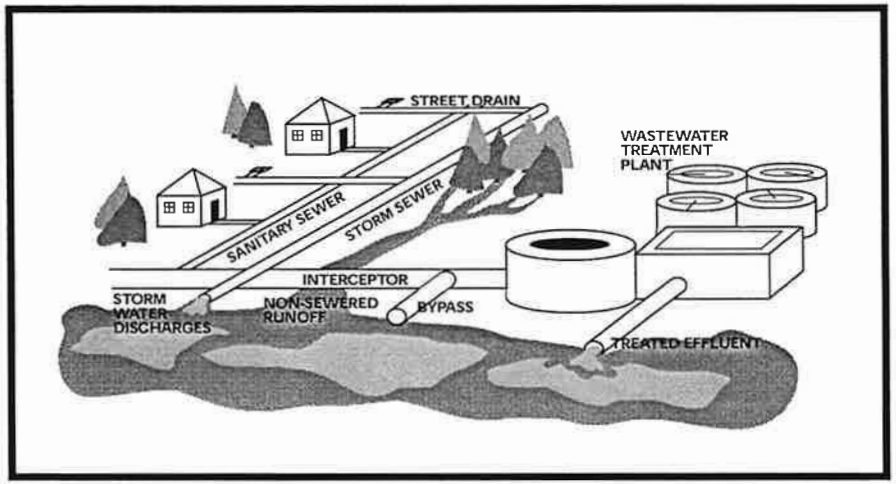


① INCREASED RUNOFF ② STREAMBANK EROSION ③ DECREASED INFILTRATION
④ DECREASED GROUND WATER FLOW TO STREAM

In addition to the high flows caused by urbanization, the increased runoff also contains increased contaminants. These include litter, cigarette butts and other debris from sidewalks and streets, motor oil poured into storm sewers, heavy metals from brake linings, settled air pollutants from car exhaust and pesticides and fertilizers from lawn care. These contaminants reach local waterways quickly after a storm.



Stormwater Sewer Basics



Stormwater flows into the stormwater system through a storm drain. These are frequently located along the curbs of parking lots and roadways. The grate that prevents larger objects from flowing into the storm sewer system is called a catch basin. Once below ground, the stormwater flows through pipes which lead to an outfall where the stormwater enters a stream, river or lake. In most areas of New Jersey, the stormwater sewer goes directly to local waterway without any treatment.

In some areas of the state, the outfall may lead to a stormwater management basin. These basins control the flow of stormwater and can also improve water quality, depending on how they are designed. These basins are frequently seen in newer commercial and residential areas.

In some older urban areas of the state, the stormwater and sanitary sewer systems may be combined. Here both stormwater and sewage from households and businesses travel together in the same pipes. Both stormwater and sewage are treated at sewage treatment plants except during heavy rains. During these occasions, both the stormwater and untreated sewage exceed the capacity of the treatment plant and this overflow is directed into local waterways.

Protecting Stormwater Sewers

In the first rush of water from a rainstorm, much of the debris and other pollutants that had settled on the land surface and in the stormwater sewer since the last storm will be picked up and carried into the local stream. This can significantly add to water quality problems. It is therefore important to protect the stormwater system from sources of pollution.

The following should never be dumped down storm drains, road gutters or catch basins: motor oil, pet waste, grass trimmings, leaves, debris and hazardous chemicals of any kind. Anything dumped in our stormwater collection systems will be carried into our streams.

Controlling Stormwater Flow

Managing stormwater to reduce the impact of development on local watersheds and aquifers relies on minimizing the disruption in the natural flow - both quality and quantity of stormwater. By designing with nature, the impact of urbanization can be greatly reduced.

This can be accomplished by following these principles:

- minimizing impervious surfaces;
- maximizing natural areas or areas of dense vegetation;
- structural stormwater controls such as stormwater management basins; and
- practicing pollution prevention by avoiding contact between stormwater and pollutants.

You Can Make a Difference in Your Own Backyard

Managing stormwater in your own backyard is important. As an integral part of the watershed you live in, what you do in your backyard makes a difference. Here are some examples of what you can do at home:

1. Reduce impervious surfaces by using pavers or bricks rather than concrete for a driveway or sidewalk.
2. Divert rain from paved surfaces onto grass to permit gradual infiltration.
3. Landscape with the environment in mind. Choose the appropriate plants, shrubs and trees for the soil in your yard; don't select plants that need lots of watering (which increases surface runoff), fertilizers or pesticides.
4. Maintain your car properly so that motor oil, brake linings, exhaust and other fluids don't contribute to water pollution.
5. Keep stormwater clean. Never dump litter, motor oil, animal waste, or leaves into storm drains or catch basins.

Pet Waste Pollutes Our Waters

What You Can Do To Help Protect Our Water

Clean and plentiful water is important to our families, our environment, our economy and our quality of life.

Did you know that animal waste from pets can pollute our waters? When left on the ground, pet waste is washed by rain and melting snow and ice into storm drains that carry it to our rivers, lakes, the ocean and drinking water.

Animal waste contains a high concentration of nutrients as well as bacteria and disease-causing microorganisms that can cause problems.

What you can do

Pet owners or anyone who takes your pet for walks must properly dispose of the waste by picking it up, wrapping it and either placing it in the trash or flushing it unwrapped down the toilet.

Your municipality is required to adopt and enforce local pet-waste laws. At a minimum, your community must require that pet owners or their keepers **immediately** and **properly** dispose of their pet's solid waste deposited on **any public or private property not owned or possessed by that person.** People with assistance animals such as Seeing Eye dogs are exempt.

Make sure you know what your municipality requires – and follow it.

Thank you for doing your part to keep New Jersey's waters clean.

For more information, please contact the following:

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
Municipal Stormwater Regulation Program
(609) 633-7021

Visit www.njstormwater.org or www.nonpointsource.org

Additional information is also available at U. S. Environmental Protection Agency Web sites www.epa.gov/npdes/stormwater or www.epa.gov/nps

Section 5

Storm Drain Inlet Labeling

SPPP Form 5 – Storm Drain Inlet Labeling

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, P.E., P.P., C.M.E./Township Engineer*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *M.ay 2022* Date of most recent update: *June 2024*

Storm Drain Inlet Labeling

Describe your storm drain inlet labeling program, including your labeling schedule, the details of your long-term maintenance plan, and plans on coordinating with watershed groups or other volunteer organizations.

All new inlets feature ECO-N Head Pieces, existing have bolt on covers, which have No Dump to Waterways in the casting. All existing inlets get labeled by DPW personnel as they are cleaned each year. Existing inlets that do not have the ECO N grate will receive glue on labels.

Labeling effort completed 100% by DPW forces.

Maintenance Plan

Long term maintenance will be addressed by DPW sewer crew. The condition of lables will be assessed as part of the basin cleaning program. Labels found to be missing or in a state of disrepair will be replaced. DPW currently maintains a supply of extra labels and adhesive. As inlet heads are replaced we are relying on the casting labels themselves in lieu of the glued on label.

Section 6

MS4 Outfall Pipe Mapping

SPPP Form 6 – MS4 Outfall Pipe Mapping

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # :*NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, P.E., P.P., C.M.E./Township Engineer*

Effective Date of Permit Authorization (EDPA): *04/01/04*

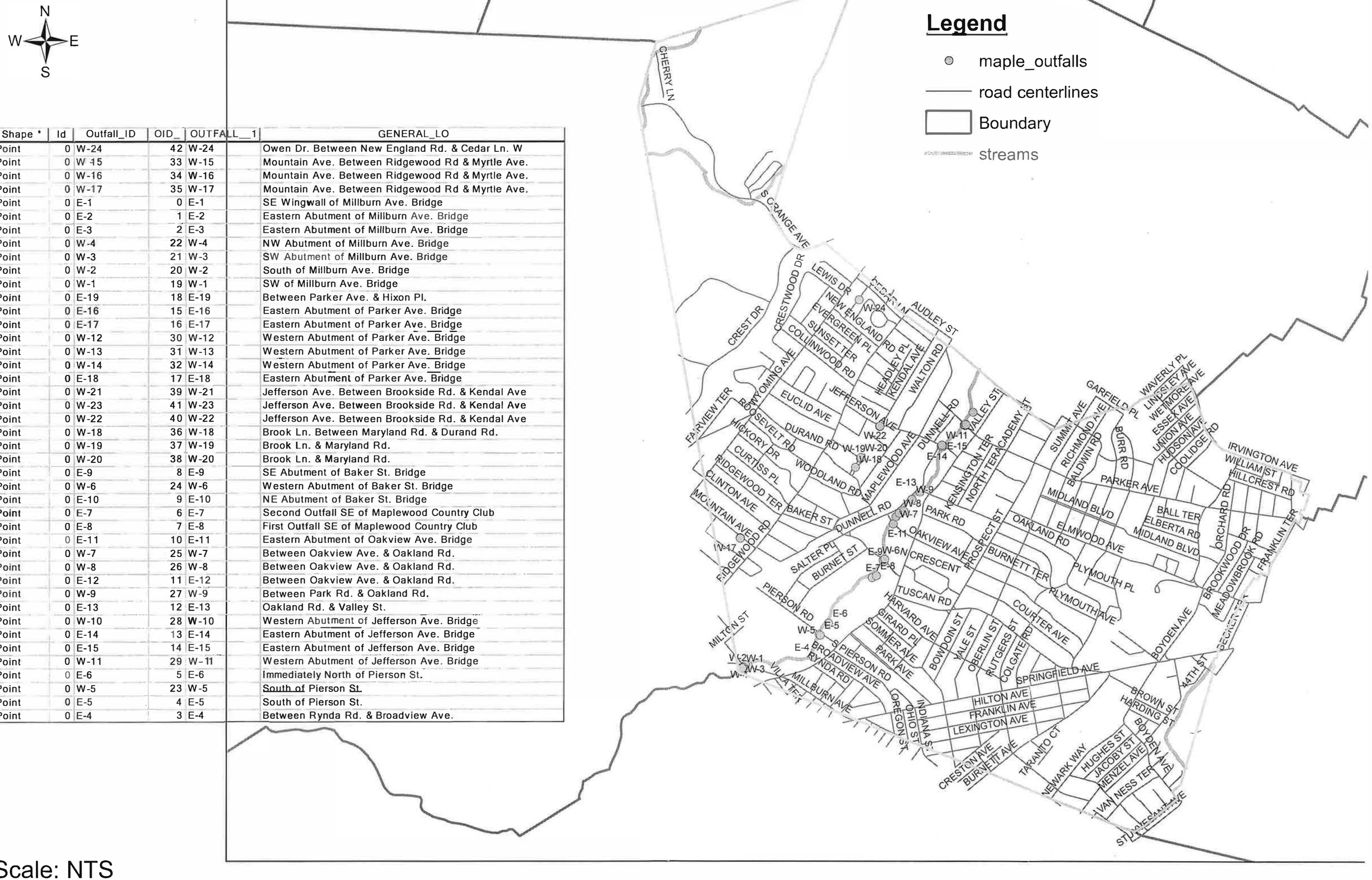
Date of Completion: *10/01/05* Date of most recent update: ***Updated May 24, 2024, Inspected April 2018***

Explain how you will prepare your map (include its type and scale, and the schedule for the mapping process). Who will prepare your map (e.g., municipal employees, a consultant, etc.)?

Maplewood Township has already located all stormwater outfall pipe locations throughout the Township and has development a map (1"=100') that displays the outfall locations. The map is currently being edited by a Consultant with field survey/GPS. Each outfall will be identified with an alphanumeric identifier. The map is in GIS format and can be made available upon request. The first sector of the Township has been updated to date. Updates of the GIS mapping are performed by a consultant.

Physical inspection was performed April 2018 of approximately 33 outfalls. Next inspection 2025

FID	Shape *	Id	Outfall_ID	OID_	OUTFALL__1	GENERAL_LO
0	Point	0	W-24	42	W-24	Owen Dr. Between New England Rd. & Cedar Ln. W
1	Point	0	W-15	33	W-15	Mountain Ave. Between Ridgewood Rd & Myrtle Ave.
2	Point	0	W-16	34	W-16	Mountain Ave. Between Ridgewood Rd & Myrtle Ave.
3	Point	0	W-17	35	W-17	Mountain Ave. Between Ridgewood Rd & Myrtle Ave.
4	Point	0	E-1	0	E-1	SE Wingwall of Millburn Ave. Bridge
5	Point	0	E-2	1	E-2	Eastern Abutment of Millburn Ave. Bridge
6	Point	0	E-3	2	E-3	Eastern Abutment of Millburn Ave. Bridge
7	Point	0	W-4	22	W-4	NW Abutment of Millburn Ave. Bridge
8	Point	0	W-3	21	W-3	SW Abutment of Millburn Ave. Bridge
9	Point	0	W-2	20	W-2	South of Millburn Ave. Bridge
10	Point	0	W-1	19	W-1	SW of Millburn Ave. Bridge
11	Point	0	E-19	18	E-19	Between Parker Ave. & Hixon Pl.
12	Point	0	E-16	15	E-16	Eastern Abutment of Parker Ave. Bridge
13	Point	0	E-17	16	E-17	Eastern Abutment of Parker Ave. Bridge
14	Point	0	W-12	30	W-12	Western Abutment of Parker Ave. Bridge
15	Point	0	W-13	31	W-13	Western Abutment of Parker Ave. Bridge
16	Point	0	W-14	32	W-14	Western Abutment of Parker Ave. Bridge
17	Point	0	E-18	17	E-18	Eastern Abutment of Parker Ave. Bridge
18	Point	0	W-21	39	W-21	Jefferson Ave. Between Brookside Rd. & Kendal Ave
19	Point	0	W-23	41	W-23	Jefferson Ave. Between Brookside Rd. & Kendal Ave
20	Point	0	W-22	40	W-22	Jefferson Ave. Between Brookside Rd. & Kendal Ave
[illegible]	Point	0	W-18	36	W-18	Brook Ln. Between Maryland Rd. & Durand Rd.
[illegible]	Point	0	W-19	37	W-19	Brook Ln. & Maryland Rd.
23	Point	0	W-20	38	W-20	Brook Ln. & Maryland Rd.
24	Point	0	E-9	8	E-9	SE Abutment of Baker St. Bridge
25	Point	0	W-6	24	W-6	Western Abutment of Baker St. Bridge
26	Point	0	E-10	9	E-10	NE Abutment of Baker St. Bridge
27	Point	0	E-7	6	E-7	Second Outfall SE of Maplewood Country Club
28	Point	0	E-8	7	E-8	First Outfall SE of Maplewood Country Club
29	Point	0	E-11	10	E-11	Eastern Abutment of Oakview Ave. Bridge
30	Point	0	W-7	25	W-7	Between Oakview Ave. & Oakland Rd.
31	Point	0	W-8	26	W-8	Between Oakview Ave. & Oakland Rd.
32	Point	0	E-12	11	E-12	Between Oakview Ave. & Oakland Rd.
33	Point	0	W-9	27	W-9	Between Park Rd. & Oakland Rd.
34	Point	0	E-13	12	E-13	Oakland Rd. & Valley St.
35	Point	0	W-10	28	W-10	Western Abutment of Jefferson Ave. Bridge
36	Point	0	E-14	13	E-14	Eastern Abutment of Jefferson Ave. Bridge
37	Point	0	E-15	14	E-15	Eastern Abutment of Jefferson Ave. Bridge
38	Point	0	W-11	29	W-11	Western Abutment of Jefferson Ave. Bridge
39	Point	0	E-6	5	E-6	Immediately North of Pierson St.
40	Point	0	W-5	23	W-5	South of Pierson St.
41	Point	0	E-5	4	E-5	South of Pierson St.
42	Point	0	E-4	3	E-4	Between Rynda Rd. & Broadview Ave.

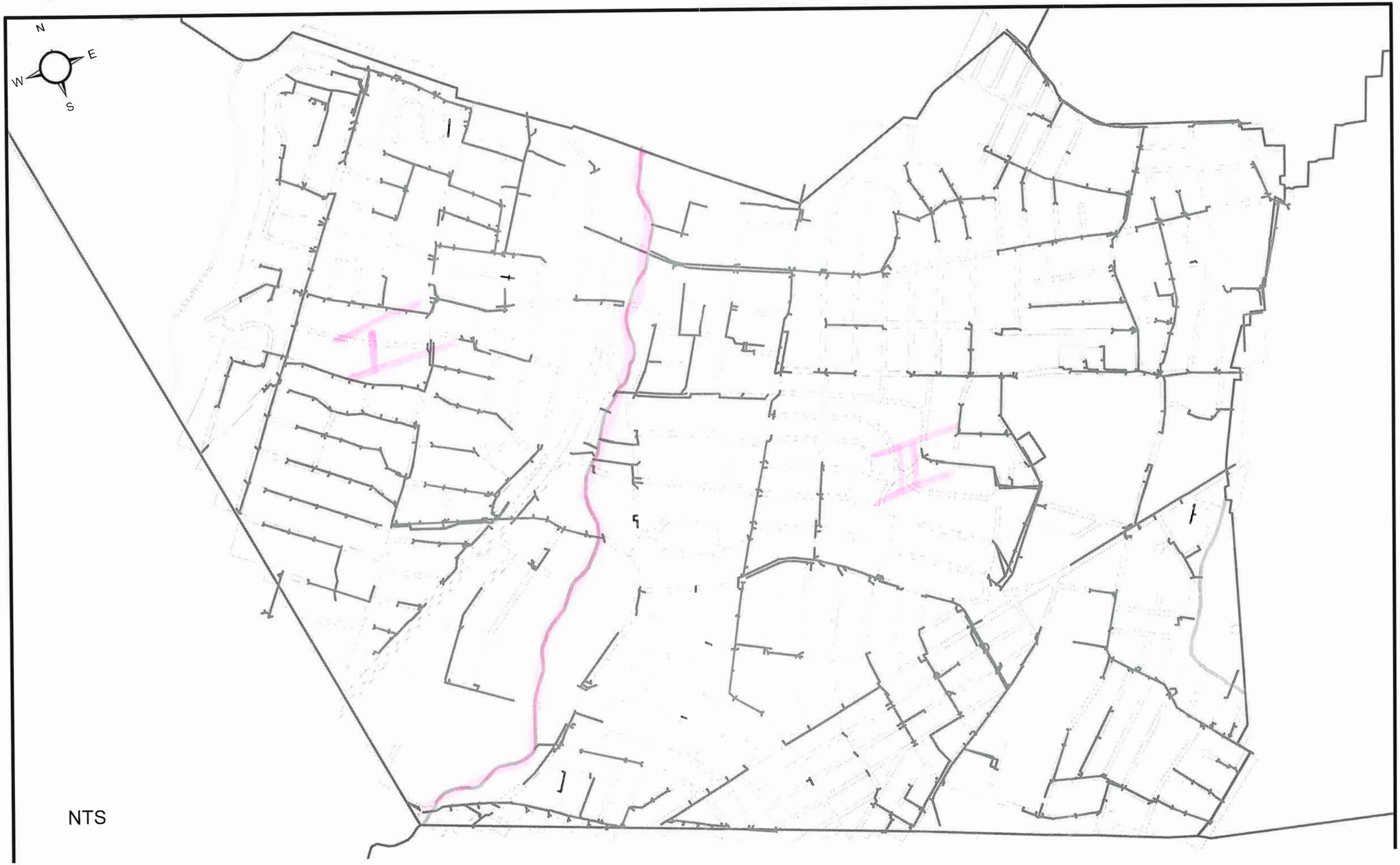


Scale: NTS


N
W
E
S
CHERRY LN
S ORANGE AVE
CREST DR
CRESTWOOD DR
LEWIS DR
NEW ENGLAND RD
EVERGREEN PL
SUNSET TER
COLLINWOOD RD
W-24
AUDLEY ST
HEADLEY PL
KENDAL AVE
WALTON RD
WYOMING AVE
EUCLID AVE
JEFFERSON AVE
W-22
FAIRVIEW TER
ROOSEVELT RD
HICKORY DR
DURAND RD
W-19
W-20
W-18
CURTISS PL
WOODLAND RD
MAPLEWOOD AVE
DUNNELL RD
VALLEY ST
W-11
E-15
E-14
KENSINGTON TER
NORTH TERR
ACADEMY ST
SUMMIT AVE
RICHMOND AVE
GARFIELD PL
WAVERLY PL
LINDSLEY AVE
WESTMORE AVE
ESSEX AVE
UNION AVE
HUDSON AVE
COOLIDGE RD
IRVINGTON AVE
WILLIAM ST
HILLCREST RD
RIDGEWOOD TER
CLINTON AVE
MOUNTAIN AVE
RIDGEWOOD RD
BAKER ST
E-13
W-9
W-8
W-7
E-11
PARK RD
BALDWIN RD
BURR RD
PARKER AVE
MIDLAND BLVD
BALL TER
ELBERTA RD
ELMWOOD AVE
OAKLAND RD
PROSPECT ST
ORCHARD RD
BROOKWOOD DR
MEADOWBROOK RD
FRANKLIN TER
W-17
W-6N
E-9
E-7
E-8
SALTER PL
BURNET ST
OAKVIEW AVE
CRESCENT
BURNETT TER
PLYMOUTH PL
PLYMOUTH AVE
TUSCAN RD
COURTER AVE
PIERSON RD
E-6
E-5
W-5
E-4
HARVARD AVE
GIRARD PL
SOMMER AVE
PARK AVE
BOWDOIN ST
YALE ST
OBERLIN ST
RUTGERS ST
COLGATE RD
BOYDEN AVE
MILTON ST
W-2
W-1
W-3
S PIERSON RD
BROADVIEW AVE
RYNDA RD
MILLBURN AVE
SPRINGFIELD AVE
44TH ST
HILTON AVE
FRANKLIN AVE
LEXINGTON AVE
OREGON ST
OHIO ST
INDIANA ST
BROWN ST
HARDING ST
BOYDEN AVE
CRESTON AVE
BURNETT AVE
TARANTO CT
NEWARK WAY
HUGHES ST
JACOBY ST
MENZEL AVE
VAN NESS TER
Legend
maple_outfalls
road centerlines
Boundary
streams
Scale: NTS

