# NORTH FAYETTE TOWNSHIP

## Minimum Control Measure 3
## Illicit Discharge Detection and Elimination (IDD&E)

**North Fayette Township**
**400 North Branch Road**
**Oakdale, Pennsylvania 15071**

PAG-13 General NPDES Permit No. PAG136267
Watersheds 20-F and 20-G
January 07, 2014 – January 06, 2019

# MCM 3 ILLICT DISCHARGE DETECTION AND ELIMINATION

## *Introduction*

The goal of this plan is to implement and enforce a program to detect and eliminate illicit discharges into the Township's MS4. The ultimate goal of the MS4 Program is to reduce, or if possible, prevent pollutant runoff from storm water. To reduce or prevent the pollutant runoff, the pollution runoff must be identified and corrected. This plan will be updated as needed, and no less than once per year. The plan has input from all department heads, as every department contributes, in some form, to the program.

Per the Pennsylvania Department of Environmental Protection Agency (PADEP) NPDES Permit, there are 6 Best Management Practices (BMPs) that the Township must comply with.

## *BMP #1*

The Township shall develop and implement a written program for the detection, elimination, and prevention of illicit discharges into the small regulated MS4. The program shall include dry weather field screening of outfalls for non-storm water flows, and sampling of dry weather discharges for selected chemical and biological parameters. Test results shall be used as indicators of possible discharge sources.

> This document shall serve as the written Illicit Discharge, Detection and Elimination (IDD&E) Plan. The IDD&E Plan was created by the Environmental Compliance and Sustainability Coordinator with the input of all department heads in the Township, as storm water involves the entire Township. This program is reviewed and updated as needed, but no less than once per year.

## *BMP #2*

The Township must develop and maintain a map of the Township's regulated MS4.

In accordance with the Township's NPDES Permit, North Fayette Township has developed and continues to update a MS4 map of the Township. The MS4 mapping includes the location of all outfalls, the locations, and the names of all surface waters of the Commonwealth that receives discharges from Township outfalls. Mapping receives constant updates as outfalls are added. Public Works personnel also may observe that the mapping needs updated or a location of an outfall moved. If this should occur, the Public Works personnel will mark up the latest map with the correct location and changes to be updated. The mapping updates will be conducted by personnel at the Township building that have the capability of utilizing ArcMap. Should there be a major map update that needs to be completed and Township personnel are unable to make the updates, maps are transferred to Lennon, Smith, Souleret Engineering Inc. (LSSE), the Township's contracted engineering firm, to complete. Otherwise, the mapping updates will be completed in house, at the municipal building by staff. LSSE will provide the Township an updated map (36" x 48") as changes are conducted, or as requested. The most recent, updated map will be attached to the Progress Report and provided to the PADEP.

## *BMP #3*

In conjunction with the map created under BMP #2, the Township must show the entire storm sewer collection system.

North Fayette Township has one, comprehensive MS4 map that depicts all MS4 information, including the information required in BMP #2. All roads are shown on the map as well as inlets, storm water piping and conveyances, catch basins, channels, basins, swales, storm water ponds, Post Construction Stormwater Management Best Management Practices (PCSM BMPs), municipal boundaries, and watershed boundaries. Along with the boundaries on the MS4 map, the

urbanized area is also shown. All inlets, catch basins, piping, and outfalls are shown on the map and depicted by different colors according to the ownership (i.e. Township, Private, County, and State). Mapping is continually being updated as needed. Public Works personnel may observe that the mapping needs updated or a location of an outfall moved. If this should occur, the public works personnel will mark up the most recent map with the correct location and changes to be updated. The mapping updates are conducted by personnel at the township building that have the capability of utilizing ArcMap. Should there be a major map update that needs to be completed and Township personnel are unable to make the updates, maps are transferred to Lennon, Smith, Souleret Engineering Inc. (LSSE), the Township's contracted engineering firm, if needed. Otherwise, the mapping updates will be completed in house, at the municipal building by staff. LSSE will provide the Township an updated map (36" x 48") as changes are conducted, or as requested. The most recent, updated map will be attached to the Progress Report and provided to the PADEP. The Township's MS4 is available and can be viewed at the municipal building in the MS4 files.

