MS4 Stormwater Mapping
Requirements and Tools Overview

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MS4 Permit Required Mapping

Tier A Municipalities:
- Part IV.B.6.a of the Tier A MS4 permit requires municipalities to develop, update and maintain an outfall pipe map
  - Submitted to the Department by January 1, 2019
  - Submitted to the Department in an electronic format by December 21, 2020
    - Acceptable electronic formats are submission through the ArcGIS Online application, ESRI Geodatabase files, ESRI Shapefiles, or AutoCAD files.

MS4 Permit Required Mapping

Tier A Municipalities:
- Part IV.C.1.a.ii of the Tier A MS4 permit requires municipalities maintain a log including the location information of the facility inspected (location information must be specific enough to locate and identify the stormwater facility in the field; e.g. geographic coordinates
  - Not submitted to the Department but will be subject to review during inspections and audits
MS4 Permit Required Mapping

Tier B Municipalities:

- No outfall pipe mapping is currently required, however, Tier B municipalities are encouraged to maintain an outfall pipe map.

MS4 Permit Required Mapping

Public Complexes:

- Part IV.B.6.a of the Public Complex permit requires public complexes to develop, update and maintain an outfall pipe map:
  - Submitted to the Department by January 1, 2020
  - Submitted to the Department in an electronic format by December 21, 2020
    - Acceptable electronic formats are submission through the ArcGIS Online application, ESRI Geodatabase files, ESRI Shapefiles, or AutoCAD files.

- Part IV.C.1.a of the Public Complex permit requires public complexes to develop, update and maintain an inventory and map of the following:
  - Storm drain inlets
  - Stormwater management basins
  - Subsurface infiltration/detention systems
  - Culverts
  - Manufactured treatment devices (MTDs)
  - Green Infrastructure
MS4 Permit Required Mapping

Public Complexes:
- Part IV.C.1.a of the Public Complex permit requires public complexes to develop, update and maintain an inventory of all stormwater facilities:
  - Submitted to the Department by January 1, 2020
  - Be populated and maintained in electronic format provided by the Department
  - Acceptable electronic formats are submission through the ArcGIS Online application, ESRI Geodatabase files, ESRI Shapefiles, or AutoCAD files.

MS4 Permit Required Mapping

Highway Agencies:
- Part IV.B.6.a of the Highway Agency permit requires highway agencies to develop, update and maintain an outfall pipe map:
  - Submitted to the Department in an electronic format by December 21, 2020
  - Acceptable electronic formats are submission through the ArcGIS Online application, ESRI Geodatabase files, ESRI Shapefiles, or AutoCAD files.

Highway Agencies:
- Part IV.C.1.a of the Highway Agency permit requires highway agencies to develop, update and maintain an inventory and map of the following:
  - Storm drain inlets
  - Stormwater management basins
  - Subsurface infiltration/detention systems
  - Culverts
  - Manufactured treatment devices (MTDs)
  - Green Infrastructure
MS4 Permit Required Mapping

Highway Agencies:

- Part IV.C.1.a of the Highway Agency permit requires highway agencies to develop, update and maintain an inventory of all stormwater facilities:
  - Submitted to the Department by January 1, 2023
  - Be populated and maintained in electronic format provided by the Department
    - Acceptable electronic formats are submission through the ArcGIS Online application, ESRI Geodatabase files, ESRI Shapefiles, or AutoCAD files.

Requirements Aided By Mapping

Stream Scouring:

Stream scouring is the erosion or removal of streambed or bank material by the physical action of flowing water and the sediment that it carries.

Stream scouring can damage stream banks, outfall pipes, bridge abutments, and other physical structures in or adjacent to a water body.
Requirements Aided By Mapping

Stream Scouring:
- Tier A Municipalities are required to inspect outfall pipes once every 5 years for stream scouring.
- Public Complexes are required to inspect outfall pipes once per year for stream scouring.
- Highway Agencies are required to inspect all outfalls once annually for stream scouring.

Illicit Discharge Detection and Elimination:
- Any physical or non-physical connection that discharges non-stormwater to a municipal separate storm sewer system:
  - Sewage
  - Non-contact cooling water, process wastewater, or other industrial waste
  - Any discharge that the MS4 permittee identifies as a source or significant contributor of pollutants.
Requirements Aided By Mapping

Illicit Discharge Detection and Elimination:

- Tier A Municipalities are required to inspect outfall pipes once every 5 years for illicit discharges.
- Public Complexes are required to inspect outfall pipes once annually for illicit discharges.
- Highway Agencies are required to inspect all outfalls once every 5 years for illicit discharges.

Requirements Aided By Mapping

Stormwater Facilities Maintenance:

- [Image of a pond or similar water body]
Requirements Aided By Mapping

Stormwater Facilities Maintenance:

• All MS4 permittees are required to develop, update, and implement a program to ensure the adequate long-term cleaning, operation, and maintenance of all permittee owned or operated stormwater facilities.

• Municipalities are required to ensure the adequate long-term cleaning, operation, and maintenance of all stormwater facilities not owned or operated by the municipality but located within its borders.

NJDEP Mapping & Inventory Assistance

• NJDEP created a geodatabase template and associated data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees.
NJDEP Mapping & Inventory Assistance

- NJDEP created a geodatabase template and associated data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees
- The geodatabase template had to be made available over a number of different collection methodologies to suit the needs of all permittees

NJDEP Mapping & Inventory Assistance: ArcGIS Online Tool

NJDEP Mapping & Inventory Assistance: Collector App
NJ DEP created a database and data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees.

- The data dictionary had to be made available over a number of different collection methodologies to suit the needs of all permittees.
- Existing data can be made available upon request.
NJDEP Mapping & Inventory Assistance:
H&H Database

https://hydro.rutgers.edu/

NJDEP Mapping & Inventory Assistance

• NJDEP created a database and data dictionary for the 7 stormwater infrastructure features required to be mapped/inventoried by MS4 permittees
• The data dictionary had to be made available over a number of different collection methodologies to suit the needs of all permittees
• Existing data can be made available upon request
• Training and assistance is available

More Information

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