Maplewood Storm Sewer

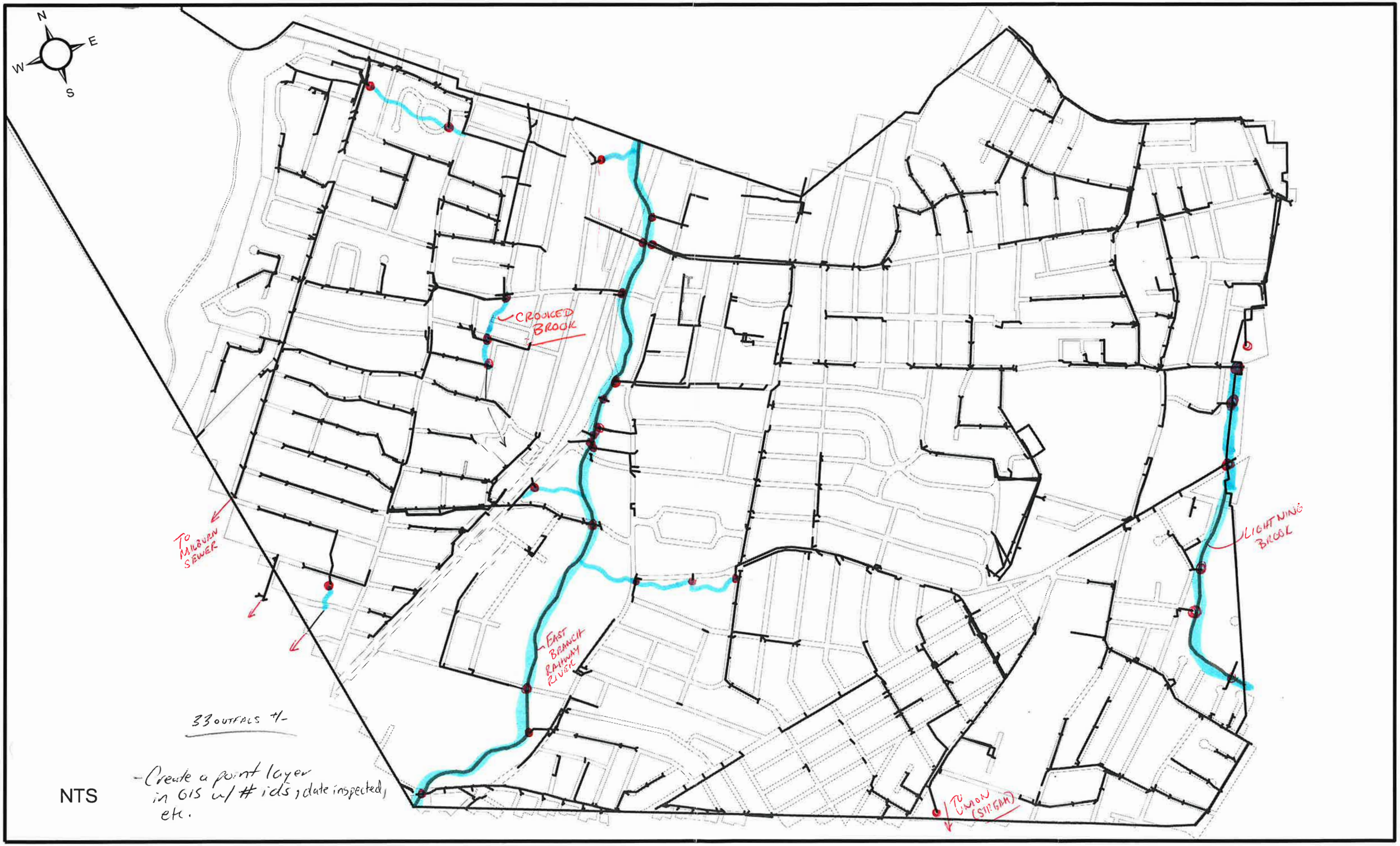
DRAFT



NTS

Maplewood Storm Sewer

DRAFT



NTS

- Create a point layer in GIS w/ # ids, date inspected, etc.

Section 7

Illicit Connection Program/Outfall Mapping

SPPP Form 7 – Illicit Connection Elimination Program

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr/Township Engineer, DPW Director*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/09* Date of most recent update: *June 2024*

Describe your Illicit Connection Elimination Program, and explain how you plan on responding to complaints and/or reports of illicit connections (e.g., hotlines, etc.). Attach additional pages as necessary.

We have completed an intial physical inspection of all our outfall pipes. We used the DEP Illicit Connection Inspection Report Form to conduct these inspections, and each of these forms will be kept with our SPPP records. Outfall pipes that were found to have a dry weather flow or evidence of an intermittent non-stormwater flow were rechecked again and no illicit connections were found.

In future inspections if we find any illicit connection (and the connection is within Maplewood Township) we will cite the responsible party for being in violation of our Illicit Connection Ordinance, and we will have the connetion eliminated immediately. If, after the appropriate amount of investigation, we ar unable to locate the source of the illicit connection, we will submit the Closeout Investigation Form with our annual Inspection and Recertification. If an illicit connection is found to originate from another public entity, Maplewood Township will report the illicit connection to the Department.

Maplewood Township is to have a hotline for reporting spills and illegal dumping. This hotline will also be made available for reporting illicit connections. Investigation of the illicit connections are ongoing, each house requesting individual c/o are also checked.

The Township is undergoing smoke testing in 2024 to help identify sources of illicit connections. This work will be performed by a third party engineering consulting firm and will target areas with higher than expected flowrates in the sanitary sewer system. The purpose of this work is to eliminate illicit connections in the sanitary sewer system.

Attachment B
Procedures for Detecting, Investigating, and Eliminating Illicit Connections

Detection

An illicit connection for the purposes of this permit, is any physical or non-physical connection that discharges domestic sewage, non-contact cooling water, process wastewater, or other industrial waste (other than stormwater) to the Tier A Municipality's small MS4, unless that discharge is authorized under a NJPDES permit other than this Tier A Municipal Stormwater General Permit (non-physical connections may include, but are not limited to, leaks, flows, or overflows into the municipal separate storm sewer system). An illicit connection is also any category of non-stormwater discharges that a Tier A Municipality identifies as a source or significant contributor of pollutants pursuant to 40 C.F.R. 122.34(b)(3)(iii).

MS4 outfall pipes, for the most part, should not be discharging during substantial dry periods (72 hours after a rain event). Such flow is frequently referred to as "dry weather flow", which may be the result of an illicit connection. All dry weather flows are generally non-stormwater discharges, however not all dry weather flows are illicit connections. Some non-stormwater flows result from the improper disposal of waste (e.g., radiator flushing, engine degreasing, improper disposal of oil) and some may be the result of allowable discharges such as residential car washing, irrigation runoff, permitted (NJPDES) discharges and natural waters (e.g., spring water and groundwater infiltration). By using the Department's Illicit Connection Inspection Report form and making physical observations, a Tier A Municipality will compile information that will help determine if the dry weather flow is an illicit connection and the most likely source of the illicit connection. After making these physical observations, additional chemical field testing will enable a Tier A Municipality to further narrow the potential source(s) of the illicit connection.

The first physical observation is to observe if there is a dry weather flow. Some dry weather discharges are continuously flowing and some are intermittent. Observations will allow the Tier A Municipality to establish with reasonable certainty if there is an intermittent flow. If there are indications of intermittent flows (staining, odors, deterioration of outfall structure) follow-up investigations are required (see Investigation section). An estimate of the flow rate of the discharge shall also be noted (flow rate can be estimated by various methods, including timing how long it takes to fill a container of a known size). Additional physical observations and measurements shall be made for odor, color, turbidity, floatable matter, temperature, deposits and stains, vegetation and algal growth and condition of outfall structure (see Illicit Connection Inspection Report form). Information compiled from physical observations and field monitoring should be used to help identify potential sources. These observations are very important since they are the simplest method of identifying grossly contaminated dry weather flows. If physical observations alone are sufficient to warrant further investigation, then field testing is not required.

If a dry weather flow exists, and after making all physical observations (unless physical observations are enough to warrant further investigation), the Tier Municipality shall field test for surfactants (detergents). If these flows contain surfactants in excess of the detection limit, Tier A Municipalities shall field test for ammonia (as N) and potassium to help distinguish sanitary wastewater sources from other non-stormwater flows that contain detergents. Non-stormwater discharges that are absent of surfactants shall be tested for fluoride to help distinguish potable from non-potable sources. Municipalities should refer to the Tier A Stormwater General Permit Guidance Manual for assistance and interpretation of field testing results.

All of the tests for the tracing of illicit connections may be performed in the field by employees of the Tier A Municipality or may be contracted out. Lab certification for those parameters is not required, however all person(s) responsible for calibrating, maintaining, and taking field samples shall be trained in the use of the equipment and appropriate field testing protocol.

Investigation

Any storm sewer outfall pipe found during the initial inspection or on any subsequent inspection to have a non-stormwater discharge or indications of an intermittent non-stormwater discharge requires further investigation by the Tier A Municipality to identify and locate the specific source. Non-stormwater discharges suspected of being sanitary sewage and/or significantly contaminated shall be prioritized and investigated first. Investigations of non-stormwater discharges suspected of being cooling water, washwater, or natural flows may be delayed until after all suspected sanitary sewage and/or significantly contaminated discharges have been investigated, eliminated and/or resolved.

Dry weather flows believed to be an immediate threat to human health or the environment shall be reported immediately to the Department's Action Hotline at 1-877-WARNDEP (1-877-927-6337).

Physical observations and field testing can help narrow the identification of potential sources of a non-stormwater discharge. However it is unlikely that either will pinpoint the exact source. Therefore, Tier A Municipalities will need to perform investigations "upstream" to identify illicit connections to systems with identified problem outfalls.

All non-stormwater discharges, whether continuous or intermittent must be investigated by the Tier A Municipality. All investigations must be resolved. If the source is found to be a non-stormwater discharge authorized under Part I, Section A.2.c of the permit, no further action is required. If a non-stormwater discharge is found but no source is able to be located within six (6) months of beginning the investigation, then the Tier A Municipality shall submit to the Department a Closeout Investigation form to close out the investigation. The Tier A Municipality must document that a good faith effort was made to find the source of the dry weather discharge and document each phase of the investigation. If the observed discharge is intermittent the Tier A Municipality must document, in the Illicit Connection Inspection Report form, that a minimum three (3)

separate investigations were made to observe the discharge when it is flowing. If these attempts are unsuccessful, the Tier A Municipality shall submit to the Department the Closeout Investigation form noted above. However, since this is an ongoing program, the Tier A municipality should periodically recheck these suspected intermittent discharges.

Elimination

Non-stormwater discharges traced to their source and found to be illicit connections subject to the ordinance prohibiting illicit connections shall be eliminated. At the time the illicit connection is detected the responsible party shall be cited for violation of the municipal ordinance prohibiting illicit connections and given thirty (30) days to cease the non-stormwater discharge. The responsible party may apply for a NJPDES permit for the discharge, but the discharge shall be ceased until a valid NJPDES permit has been issued by the Department. Tier A Municipalities are required to verify that the illicit discharge was eliminated by the responsible party within the specified timeframe and ensure that measures taken to eliminate the discharge are permanent and are not done in such a manner that would allow easy reconnection to the MS4.

When a responsible party fails to eliminate the discharge, Tier A Municipalities shall take the necessary steps to enforce their ordinance, including court action. In such instances the Department shall be notified by written correspondence so it is aware of any pending action and is able to provide assistance if needed.

If an illicit connection cannot be located or is found to emanate from another public entity, Tier A Municipalities must submit to the Department a written explanation detailing the results of the investigation and notify that public entity.

Section 8

Illicit Connection Records

SPPP Form 8 – Illicit Connection Records

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Candice Davenport Health Officer and Paul J. Kittner Jr, PE,PP, CME (Twp Eng.)*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/09* Date of most recent update: *June 2024*

2024

Note: *Attach a copy of each illicit connection report form for outfalls found to have a dry weather flow.*

Total number of inspections performed this year? 5

Number of outfalls found to have a dry weather flow?_____

Number of outfalls found to have an illicit connection? _____

How many illicit connections were eliminated? 1

Illicit Connection Inspection Report Form

Municipality Information

Municipality:____ County ____ Maplewood, Essex

NJPDES # :____PI ID #: ____ NJG0154687, 203744

Team Member: ____

Date ____Effective Date of Permit Authorization (EDPA): 4/1/04

Outfall #: ____Location: ____

Receiving Waterbody: ____

1. Is there a dry weather flow? Y (☐) N (☐)
2. If "YES", what is the outfall flow estimate? ____ gpm
   (flow sample should be kept for further testing, and this form will need to be submitted with the Annual Report and Certification)
3. Are there any indications of an intermittent flow? Y (☐) N (☐)
4. If you answered "**NO**" to BOTH questions #1 and #3, there is probably not an illicit connection and you can skip to question #7.
   (NOTE: This form **does not** need to be submitted to the Department, but should be kept with your SPPP.)

   If you answered "**YES**" to either question, please continue on to question #5.
   (NOTE: This form will need to be submitted to the Department with the Annual Report and Certification.)

5. **PHYSICAL OBSERVATIONS**:

(a) **ODOR**: none ____

(b) **COLOR**: none ____

(c) **TURBIDITY**: none

(d) **FLOATABLES**: none ____

(e) **DEPOSITS/STAINS**: none ____

(f) **VEGETATION CONDITIONS**: normal

(g) **DAMAGE TO OUTFALL STRUCTURES**:

IDENTIFY STRUCTURE: ____

DAMAGE: none ____

6. **ANALYSES OF OUTFALL FLOW SAMPLE:**
   * field calibrate instruments in accordance with manufacturer's instructions prior to testing.

(a) **DETERGENTS**: ____mg/L

(if sample is greater than 0.06 mg/L, the sample is contaminated with detergents [which may be from sanitary wastewater or other sources]. Further testing is required and this outfall should be given the highest priority.)

(if the sample is not greater than 0.06 mg/L and it does not show physical characteristics of sanitary wastewater [e.g., odor, floatables, and/or color] it is unlikely that it is from sanitary wastewater sources, yet there may still be an illicit connection of industrial wastewater, rinse water, backwash or cooling water. Skip to question #6c.)

(b) **AMMONIA (as N) TO POTASSIUM RATIO:** _____

(if the Ammonia to Potassium Ratio is greater than 0.6:1, then it is likely that the pollutant is sanitary sewage)

(if the Ammonia to Potassium Ratio is less than or equal to 0.6:1, then the pollutant is from another washwater source.)

(c) **FLUORIDE:** _____mg/L

(if the fluoride levels are between 1.0 and 2.5 mg/L, then the flow is most likely from fluoride treated potable water.)

(if the sample tests below a detection limit of 0.1 mg/L for fluoride, it is likely to be from groundwater infiltration, springs or streams. In some cases, however, it is possible that the discharge could originate from an onsite well used for industrial cooling water, which will test non-detect for both detergents and fluoride. To differentiate between these cooling water discharges and groundwater infiltration, you will have to rely on temperature.)

(d) **TEMPERATURE:** _____°F

(if the temperature of the sample is over 70°F, it is most likely cooling water)

(if the temperature of the sample is under 70°F, it is most likely from ground water infiltration)

7. Is there a suspected illicit connection? Y (☐) N (☐)

   If "**YES**", what is the suspected source? _____

   If "**NO**", skip to signature block on the bottom of this form.

8. Has the investigation of the suspected illicit connection been completed?
   Y (☐) N (☐)

   If "**YES**", proceed to question #9.
   If "**NO**", skip to signature block on the bottom of this form.

9. Was the source of the illicit connection found? Y (☐) N (☐)

   If "**YES**", identify the source. _____

   What plan of action will follow to eliminate the illicit connection?

   Resolution:

   If "**NO**", complete the Closeout Investigation Form and attach it to this Illicit Connection Inspection Report Form.

Inspector's Name: _____

Title: _____

Signature: _____

Date: _____

If there is a dry weather flow or evidence of an intermittent flow, be sure to include this form with your Annual Report and Certification.

If there is not a dry weather flow or evidence of an intermittent flow, this form should be retained with your SPPP.

Closeout Investigation Form

Municipality Information

Municipality: _____ County _____

NJPDES # : **NJG** _____ PI ID #: _____

Team Member / Title: _____

Outfall #: _____ Location: _____

Receiving Waterbody: _____

Basis for Submittal:

( ) A non-stormwater discharge was found, but no source was located within six months.

( ) An intermittent non-stormwater discharge was observed, and three unsuccessful investigations were conducted to investigate the discharge while it was flowing.

Describe each phase of your investigation, including dates. Attach additional pages as necessary: _____

Inspector's Name: _____

Title: _____

Signature: _____

Date: _____

Complete and attach this form to the appropriate Illicit Connection Inspection Report Form and submit with the annual certification.

Section 9

Yard Waste Ordinance/Collection Program

SPPP Form 9 – Yard Waste Ordinance/Collection Program

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # :*NJG 0154687*PI ID #: *203744*

Team Member/Title: ***Paul J. Kittner Jr, Twp Engineer****/DPW Director*

Effective Date of Permit Authorization (EDPA):*04/01/04*

Date of Completion: *10/01/05* Date of most recent update: *June 4, 2024*

Please describe your yard waste collection program. Be sure to include the collection schedule and how you will notify the residents and businesses of this schedule. Attach additional pages as necessary.

Adoption of ordinance that prohibits placing non-containerized yard wastes in the street.

(or a more aggressive approach, see below)

We have considered the two options available, and have decided to develop a yard waste collection and disposal program instead of just adopting and enforcing an ordinance that prohibits placing non-containerized yard wastes in the street.

We will be conducting monthly colletions of leaves and grass during the months of November, and December, plus one collection in the spring. During the remainder of the year, Maplewood Township may hold additional yard waste collections, we will post our collection schedule and our ordinance requirements in our monthly newsletter, which will be mailed to all residents and busineses the first of each month. To develop a collection schedule we will be dividing Maplewood Township into six sectors.

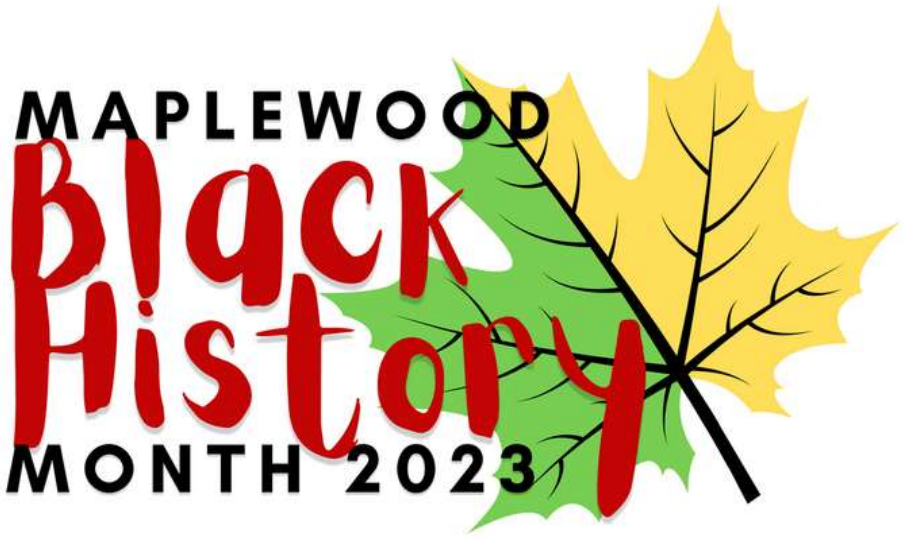
Maplewood Township has also be adopting and enforces a yard waste ordinance that will prohibit all yard wastes from being placed at the curb or along the street more than seven days prior to our scheduled collections, unless they are bagged or otherwise containerized. The ordinance also prohibits the placing of yard waste closer than 10 feet from any storm sewer inlet along the street, unless they are bagged or otherwise containerized.

The Township has eliminated the use of plastic bags and requires compostable bags to be used by the residents to encourage bagging of leaves to reduce yard waste from entering the drainage system. This has been an effective way of managing the yard waste in our streams.

Maplewood Township, New Jersey

The Maplewood Leaflet

Winter 2023



Celebrate Black History Month with Maplewood!

The Black History Month 2023 theme, “Black Resistance,” explores how "African Americans have resisted historic and ongoing oppression, in all forms, especially the racial terrorism of lynching, racial pogroms and police killings," since the nation's earliest days.

Maplewood has several events planned to celebrate and honor Black History. From art exhibits to readings, music performances, workshops, lectures, film viewings, a Birthday Memorial and Gathering for Trayvon Martin, and more, there's truly something for everyone.

To view the complete Black History Month 2023 calendar for Maplewood events, visit www.maplewoodartsandculture.org/mbhm. We look forward to celebrating with you!

A special thank you to all of Maplewood's Community partners hosting events this year, including:

- SOMA Adult School
- SOMA Community Coalition on Race
- Durand-Hedden House & Garden
- Express Yourself Studios
- Harambee Chamber Orchestra
- SOMA Justice
- Maplewood Film Society
- Maplewood Village Alliance
- Springfield Avenue Partnership
- South Mountain YMCA
- Words Bookstore

Two Towns Sort It Out

Curbside Recycling Changes Come to Maplewood and South Orange in 2023

Starting in January 2023, recycling materials will need to be separated into two categories for two distinct pickups on alternating weeks. One week's pickup will be exclusively for Fibers (cardboard, paper) and the following week's pickup will be for Commingled (plastic, glass, and metal containers). Cross-contaminated recycling loads or materials put out on the wrong week will not be picked up.