## *BMP #4*

Following the IDD&E program created pursuant to BMP #1, the permittee shall conduct outfall field screening, identify the source of any illicit discharges, and remove or correct any illicit discharges.

Per the Township's NPDES MS4 Permit, the Township must screen all outfalls in the designated urbanized area once per permit cycle. The outfalls are screened during dry weather (for required outfall inspections, dry weather is a continuous time interval without storm water producing events that immediately follows an initial 48 hour period with no storm water producing events) for observation of flow from an outfall. Ideally, the water should infiltrate into the ground from rain events after 48 hours, depending on the geology of land and amount of rain received. Natural springs also may have been routed into storm water piping, causing flow after 48 hours of dry weather. Year 1 – 3 outfall testing has been conducted by

LSSE. Field personnel from LSSE would screen 20% of the Township's outfalls during the summer and document the results and findings on the Outfall Reconnaissance Inventory/Collection Field Sheet provided by PADEP (Appendix A). Field personnel would fill out all appropriate information that was found associated with the outfall, including testing results. If an outfall discharged water during dry weather, the following parameters were tested in the field:

- Color
- Turbidity
- Odor
- Sheen
- Floating or Submerged Solids
- pH
- Chlorine
- Ammonia
- Temperature
- Detergents
- Phenol

A sample of water was taken and provided to Campbell Laboratory LLC located at 1900 3rd Avenue, New Brighton, Pennsylvania 15066. Campbell Laboratory LLC is certified and meets the EPA guidelines. Tests are completed and results are given back within 24 hours. The results of fecal coliform were also entered into the outfall testing sheet. All outfalls that have been screened have photos attached to the testing sheet to show the condition of the outfall. If flow was observed during a dry weather period, the field personnel would investigate the source of water. Inlets "upstream" were checked to locate where the water was coming from. If field personnel could locate the water source, the information was described in the testing sheet. If the source could not be located, and a high fecal count was received from the lab, the Township would televise the line to locate any illegal, blind ties to the storm sewer. There have been no high fecal results found in Year 1 – 3 testing. However, in the future testing, if fecal is found, this would be the procedure for locating the source. Follow up actions would include contacting the household or business responsible and correcting the issue. Once the 20% of outfall screening is completed, all outfalls that were tested positive were revisited by LSSE personnel

to be tested a second time. A second outfall testing sheet was filled out and provided to the Township. All testing sheets are stored at the municipal building in the MS4 files.

Township outfalls that require maintenance are also noted on the testing sheet for Public Works viewing. All maintenance issues observed are given to the Public Works Director to be put on a schedule. Some m aintenance issues that could be observed are:

- Outfalls need to be cleaned out; Sediment blocking flow of water
- Outfalls are blocked or buried from yard waste and debris
- Outfall pipes are collapsed, broken or rusted away and need to be replaced

Outfalls that require maintenance are put on a schedule by the Public Works Director based on the severity of the issue. All maintenance to outfalls are documented on the "North Fayette Township Storm Sewer Maintenance Log" (Appendix B). This documentation of outfall maintenance is located in the MS4 file at the municipal building.

Outfall screening is currently and will continue to be completed by the Environmental Compliance and Sustainability Coordinator. The procedure previously described takes place, and Campbell Laboratory will be provided a water sample, when needed, for fecal coliform testing.

Outfall inspections are prioritized according to the perceived chance of illicit discharges within the outfall's contributing drainage area. Should an outfall present illicit discharges, proved by the testing, that outfall would be inspected yearly to ensure that the illicit discharge was corrected.