The revised curbside pickup rhythm will begin each week in Maplewood (Monday, Tuesday, and Wednesday) and finish up each week in South Orange (Thursday and Friday).

Maplewood's Monday pickups will take place for all households in Sections 1 and 2, including all households along Elmwood Avenue. Maplewood's Tuesday pickups will take place for all households in Sections 3 and 4, including all households along Valley Street and all households on Prospect Street to the north of Springfield Ave. Maplewood's Wednesday pickups will take place for all households in sections 5 and 6.

For additional information, please reference the FAQ section at the bottom of our recycling web page at bit.ly/maplewood-nj-recycling.

Two Towns Sort It Out

Department of Community Services

Upcoming Events

The Maplewood Department of Community Services has several upcoming events, a few of which are highlighted below. Interested in learning more about the Maplewood Department of Community Services and what events & programs are coming up each week? Email Jamie Miranda at JMiranda@maplewoodnj.gov to be added to our weekly eblast distribution list.

For more information, or to register for any program of your choosing, you can also visit: maplewood.recdesk.com/Community/Program or call (973) 221-9023.

End of Winter 2023 Extravaganza

Join us for this free family fun event on February 25 at DeHart Community Center. From ice skating to s'mores, say goodbye to winter and hello to spring with the Department of Community Services! Grab your skates and bring your smiles to 120 Burnett Avenue from 4:00 pm to 8:00 pm.

Adult Open Gym Basketball

Looking for an opportunity to play basketball with a community your age? Come join us on the main court at Maplewood Middle School for 12 weeks of fun! All skill levels are welcome! No experience? No problem! Game rules are distributed ahead of time and our coaches would love to help build you into the next Lebron James. Open to all ages 30 & up. Sundays from 8:30 am to10:30 am.

Recreation Assistance Fund

Maplewood Community Services offers the Recreation Assistance Fund as a way to provide assistance to our neighbors who may not otherwise be able to enjoy our programs. This year, we hope to build on the program's past success by reaching even more families.

To donate, please visit maplewood.recdesk.com/Community/Program. If you or someone you know would like to apply, please visit the Maplewood Township website at maplewoodnj.gov and click on the Recreation web page under Community Services, or call (973) 221-9023.

2023 Pool Memberships

Can't wait for Pool Season? Maplewood Department of Community Services can't wait either! Don't worry, we will be releasing our dates and registrations for Maplewood Community Pool memberships as soon as possible. We will also have more information to come regarding programming such as Dive Camp, Mermaid Camp, and more!

Sustainable Essex Alliance Update

Maplewood is both a member and the Lead Agency of the Sustainable Essex Alliance (SEA), a Government Energy Aggregation. Our SEA municipal partners are Glen Ridge, Montclair, Verona, Livingston, South Orange and Glen Rock. We formed the SEA Energy Procurement Cooperative ("SEAEPC") so we could leverage our combined resident pool to purchase electricity at lower rates than PSE&G's basic generation rate, with an enhanced renewable energy content.

How do we choose an alternative energy supplier?

Government Energy Aggregations in New Jersey are highly regulated by State Statute through the Board of Public Utilities (BPU). We choose alternative electricity suppliers through a competitive procurement process. We issue Requests for Proposals for bids from State- licensed electric power suppliers and award the contract to the lowest bidder if the projected rate over the life of the contract will produce cost savings and enhanced renewable content. It is important to note that these contracts are only for the electricity supply portion of our electric bills.

Why doesn't the SEA have a contract now?

Since our Round 2 contract expired in September 2022, energy prices have increased considerably, which has made it difficult to obtain favorable bid pricing as compared to the PSE&G tariff. In advance of that contract expiration, the SEAEPC conducted a competitive bid process in May 2022. Unfortunately, bid prices came back too high and would not have produced savings to justify the award of a new contract. The SEAEPC concluded that it was in residents' best interests in the short-term to return to PSE&G Basic Generation Service.

What can residents expect going forward?

The SEAEPC will continue to monitor market conditions for improved opportunities to award a Round 3 contract. If the SEAEPC awards a new contract for a third round, all residents -- except those that have their own solar generating system or their own third-party supply contract -- will be notified. Thereafter, residents would have the choice of opting-out of the new program.

Why is this an opt-out, instead of an opt-in, program?

Many residents have this question. Again, these aggregations are heavily regulated by the BPU. The BPU requires that as a feature of the program all residential customers, except as noted above, are considered beneficiaries of the aggregation. A residential customer has to submit an opt-out response within 30 calendar-days after the postmark on the notice of the aggregation, or be automatically included in the program. Residents with additional questions are encouraged to contact the SEAEPC energy consultant, Gabel Associates: SEA-info@gabelassociates.com.

SUSTAINABLE ESSEX ALLIANCE

Maplewood Memorial Library

MAPLEWOOD LIBRARY
OPEN FOR ALL

Upcoming Library Events

The Maplewood Library has a selection of upcoming events available for adults, teens, and kids alike. All Maplewood Library programs are free and open to the public.

Below are some of the Library's upcoming programs and events. For a complete calendar, and to register for programs, please visit the Library website at www.maplewoodlibrary.org.

Books Now and Then Discussion Group
Books Now and Then explores classic and contemporary titles. The group meets in-person at the Library's Hilton Branch, but participants may also join virtually.

- Next Meeting: February 16 at 6:30 pm

G(r)ay Matter Book Group
Join us virtually as we discuss works by contemporary LGBTQIA+ and Two-spirit authors in a variety of genres.

- Next meeting: March 7 at 7:00 pm

Read Around the World Book Group

- Next meeting: February 22 at 7:00 pm

The Children's Room
The Children's Room offers a wide range of early literacy and school age programs—including baby and toddler storytimes, writing activities, Lego© Club, Pajama Storytimes, and special programs.

Yarn & Fiber Arts Group
Yarn & Fiber Arts Group is an in-person gathering for people who knit, crochet, quilt, sew, embroider or do other creative things with yarn or fabric. Enjoy a relaxing morning working on your projects and get feedback and advice from fellow crafters. Bring your own supplies. All skill levels are welcome!

- Next Meeting: February 11at 10:00 am

Museum Pass Program
The Maplewood Library Museum Pass program allows residents to visit area attractions for free! Passes are available to Maplewood adult resident library card holders only. For additional info, visit www.maplewoodlibrary.org/services-museum-passes. This program is generously funded by the Friends of the Maplewood Library.

Download the new Library App!
Use the free app on your phone to search the catalog, place requests, and more. Go to your app store and search for BCCLS libraries or scan the QR code below:

Featured Articles

Lightning Brook Clean-Up

In September, the Maplewood Environmental Committee teamed up with the Hilton Neighborhood Association for the first ever clean-up of the Lightning Brook along Jacoby Street and 44th Street. As you can see, a lot of trash was collected. Assistance was provided by the Columbia High School Environmental Committee, Seton Hall Prep students and the Maplewood Rotary Club. The clean-up will become an annual event.

Crime Prevention Tips

Maplewood Police Department would like to take a moment to remind residents of some important actions they can take to prevent crime.

WHEN WALKING:

- Walk in groups and avoid walking alone whenever possible--there is safety in numbers
- Let others know your destination and ETA
- Stay in well-lit areas as much as possible
- Always be aware of your surroundings
- If you are wearing headphones, keep the volume low enough to hear outside noises
- Be mindful of cell phone use; phones can be a distraction or a target for theft
- Wear bright clothing

PACKAGE THEFT PREVENTION:

- Have your package delivered to your work
- Have your package delivered to the home of a relative or friend that you know will be home
- Have your package held at your local post office for pickup
- Take advantage of "Ship to Store" options
- Request a signature confirmation for delivery
- Ask your carrier to leave packages out of plain view

VEHICLE THEFT PREVENTION:

- Lock your vehicle
- Do not leave vehicles running unattended
- Do not leave keys in vehicles
- Do not leave valuables in plain sight, or in the vehicle at all
- Park in well-lit areas
- Do not leave personal identifying papers in vehicles
- Consider theft prevention devices

Please understand that even the best crime prevention efforts are sometimes not enough. It is important for you to report a crime or any suspicious activity to the Maplewood Police Department.

For more Crime Prevention Tips please visit www.maplewoodpd.org or contact the Maplewood Police Department's Crime Prevention Unit at (973) 762-3400 x7923

Featured Articles

Senior Programs & Resources

Maplewood Senior Center
Interested in the Department of Community Services' senior programming? Come and visit the Maplewood Senior Center at 106 Burnett Avenue. Give Senior Program Supervisor Michelle Wesley a call at (973)-763-0750 or email her at mwesley@maplewoodnj.gov to have her show you around our buildings! We'd love for you to join us as we have plenty of programming for all those ages 55 & over including classes, lunch & learns, trips, holiday parties, and more. You can also provide your address and/or email to subscribe to our monthly Spotlights with all of our future events and programming.

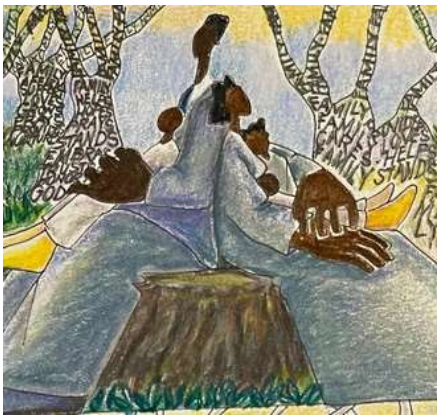
Senior Fitness Classes
Maplewood Department of Community Services offers a variety of fitness classes for folks ages 55 & up. From Aerobic Dance to Balance & Stability, Chair Yoga, Meditation, and Zumba Gold, Maplewood Senior Services has something for everyone! Classes are available year-round on a weekly basis both indoors and outdoors. Call Senior Program Supervisor Michelle Wesley at (973) 763-0750 for more information.

SOMA Two Towns for All Ages
The SOMA Two Towns for All Ages initiative was founded to identify, develop, and coordinate resources, policies, programs, and services that support and empower all residents of Maplewood and South Orange to age in place as active members of the community. For more information on SOMA Two Towns, call (973) 558-0863 or visit www.somatwotownsforallages.org.

Durand-Hedden House

The Durand-Hedden House and Garden Association is Maplewood's historic house museum, dedicated to creating engaging and informative programs about the history of Maplewood and nearby communities. The House, located at 523 Ridgewood Road, is open once a month from September to June. Upcoming programs are listed below:

African American Genealogy Workshop with Janice Gilyard - February 12, 2022
Join Durand-Hedden for this special program at the Maplewood Senior Center (106 Burnet Avenue), where attendees will learn the skills necessary to research, document, share, and preserve their family histories.



Remember the Ladies - March 12, 2023
Carol Simon Levin is a professional storyteller and independent historian specializing in first-person storytelling. Join us for her presentation of Remembering the Ladies: From Patriots in Petticoats to Presidential Candidates.

For more information about Durand-Hedden House, visit durandhedden.org.

Community Resources

Community Resource Guide

The Maplewood Health Department recently published their updated Community Resource Guide for 2023. This guide includes information on local services such as:

- food assistance;
- housing assistance;
- mental health resources;
- medical resources;
- employment resources;
- transportation resources;
- and more!

For a digital copy of the Community Resources Guide, as well as a list of additional Community Resources, visit maplewoodnj.gov/government/public-health-social-services/community-resources
For a hard copy of the Guide, please visit the Health Department in Maplewood Town Hall at 574 Valley Street.

Medical Equipment Loans

Did you know that Maplewood offers free loans on medical equipment such as wheelchairs, walkers, crutches, canes, shower chairs, and commodes?

To pick up a rental or to make a donation, visit the Maplewood Health Department at 574 Valley Street.

You can also contact the Health Department by calling (973) 762-8120 x2006, or by emailing healthdepartment@maplewoodnj.gov.

Free At-Home COVID Tests

Tips for Caregivers

There are several things that caregivers can do to help older adults use medication safety:

- Keep a Current Medicine List, including all prescriptions, OTC medicine, vitamins, and supplements
- Refill prescriptions early to avoid running out of medicine
- Make sure all medicine is being used at the right time, in the right amount, and the way it is prescribed
- Tell healthcare professionals about all medicines being taken to prevent bad interactions between medicines

Community Resources

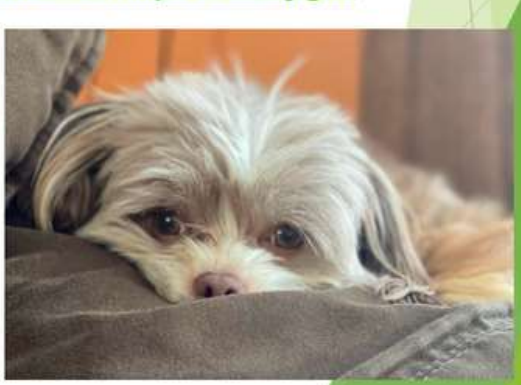
2023 PET LICENSES ARE NOW AVAILABLE

MAPLEWOOD TOWNSHIP ORDINANCE AND STATE REGULATIONS REQUIRE ANNUAL LICENSING OF ALL DOGS & CATS TO ENSURE CURRENT RABIES VACCINES

- $15 FOR SPAYED/NEUTERED
- $18 FOR NON SPAYED/NEUTERED
- *A $7 Late Fee applies for licenses renewed after Jan 31st.*

GET YOURS TODAY

To license your pet online visit maplewoodnj.gov.
To request a paper form call (973) 762-8120 x2006
or email HealthDepartment@maplewoodnj.gov



Section 10

Ordinances

SPPP Form 10 - Ordinances

Municipality Information

Municipality: *Township of Maplewood* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Liz Fritzen (Clerk)/Paul J. Kittner Jr, PE, PP, CME (Twp. Engineer)*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/20/05* Date of most recent update: ***June 2024***

For each ordinance, give the date of adoption. If not adopted, explain the development status:

Pet Waste *adopted 11/14/05*

Are information sheets regarding pet waste distributed with pet licenses? Y ( ) N ( )

Litter *adopted 11/14/05*

Improper Waste Disposal *adopted 11/14/05*

Wildlife Feeding *adopted 11/14/05*

Yard Waste *adopted 11/14/05*

Illicit Connections *adopted 11/14/05*

How will these ordinances be enforced?

Stormwater Control Ordinance adopted 6/20/06 and revised through September 6, 2011.

Our code enforcement officers and local police officers will enforce these ordinances. If someone is found to be in violation of an ordinance, they will be issued a written warning for first time offenses, and penalties will be issued for subsequent offenses. Enforcement is performed by Summons to offenders .

SPPP Form 10 - Ordinances

Municipality Information

Municipality: *Maplewood Township* County *Essex County*

NJPDES # : *NJG0154687* PI ID #: *203744*

Team Member/Title: *Elizabeth J. Fritzen/ Township Clerk*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/20/05* Date of most recent update: *3/27/06*

For each ordinance, give the date of adoption. If not adopted, explain the development status:

Pet Waste *adopted 11/14/05*

Are information sheets regarding pet waste distributed with pet licenses? Y (X) N ( )

Litter *adopted 11/14/05*

Improper Waste Disposal *adopted 11/14/05*

Wildlife Feeding *adopted 11/14/05*

Yard Waste *adopted 11/14/05*

Illicit Connections *adopted 11/14/05*

How will these ordinances be enforced?

Our code enforcement officers and local police officers will enforce these ordinances. If someone is found to be in violation of an ordinance, they will be issued a written warning for first time offenses, and penalties will be issued for subsequent offenses.

Chapter 238. Stormwater Management

[HISTORY: Adopted by the Township Committee of the Township of Maplewood 7-6-2021 by Ord. No. 3034-21[1]. Amendments noted where applicable.]

[1] *Editor's Note: This ordinance also repealed former Ch. 238, Stormwater Management, adopted 6-20-2006 by Ord. No. 2362-06, amended 9-6-2011 by Ord. No. 2673-11.*

§ 238-1. Scope and purpose.

A. Policy statement. Flood control, groundwater recharge, and pollutant reduction shall be achieved through the use of stormwater management measures, including green infrastructure best management practices (GI BMPs) and nonstructural stormwater management strategies. GI BMPs and low-impact development (LID) should be utilized to meet the goal of maintaining natural hydrology to reduce stormwater runoff volume, reduce erosion, encourage infiltration and groundwater recharge, and reduce pollution. GI BMPs and LID should be developed based upon physical site conditions and the origin, nature and the anticipated quantity, or amount, of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

B. Purpose. The purpose of this chapter is to establish minimum stormwater management requirements and controls for "major development," as defined below in § **238-2**.

C. Applicability.

(1) This chapter shall be applicable to the following major developments:

(a) Nonresidential major developments; and

(b) Aspects of residential major developments that are not preempted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

(2) This chapter shall also be applicable to all major developments undertaken by the Township of Maplewood.

D. Compatibility with other permit and ordinance requirements.

(1) Development approvals issued pursuant to this chapter are to be considered an integral part of development approvals and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this chapter shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare.

(2) This chapter is not intended to interfere with, abrogate, or annul any other chapters, rule or regulation, statute, or other provision of law except that, where any provision of this chapter imposes restrictions different from those imposed by any other chapter, rule or regulation, or other provision of law, the more-restrictive provisions or higher standards shall control.

§ 238-2. Definitions.

For the purpose of this chapter, the following terms, phrases, words and their derivations shall have the meanings stated herein unless their use in the text of this chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word "shall" is always mandatory and not merely directory. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

CAFRA CENTERS, CORES OR NODES

Those areas with boundaries incorporated by reference or revised by the Department in accordance with N.J.A.C. 7:7-13.16.

CAFRA PLANNING MAP

The map used by the Department to identify the location of coastal planning areas, CAFRA centers, CAFRA cores, and CAFRA nodes. The CAFRA Planning Map is available on the Department's Geographic Information System (GIS).

COMMUNITY BASIN

An infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond, established in accordance with N.J.A.C. 7:8-4.2(c)14, that is designed and constructed in accordance with the New Jersey Stormwater Best Management Practices Manual, or an alternate design, approved in accordance with N.J.A.C. 7:8-5.2(g), for an infiltration system, sand filter designed to infiltrate, standard constructed wetland, or wet pond and that complies with the requirements of this chapter.

COMPACTION

The increase in soil bulk density.

CONTRIBUTORY DRAINAGE AREA

The area from which stormwater runoff drains to a stormwater management measure, not including the area of the stormwater management measure itself.

CORE

A pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

COUNTY REVIEW AGENCY

An agency designated by the County Commissioners to review municipal stormwater management plans and implementing ordinance(s). The county review agency may either be:

A. A county planning agency; or

B. A county water resource association created under N.J.S.A. 58:16A-55.5, if the ordinance or resolution delegates authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

DEPARTMENT

The Department of Environmental Protection.

DESIGN ENGINEER

A person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

DESIGNATED CENTER

A State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.

DEVELOPMENT

A. The division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, for which permission is required under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq.

B. In the case of development of agricultural land, development means any activity that requires a state permit, any activity reviewed by the County Agricultural Board (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right to Farm Act, N.J.S.A 4:1C-1 et seq.

DISTURBANCE

The placement or reconstruction of impervious surface or motor vehicle surface, or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation. Milling and repaving is not considered disturbance for the purposes of this definition.

DRAINAGE AREA

A geographic area within which stormwater, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

EMPOWERMENT NEIGHBORHOODS

Neighborhoods designated by the Urban Coordinating Council "in consultation and conjunction with" the New Jersey Redevelopment Authority pursuant to N.J.S.A 55:19-69.

ENVIRONMENTALLY CONSTRAINED AREA

The following areas where the physical alteration of the land is in some way restricted, either through regulation, easement, deed restriction or ownership such as wetlands, floodplains, threatened and endangered species sites or

designated habitats, and parks and preserves. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

ENVIRONMENTALLY CRITICAL AREA

An area or feature which is of significant environmental value, including, but not limited to, stream corridors, natural heritage priority sites, habitats of endangered or threatened species, large areas of contiguous open space or upland forest, steep slopes, and wellhead protection and groundwater recharge areas. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

EROSION

The detachment and movement of soil or rock fragments by water, wind, ice, or gravity.

GREEN INFRASTRUCTURE

A stormwater management measure that manages stormwater close to its source by:

A. Treating stormwater runoff through infiltration into subsoil;

B. Treating stormwater runoff through filtration by vegetation or soil; or

C. Storing stormwater runoff for reuse.

HUC 14 or HYDROLOGIC UNIT CODE 14

An area within which water drains to a particular receiving surface water body, also known as a subwatershed, which is identified by a fourteen-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

IMPERVIOUS SURFACE

A surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

INFILTRATION

The process by which water seeps into the soil from precipitation.

LEAD PLANNING AGENCY

One or more public entities having stormwater management planning authority designated by the regional stormwater management planning committee pursuant to N.J.A.C. 7:8-3.2, that serves as the primary representative of the committee.

MAJOR DEVELOPMENT

A. An individual development, as well as multiple developments that individually or collectively result in:

   (1) The disturbance of one or more acres of land since February 2, 2004;

   (2) The creation of 1/4 acre or more of regulated impervious surface since February 2, 2004;

   (3) The creation of 1/4 acre or more of regulated motor vehicle surface since March 2, 2021; or

   (4) A combination of Subsection **A(2)** and **(3)** above that totals an area of 1/4 acre or more. The same surface shall not be counted twice when determining if the combination area equals 1/4 acre or more.

B. Major development includes all developments that are part of a common plan of development or sale (for example, phased residential development) that collectively or individually meet any one or more of Subsection **A(1)**, **(2)**, **(3)** or **(4)** above. Projects undertaken by any government agency that otherwise meet the definition of "major development" but which do not require approval under the Municipal Land Use Law, N.J.S.A. 40:55D-1 et seq., are also considered "major development."

MOTOR VEHICLE

Land vehicles propelled other than by muscular power, such as automobiles, motorcycles, autocycles, and low-speed vehicles. For the purposes of this definition, motor vehicle does not include farm equipment, snowmobiles, all-terrain vehicles, motorized wheelchairs, go-carts, gas buggies, golf carts, ski-slope-grooming machines, or vehicles that run only on rails or tracks.

MOTOR VEHICLE SURFACE

Any pervious or impervious surface that is intended to be used by "motor vehicles" and/or aircraft, and is directly exposed to precipitation, including, but not limited to, driveways, parking areas, parking garages, roads, racetracks, and runways.

MUNICIPALITY

The Township of Maplewood, Essex County, New Jersey.

NEW JERSEY STORMWATER BEST MANAGEMENT PRACTICES (BMP) MANUAL or BMP MANUAL

The manual maintained by the Department providing, in part, design specifications, removal rates, calculation methods, and soil-testing procedures approved by the Department as being capable of contributing to the achievement of the stormwater management standards specified in this chapter. The BMP Manual is periodically amended by the Department as necessary to provide design specifications on additional best management practices and new information on already-included practices reflecting the best available current information regarding the particular practice and the Department's determination as to the ability of that best management practice to contribute to compliance with the standards contained in this chapter. Alternative stormwater management measures, removal rates, or calculation methods may be utilized, subject to any limitations specified in this chapter, provided the design engineer demonstrates to the municipality, in accordance with § **238-4F** of this chapter and N.J.A.C. 7:8-5.2(g), that the proposed measure and its design will contribute to achievement of the design and performance standards established by this chapter.

NODE

An area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

NUTRIENT

A chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

PERSON

Any individual, corporation, company, partnership, firm, association, political subdivision of this state and any state, interstate or federal agency.

POLLUTANT

Any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§ 2011 et seq.)), thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff, or other residue discharged directly or indirectly to the land, groundwaters or surface waters of the state, or to a domestic treatment works. Pollutant includes both hazardous and nonhazardous pollutants.

RECHARGE

The amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

REGULATED IMPERVIOUS SURFACE

Any of the following, alone or in combination:

A. A net increase of impervious surface;

B. The total area of impervious surface collected by a new stormwater conveyance system (for the purpose of this definition, a new stormwater conveyance system is a stormwater conveyance system that is constructed where one did not exist immediately prior to its construction or an existing system for which a new discharge location is created);

C. The total area of impervious surface proposed to be newly collected by an existing stormwater conveyance system; and/or

D. The total area of impervious surface collected by an existing stormwater conveyance system where the capacity of that conveyance system is increased.

REGULATED MOTOR VEHICLE SURFACE

Any of the following, alone or in combination:

A. The total area of motor vehicle surface that is currently receiving water;

B. A net increase in motor vehicle surface; and/or

C. Quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant, where the water quality treatment will be modified or removed.

SEDIMENT

Solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion.

SITE

The lot or lots upon which a major development is to occur or has occurred.

SOIL

All unconsolidated mineral and organic material of any origin.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN METROPOLITAN PLANNING AREA (PA1)

An area delineated on the State Plan Policy Map and adopted by the State Planning Commission that is intended to be the focus for much of the state's future redevelopment and revitalization efforts.

STATE PLAN POLICY MAP

The geographic application of the State Development and Redevelopment Plan's goals and statewide policies, and the official map of these goals and policies.

STORMWATER

Water resulting from precipitation (including rain and snow) that runs off the land's surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities, or conveyed by snow-removal equipment.

STORMWATER MANAGEMENT BMP

An excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management BMP may either be normally dry (that is, a detention basin or infiltration system), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

STORMWATER MANAGEMENT MEASURE

Any practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal nonstormwater discharges into stormwater conveyances.

STORMWATER MANAGEMENT PLANNING AGENCY

A public body authorized by legislation to prepare stormwater management plans.

STORMWATER MANAGEMENT PLANNING AREA

The geographic area for which a stormwater management planning agency is authorized to prepare stormwater management plans, or a specific portion of that area identified in a stormwater management plan prepared by that agency.

STORMWATER RUNOFF

Water flow on the surface of the ground or in storm sewers, resulting from precipitation.

TIDAL FLOOD HAZARD AREA

A flood hazard area in which the flood elevation resulting from the two-, ten-, or 100-year storm, as applicable, is governed by tidal flooding from the Atlantic Ocean. Flooding in a tidal flood hazard area may be contributed to, or influenced by, stormwater runoff from inland areas, but the depth of flooding generated by the tidal rise and fall of the Atlantic Ocean is greater than flooding from any fluvial sources. In some situations, depending upon the extent of the storm surge from a particular storm event, a flood hazard area may be tidal in the 100-year storm, but fluvial in more frequent storm events.

URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD

A neighborhood given priority access to state resources through the New Jersey Redevelopment Authority.

URBAN ENTERPRISE ZONES

A zone designated by the New Jersey Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et. seq.

URBAN REDEVELOPMENT AREA

Previously developed portions of areas:

A. Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PAI), designated centers, cores or nodes;

B. Designated as CAFRA centers, cores or nodes;

C. Designated as Urban Enterprise Zones; and

D. Designated as Urban Coordinating Council Empowerment Neighborhoods.

WATER-CONTROL STRUCTURE

A structure within, or adjacent to, a water, which intentionally or coincidentally alters the hydraulic capacity, the flood elevation resulting from the two-, ten-, or 100-year storm, flood hazard area limit, and/or floodway limit of the water. Examples of a water-control structure may include a bridge, culvert, dam, embankment, ford (if above grade), retaining wall, and weir.

WATERS OF THE STATE

The ocean and its estuaries, all springs, streams, wetlands, and bodies of surface water or groundwater, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

WETLANDS or WETLAND

An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as "hydrophytic vegetation."

§ 238-3. Design and performance standards for stormwater management measures.

A. Stormwater management measures for major development shall be designed to provide erosion control, groundwater recharge, stormwater runoff quantity control, and stormwater runoff quality treatment as follows:

(1) The minimum standards for erosion control are those established under the Soil and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules at N.J.A.C. 2:90.

(2) The minimum standards for groundwater recharge, stormwater quality, and stormwater runoff quantity shall be met by incorporating green infrastructure.

B. The standards in this chapter apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or water quality management plan adopted in accordance with Department rules.

§ 238-4. Stormwater management requirements for major development.

A. The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with § **238-10**.

B. Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department's Landscape Project or Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 13:1B-15.150, particularly Helonias bullata (swamp pink) and/or Clemmys muhlenbergii (bog turtle).

C. The following linear development projects are exempt from the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of Subsections **P**, **Q** and **R**:

(1) The construction of an underground utility line, provided that the disturbed areas are revegetated upon completion;

(2) The construction of an aboveground utility line, provided that the existing conditions are maintained to the maximum extent practicable; and

(3) The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is made of permeable material.

D. A waiver from strict compliance from the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity requirements of Subsections **O**, **P**, **Q** and **R** may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

(1) The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;

(2) The applicant demonstrates through an alternatives analysis, that through the use of stormwater management measures, the option selected complies with the requirements of Subsections **O**, **P**, **Q** and **R** to the maximum extent practicable;

(3) The applicant demonstrates that, in order to meet the requirements of Subsections **O**, **P**, **Q** and **R**, existing structures currently in use, such as homes and buildings, would need to be condemned; and

(4) The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under Subsection **D(3)** above within the upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Subsections **O**, **P**, **Q** and **R** that were not achievable on-site.

E. Tables 1 through 3 below summarize the ability of stormwater best management practices identified and described in the New Jersey Stormwater Best Management Practices Manual to satisfy the green infrastructure, groundwater recharge, stormwater runoff quality and stormwater runoff quantity standards specified in Subsections **O**, **P**, **Q** and **R**. When designed in accordance with the most current version of the New Jersey Stormwater Best Management Practices Manual, the stormwater management measures found at N.J.A.C. 7:8-5.2 (f) Tables 5-1, 5-2 and 5-3 and listed below in

Tables 1, 2 and 3 are presumed to be capable of providing stormwater controls for the design and performance standards as outlined in the tables below. Upon amendments of the New Jersey Stormwater Best Management Practices to reflect additions or deletions of BMPs meeting these standards, or changes in the presumed performance of BMPs designed in accordance with the New Jersey Stormwater BMP Manual, the Department shall publish in the New Jersey Registers a notice of administrative change revising the applicable table. The most current version of the BMP Manual can be found on the Department's website at https://njstormwater.org/bmp_manual2.htm.

F. Where the BMP tables in the New Jersey Stormwater Management Rule are different due to updates or amendments with the tables in this chapter, the BMP Tables in the Stormwater Management Rule at N.J.A.C. 7:8-5.2(f) shall take precedence.

Table 1
Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High-Water Table (feet)
Cistern	0%	Yes	No	—
Dry well[a]	0%	No	Yes	2
Grass swale	50% or less	No	No	2[e] 1[f]
Green roof	0%	Yes	No	—
Manufactured treatment device[a][g]	50% or 80%	No	No	Dependent upon the device
Pervious paving system[a]	80%	Yes	Yes[b] No[c]	2[b] 1[c]
Small-scale bioretention basin[a]	80% or 90%	Yes	Yes[b] No[c]	2[b] 1[c]
Small-scale infiltration basin[a]	80%	Yes	Yes	2
Small-scale sand filter	80%	Yes	Yes	2
Vegetative filter strip	60% to 80%	No	No	—

(Notes corresponding to annotations [a] through [g] are found following Table 3.)

Table 2
Green Infrastructure BMPs for Stormwater Runoff Quantity
(or for Groundwater Recharge and/or Stormwater Runoff Quality with a Waiver or Variance from N.J.A.C. 7:8-5.3)

Best Management Practice	Stormwater Runoff Quality TSS Removal Rate (percent)	Stormwater Runoff Quantity	Groundwater Recharge	Minimum Separation from Seasonal High-Water Table (feet)
Bioretention system	80% or 90%	Yes	Yes[b] No[c]	2[b] 1[c]
Infiltration basin	80%	Yes	Yes	2
Sand filter[b]	80%	Yes	Yes	2
Standard constructed wetland	90%	Yes	No	N/A
Wet pond[d]	50% to 90%	Yes	No	N/A

(Notes corresponding to annotations [b] through [d] are found following Table 3.)

Table 3 BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity only with a Waiver or Variance from N.J.A.C. 7:8-5.3				
Best Management Practice	**Stormwater Runoff Quality TSS Removal Rate (percent)**	**Stormwater Runoff Quantity**	**Groundwater Recharge**	**Minimum Separation from Seasonal High-Water Table (feet)**
Blue roof	0%	Yes	No	N/A
Extended detention basin	40% to 60%	Yes	No	1
Manufactured treatment device[(h)]	50% or 80%	No	No	Dependent upon the device
Sand filter[(c)]	80%	Yes	No	1
Subsurface gravel wetland	90%	No	No	1
Wet pond	50% to 90%	Yes	No	N/A

Notes to Tables 1, 2, and 3:

(a) Subject to the applicable contributory drainage area limitation specified at Subsection **O(4)**;

(b) Designed to infiltrate into the subsoil;

(c) Designed with underdrains;

(d) Designed to maintain at least a ten-foot-wide area of native vegetation along at least 50% of the shoreline and to include a stormwater runoff retention component designed to capture stormwater runoff for beneficial reuse, such as irrigation;

(e) Designed with a slope of less than 2%;

(f) Designed with a slope of equal to or greater than 2%;

(g) Manufactured treatment devices that meet the definition of green infrastructure at § **238-2**;

(h) Manufactured treatment devices that do not meet the definition of green infrastructure at § **238-2.**

G. An alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate may be used if the design engineer demonstrates the capability of the proposed alternative stormwater management measure and/or the validity of the alternative rate or method to the municipality. A copy of any approved alternative stormwater management measure, alternative removal rate, and/or alternative method to calculate the removal rate shall be provided to the Department in accordance with § **238-6B.** Alternative stormwater management measures may be used to satisfy the requirements at Subsection **O** only if the measures meet the definition of green infrastructure at § **238-2.** Alternative stormwater management measures that function in a similar manner to a BMP listed at Subsection **O(2)** are subject to the contributory drainage area limitation specified at Subsection **O(2)** for that similarly functioning BMP. Alternative stormwater management measures approved in accordance with this subsection that do not function in a similar manner to any BMP listed at Subsection **O(2)** shall have a contributory drainage area less than or equal to 2.5 acres, except for alternative stormwater management measures that function similarly to cisterns, grass swales, green roofs, standard constructed wetlands, vegetative filter strips, and wet ponds, which are not subject to a contributory drainage area limitation. Alternative measures that function similarly to standard constructed wetlands or wet ponds shall not be used for compliance with the stormwater runoff quality standard unless a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with Subsection **D** is granted from Subsection **O.**

H. Whenever the stormwater management design includes one or more BMPs that will infiltrate stormwater into subsoil, the design engineer shall assess the hydraulic impact on the groundwater table and design the site so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high-water table, so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems or other subsurface structures within the zone of influence of the groundwater mound, or interference with the proper functioning of the stormwater management measure itself.

I. Design standards for stormwater management measures are as follows:

(1) Stormwater management measures shall be designed to take into account the existing site conditions, including, but not limited to, environmentally critical areas; wetlands; flood-prone areas; slopes; depth to seasonal high-water table; soil type, permeability, and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone);

(2) Stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure, as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no

greater than 1/3 the width of the diameter of the orifice or 1/3 the width of the weir, with a minimum spacing between bars of one inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of § **238-8C**;

(3) Stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 5:21-7.4 and 5:21-7.5 shall be deemed to meet this requirement;

(4) Stormwater management BMPs shall be designed to meet the minimum safety standards for stormwater management BMPs at § **238-8**; and

(5) The size of the orifice at the intake to the outlet from the stormwater management BMP shall be a minimum of 2 1/2 inches in diameter.

J. Manufactured treatment devices may be used to meet the requirements of this section, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department. Manufactured treatment devices that do not meet the definition of green infrastructure at § **238-2** may be used only under the circumstances described at Subsection **O(4)**.

K. Any application for a new agricultural development that meets the definition of major development at § **238-2** shall be submitted to the Soil Conservation District for review and approval in accordance with the requirements at Subsections **O**, **P**, **Q** and **R** and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For purposes of this subsection, "agricultural development" means land uses normally associated with the production of food, fiber, and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacture of agriculturally related products.

L. If there is more than one drainage area, the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Subsections **P**, **Q** and **R** shall be met in each drainage area, unless the runoff from the drainage areas converge on-site and no adverse environmental impact would occur as a result of compliance with any one or more of the individual standards being determined utilizing a weighted average of the results achieved for that individual standard across the affected drainage areas.

M. Any stormwater management measure authorized under the municipal stormwater management plan or chapter shall be reflected in a deed notice recorded in the Essex County Register of Deeds. A form of deed notice shall be submitted to the municipality for approval prior to filing. The deed notice shall contain a description of the stormwater management measure(s) used to meet the green infrastructure, groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Subsections **O**, **P**, **Q** and **R** and shall identify the location of the stormwater management measure(s) in NAD 1983 State Plane New Jersey FIPS 2900 US Feet or Latitude and Longitude in decimal degrees. The deed notice shall also reference the maintenance plan required to be recorded upon the deed pursuant to § **238-10B(5)**. Prior to the commencement of construction, proof that the above-required deed notice has been filed shall be submitted to the municipality. Proof that the required information has been recorded on the deed shall be in the form of either a copy of the complete recorded document or a receipt from the clerk or other proof of recordation provided by the recording office. However, if the initial proof provided to the municipality is not a copy of the complete recorded document, a copy of the complete recorded document shall be provided to the municipality within 180 calendar days of the authorization granted by the municipality.

N. A stormwater management measure approved under the municipal stormwater management plan or chapter may be altered or replaced with the approval of the municipality, if the municipality determines that the proposed alteration or replacement meets the design and performance standards pursuant to § **238-4** of this chapter and provides the same level of stormwater management as the previously approved stormwater management measure that is being altered or replaced. If an alteration or replacement is approved, a revised deed notice shall be submitted to the municipality for approval and subsequently recorded with the Essex County Register of Deeds and shall contain a description and location of the stormwater management measure, as well as reference to the maintenance plan, in accordance with Subsection **M** above. Prior to the commencement of construction, proof that the above-required deed notice has been filed shall be submitted to the municipality in accordance with Subsection **M** above.

O. Green infrastructure standards.

(1) This subsection specifies the types of green infrastructure BMPs that may be used to satisfy the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards.

(2) To satisfy the groundwater recharge and stormwater runoff quality standards at Subsections **P** and **Q**, the design engineer shall utilize green infrastructure BMPs identified in Table 1 at Subsection **F** and/or an alternative stormwater management measure approved in accordance with Subsection **G**. The following green infrastructure BMPs are subject to the following maximum contributory drainage area limitations:

Best Management Practice	Maximum Contributory Drainage Area
Dry well	1 acre
Manufactured treatment device	2.5 acres

Best Management Practice	Maximum Contributory Drainage Area
Pervious pavement systems	Area of additional inflow cannot exceed 3 times the area occupied by the BMP
Small-scale bioretention systems	2.5 acres
Small-scale infiltration basin	2.5 acres
Small-scale sand filter	2.5 acres

(3) To satisfy the stormwater runoff quantity standards at Subsection **R**, the design engineer shall utilize BMPs from Table 1 or from Table 2 and/or an alternative stormwater management measure approved in accordance with Subsection **G**.

(4) If a variance in accordance with N.J.A.C. 7:8-4.6 or a waiver from strict compliance in accordance with Subsection **D** is granted from the requirements of this subsection, then BMPs from Table 1, 2, or 3, and/or an alternative stormwater management measure approved in accordance with Subsection **G** may be used to meet the groundwater recharge, stormwater runoff quality, and stormwater runoff quantity standards at Subsections **P**, **Q** and **R**.

(5) For separate or combined storm sewer improvement projects, such as sewer separation, undertaken by a government agency or public utility (for example, a sewerage company), the requirements of this subsection shall only apply to areas owned in fee simple by the government agency or utility, and areas within a right-of-way or easement held or controlled by the government agency or utility; the entity shall not be required to obtain additional property or property rights to fully satisfy the requirements of this subsection. Regardless of the amount of area of a separate or combined storm sewer improvement project subject to the green infrastructure requirements of this subsection, each project shall fully comply with the applicable groundwater recharge, stormwater runoff quality control, and stormwater runoff quantity standards at Subsections **P**, **Q** and **R**, unless the project is granted a waiver from strict compliance in accordance with Subsection **D**.

P. Groundwater recharge standards. This subsection contains the minimum design and performance standards for groundwater recharge as follows:

(1) The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at § **238-5**, either:

(a) Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual preconstruction groundwater recharge volume for the site; or

(b) Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from preconstruction to post-construction for the two-year storm is infiltrated.

(2) This groundwater recharge requirement does not apply to projects within the urban redevelopment area, or to projects subject to Subsection **P(3)** below.

(3) The following types of stormwater shall not be recharged:

(a) Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department-approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

(b) Industrial stormwater exposed to source material. "Source material" means any material(s) or machinery, located at an industrial facility, that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

Q. Stormwater runoff quality standards.

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quality impacts of major development. Stormwater runoff quality standards are applicable when the major development results in an increase of 1/4 acre or more of regulated motor vehicle surface.

(2) Stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in stormwater runoff generated from the water quality design storm as follows:

(a) 80% TSS removal of the anticipated load, expressed as an annual average, shall be achieved for the stormwater runoff from the net increase of motor vehicle surface.

(b) If the surface is considered regulated motor vehicle surface because the water quality treatment for an area of motor vehicle surface that is currently receiving water quality treatment either by vegetation or soil, by an existing stormwater management measure, or by treatment at a wastewater treatment plant is to be modified or removed, the project shall maintain or increase the existing TSS removal of the anticipated load expressed as an annual average.

(3) The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollutant Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. Every major development, including any that discharge into a combined sewer system, shall comply with Subsection **Q(2)** above, unless the major development is itself subject to a NJPDES permit with a numeric effluent limitation for TSS or the NJPDES permit to which the major development is subject exempts the development from a numeric effluent limitation for TSS.

(4) The water quality design storm is 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 4, below. The calculation of the volume of runoff may take into account the implementation of stormwater management measures.