The severity of the illicit discharge will determine the needed action. For unintentional/non-egregious illicit discharges caused by residents and businesses, educational information will be provided to them (i.e. pamphlets, newsletters, door hanger (Appendix C)). The information will educate the targeted person(s) about illicit discharge and the harmful effects to waterways in their direct community. Follow up is conducted after the persons responsible correct the illicit discharge.

The follow up will be documented and placed in the MS4 file. Continued illicit discharges will be handled on a case-by-case bases and the person(s) responsible may be penalized through the North Fayette Prohibited Discharge Ordinance No. 428.

Egregious and intentional illicit discharges will be handled on a case-by-case basis. Information will be given to the offender as well as warnings, written or verbal, if appropriate. The offenders may also be issued a citation immediately through the North Fayette Township Prohibited Discharge Ordinance No. 428. All actions taken towards the correction of an illicit discharge will be fully documented and placed in the MS4 file. Photographs may be taken to help support the documentation of the corrected illicit discharge.

## *BMP #5*

The Township must enact a storm water management ordinance to implement and enforce a storm water management program that includes prohibition of no-storm water discharges to the regulated small MS4.

Per the Township's NPDES MS4 Permit, the Township has ordained and enacted the MS4 Prohibited Discharge Ordinance No. 428 to prohibit illicit discharges and explain the discharges that are exempt from penalties. Under this ordinance, the Township has the authority to issue penalties to parties that are found guilty of discharging prohibited items. The ordinance is located at the municipal building and also on the municipal website for viewing. The ordinance was advertised properly based on Municipal Planning Code. The advertisement article for the adoption of the Prohibited Discharge Ordinance is located in the MS4 files at the municipal building.

## *BMP #6*

Provide educational outreach to public employees, business owners and employees, property owners, the general public, and elected officials about the program to detect and eliminate illicit discharges.

Illicit discharge information is distributed to all target audiences as described in MCM #1. The Township's storm water webpage has detailed information specifically pertaining to illicit discharges. This information is accessible to anyone that utilizes the Township's website. The information is also available for viewing at the municipal building. Complaints pertaining to storm water, as described in MCM #2, is documented fully by having the responses and actions taken to resolve the issue, as well as the date the complaint was resolved. All documentation is located in the MS4 file in the municipal building. North Fayette Township also encourages recycling of household hazardous wastes and provides information on the Township's website of locations that accept the waste.

Additionally, all Township employees receive annual training, required by MCM #6. Every training will discuss illicit discharges and how to detect and eliminate them. The trainings are recorded by a sign in sheet of person training and persons attending. The materials used for training, such as copies of the PowerPoint, are also placed in the MS4 file along with the sign in sheet.

The Township's residents and business owners are also encouraged to report illicit discharges. The municipal website thoroughly discusses what an illicit discharge is and how to report them. The website provides the opportunity for anyone to report an illicit discharge by providing a complaint form (Appendix D). The complaint form can be filled out and returned to the Township via email, regular postal mail, or hand delivered. Once the complaint is received, the proper actions will be taken to ensure that the illicit discharge is eliminated, as discussed in previous section. Illicit discharge information is also provided by newsletters and pamphlets. All documentation provided is filed at the municipal building along with the dates the information was sent.

# APPENDIX A

# OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

## Section 1: Background Data

| | | | |
|---|---|---|---|
| Subwatershed: | | Outfall ID: | |
| Today's date: | | Time (Military): | |
| Investigators: | | Form completed by: | |
| Temperature (°F): | Rainfall (in.): Last 24 hours: Last 48 hours: | | |
| Latitutde: | Longitude: | GPS Unit: | GPS LMK #: |
| Camera: | | Photo #s: | |

Land Use in Drainage Area (Check all that apply):

☐ Industrial ☐ Open Space

☐ Ultra-Urban Residential ☐ Institutional

☐ Suburban Residential Other: _____

☐ Commercial Known Industries: _____

Notes (e.g.., origin of outfall, if known):

## Section 2: Outfall Description

| LOCATION | MATERIAL | SHAPE | | DIMENSIONS (IN.) | SUBMERGED |
|---|---|---|---|---|---|
| ☐ **Closed Pipe** | ☐ RCP ☐ CMP<br>☐ PVC ☐ HDPE<br>☐ Steel<br>☐ Other: _____ | ☐ Circular<br>☐ Eliptical<br>☐ Box<br>☐ Other: _____ | ☐ Single<br>☐ Double<br>☐ Triple<br>☐ Other: _____ | Diameter/Dimensions:<br>_____ | In Water:<br>☐ No<br>☐ Partially<br>☐ Fully<br>With Sediment:<br>☐ No<br>☐ Partially<br>☐ Fully |
| ☐ **Open drainage** | ☐ Concrete<br>☐ Earthen<br>☐ rip-rap<br>☐ Other: _____ | ☐ Trapezoid<br>☐ Parabolic<br>☐ Other: _____ | | Depth: _____<br>Top Width: _____<br>Bottom Width: _____ | |
| ☐ **In-Stream** | **(applicable when collecting samples)** | | | | |
| **Flow Present?** | ☐ Yes ☐ No | ***If No, Skip to Section 5*** | | | |
| **Flow Description (If present)** | ☐ Trickle ☐ Moderate ☐ Substantial | | | | |

## Section 3: Quantitative Characterization

| FIELD DATA FOR FLOWING OUTFALLS | | | | |
|---|---|---|---|---|
| **PARAMETER** | | **RESULT** | **UNIT** | **EQUIPMENT** |
| ☐Flow #1 | Volume | | Liter | Bottle |
| | Time to fill | | Sec | |
| ☐Flow #2 | Flow depth | | In | Tape measure |
| | Flow width | _____' _____" | Ft, In | Tape measure |
| | Measured length | _____' _____" | Ft, In | Tape measure |
| | Time of travel | | S | Stop watch |
| Temperature | | | °F | Thermometer |
| pH | | | pH Units | Test strip/Probe |
| Ammonia | | | mg/L | Test strip |

# Outfall Reconnaissance Inventory Field Sheet

**Section 4: Physical Indicators for Flowing Outfalls Only**

Are Any Physical Indicators Present in the flow? ☐ Yes ☐ No *(If No, Skip to Section 5)*

| INDICATOR | CHECK if Present | DESCRIPTION | RELATIVE SEVERITY INDEX (1-3) | | |
|---|---|---|---|---|---|
| Odor | ☐ | ☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other: | ☐ 1 – Faint | ☐ 2 – Easily detected | ☐ 3 – Noticeable from a distance |
| Color | ☐ | ☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ Green ☐ Orange ☐ Red ☐ Other: | ☐ 1 – Faint colors in sample bottle | ☐ 2 – Clearly visible in sample bottle | ☐ 3 – Clearly visible in outfall flow |
| Turbidity | ☐ | See severity | ☐ 1 – Slight cloudiness | ☐ 2 – Cloudy | ☐ 3 – Opaque |
| Floatables -Does Not Include Trash!! | ☐ | ☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other: | ☐ 1 – Few/slight; origin not obvious | ☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen) | ☐ 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials) |

**Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls**

Are physical indicators that are not related to flow present? ☐ Yes ☐ No *(If No, Skip to Section 6)*

| INDICATOR | CHECK if Present | DESCRIPTION | COMMENTS |
|---|---|---|---|
| Outfall Damage | ☐ | ☐ Spalling, Cracking or Chipping ☐ Peeling Paint ☐ Corrosion | |
| Deposits/Stains | ☐ | ☐ Oily ☐ Flow Line ☐ Paint ☐ Other: | |
| Abnormal Vegetation | ☐ | ☐ Excessive ☐ Inhibited | |
| Poor pool quality | ☐ | ☐ Odors ☐ Colors ☐ Floatables ☐ Oil Sheen ☐ Suds ☐ Excessive Algae ☐ Other: | |
| Pipe benthic growth | ☐ | ☐ Brown ☐ Orange ☐ Green ☐ Other: | |