Table 4 Water Quality Design Storm Distribution

Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)
1	0.00166	41	0.1728	81	1.0906
2	0.00332	42	0.1796	82	1.0972
3	0.00498	43	0.1864	83	1.1038
4	0.00664	44	0.1932	84	1.1104
5	0.00830	45	0.2000	85	1.1170
6	0.00996	46	0.2117	86	1.1236
7	0.01162	47	0.2233	87	1.1302
8	0.01328	48	0.2350	88	1.1368
9	0.01494	49	0.2466	89	1.1434
10	0.01660	50	0.2583	90	1.1500
11	0.01828	51	0.2783	91	1.1550
12	0.01996	52	0.2983	92	1.1600
13	0.02164	53	0.3183	93	1.1650
14	0.02332	54	0.3383	94	1.1700
15	0.02500	55	0.3583	95	1.1750
16	0.03000	56	0.4116	96	1.1800
17	0.03500	57	0.4650	97	1.1850
18	0.04000	58	0.5183	98	1.1900
19	0.04500	59	0.5717	99	1.1950
20	0.05000	60	0.6250	100	1.2000
21	0.05500	61	0.6783	101	1.2050
22	0.06000	62	0.7317	102	1.2100
23	0.06500	63	0.7850	103	1.2150
24	0.07000	64	0.8384	104	1.2200
25	0.07500	65	0.8917	105	1.2250
26	0.08000	66	0.9117	106	1.2267
27	0.08500	67	0.9317	107	1.2284
28	0.09000	68	0.9517	108	1.2300
29	0.09500	69	0.9717	109	1.2317
30	0.10000	70	0.9917	110	1.2334
31	0.10660	71	1.0034	111	1.2351
32	0.11320	72	1.0150	112	1.2367
33	0.11980	73	1.0267	113	1.2384

Table 4 Water Quality Design Storm Distribution					
Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)	Time (minutes)	Cumulative Rainfall (inches)
34	0.12640	74	1.0383	114	1.2400
35	0.13300	75	1.0500	115	1.2417
36	0.13960	76	1.0568	116	1.2434
37	0.14620	77	1.0636	117	1.2450
38	0.15280	78	1.0704	118	1.2467
39	0.15940	79	1.0772	119	1.2483
40	0.16600	80	1.0840	120	1.2500

(5) If more than one BMP in series is necessary to achieve the required 80% TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (A \times B)/100$$

Where:

R = Total TSS percent load removal from application of both BMPs.

A = The TSS percent removal rate applicable to the first BMP.

B = The TSS percent removal rate applicable to the second BMP.

(6) Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include green infrastructure BMPs that optimize nutrient removal while still achieving the performance standards in Subsections **P**, **Q** and **R**.

(7) In accordance with the definition of "FW1" at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.

(8) The Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-4.1(c) 1 establish 300-foot riparian zones along Category One waters, as designated in the Surface Water Quality Standards at N.J.A.C. 7:9B, and certain upstream tributaries to Category One waters. A person shall not undertake a major development that is located within or discharges into a 300-foot riparian zone without prior authorization from the Department under N.J.A.C. 7:13.

(9) Pursuant to the Flood Hazard Area Control Act Rules at N.J.A.C. 7:13-11.2(j)3.i, runoff from the water quality design storm that is discharged within a 300-foot riparian zone shall be treated in accordance with this subsection to reduce the post-construction load of total suspended solids by 95% of the anticipated load from the developed site, expressed as an annual average.

(10) These stormwater runoff quality standards do not apply to the construction of one individual single-family dwelling, provided that it is not part of a larger development or subdivision that has received preliminary or final site plan approval prior to December 3, 2018, and that the motor vehicle surfaces are made of permeable material(s) such as gravel, dirt, and/or shells.

R. Stormwater runoff quantity standards.

(1) This subsection contains the minimum design and performance standards to control stormwater runoff quantity impacts of major development.

(2) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § **238-5**, complete one of the following:

(a) Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, post-construction runoff hydrographs for the two-, ten-, and 100-year storm events do not exceed, at any point in time, the preconstruction runoff hydrographs for the same storm events;

(b) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the preconstruction condition, in the peak runoff rates of stormwater leaving the site for the two-, ten- and 100-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use chapters in the drainage area;

(c) Design stormwater management measures so that the post-construction peak runoff rates for the two-, ten- and 100-year storm events are 50%, 75% and 80%, respectively, of the preconstruction peak runoff rates. The percentages apply only to the post-construction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed; or

(d) In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with Subsection **R(2)(a)**, **(b)** and **(c)** above is required unless the design engineer demonstrates through hydrologic and hydraulic analysis that the increased volume, change in timing, or increased rate of the stormwater runoff, or any combination of the three will not result in additional flood damage below the point of discharge of the major development. No analysis is required if the stormwater is discharged directly into any ocean, bay, inlet, or the reach of any watercourse between its confluence with an ocean, bay, or inlet and downstream of the first water-control structure.

(3) The stormwater runoff quantity standards shall be applied at the site's boundary to each abutting lot, roadway, watercourse, or receiving storm sewer system.

§ 238-5. Calculation of stormwater runoff and groundwater recharge.

A. Stormwater runoff shall be calculated in accordance with the following:

(1) The design engineer shall calculate runoff using one of the following methods:

(a) The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in Chapters 7, 9, 10, 15 and 16, Part 630, Hydrology National Engineering Handbook, incorporated herein by reference as amended and supplemented. This methodology is additionally described in Technical Release 55 - Urban Hydrology for Small Watersheds (TR-55), dated June 1986, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the Natural Resources Conservation Service website at https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1044171.pdf or at United States Department of Agriculture Natural Resources Conservation Service, 220 Davison Avenue, Somerset, New Jersey 08873; or

(b) The Rational Method for peak flow and the Modified Rational Method for hydrograph computations. The rational and modified rational methods are described in "Appendix A-9 Modified Rational Method" in the Standards for Soil Erosion and Sediment Control in New Jersey, January 2014. This document is available from the State Soil Conservation Committee or any of the Soil Conservation Districts listed at N.J.A.C. 2:90-1.3(a)3. The location, address, and telephone number for each Soil Conservation District is available from the State Soil Conservation Committee, PO Box 330, Trenton, New Jersey 08625. The document is also available at http://www.nj.gov/agriculture/divisions/anr/pdf/2014NJSoilErosionControlStan dardsComplete.pdf.

(2) For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the preconstruction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology above at Subsection **A(1)(a)** and the Rational and Modified Rational Methods at Subsection **A(1)(b)**. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover has existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

(3) In computing preconstruction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce preconstruction stormwater runoff rates and volumes.

(4) In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55 - Urban Hydrology for Small Watersheds or other methods may be employed.

(5) If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

B. Groundwater recharge may be calculated in accordance with the following: the New Jersey Geological Survey Report GSR-32, A Method for Evaluating Groundwater-Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices Manual; at the New Jersey Geological Survey website at

https://www.nj.gov/dep/njgs/pricelst/gsreport/gsr32.pdf or at New Jersey Geological and Water Survey, 29 Arctic Parkway, PO Box 420 Mail Code 29-01, Trenton, New Jersey 08625-0420.

§ 238-6. Sources for technical guidance.

A. Technical guidance for stormwater management measures can be found in the documents listed below, which are available to download from the Department's website at http://www.nj.gov/dep/stormwater/bmp_manual2.htm.

(1) Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended and supplemented. Information is provided on stormwater management measures such as, but not limited to, those listed in Tables 1, 2, and 3.

(2) Additional maintenance guidance is available on the Department's website at https://www.njstormwater.org/maintenance_guidance.htm.

B. Submissions required for review by the Department should be mailed to The Division of Water Quality, New Jersey Department of Environmental Protection, Mail Code 401-02B, PO Box 420, Trenton, New Jersey 08625-0420.

§ 238-7. Solids and floatable materials control standards.

Site design features identified under § **238-4F** above, or alternative designs in accordance with § **238-4G** above, to prevent discharge of trash and debris from drainage systems shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this subsection, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Subsection B below.

A. Grates.

(1) Design engineers shall use one of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:

(a) The New Jersey Department of Transportation (NJDOT) bicycle-safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines; or

(b) A different grate, if each individual clear space in that grate has an area of no more than seven square inches, or is no greater than 0.5 inch across the smallest dimension.

(2) Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater system floors used to collect stormwater from the surface into a storm drain or surface water body.

(3) For curb-opening inlets, including curb-opening inlets in combination inlets, the clear space in that curb opening, or each individual clear space if the curb opening has two or more clear spaces, shall have an area of no more than seven square inches, or be no greater than two inches across the smallest dimension.

B. The standard in Subsection **A(1)** above does not apply:

(1) Where each individual clear space in the curb opening in existing curb-opening inlet does not have an area of more than nine square inches;

(2) Where the municipality agrees that the standards would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets;

(3) Where flows from the water quality design storm as specified in N.J.A.C. 7:8 are conveyed through any device (e.g., end-of-pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

(a) A rectangular space 4.625 inches long and 1.5 inches wide (this option does not apply for outfall netting facilities); or

(b) A bar screen having a bar spacing of 0.5 inch.

(4) Note that these exemptions do not authorize any infringement of requirements in the Residential Site Improvement Standards for bicycle-safe grates in new residential development (N.J.A.C. 5:21-4.18(b)2 and 7.4(b)1).

(5) Where flows are conveyed through a trash rack that has parallel bars with one-inch spacing between the bars, to the elevation of the water quality design storm as specified in N.J.A.C. 7:8; or

(6) Where the New Jersey Department of Environmental Protection determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register-listed historic property.

§ 238-8. Safety standards for stormwater management basins.

A. This section sets forth requirements to protect public safety through the proper design and operation of stormwater management BMPs. This section applies to any new stormwater management BMP.

B. The provisions of this section are not intended to preempt more stringent municipal or county safety requirements for new or existing stormwater management BMPs. Municipal and county stormwater management plans and chapters may, pursuant to their authority, require existing stormwater management BMPs to be retrofitted to meet one or more of the safety standards in Subsection **C(1)**, **(2)**, and **(3)** for trash racks, overflow grates, and escape provisions at outlet structures.

C. Requirements for trash racks, overflow grates and escape provisions.

(1) A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management BMP to ensure proper functioning of the BMP outlets in accordance with the following:

(a) The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars;

(b) The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure;

(c) The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack; and

(d) The trash rack shall be constructed of rigid, durable, and corrosion-resistant material and designed to withstand a perpendicular live loading of 300 pounds per square foot.

(2) An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

(a) The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

(b) The overflow grate spacing shall be no less than two inches across the smallest dimension.

(c) The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.

(3) Stormwater management BMPs shall include escape provisions as follows:

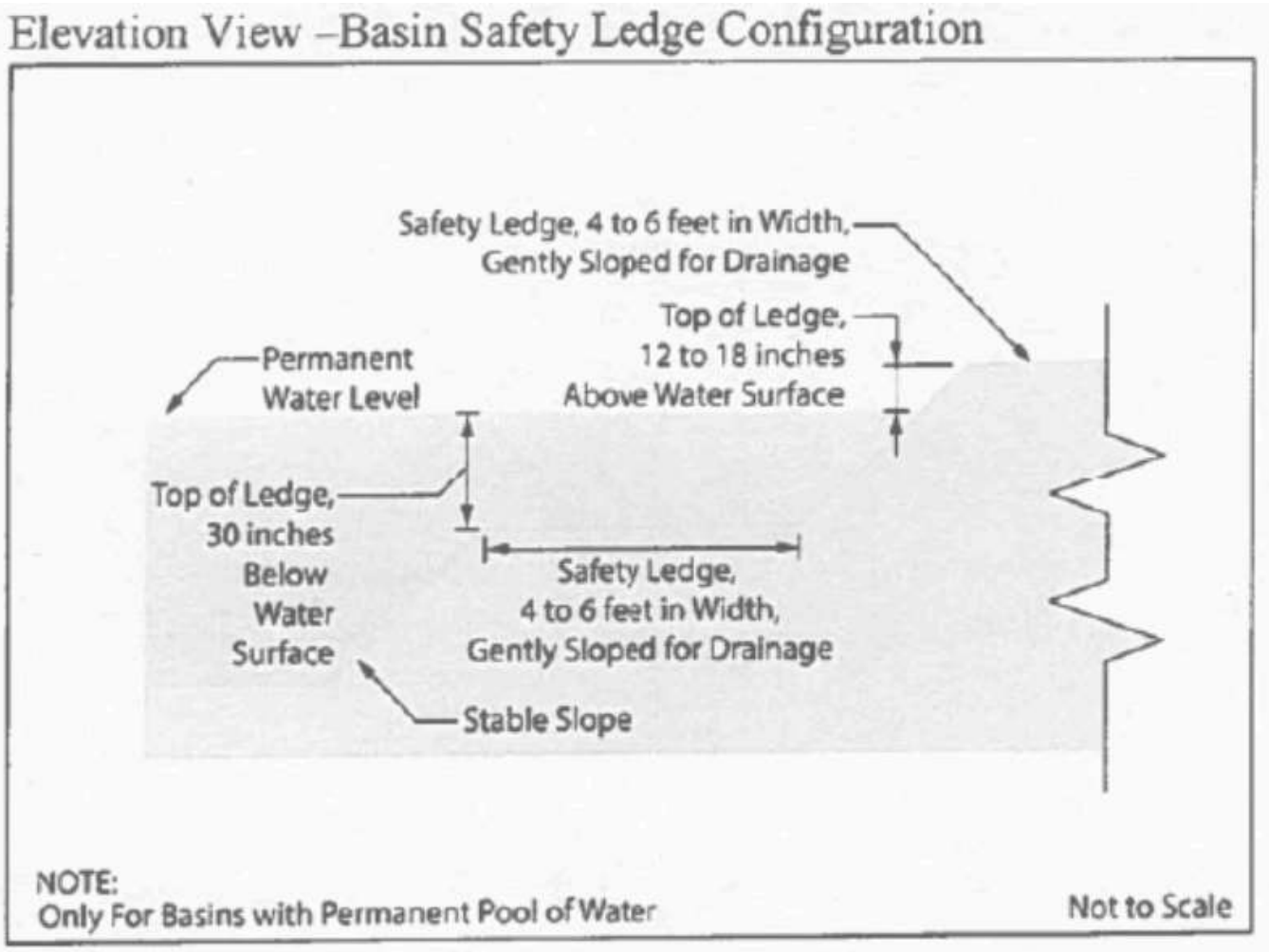
(a) If a stormwater management BMP has an outlet structure, escape provisions shall be incorporated in or on the structure. Escape provisions include the installation of permanent ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management BMPs. With the prior approval of the municipality pursuant to Subsection **C**, a freestanding outlet structure may be exempted from this requirement;

(b) Safety ledges shall be constructed on the slopes of all new stormwater management BMPs having a permanent pool of water deeper than 2 1/2 feet. Safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately 2 1/2 feet below the permanent water surface, and the second step shall be located one to 1 1/2 feet above the permanent water surface. See Subsection **E** for an illustration of safety ledges in a stormwater management BMP; and

(c) In new stormwater management BMPs, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than three horizontal to one vertical.

D. Variance or exemption from safety standard. A variance or exemption from the safety standards for stormwater management BMPs may be granted only upon a written finding by the municipality that the variance or exemption will not constitute a threat to public safety.

E. Safety ledge illustration.



§ 238-9. Requirements for site development stormwater plan.

A. Submission of site development stormwater plan.

(1) Whenever an applicant seeks municipal approval of a development subject to this chapter, the applicant shall submit all of the required components of the checklist for the site development stormwater plan at Subsection **C** below as part of the submission of the application for approval.

(2) The applicant shall demonstrate that the project meets the standards set forth in this chapter.

(3) The applicant shall submit three copies of the materials listed in the checklist for site development stormwater plans in accordance with Subsection **C** of this chapter.

B. Site development stormwater plan approval. The applicant's site development project shall be reviewed as a part of the review process by the municipal board or official from which municipal approval is sought. That municipal board or official shall consult the municipality's review engineer to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this chapter.

C. Submission of site development stormwater plan. The following information shall be required:

(1) Topographic base map. The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale of one inch equals 200 feet or greater, showing two-foot contour intervals. The map as appropriate may indicate the following: existing surface water drainage, shorelines, steep slopes, soils, erodible soils, perennial or intermittent streams that drain into or upstream of the Category One waters, wetlands and floodplains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing man-made structures, roads, bearing and distances of property lines, and significant natural and man-made features not otherwise shown.

(2) Environmental site analysis. A written and graphic description of the natural and man-made features of the site and its surroundings should be submitted. This description should include a discussion of soil conditions, slopes,

wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.

(3) Project description and site plans. A map (or maps) at the scale of the topographical base map indicating the location of existing and proposed buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations will occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high-groundwater elevations. A written description of the site plan and justification for proposed changes in natural conditions shall also be provided.

(4) Land use planning and source control plan. This plan shall provide a demonstration of how the goals and standards of § **238-3** through § **238-5** are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.

(5) Stormwater management facilities map. The following information, illustrated on a map of the same scale as the topographic base map, shall be included:

(a) Total area to be disturbed, paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

(b) Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

(6) Calculations.

(a) Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in § **238-4** of this chapter.

(b) When the proposed stormwater management control measures depend on the hydrologic properties of soils or require certain separation from the seasonal high-water table, then a soils report shall be submitted. The soils report shall be based on on-site boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

(7) Maintenance and repair plan. The design and planning of the stormwater management facility shall meet the maintenance requirements of § **238-10**.

(8) Waiver from submission requirements. The municipal official or board reviewing an application under this chapter may, in consultation with the municipality's review engineer, waive submission of any of the requirements in Subsection **C(1)** through **(6)** of this section when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

§ 238-10. Maintenance and repair.

A. Applicability. Projects subject to review as in § **238-1C** of this chapter shall comply with the requirements of Subsections **B** and **C**.

B. General maintenance.

(1) The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

(2) The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). The plan shall contain information on BMP location, design, ownership, maintenance tasks and frequencies, and other details as specified in Chapter 8 of the New Jersey BMP Manual, as well as the tasks specific to the type of BMP, as described in the applicable chapter containing design specifics.

(3) If the maintenance plan identifies a person other than the property owner (for example, a developer, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's or entity's agreement to assume this responsibility, or of the owner's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

(4) Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development or project. The individual property owner may be assigned incidental tasks, such as weeding of a green

infrastructure BMP, provided the individual agrees to assume these tasks; however, the individual cannot be legally responsible for all of the maintenance required.

(5) If the party responsible for maintenance identified under Subsection **B(3)** above is not a public agency, the maintenance plan and any future revisions based on Subsection **B(7)** below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

(6) Preventative and corrective maintenance shall be performed to maintain the functional parameters (storage volume, infiltration rates, inflow/outflow capacity, etc.) of the stormwater management measure, including, but not limited to, repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.

(7) The party responsible for maintenance identified under Subsection **B(3)** above shall perform all of the following requirements:

(a) Maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders;

(b) Evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed; and

(c) Retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by Subsection **B(6)** and **(7)** above.

(8) The requirements of Subsection **B(3)** and **(4)** do not apply to stormwater management facilities that are dedicated to and accepted by the municipality or another governmental agency, subject to all applicable municipal stormwater general permit conditions, as issued by the Department.

(9) In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have 14 days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or county may immediately proceed to do so and shall bill the cost thereof to the responsible person. Nonpayment of such bill may result in a lien on the property.

C. Nothing in this subsection shall preclude the municipality in which the major development is located from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

§ 238-11. Enforcement.

This Ordinance shall be enforced by the Township Code Enforcement Department or its designees.

§ 238-12. Violations and penalties.

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this chapter shall be subject to the following penalties: $1,000 per day. Each day shall be deemed a separate violation.

TOWNSHIP OF MAPLEWOOD

ORDINANCE

#2319 -05

**AN ORDINANCE
TO ESTABLISH REQUIREMENTS
FOR THE PROPER DISPOSAL OF
PET SOLID WASTE**

"Interpretive Statement"

As required by the State of New Jersey, this ordinance will require pet owners and keepers to properly dispose of pet solid waste.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to establish requirements for the proper disposal of pet solid waste in the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Immediate - shall mean that the pet solid waste is removed at once, without delay.
b. Owner/Keeper - any person who shall possess, maintain, house or harbor any pet or otherwise have custody of any pet, whether or not the owner of such pet.
c. Person - any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to the municipal jurisdiction.
d. Pet - a domesticated animal (other than a disability assistance animal) kept for amusement or companionship.
e. Pet solid waste - waste matter expelled from the bowels of the pet; excrement.
f. Proper disposal - placement in a designated waste receptacle, or other suitable container, and discarded in a refuse container which is regularly emptied by the municipality or some other

refuse collector; or disposal into a system designed to convey domestic sewage for proper treatment and disposal.

Section III. Requirement for Disposal:

All pet owners and keepers are required to immediately and properly dispose of their pet=s solid waste deposited on any property, public or private, not owned or possessed by that person.

Section IV. Exemptions:

Any owner or keeper who requires the use of a disability assistance animal shall be exempt from the provisions of this section while such animal is being used for that purpose.

Section V. Enforcement:

The provisions of this Article shall be enforced by the Police Department and the Local Board of Health of the Township of Maplewood.

Section VI. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VII. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VIII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section IX: Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

#2321-05

AN ORDINANCE
TO ESTABLISH REQUIREMENTS
TO CONTROL LITTERING
IN THE TOWNSHIP OF MAPLEWOOD

"Interpretive Statement"

This ordinance will make it unlawful to litter upon any public or private property other than in a litter receptacle.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to establish requirements to control littering in the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Litter - any used or unconsumed substance or waste material which has been discarded, whether made of aluminum, glass, plastic, rubber, paper, or other natural or synthetic material, or any combination thereof, including, but not limited to , any bottle, jar or can, or any top, cap or detachable tab of any bottle, jar or can, any unlighted cigarette, cigar, match or any flaming or glowing material or any garbage, trash, refuse, debris, rubbish, grass clippings or other lawn or garden waste, newspapers, magazines, glass, metal, plastic or paper containers or other packaging or construction material, but does not include the waste of the primary processes of mining or other extraction processes, logging, saw-milling, farming or manufacturing.

b. Litter Receptacle - a container suitable for the depositing of litter.

c. Person - any individual, corporation, company, partnership, firm association or political subdivision of this State subject to municipal jurisdiction.

Section III. Prohibited acts and regulated activities:

1. It shall be unlawful for any person to throw, drop, discard or otherwise place any litter of any nature upon public or private property other than in a litter receptacle, or having done so, to allow such litter to remain.
2. Whenever any litter is thrown or discarded or allowed to fall from a vehicle in violation of this ordinance, the operator or owner, or both, of the vehicle shall also be deemed to have violated the ordinance.