**Section 6: Overall Outfall Characterization**

☐ Unlikely ☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious

**Section 7: Data Collection**

| | | | |
|---|---|---|---|
| 1. Sample for the lab? | ☐ Yes | ☐ No | |
| 2. If yes, collected from: | ☐ Flow | ☐ Pool | |
| 3. Intermittent flow trap set? | ☐ Yes | ☐ No | If Yes, type: ☐ OBM ☐ Caulk dam |

**Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?**

# APPENDIX B

# Doo Good

## Pick it up. Protect streams.


www.KeepItCleanPartnership.org

# APPENDIX C

# North Fayette Township
# Storm Sewer Maintenance Log

Storm Sewer (SS) #: _____ Performed By: _____

Road Name: _____

Date: _____ _____

Cleaned Grate? ☐ Yes ☐ No ☐ Outfall ☐ Inlet/Catch Basin

Removed Sediment? ☐ Yes ☐ No

Marked with SS Number? ☐ Yes ☐ No

Illicit Discharge Present? ☐ Yes ☐ No

Photo Attached?
☐ Yes ☐ No

Physical Description of Discharge (color, odor, where is it coming from?)

Maintenance Needed? ☐ Yes ☐ No

Description of Maintenance Needed (layer of brick, total rebuild, pipe collapsed, pipe broken etc)

Maintenance Completed? ☐ Yes ☐ No

Description of Maintenance Performed

**All forms are to be given to supervisor at the end of each day**

# APPENDIX D

# CITIZEN COMPLAINT
# ILLICIT DISCHARGE REPORTING FORM

**Name:** _____ **Contact Phone Number:** _____

**Date:** _____ **Time Discharge Discovered:** _____

**Date of Last Rain Event**: _____ **Estimated Quantity of Rain**:_____ **in.**

**LOCATION OF DISCHARGE (indicate nearby street intersections, addresses, and/or landmarks for reference)**: _____

_____

_____

**WHERE WAS DISCHARGE FOUND?** OPEN DITCH STREAM PIPE OUTFALL OTHER: _____

**WAS WATER FLOW OBSERVED**? NO YES .

**WAS FLOW SOLID OR PULSING?** SOLID PULSING

**WAS A PHOTO TAKEN?** NO YES (Please attach a copy to form)

**ODOR**: NONE MUSTY SEWAGE ROTTEN EGGS SOUR MILK OTHER: _____

**COLOR**: CLEAR RED YELLOW BROWN GREEN GREY OTHER: _____

**CLARITY**: CLEAR CLOUDY OPAQUE

**WAS THERE AN:**
OILY SHEEN YES NO
GARBAGE/SEWAGE YES NO
OTHER: _____

**ADDITIONAL INFORMATION TO ASSIST IN THE INVESTIGATION**: _____

_____

_____

*Follow up Investigation (to be completed by CCD staff)*
**OUTFALL NO:** _____ **INSPECTOR NAME** _____ **PHONE** _____

**FIELD ANALYSIS:**

| | | | |
|---|---|---|---|
| WATER TEMP: | _____ °F / °C | CHLORINE (Total): | _____ mg/l |
| pH: | _____ | COPPER: | _____ mg/l |
| PHENOL: | _____ mg/l | DETERGENTS: | _____ mg/l |

**WAS A LABORATORY SAMPLE COLLECTED?** NO YES
(if yes attach copy of chain-of-custody record)
**COMMENTS**: _____

_____

_____

**DATA SHEET FILLED OUT BY**: (signature): _____ DATE: _____

Additional notes to file: _____

_____

_____

Follow-up with Complainant: _____

_____

_____