Section IV. Enforcement:

The provisions of this Article shall be enforced by the Police Department and the Local Board of Health of the Township of Maplewood..

Section V. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VI. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section VIII: Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

 # 2322-05

AN ORDINANCE
TO PROHIBIT THE IMPROPER
DISPOSAL OF WASTE

"Interpretive Statement"

This ordinance will prohibit the spilling, dumping or disposal of materials other than stormwater to the municipal storm sewer system.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to prohibit the spilling, dumping or disposal of materials other than stormwater to the municipal separate storm sewer system (MS4) operated by the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Municipal separate storm sewer system (MS4) - a conveyance or system of conveyances (including roads with drainage systems, municipal street, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) that is owned or operated by the Township of Maplewood or other public body, and is designed and used for collecting and conveying stormwater.
b. Person - any individual, corporation, company, partnership, firm association or political subdivision of this State subject to municipal jurisdiction.
c. Stormwater - water resulting from precipitation (including rain and snow) that runs off the land=s surface, is transmitted to the subsurface, is captured by separate storm sewers or other sewerage or drainage facilities, or is conveyed by snow removal equipment.

Section III. Prohibited Conduct:

The spilling, dumping, or disposal of materials other than stormwater to the municipal storm sewer system operated by the Township of Maplewood is prohibited. The spilling, dumping, or disposal of materials other than stormwater in such a manner as to cause the discharge of pollutants to the municipal separate storm sewer system is also prohibited.

Section IV. Exceptions to Prohibition:

a. Water line flushing and discharges from potable water sources.
b. Uncontaminated ground water (e.g., infiltration, crawl space or basement sump pumps, foundation or footing drains, rising ground waters).
c. Air conditioning condensate (excluding contact and non-contact cooling water)
d. Irrigation water (including landscape and lawn watering runoff).
e. Flows from springs, riparian habitats and wetlands, water reservoir discharges and diverted stream flows.
f. Residential car washing water, and residential swimming pool discharges.
g. Sidewalk, driveway and street wash water.
h. Flows from fire fighting activities.
I. Flows from rinsing of the following equipment with clean water.

- Beach maintenance equipment immediately following their use for their intended purposes; and
- Equipment used in the application of salt and de-icing materials immediately following salt and de-icing material applications. Prior to rinsing with clean water, all residual salt and de-icing material must be removed from equipment and vehicles to the maximum extent practicable use dry cleaning methods (e.g., shoveling and sweeping). Recovered materials are to be returned to storage for reuse or properly discarded. Rinsing of equipment, as noted in the above situation, is limited to exterior, undercarriage, and exposed parts and does not apply to engines or other enclosed machinery.

Section V. Enforcement:

The provisions of this Article shall be enforced by the Police Department and/or other Municipal Officials of the Township of Maplewood.

Section VI. Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VII. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph,

subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VIII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section IX: Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

#2320-05

AN ORDINANCE
TO PROHIBIT THE FEEDING OF UNCONFINED WILDLIFE
IN ANY PUBLIC PARK OR ANY OTHER PROPERTY
OWNED OR OPERATED BY THE TOWNSHIP OF MAPLEWOOD

"Interpretive Statement"

This ordinance will prohibit the feeding, in any public park or in any other property owned by the Township of Maplewood, of any wildlife.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to prohibit the feeding of unconfined wildlife in any public park or any other property owned or operated by the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Feed - to give, place, expose, deposit, distribute or scatter any edible material with the intention of feeding, attracting or enticing wildlife. Feeding does not include baiting in the legal taking of fish and/or game.
b. Person - any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to the municipal jurisdiction.
c. Wildlife - all animals that are neither human nor domesticated.

Section III. Prohibited Conduct:

No person shall feed, in any public park or on any other property owned or operated by the Township of Maplewood, any wildlife, excluding confined wildlife (for example,

wildlife confined in zoos, parks, or rehabilitation centers, or unconfined wildlife at environmental education centers).

Section IV. Enforcement:

(a) This ordinance shall be enforced by the Police Department and/or other Municipal Officials of the Township of Maplewood.
(b) Any person found to be in violation of this ordinance shall be ordered to cease the feeding immediately.

Section V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VI. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VII: Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section VIII. Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

 # 2323-05

AN ORDINANCE
TO ESTABLISH A
YARD WASTE COLLECTION PROGRAM
WITHIN THE TOWNSHIP OF MAPLEWOOD

"Interpretive Statement"

This ordinance will regulate the sweeping, raking, blowing or otherwise placing of yard waste that is not containerized at the curb or along the street within the Township of Maplewood.

WHEREAS, the State of New Jersey has mandated that municipalities adopt certain ordinances to provide for the public health, safety, and welfare;

NOW, THEREFORE, BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey as follows:

Section I. Purpose:

An ordinance to establish a yard waste collection and disposal program in the Township of Maplewood, so as to protect public health, safety and welfare, and to prescribe penalties for failure to comply.

Section II. Definitions:

For the purpose of this ordinance, the following terms, phrases, words and their derivations shall have the meanings, stated herein unless their use in the text of this Chapter clearly demonstrates a different meaning. When not inconsistent with the context, words used in the present tense include the future, words used in the plural number include the singular number, and words used in the singular number include the plural number. The word Ashall@ is always mandatory and not merely directory.

a. Containerized - means the placement of yard waste in a trash can, bucket, bag or other vessel, such as to prevent the yard waste from spilling or blowing out into the street and coming into contact with the stormwater.
b. Person - any individual, corporation, company, partnership, firm, association or political subdivision of this State subject to the municipal jurisdiction.
c. Street - means any street, avenue, boulevard, road, parkway, viaduct, drive, or other way, which is an existing State, County, or Municipal roadway, and includes the land between the street lines, whether improved or unimproved, and may comprise pavement, shoulders, gutters, curbs, sidewalks, parking areas, and other areas within the street lines.
d. Yard Waste - means leaves.

Section III. Yard Waste Collection:

Sweeping, raking, blowing or otherwise placing yard waste at the curb or along the street is only allowed during the seven (7) days prior to a scheduled or announced collections which take place between October 15 and December 15, each year, and shall not be placed closer than ten (10) feet from any storm drain inlet. Placement of such yard waste at the curb or along the street at any other time or in any other manner is violation of this ordinance. If such placement of yard waste occurs, the party responsible for placement of the yard waste must remove the yard waste from the street or said party shall be deemed to be in violation of this ordinance.

Section IV. Enforcement:

The provisions of this Article shall be enforced by the Police Department and/or other Municipal Officials of the Township of Maplewood.

Section V. Violations and Penalties:

Any person(s) who is found to be in violation of the provisions of this ordinance shall be subject to a fine not to exceed $1,000.00.

Section VI. Severability:

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

Section VII. Repeal of Prior Ordinances:

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

Section VIII : Effective Date:

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood, New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

TOWNSHIP OF MAPLEWOOD

ORDINANCE

 # 2318-05

**AN ORDINANCE
TO AMEND CHAPTER 223
OF THE CODE OF
THE TOWNSHIP OF MAPLEWOOD
ENTITLED
ASEWERS@**

"Interpretive Statement"

This ordinance amends Article I, General Provisions, of Chapter 223 "Sewers" of the Code of the Township of Maplewood by eliminating the term "lateral sewers" and re-establishing the obligation of property owners to maintain house laterals.

BE IT ORDAINED, by the Township Committee of the Township of Maplewood, County of Essex, State of New Jersey, that Chapter 223 of the Code of the Township of Maplewood entitled ASewers@ be amended to read as follows:

FIRST: Article I, General Provisions

Section 223-1. Definitions:

As used in this Article, unless a different meaning clearly appears from the context, the following words shall have the meanings given:

BUILDING STORM DRAIN - The lowest horizontal piping of a drainage system within a building, which receives and conveys rainwater, groundwater, subsurface water, condensate, cooling water and other similar liquids.

HOUSE LATERAL - The sanitary sewer pipe leading from the main connection with the house plumbing system. House lateral will include any AT@ or AY@ branches and any coupling devices utilized to connect house lateral sewer to main sewer or lateral sewer.

HOUSE PLUMBING SYSTEM - The system of sewer pipes within a house or other building.

MAIN SEWER - Sanitary sewer pipe laid in the street to which house laterals are attached.

Section 223-2. Sewer Inspector:

A. Appointment; compensation. There shall be an officer of the Township to be known as the ASewer Inspector,@ to be appointed by the Township Committee and to receive such compensation as shall be fixed by ordinance. The Sewer Inspector shall enforce the provisions of this Article and any supplements or amendments thereto, keep full and accurate records of the proceedings of his office and make monthly reports to the Township Committee of the proceedings. He shall make daily returns to the Township Treasurer of all moneys coming into his hands as Sewer Inspector, accepting the receipt of the Treasurer therefor.

B. Powers and duties. The Sewer Inspector shall have power to:

(1) Issue permits for the laying, construction, alteration, repair, demolition or removal of main sewer and for house laterals and the connection of the house plumbing system, house lateral, main sewer with the sanitary sewer system of the Township, provided that the plans and specifications for the same comply with the provisions of this Article.

(2) Revoke permits issued whenever the work done or materials furnished therefor are not in accordance with the provisions of this Article.

(3) Reissue revoked permits after the work and materials have been made to comply with the requirements of this Article.

(4) Inspect the work and materials at any time during the course of construction, and for such purpose shall have access to all buildings or work under construction and premises where the same is carried on within the Township between the hours of 8:00 a.m. and 5:00 p.m. on working days.

Section 223-3. Permit required; fee; application:

A. Permit required; fee. It shall be unlawful for any person to lay, construct, alter, repair, demolish or remove any main sewer or any house lateral or to connect in any manner the house or building plumbing system, house lateral, main sewer with any part of the sanitary sewer system of the Township without having first obtained a written permit therefor from the Sewer Inspector. The fee for such permit shall be as provided in Chapter 123, Fees. Permits shall be issued only to master plumbers licensed pursuant to the provisions of the Plumbing Code of the Township.

B. Application for permit. Application for a permit shall be made to the Sewer Inspector on forms furnished by him and shall be accompanied by detailed construction plans and specifications for any such sewer, lateral or connection.

Section 223-4. Main sewers:

A. Connection. All main sewers shall be connected with the sanitary sewer system of the Township. The sewers shall conform as nearly as possible in size, material and construction to the existing main or lateral sewers in the Township.

B. Construction. All main sewers shall be construed only in a public street, provided that the same may be constructed over private property if the owner or owners thereof and the holder

of any lien or encumbrance thereon shall execute and deliver to the Township a perpetual easement for the maintenance, repair and reconstruction of the same.

Section 223-5. House laterals:

A, House laterals shall be extra-heavy cast-iron soil or polyvinal chloride (PVC) pipe and fittings, not less than four (4) inches in diameter, with lead joints properly caulked, shall have a uniform fall of not less than one-fourth (1/4) inch per foot and shall be laid on a straight line from the main sewer to the inside of the house or building, except that where a change in direction is made necessary by existing conditions, 16th bends may be used with the approval of the Sewer Inspector.

B. House lateral connections to main sewers shall be made with AT@ or AY@ branches where branches are provided in the main or lateral sewer. Where such branches are not provided, a AT@ or AY@ connection must be used.

C. Whenever the length of the house lateral, exceeds seventy (70) feet from the main sewer to the house or other building Y-connection, four-inch cleanouts extended to the ground surface shall be provided at intervals of not over fifty (50) feet. Extra-heavy brass screw caps shall be provided for all cleanouts.

D. The cost for maintaining and connecting a house lateral to the main sewer shall be the responsibility of the property owner whose property is serviced by the house lateral.

223-6. Unlawful acts:

A. No building storm drain shall be connected with the sanitary sewer system or any part thereof.

B. No person shall construct or maintain in the Township any privy vault, cesspool or septic tank. All house plumbing systems shall be connected with the sanitary sewer.

223-7. Extension of system to another municipality:

A. Application for extension; requirements. If the Township Committee shall have heretofore authorized or shall hereafter authorize the extension of the sanitary sewer system of the Township into an adjoining municipality, with the consent of the governing body of such adjacent municipality, for the purpose of furnishing sewerage service to a resident or to residents of such adjoining municipality, the extension shall, be made at the expense of the property holder or holders desiring such extension and in accordance with the provisions of this Article. Application for the extension, shall in addition to the requirements of this Article, be accompanied by a Surety Bond or other security in amount, form and substance satisfactory to the Township, conditioned for the performance of the work in accordance with the filed plans and Specifications and the ordinances, Rules and Requirements of the Township, for the payment of all lawful claims of subcontractors, material men, laborers, persons, firms or corporations, for labor performed or materials, provisions provender or other supplies or teams, fuel, oil, implements or machine furnished, used or consumed in the carrying forward, performance or completing of the sanitary sewer installation and indemnifying the Township, its officers, agents and servants against all suits, costs and damages of every kind and description arising by reason of the performance of the work or the act or omission of the property holder, its agents, employees or servants.

B. Rents and Charges. Each property holder of residential property of such adjoining municipality who shall have connected or who shall connect his house plumbing system to the sanitary sewer of the Township shall pay to the Township

an annual rent or charge for the use of the sanitary sewer system as provided in Chapter 123, Fees. All property holders of property other than residential of such adjoining municipality who shall have connected or who shall connect his house plumbing system to the sanitary sewer system of the Township shall pay to the Township an annual rent or charge for the use of the sanitary sewer system as provided in Chapter 123, Fees. Such rent or charge shall be come due on the first day of February, May, August or November, as the case may be, after the completion of the connection with such sewer system and annually thereafter on the first day of February in each year and shall draw the same interest from the time such rent or charge becomes due as taxes upon real estate of the Township and shall be a lien upon the premises with which the connection is made.

SECOND: The Remainder of Chapter 223 remains unchanged.

THIRD: Severability

If any section, paragraph, subparagraph, clause or provision of this Ordinance shall be adjudged invalid, such adjudication shall apply only to the specific section, paragraph, subparagraph, clause or provision so adjudged and the remainder of the Ordinance shall be deemed valid and effective.

FOURTH: Repeal of Prior Ordinances

Ordinances or parts of Ordinances inconsistent with the provisions of this Ordinance be and the same are hereby repealed to the extent of any such inconsistencies.

FIFTH: Effective Date

This Ordinance shall take effect after final passage and publication according to law.

PUBLIC NOTICE is hereby given that the foregoing proposed Ordinance was introduced and read by title for the first time at a meeting of the Township Committee of the Township of Maplewood, held on November 1, 2005 and that Committee met again on November 14, 2005, at 8:00 p.m. at the Municipal Building, 574 Valley Street, Maplewood,

New Jersey, at which time and place the Committee proceeded to consider the said Ordinance on second reading and final passage.

ELIZABETH J. FRITZEN, R.M.C.
Township Clerk

Township of Maplewood
ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120
FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

RICHARD CALBI, JR., P.E.
TOWNSHIP ENGINEER

June 27, 2006

Mr. Sanjeev Varghese, P.E.
Essex County Engineer
900 Bloomfield Avenue
Verona, NJ 07044

Re: Stormwater Control Ordinance & Plan
Maplewood Township, Essex County

Dear Mr. Varghese:

Per the requirements of Maplewood Township's Municipal Stormwater General Permit (No. NJ0141852), I am forwarding you copy of the approved Stormwater Control Ordinance (2362-06) and adopted Stormwater Management Plan. Please review these documents for conformance and recommend approval of such to the Essex County Reviewing Agency.

Should you have any questions, please don't hesitate to call.

Sincerely,

Richard Calbi Jr. P.E.
Township Engineer

Cc: Joseph Manning, Township Administrator
Roger Desiderio, Township Attorney
Allen Cheng, NJDEP Municipal Stormwater Regulation Program

U:\Projects\General\Stomrwater\062606L_PlanTrans.doc

Richard Calbi

From: Tara Wood [Tara.Wood@dep.state.nj.us]
Sent: Tuesday, June 27, 2006 9:28 AM
To: engineer@twp.maplewood.nj.us
Subject: Re: Essex County Review Agency

Good Morning Rich,

I've included the contact information for Essex County's Review Agency. Please forward both the adopted municipal stormwater management plan and municipal stormwater control ordinance to:

Sanjeev Varghese, County Engineer
900 Bloomfield Avenue
Verona, NJ 07044
973-226-8506
(fax) 973-226-7469

Copies of the above mentioned document should also be forwarded to the following address at the Department:

NJ Department of Environmental Protection
Division of Watershed Management
Bureau of Watershed Regulation
PO Box 418
Trenton, NJ 08625
Attn: Allen Cheng

Tara R. Wood, Environmental Specialist
New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Nonpoint Pollution Control
PO Box 029
Trenton, NJ 08625
Phone: 609-633-7021
Fax: 609-984-2147

>>> Richard Calbi <engineer@twp.maplewood.nj.us> 6/26/2006 3:12 PM >>>
Tara,

Perhaps you can help me. I need to send out copy of Maplewood Township's approved Stormwater control ordinance and plan to the County of Essex. Do you have contact information for the County Review Agency. Also do I need to send copy to NJDEP?

Thanks

Rich C.

Richard Calbi Jr. P.E.

Township Engineer

Township of Maplewood

Section 11

Storm Drain Inlet Retrofitting

SPPP Form 11 – Storm Drain Inlet Retrofitting

Municipality Information

Municipality: Township of Maplewood County Essex

NJPDES #: NJG 0154687 PI ID #: 203744

Team Member/Title: Paul J. Kittner Jr, PE, PP, CME/Twp. Eng./Director DPW

Effective Date of Permit Authorization (EDPA): 04/01/04

Date of Completion: *April 2018* Date of most recent update: *June 2024*

What type of storm drain inlet design will generally be used for retrofitting?

For Existing Inlets, Bolt on Cast Iron Screens are used, new inlets receive the ECO-N Head Pieces

Repaving, repairing, reconstruction or alteration project name	Projected start date	Start date	Date of completion	# of storm drain inlets	# of storm drains w/ hydraulic exemptions
2016 Road Improvement Program and Drainage	*10/2016*	*10/16'*	*5/2017*	*29*	
'2017 Road Improvement Program and Drainage	*'2017*		*'2017*	*39*	
2018 Road Improvement Program	*'2018*		*'2018*	*75*	
2019 Road Improvement Program	*2019*		*2019*	*40*	
2020 Road Improvement Program	*2020*		*2020*	*11*	

Are you claiming any alternative device exemptions or historic place exemptions for any of the above projects? Please explain:

SPPP Form 11 – Storm Drain Inlet Retrofitting

Municipality Information

Municipality: Township of Maplewood County Essex

NJPDES #: NJG 0154687 PI ID #: 203744

Team Member/Title: Paul J. Kittner Jr, PE, PP, CME/Twp. Eng./Director DPW

Effective Date of Permit Authorization (EDPA): 04/01/04

Date of Completion: *April 2018* Date of most recent update: *June 2024*

What type of storm drain inlet design will generally be used for retrofitting?
For Existing Inlets, Bolt on Cast Iron Screens are used, new inlets receive the ECO-N Head Pieces

Repaving, repairing, reconstruction or alteration project name	Projected start date	Start date	Date of completion	# of storm drain inlets	# of storm drains w/ hydraulic exemptions
2021 Road Improvement Program	*2021*		*2021*	*26*	
2022 Road Improvement Program	*2022*		*2022*	*64*	
2023 Road Improvement Program	*2023*		*2023*	*17*	
2024 Road Improvement Program	*2024*		*2024*	*42*	

Are you claiming any alternative device exemptions or historic place exemptions for any of the above projects? Please explain:

Section 12

Street Sweeping and Road Erosion Control Maintenance

SPPP Form 12 – Street Sweeping and Road Erosion Control Maintenance

Municipality Information

Municipality: Maplewood Township County: Essex

NJPDES # :NJG 0154687 PI ID #: 203744

Team Member/Title: ***Paul J. Kittner Jr,*** Twp Engineer/Dir of DPW

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *01/20/05* Date of most recent update: ***June 2024***

Street Sweeping

Please describe the street sweeping schedule that you will maintain.
(NOTE: Attach a street sweeping log containing the following information: date and area swept, # of miles swept and the total amount of materials collected.)

Maplewood already conforms to and surpasses the minimal standard required. The Township's current street sweeping plan and schedule is already more frequent and impacts more roadway types than the minimum guidelines given by NJDEP. Please refer to the attached sweeping map. DPW maintains a schedule log for details. Street Sweeping is performed on a continual basis, weather permitting.

Road Erosion Control Maintenance

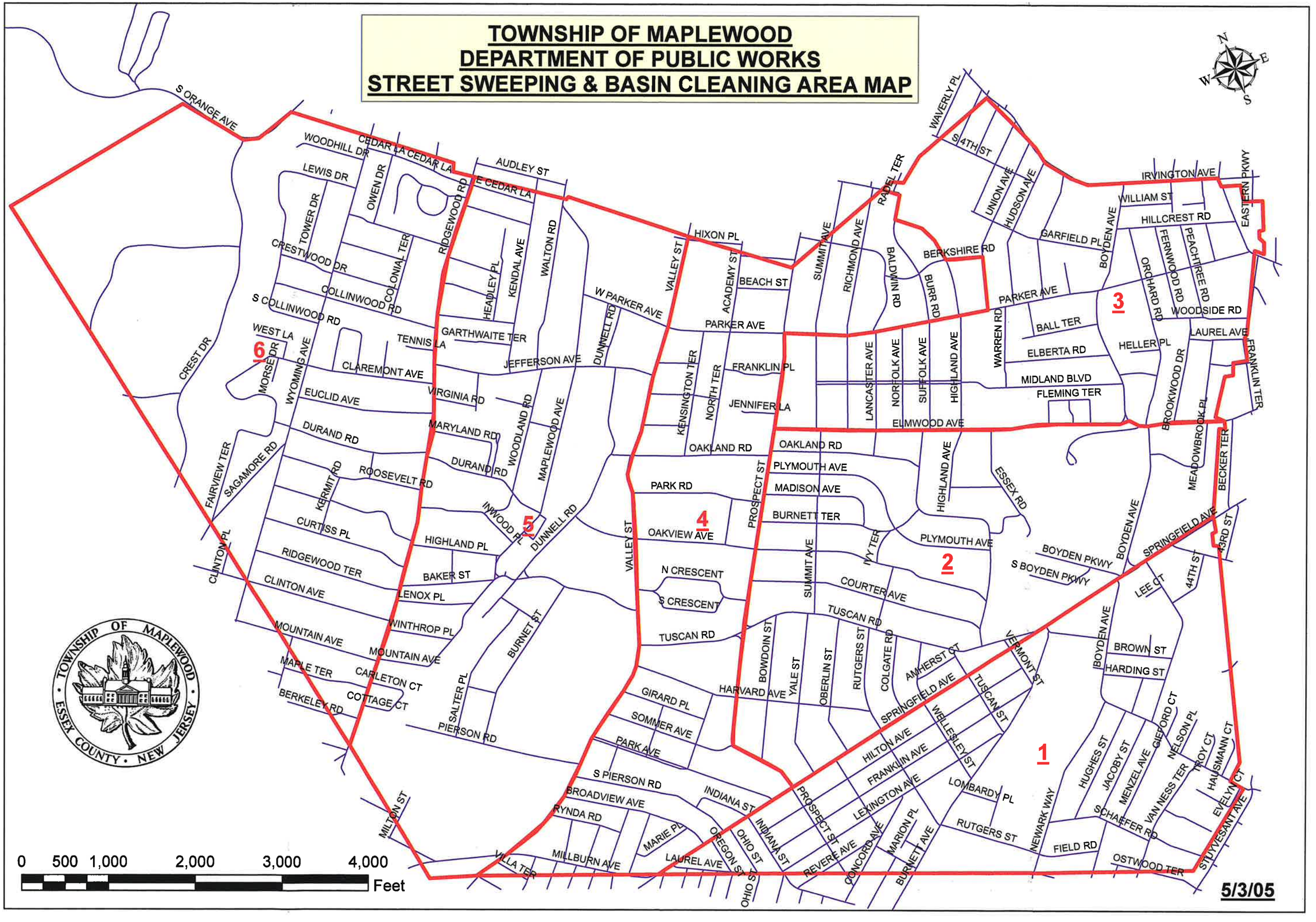
Describe your Road Erosion Control Maintenance Program, including inspection schedules. A list of all sites of roadside erosion and the repair technique(s) you will be using for each site should be attached to this form.
(NOTE: Attach a road erosion control maintenance log containing the following information: location, repairs, date)

Maplewood Township will use the Public Works (or Maintenance) Department to monitor all our roads and streets for erosion problems during normal patrols. All identified road erosion problems will be reported to the Public Works Department Supervisor. During quarterly SPPP Team meetings, identified areas of erosion will be discussed and repairs prioritized. All maintenance personnel will then be assigned to the areas of concern, and the areas identified to have road erosion problems will be repaired in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. All maintenance personnel will maintain an inspection log, and will maintain a list of all repairs and the dates completed. The status of the Road Erosion Control Maintenance Program will be included in the Annual Report and Recertification. Road erosion is minimized as almost all of the roads are curbed.

MS 4 SWEEPINGS 2023

	MILEAGE	TONS OF DEBRIS
JANUARY	435.1	76
FEBRUARY	321.7	42.5
MARCH	259.9	40
APRIL	104.4	11
MAY	140.2	32
JUNE	316.7	50
JULY	65.9	8
AUGUST	288.7	39
SEPTEMBER	202.6	32
OCTOBER	92.5	13.5
NOVEMBER	65.4	
DECEMBER	391.8	
TOTAL	2684.9	344

TOWNSHIP OF MAPLEWOOD
DEPARTMENT OF PUBLIC WORKS
STREET SWEEPING & BASIN CLEANING AREA MAP



5/3/05

Section 13

Stormwater Facility Maintenance

SPPP Form 13 – Stormwater Facility Maintenance

Municipality Information

Municipality: Township of Maplewood County: Essex

NJPDES # :NJG 0154687 PI ID #: 203744

Team Member/Title: ***Paul J. Kittner Jr., Twp Engineer***/ Director of Public Works

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *01/25/05* Date of most recent update: *June 2024*

Please describe your annual catch basin cleaning program and schedule. Attach a map/diagram or additional pages as necessary.

Maplewood Township currently implements an annual catch basin cleaning program to maintain catch basin function and efficiency. If, at the time of inspection, no sediment, trash or debris is observed in the catch basin, then that catch basin will not be cleaned. All catch basins will be inspected yearly, even if they were found to be "clean" the previous year. At the time of cleaning, the catch basins will also be inspected for propoer function. Maintenance will be scheduled for those catch basins that are in need of repair. A total of 1284 inlets were cleaned in 2023.

Please describe your stormwater facility maintenance program for cleaning and maintenance of all stormwater facilities operated by the municipality. Attach additional pages as necessary.

(NOTE: Attach a maintenance log containing information on any repairs/maintenance performed on stormwater facilities to ensure their proper function and operation.)

Maplewood Township will implement a stormwater facility maintenance program to ensure that all stormwater facilities operated by the Township function properly. Maplewood Township operates the following:

- *storm drains*
- *catch basins*
- *swales*
- *outfalls*

These stormwater facilities will be inspected annually to insure that they are functioning properly. In high risk areas, preventative maintenance will be performed on all stormwater facilities to ensure that they do not begin to fail.

2023 Catch Basins cleaned Per. month/Debris collected

Month	Total Basins	Tons	Masonry Repairs
January	84	4	1
February	62	4	0
March	126	11	1
April	142	12	6
May	140	13	1
June	146	12	4
July	128	11	4
August	132	10	6
September	126	10	2
October	138	12	5
November	28	1	0
December	32	2	0
Yearly Total	1284	102	30

Section 14

Outfall Pipe Stream Scouring Remediation

SPPP Form 14 - Outfall Pipe Stream Scouring Remediation

Municipality Information

Municipality: Maplewood Township County: Essex

NJPDES # :NJG 0154687 PI ID #: 203744

Team Member/Title: Paul J. Kittner Jr, PE,PP, CME (Twp. Eng/Dir of *DPW*)

Effective Date of Permit Authorization (EDPA): *01/21/04*

Date of Completion: *10/01/05* Date of most recent update: *June 2024*

Describe your stormwater outfall pipe scouring detection, remediation and maintenance program to detect and control active, localized stream and stream bank scouring. Attach additional pages as necessary.

(NOTE: Attach a prioritized list of sites observed to have outfall pipe stream and stream bank scouring, date of anticipated repair, method of repair and date of completion.)

When we are doing the illicit connection part of this program, we will be checking all of our outfall pipes for signs of scouring. All sites will be placed on a prioritized list and repairs will be made in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. In addition, repairs that do not need NJDEP permits for those repairs may be done first.

We will follow each repair up with an annual inspection of the site to ensure that scouring has not resumed. A total of 33 outfalls were inspected during 2017/2018. Next inspection with report will be Fall 2024/Spring 2025.

Township of Maplewood

ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: ENRIQUE RIASOTA

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E35

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  No not great condition

- Is the rip-rap sufficient? What size is the rip rap?

  Yes. Concrete encasement.

- Is there any erosion present that needs to be addressed?

  Some erosion, not bad.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 36

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:
- Is the discharge pipe/flared end section in tact?

  Yes
- Are the joints of the exposed pipe in good condition?

  OK, but some erosion at joints.
- Is the rip-rap sufficient? What size is the rip rap?

  Yes - 1'x1' size.
- Is there any erosion present that needs to be addressed?

  Yes.
- Has all debris been removed from the discharge point?

  Yes
- Did you take pictures of the outfall?

  Yes
- Is there any siltation built up at the structure?

  No
- Are there any comments you would like to make regarding the outfall?

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PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Bastos

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 28

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes:

- Is the discharge pipe/flared end section in tact?

  yes.

- Are the joints of the exposed pipe in good condition?

  yes.

- Is the rip-rap sufficient? What size is the rip rap?

  yes - rip-rap encased via concrete.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  yes

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Blasotti
DATE/TIME: 4/23/18 - 1:25pm
WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E37 / 22 Meadowbrook Place

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good
  Notes: 60% backflow
- Is the discharge pipe/flared end section in tact?
  Inset not in tact.
- Are the joints of the exposed pipe in good condition?
  No
- Is the rip-rap sufficient? What size is the rip rap?
  No rip-rap gravel.
- Is there any erosion present that needs to be addressed?
  Yes erosion
- Has all debris been removed from the discharge point?
  Debris at discharge point.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes
- Are there any comments you would like to make regarding the outfall?
  Pipe flat and damaged. Sediment build up.
  Pipe compromised. Low set pipe.

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TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: April 23, 2018 / 1:40pm

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E21

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:

- Is the discharge pipe/flared end section in tact?

  Yes flared

- Are the joints of the exposed pipe in good condition?

  Yes joints are okay.

- Is the rip-rap sufficient? What size is the rip rap?

  Rip rap covered by stucco finish not visible

- Is there any erosion present that needs to be addressed?

  Some but not terrible

- Has all debris been removed from the discharge point?

  Some debris clear for the most part

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti
DATE/TIME: 4/23/18
WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 22

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes:
- Is the discharge pipe/flared end section in tact?

  yes flared
- Are the joints of the exposed pipe in good condition?

  Yes
- Is the rip-rap sufficient? What size is the rip rap?

  Yes
- Is there any erosion present that needs to be addressed?

  End of pipe some erosion but not bad.
- Has all debris been removed from the discharge point?

  Yes
- Did you take pictures of the outfall?

  Yes
- Is there any siltation built up at the structure?

  No
- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E23

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Exposed not surrounded by rip-rap.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

  Pipe runs under tree roots

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TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E38

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: Severly compromised.
- Is the discharge pipe/flared end section in tact?

  Yes
- Are the joints of the exposed pipe in good condition?

  Unknown - needs to be cleared
- Is the rip-rap sufficient? What size is the rip rap?

  Yes - concrete over rip-rap.
- Is there any erosion present that needs to be addressed?

  No
- Has all debris been removed from the discharge point?

  No - completely covered - blocked - submerged in dirt.
- Did you take pictures of the outfall?

  Yes
- Is there any siltation built up at the structure?

  Yes
- Are there any comments you would like to make regarding the outfall?

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PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E39

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Flared

- Are the joints of the exposed pipe in good condition?

  Yes - Wall is Compromised

- Is the rip-rap sufficient? What size is the rip rap?

  Large block 12"-16" block

- Is there any erosion present that needs to be addressed?

  Yes the wall

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  Clean Pipe

- Are there any comments you would like to make regarding the outfall?

  Wall surrounding pipe in bad condition

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EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Bizzotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E46/ Springfield Ave. below bridge center

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes - Flared

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes Concrete covers rip. rap.

- Is there any erosion present that needs to be addressed?

  No erosion

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  Yes

- Are there any comments you would like to make regarding the outfall?

  Good flow.

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E43

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Pipe flared

- Are the joints of the exposed pipe in good condition?

  Unknown after inspection

- Is the rip-rap sufficient? What size is the rip rap?

  Rip rap good - covered in concrete.

- Is there any erosion present that needs to be addressed?

  Not much erosion.

- Has all debris been removed from the discharge point?

  No - debris covers 50% of discharge.

- Did you take pictures of the outfall?

  YES

- Is there any siltation built up at the structure?

  Yes

- Are there any comments you would like to make regarding the outfall?

  Needs cleaning.

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EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 44

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes:
- Is the discharge pipe/flared end section in tact?
  Yes, flared
- Are the joints of the exposed pipe in good condition?
  Unknown - too clogged.
- Is the rip-rap sufficient? What size is the rip rap?
  Yes - encased in concrete.
- Is there any erosion present that needs to be addressed?
  No.
- Has all debris been removed from the discharge point?
  No. discharge is 60% - 70% clogged
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes
- Are there any comments you would like to make regarding the outfall?
  No Flow - needs dirt cleared from discharge.

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EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: ENRIQUE BIASOTTI

DATE/TIME: 4/23/18

WEATHER: SUNNY

The following items should be reviewed for each outfall:

Location/ID No: ~~E 25~~ / E 27

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes - Rip-Rap encased in concrete.

- Is there any erosion present that needs to be addressed?

  No erosion

- Has all debris been removed from the discharge point?

  No - pipe is 30% covered with silt.

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  Yes. covers 30% of pipe.

- Are there any comments you would like to make regarding the outfall?

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EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: [redacted] E25

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) ~~(Good)~~

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  No - Some metal mesh showing
- Are the joints of the exposed pipe in good condition?
  No breakage on top section of pipe
- Is the rip-rap sufficient? What size is the rip rap?
  No. Stone is loose around pipe
- Is there any erosion present that needs to be addressed?
  Yes said erosion compromises stone.
- Has all debris been removed from the discharge point?
  Yes.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

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TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Bastos

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: ~~E~~ Eliminated

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  No, closed due to collapse of pipe
- Are the joints of the exposed pipe in good condition?
  No collapsed.
- Is the rip-rap sufficient? What size is the rip rap?
  No. Surround is not good. eroded severly
- Is there any erosion present that needs to be addressed?
  Yes, soil erosion displayed outfall.
- Has all debris been removed from the discharge point?
  No. collapsed pipe.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes - due to collapse.
- Are there any comments you would like to make regarding the outfall?
  Not sure if eliminated or just collapsed.

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PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E-40

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes, intact.

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Rip-Rap in good condition encased in concrete. Fracture in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

  Very large outfall by Arizona Iced Tea Above Nelson Place

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TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E-41

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Unknown – not visible

- Is the rip-rap sufficient? What size is the rip rap?

  Yes, good rip-rap encased in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

  Smaller, open but clean.

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PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Batista

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 34

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes:

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes - encased in concrete

- Is there any erosion present that needs to be addressed?

  No

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No

- Are there any comments you would like to make regarding the outfall?

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INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E33

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  No

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes – encased in concrete

- Is there any erosion present that needs to be addressed?

  Soil erosion around ~~one~~ ~~outfall~~ outfall easement

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

  Approximately 18" wide, elevated on wall

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MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: sunny

The following items should be reviewed for each outfall:

Location/ID No: E 42

- What is the overall condition of the outfall? *Circle One:* (Poor) Fair Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  No flare, pipe buried.
- Are the joints of the exposed pipe in good condition?
  No. Pipe collapsed and buried.
- Is the rip-rap sufficient? What size is the rip rap?
  No - rip-rap non existent.
- Is there any erosion present that needs to be addressed?
  Yes, soil eroded and covered pipe.
- Has all debris been removed from the discharge point?
  No. Most of pipe discharge covered
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  Yes
- Are there any comments you would like to make regarding the outfall?
  Collapsed - bad shape, no flow of water

Township of Maplewood
ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/23/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 28 / Evelyn Court

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes.

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood
Engineering Department

Municipal Building, 574 Valley Street
Maplewood, NJ 07040-2691
Telephone: (973) 762-8120/Fax: (973) 762-2894
Email: engineer@twp.maplewood.nj.us

Paul J. Kittner, Jr., P.E., P.P., C.M.E.
Township Engineer

April 19, 2018

MS4 Tier A Outfall Checklist

Inspector: Enrique Biasotti

Date/Time: 4/23/18

Weather: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E29

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes - encased in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes.

- Did you take pictures of the outfall?

  Yes.

- Is there any siltation built up at the structure?

  No. Flows easy.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/24/2018 2:30pm

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E45

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:

- Is the discharge pipe/flared end section in tact?
  Yes, but has breaks on clay pipe.
- Are the joints of the exposed pipe in good condition?
  Yes
- Is the rip-rap sufficient? What size is the rip rap?
  yes - encased in concrete.
- Is there any erosion present that needs to be addressed?
  No.
- Has all debris been removed from the discharge point?
  Yes.
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?
  Pipe is clay - extends from inlet.

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MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/24/18 2:34pm

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 31

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  yes.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes. encased in concrete

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes. Good flow

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Bastos

DATE/TIME: 4/24/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 30

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  No. Soil around pipe - not much rip-rap.

- Is there any erosion present that needs to be addressed?

  No. soil is stable

- Has all debris been removed from the discharge point?

  No. Large rocks blocking discharge

- Did you take pictures of the outfall?

  Yes.

- Is there any siltation built up at the structure?

  No. Stones inside pipe.

- Are there any comments you would like to make regarding the outfall?

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ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/24/18

WEATHER: Sunny

The following items should be reviewed for each outfall:

Location/ID No: E 32

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  Yes. encased in concrete. Flush with bridge concrete.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes. Flows easily - Large pipe.

- Did you take pictures of the outfall?

  Yes.

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

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MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/~~20~~/18

WEATHER: Rainy

The following items should be reviewed for each outfall:

Location/ID No: W 23

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?
  Yes
- Are the joints of the exposed pipe in good condition?
  Yes
- Is the rip-rap sufficient? What size is the rip rap?
  Yes - concrete encased.
- Is there any erosion present that needs to be addressed?
  No serious erosion
- Has all debris been removed from the discharge point?
  Yes
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

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MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: ENRIQUE BIASOTTI

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: W 22

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  ~~Yes~~ No. Joint near end of outfall perforated.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes but some pieces missy. Size of rip-rap 1'x1'

- Is there any erosion present that needs to be addressed?

  Yes, erosion of rocks under pipe.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood
ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/30/18

WEATHER: Rain.

The following items should be reviewed for each outfall:

Location/ID No: W 21

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes.

- Are the joints of the exposed pipe in good condition?

  Yes, but some water infiltration causing erosion

- Is the rip-rap sufficient? What size is the rip rap?

  Yes, rip-rap 1'x1'.

- Is there any erosion present that needs to be addressed?

  Yes rip-rap stone under pipe because of perforated joint.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: W 20

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes

- Are the joints of the exposed pipe in good condition?

  No. joint compromised - seeing metal wire inside concrete.

- Is the rip-rap sufficient? What size is the rip rap?

  Yes, 1'x1' rip-rap

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  Yes

- Did you take pictures of the outfall?

  Yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: W19

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes:

- Is the discharge pipe/flared end section in tact?
  Not intakt on the end section.
- Are the joints of the exposed pipe in good condition?
  Jointe are not good on exposed pipe.
- Is the rip-rap sufficient? What size is the rip rap?
  Rip-rap is sufficient but missing some stones.
- Is there any erosion present that needs to be addressed?
  Yes, below pipe
- Has all debris been removed from the discharge point?
  Yes
- Did you take pictures of the outfall?
  Yes
- Is there any siltation built up at the structure?
  No.
- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Bastidas

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: Y - unknown number - 30 Brook Lane.

- What is the overall condition of the outfall? *Circle One:* Poor Fair (Good)

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  yes.

- Are the joints of the exposed pipe in good condition?

  yes.

- Is the rip-rap sufficient? What size is the rip rap?

  yes. 1'x1' rip-rap.

- Is there any erosion present that needs to be addressed?

  No.

- Has all debris been removed from the discharge point?

  yes.

- Did you take pictures of the outfall?

  yes

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Township of Maplewood

ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120/FAX: (973) 762-2894
EMAIL: ENGINEER@TWP.MAPLEWOOD.NJ.US

PAUL J. KITTNER, JR., P.E., P.P., C.M.E.
TOWNSHIP ENGINEER

April 19, 2018

MS4 Tier A Outfall Checklist

INSPECTOR: Enrique Biasotti

DATE/TIME: 4/30/18

WEATHER: Rain

The following items should be reviewed for each outfall:

Location/ID No: W24 - Owen Drive - Washington Park

- What is the overall condition of the outfall? *Circle One:* Poor (Fair) Good

  Notes: _____

- Is the discharge pipe/flared end section in tact?

  Yes.

- Are the joints of the exposed pipe in good condition?

  Yes

- Is the rip-rap sufficient? What size is the rip rap?

  yes - 1'x1'.

- Is there any erosion present that needs to be addressed?

  Below pipe yes. Some erosion.

- Has all debris been removed from the discharge point?

  Yes.

- Did you take pictures of the outfall?

  Yes.

- Is there any siltation built up at the structure?

  No.

- Are there any comments you would like to make regarding the outfall?

Section 15:

De-icing Material and Sand Storage

SPPP Form 15 – De-icing Material Storage

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul J Kittner Jr, Twp Eng/Director of Public Works*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/04* Date of most recent update: *June 2024*

De-icing Material Storage

Describe how you currently store your municipality's de-icing materials, and describe your inspection schedule for the storage area. If your current storage practices do not meet the de-icing material storage SBR describe your construction schedule and your seasonal tarping interim measures. If you plan on sharing a storage structure, please include its location, as well as a complete list of all concerned public entities. If you store sand outdoors, describe how it meets the minimum standard.

Maplewood Township currently stores de-icing agents within a salt dome located at DPW, 359 Boyden Avenue. If sand needs to be stored outdoors then it will be properly tarped. Storage of these materials in a dome greatly reduces runoff to nearby inlets and the Township Stormwater Collection System. ***All Soil Erosion Requirements will be followed.***

Section 16:

Standard Operating Procedures

SPPP Form 16 – Standard Operating Procedures

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul J. Kittner Jr, PE,PP,CME (Twp. Eng/Director of Public Works*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/05* Date of most recent update: *June 2024*

BMP	Date SOP went into effect	Describe your inspection schedule
Fueling Operations (including the required practices listed in Attachment D of the permit)	*2021*	*Maintenance yard will be inspected once a month. This inspection is performed by DPW.* *Visual inspections will be made before discharging stormwater that has accumulated in the secondary containment. Above ground double walled storage tanks have been installed and the prior below ground tanks were removed.*
Vehicle Maintenance (including the required practices listed in Attachment D of the permit)	*04/01/05*	*Monthly inspections will be held to ensure that the SOP is being met. Vehicle Maintenance is typically performed indoors or at a third party facility depending on the nature of the Maintenance/Repair.*
Good Housekeeping Practices (including the required practices listed in Attachment D of the permit) **Attach inventory list required by Attachment D of the permit.**	*04/01/05*	*Monthly inspections of all municipal maintenance yards and ancillary operations are held. Debris is removed, stockpile locations are kept tidy and neat. Chemicals are kept indoors, labeled and not exposed to Stormwater runoff.*

Attachment D

Required Practices for Fueling Operations, Vehicle Maintenance, and Good Housekeeping SBRs

The following BMPs must be implemented at maintenance yards including maintenance activities at ancillary operations (for example, impound yards, solid waste transfer stations, mobile fueling), where applicable, operated by Tier A Municipalities:

A. Inventory Requirements for Municipal Maintenance Yard Operations (including Ancillary Operations)

1. Tier A Municipalities shall include for municipal maintenance yard operations an inventory that includes the following:

    a. A list to be made part of the SPPP of general categories of all materials or machinery located at the municipal maintenance yard, which could be a source of pollutants in a stormwater discharge. The materials in question include, but are not limited to: raw materials; intermediate products; final products; waste materials; by-products; machinery and fuels; and lubricants, solvents, and detergents that are related to the municipal maintenance yard operations or ancillary operations. Materials or machinery that are not exposed to stormwater or that are not located at the municipal maintenance yard or related to its operations do not need to be included.

B. Fueling

1. No topping off vehicles, mobile fuel tanks, and storage tanks. Drip pans must be used under all hose and pipe connections and other leak-prone areas during bulk transfer of fuels.

2. Block storm sewer inlets, or contain tank trucks used for bulk transfer, with temporary berms or temporary absorbent booms during the transfer process. If temporary berms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel must be within the temporary berms during the loading/unloading of bulk fuels. A trained employee must always be present to supervise during bulk fuel transfer.

3. Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment, and appropriate contact information for the person(s) responsible for spill response.

4. Any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair must immediately be repaired or replaced.

C. Vehicle Maintenance

1. Perform all vehicle and equipment maintenance at an indoor location with a paved floor whenever possible. For projects that must be performed outdoors that last more than one day, portable tents or covers must be placed over the equipment being serviced when not being worked on, and drip pans must be used.

D. General Good Housekeeping

1. Properly mark or label all containers. Labels must be kept clean and visible. All containers must be kept in good condition and tightly closed when not in use. When practical, containers must be stored indoors. If indoor storage is not practical, containers may be stored outside as long as they are covered and placed on spill platforms. An area that is graded and/or bermed that prevents run-through of stormwater may be used in place of spill platforms. Outdoor storage locations must be regularly maintained.

2. Conduct cleanups of any spills or liquids or dry materials immediately after discovery. Clean all maintenance areas with dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and the rest of the area is to be swept. Collected waste is to be disposed of properly. Clean-up materials, spill kits and drip pans must be kept near any liquid transfer areas, protected from rainfall.

E. Good Housekeeping Practices for Salt and De-icing Material Handling

1. The SPPP for De-icing Material Storage shall include the following required practices to ensure that Municipal Maintenance Yard Operations prevent or minimize the exposure of salt and de-icing materials to stormwater runoff from storage, loading and unloading areas and activities:

a. Prevent and/or minimize the spillage of salt and de-icing materials during loading and unloading activities.

b. At the completion of loading and unloading activities, spilled salt and de-icing materials shall be removed using dry cleaning methods and either reused or properly discarded.

c. Sweeping by hand or mechanical means of storage and loading/unloading areas shall be done on a regular basis. More frequent sweeping is required following loading/unloading activities. Sweeping shall also be conducted immediately following, as practicable, loading/unloading activities.

d. Tracking of materials from storage and loading/unloading areas shall be minimized.

e. Minimize the distance salt and de-icing materials are transported during loading/unloading activities.

2. Interim Seasonal Tarping - All Tier A Municipalities must tarp all de-icing materials until a permanent structure is built. Interim storage measures must include, but are not limited to the following:

a. Tarping materials that are not actively being used.

b. The storage of de-icing materials (salt and de-icing products) outside is limited to October 15th through April 30th. All salt and de-icing materials must be removed from the site prior to May 1st and may not be stored outside again until October 15th.

c. The implementing of a regular inspection, sweeping and housekeeping program to ensure that the material is maintained and stored in a proper manner.

F. Inspections

1. Inspections of all Municipal Maintenance Yard Operations shall be conducted regularly.

2. Discharge of Stormwater from Secondary Containment

a. The discharge pipe/outfall from a secondary containment area must have a valve and the valve must remain closed at all times except as described below. A municipality may discharge stormwater that accumulated in the secondary containment area if a visual inspection is performed to ensure that the contents of aboveground storage tank have not come in contact with the stormwater to be discharged. Visual inspections are only effective when dealing with materials that can be observed, like petroleum. If the contents of the tank are not visible in stormwater, the municipality must rely on previous tank inspections to determine with some degree of certainty that the tank has not leaked. If the municipality cannot make a determination with reasonable certainty that the stormwater in the secondary containment area is uncontaminated by the contents of the tank, then the stormwater shall be hauled for proper disposal.

Township of Maplewood
ENGINEERING DEPARTMENT

MUNICIPAL BUILDING, 574 VALLEY STREET
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120
FAX: (973) 762-2894
EMAIL: ENGINEER @TWP.MAPLEWOOD.NJ.US

RICHARD CALBI, JR., P.E., P.P.
TOWNSHIP ENGINEER

MEMORANDUM
(May 1, 2007)

TO: Gary Lenci, DPW Director

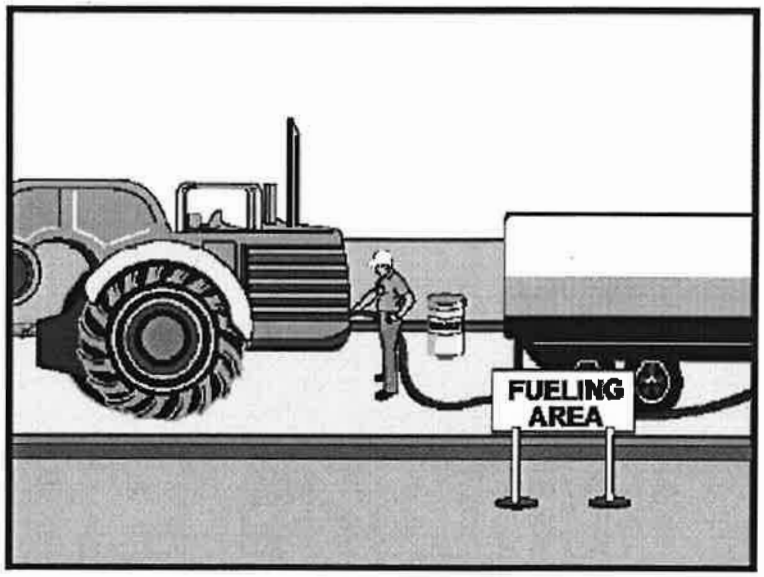
FROM: Richard Calbi Jr. P.E., Township Engineer RDC

CC: Eric Burbank, DPW Supervisor
File

RE: Standard Operating Procedures

To insure compliance with the requirements of the Township's Stormwater General Permit I have attached a second copy of the standard operating procedures. Please insure that these procedures are being adhered to for fuel operations, vehicle maintenance and misc. housekeeping. The information hasn't changed since my last transmittal.

Maplewood Township
Standard Operating Procedures
Vehicle and Equipment Fueling



Maplewood Township.

MaintenanceYard With Fueling Operations:
Maplewood Public Works Operations Center

Located at:
Corner of Newark Way and Boyden Avenue, Maplewood, N.J.

Introduction and Purpose

Vehicle and equipment fueling procedures and practices are designed to minimize surface or ground waters. Understanding the procedures for delivering fuel into vehicles, mobile fuel tanks, and storage tanks is critical for this purpose. Safety is always the priority.

Scope

These procedures are to be implemented at the Maplewood Public Works Operation Center.

Standards and Specifications (for vehicle and equipment fueling)

• Shut the engine off

• Ensure that the fuel is the proper type of fuel.
• Absorbent spill clean-up materials and spill kits shall be available in fueling areas and on mobile fueling vehicles and shall be disposed of properly after use.
• Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shut-off to prevent overfill.
• Fuel tanks shall not be "topped off".
• Mobile fueling shall be minimized. Whenever practical, vehicles and equipment shall be transported to the designated fueling area in the maintenance yard.
• Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment, and appropriate contact information for the person(s) responsible for spill response.

Standards and Specifications (for bulk fueling)

• Drip pans or absorbent pads shall be used under all hose and pipe connections and other leak-prone areas during bulk fueling.
• Block storm sewer inlets, or contain tank trucks used for bulk transfer, with temporary berms or temporary absorbent booms during the transfer process. If temporary berms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel must be within the temporary berms during the loading/unloading of bulk fuels.
• Protect fueling areas with berms and/or dikes to prevent run-on, runoff, and to contain spills.
• A trained employee must always be present to supervise during bulk transfer.

Spill Response

• Conduct cleanups of any fuel spills immediately after discovery.
• Uncontained spills are to be cleaned using dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (e.g., kitty litter, sawdust, etc.) and absorbent materials shall be swept up.
• Collected waste is to be disposed of properly.
• Contact the Maplewood Township Spill Response Team at *(201) 704-7831.*

Maintenance and Inspection

• Fueling areas and storage tanks shall be inspected monthly.
• Keep an ample supply of spill cleanup material on the site.
• Any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair must be repaired or replaced immediately.

• The valve on the discharge pipe from the secondary containment area of the aboveground oil storage tank in the maintenance yard shall remain closed at all times except as described below. Visual inspections shall be performed before discharging stormwater through that valve, to ensure that oil in that tank has not come into contact with the stormwater to be discharged.

Maplewood Township
Standard Operating Procedure
Vehicle Maintenance

Introduction and Purpose

This SOP contains the basic practices of vehicle maintenance to be implemented at all maintenance yards including maintenance activities at ancillary operations in Maplewood Township. The purpose of this SOP is to provide a set of guidelines for the Maplewood Township vehicle maintenance yards including maintenance activities at ancillary operations.

Scope

This SOP applies to all maintenance yards including maintenance activities at ancillary operations within the Township of Maplewood.

Standards and Specifications

- Conduct vehicle maintenance operation only in designated areas.
- When possible, perform all vehicle and equipment maintenance at an indoor location with a paved floor.
- Always use drip pans.
- Absorbent spill clean-up materials shall be available in maintenance areas and shall be disposed of properly after use.
- Maintenance areas shall be protected from stormwater run-on and runoff, and shall be located at least 50 feet downstream drainage facilities and watercourses.
- Use portable tents or construct a roofing-device over long-term maintenance areas and for projects that must be performed outdoors.

Maplewood Twp.
Maintenance Yards
BMP Objectives

-Waste Management
-Spill Prevention, Containment and Countermeasures
-Pollution Control

• Do not dump or dispose oils, grease, fluids, and lubricants onto the ground.
• Do not dump or dispose batteries, used oils, antifreeze and other toxic fluids into a storm drain or watercourse.
• Do not bury tires.
• Collect waste fluids in properly labeled containers and dispose properly.

Spill Response and Reporting

• Provide spill containment dikes or secondary containment around stored oils and other fluid storage drum(s).
• Conduct cleanups of any fuel spills immediately after discovery.
• Spills are to be cleaned using dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (e.g., kitty litter, sawdust, etc.) and the rest of the area is to be swept.
• Collected waste is to be disposed of properly.
• Contact the Maplewood Township Spill Response Team at *(201) 704-7831.*

Maintenance and Inspection

• Periodically check for leaks and damaged equipment and make repairs as necessary.

Maplewood Township
Standard Operating Procedure
Good Housekeeping

Introduction and Purpose

This SOP contains the basic practices of good housekeeping to be implemented at maintenance yards including maintenance activities at ancillary operations in Maplewood Township. The purpose of this SOP is to provide a set of guidelines for the employees of Maplewood Township for Good Housekeeping Practices at their maintenance yards including maintenance yards at ancillary operations.

Scope

This SOP applies to all maintenance yards including maintenance activities at ancillary operations in Maplewood Township.

Standards and Specifications

(General)

- All containers should be properly labeled and marked, and the labels must remain clean and visible.
- All containers must be kept in good condition and tightly closed when not in use.
- When practical, chemicals, fluids and supplies should be kept indoors.
- If containers are stored outside, they must be covered and placed on spill platforms.
- Keep storage areas clean and well organized.
- Spill kits and drip pans must be kept near any liquid transfer areas, protected from rainfall.
- Absorbent spill clean-up materials must be available in maintenance areas and shall be disposed of properly after use.
- Place trash, dirt and other debris in the dumpster.
- Collect waste fluids in properly labeled containers and dispose of them properly.
- Establish and maintain a recycling program by disposing, papers, cans, bottles and trash in designated bins.

Maplewood Township Good Housekeeping Goals

-Proper Recycling
-Proper Waste
Disposal
-Pollution Prevention

Standards and Specifications

(Salt and Deicing Material Handling)

• During loading and unloading of salt and de-icing materials, prevent and/or minimize spills. If salt or de-icing materials are spilled, remove the materials using dry cleaning methods. All collected materials shall be either reused or properly discarded.
• Sweeping should be conducted once a week to get rid of dirt and other debris. Sweeping should also be conducted immediately following loading/unloading activities, when practical.
• Minimize the tracking of materials from storage and loading/unloading areas.
• Minimize the distance that salt and de-icing materials are transported during loading/unloading activities.
• Any materials that are stored outside must be tarped when not actively being used.

Spill Response and Reporting

• Conduct clean up of any spill(s) immediately after discovery.
• Spills are to be cleaned using dry cleaning methods only.
• Contact the Maplewood Township Spill Response Team At *(201) 704-7831.*

Maintenance and Inspection

• Periodically check for leaks and damaged equipment and make repairs as necessary.
• Perform monthly inspections of all (indoor and outdoor if applicable) storage locations.

Attachment D
REQUIRED PRACTICES FOR FUELING OPERATIONS, VEHICLE MAINTENANCE, AND GOOD HOUSEKEEPING SBRs

A. The following BMPs must be implemented at maintenance yards including maintenance activities at ancillary operations (for example, impound yards, solid waste transfer stations, mobile fueling), where applicable, operated by Tier A Municipalities:

1. Inventory Requirements for Municipal Maintenance Yard Operations (including Ancillary Operations)

a. Tier A Municipalities shall include for municipal maintenance yard operations an inventory that includes the following:

i. A list to be made part of the SPPP of general categories of all materials or machinery located at the municipal maintenance yard, which could be a source of pollutants in a stormwater discharge. The materials in question include, but are not limited to: raw materials; intermediate products; final products; waste materials; by-products; machinery and fuels; and lubricants, solvents, and detergents that are related to the municipal maintenance yard operations or ancillary operations. Materials or machinery that are not exposed to stormwater or that are not located at the municipal maintenance yard or related to its operations do not need to be included.

2. Fueling

a. No topping off vehicles, mobile fuel tanks, and storage tanks. Drip pans must be used under all hose and pipe connections and other leak-prone areas during bulk transfer of fuels.

b. Block storm sewer inlets, or contain tank trucks used for bulk transfer, with temporary berms or temporary absorbent booms during the transfer process. If temporary berms are being used instead of blocking the storm sewer inlets, all hose connection points associated with the transfer of fuel must be within the temporary berms during the loading/unloading of bulk fuels. A trained employee must always be present to supervise during bulk fuel transfer.

c. Clearly post, in a prominent area of the facility, instructions for safe operation of fueling equipment, and appropriate contact information for the person(s) responsible for spill response.

d. Any equipment, tanks, pumps, piping and fuel dispensing equipment found to be leaking or in disrepair must immediately be repaired or replaced.

3. Vehicle Maintenance

a. Perform all vehicle and equipment maintenance at an indoor location with a paved floor whenever possible. For projects that must be performed outdoors that last more than one day, portable tents or covers must be placed over the equipment being serviced when not being worked on, and drip pans must be used.

4. General Good Housekeeping

a. Properly mark or label all containers. Labels must be kept clean and visible. All containers must be kept in good condition and tightly closed when not in use. When practical, containers must be stored indoors. If indoor storage is not practical, containers may be stored outside as long as they are covered and placed on spill platforms. An area that is graded and/or bermed that prevents run-through of stormwater may be used in place of spill platforms. Outdoor storage locations must be regularly maintained.

b. Conduct cleanups of any spills or liquids or dry materials immediately after discovery. Clean all maintenance areas with dry cleaning methods only. Spills shall be cleaned up with a dry, absorbent material (i.e., kitty litter, sawdust, etc.) and the rest of the area is to be swept. Collected waste is to be disposed of properly. Clean-up materials, spill kits and drip pans must be kept near any liquid transfer areas, protected from rainfall.

5. Good Housekeeping Practices for Salt and De-icing Material Handling

a. The SPPP for De-icing Material Storage shall include the following required practices to ensure that Municipal Maintenance Yard Operations prevent or minimize the exposure of salt and de-icing materials to stormwater runoff from storage, loading and unloading areas and activities:

i. Prevent and/or minimize the spillage of salt and de-icing materials during loading and unloading activities.

ii. At the completion of loading and unloading activities, spilled salt and de-icing materials shall be removed using dry cleaning methods and either reused or properly discarded.

iii. Sweeping by hand or mechanical means of storage and loading/unloading areas shall be done on a regular basis. More frequent sweeping is required following loading/unloading activities. Sweeping shall also be conducted immediately following, as practicable, loading/unloading activities.

iv. Tracking of materials from storage and loading/unloading areas shall be minimized.

v. Minimize the distance salt and de-icing materials are transported during loading/unloading activities.

b. Interim Seasonal Tarping - All Tier A Municipalities must tarp all de-icing materials until a permanent structure is built. Interim storage measures must include, but are not limited to the following:

i. Tarping materials that are not actively being used.

ii. The storage of de-icing materials (salt and de-icing products) outside is limited to October 15th through April 30th. All salt and de-icing materials must be removed from the site prior to May 1st and may not be stored outside again until October 15th.

iii. The implementing of a regular inspection, sweeping and housekeeping program to ensure that the material is maintained and stored in a proper manner.

6. Inspections

a. Inspections of all Municipal Maintenance Yard Operations shall be conducted regularly.

b. Discharge of Stormwater from Secondary Containment

i. The discharge pipe/outfall from a secondary containment area must have a valve and the valve must remain closed at all times except as described below. A municipality may discharge stormwater that accumulated in the secondary containment area if a visual inspection is performed to ensure that the contents of aboveground storage tank have not come in contact with the stormwater to be discharged. Visual inspections are only effective when dealing with materials that can be observed, like petroleum. If the contents of the tank are not visible in stormwater, the municipality must rely on previous tank inspections to determine with some degree of certainty that the tank has not leaked. If the municipality cannot make a determination with reasonable certainty that the stormwater in the secondary containment area is uncontaminated by the contents of the tank, then the stormwater shall be hauled for proper disposal.

Section 17:

Employee Training

SPPP Form 17 – Employee Training

Municipality Information

Municipality: *Maplewood Township* County *Essex*

NJPDES # : *NJG 0154687* PI ID #: *203744*

Team Member/Title: *Paul Kittner/Twp. Engineer and Director of Public Works*

Effective Date of Permit Authorization (EDPA): *04/01/04*

Date of Completion: *04/01/05* Date of most recent update: *June 2024*

Describe your employee training program. For each required topic, list the employees that will receive training on that topic, and the date the training will be held. Attach additional pages as necessary.

The following topics will be covered by a computer generated training program:

Waste Disposal Education	*Public works*
Municipal Ordinances	*Code enforcement and local police department, public works employees*
Yard Waste Collection Program	*public works employees*
Street Sweeping	*public works employees*
Road Erosion Control	*public works employees*
Outfall Pipe Stream Scouring Remediation	*public works employees*
Construction Activity/Post Construction Stormwater Management in New Development and Redevelopment (for municipally owned projects)	*public works employees*

The following topics will be part computer training, and part practical field training:

Course:	*Who will attend*
Illicit Connection Elimination and Outfall Pipe Mapping	*public works employees, hotline operator*

(field training will include procedures to properly conduct illicit connection detections, investigations, and eliminations)

Maintenance Yard Operations (including Ancillary Operations)	*public works employees*

(field training will inlcude the SOPs for fueling, vehicle and equipment maintenance, general good house keeping

Township of Maplewood

DEPARTMENT OF ENGINEERING AND PUBLIC WORKS

DEPARTMENT OF PUBLIC WORKS, 359 BOYDEN AVENUE
MAPLEWOOD, NJ 07040-2691
TELEPHONE: (973) 762-8120
EMAIL: PKITTNER@MAPLEWOODNJ.GOV

Paul J. Kittner, Jr., P.E., P.P., C.M.E.
Director of Public Works/
Township Engineer

Training on June 10th for Stormwater Management Maintenance, Parts 1 & 2

SIGN IN

NAME	SIGNATURE
Michael Horan	
John Caffrey	
JUAN SERRANO	
Joe Mascaro	
John Masi	