

Illicit Discharge Detection and Elimination Plan

City of Forest Lake

Final Draft

Council Adopted

May 11th, 2009

Project Number 000165-06206-0



Acronyms

BMP – Best Management Practice.

CWA – Clean Water Act.

CWP – Center for Watershed Protection

EPA – U.S. Environmental Protection Agency.

IDDE – Illicit Discharge Detection and Elimination.

ISTS – Individual Sewage Treatment System.

LGU – Local Government Unit.

MCM – Minimum Control Measure.

MPCA – Minnesota Pollution Control Agency.

MS4 Municipal Separate Storm Sewer System.

NPDES – National Pollutant Discharge Elimination System.

NOV – Notice of Violation.

SIC – Standard Industrial Classification.

SOP – Standard Operating Procedure.

ROW – Right-of-way.

1.0 Introduction

Forest Lake is listed as a mandatory MS4 by the MPCA and is required to develop a stormwater management program to meet the requirements of its NPDES permit. The NPDES permit, Forest Lake must satisfy minimum control measures required for MS4. The purpose of the Illicit Discharge Detection and Elimination Ordinance is to outline the procedures to detect and remove illicit discharges and improve the City's overall IDDE program as shown in Table 1.1. Areas under the City's jurisdiction of this plan include City ROW, and all City-owned facilities. This plan provides guidance from the Center for Watershed Protection (CWP), which was developed by the Environmental Protection Agency (EPA).

1.1 FOREST LAKES IDDE PROGRAM

The City of Forest Lakes Stormwater Pollution Prevention Program elements that are designed to fulfill the requirements of an IDDE Program. Focused towards minimizing/preventing illicit discharges and they are educational. The table below summarizes the BMPs that were created for the S

TABLE 1.1 FOREST LAKES IDDE PROGRAM

SWPPP BMP Name	SWPPP BMP ID	Edu	Elimination
Local Access Cable Channel	1-1		
City Website – Storm water Information Page	1-2		
Storm water Educational Brochures	1-3		
Annual Homeshow	1-5		
Joint Education Program with Outside Entities	1-7		✓
Complaint Tracking Program	2-2		
Stormwater System Map	3-1		
Sanitary Sewer Overflow Program	3-2		✓
Spill Response Program	3-3		✓
Hazardous Waste Disposal Ordinance	3-4		✓
Illicit Discharge Detection and Elimination Ordinance	3-5		✓
Individual Sewage Treatment System Ordinance	3-6		✓
Stormwater System Inspection and Maintenance Program	6-1		✓
Municipal Employee Training Program	6-2		

1.2 DISCHARGE FLOW TYPES

Discharge during dry weather flows are often associated with large and create the need to do further testing once detected. The table below shows potential illicit discharge that may be found within the City of Forest La

2.0 Illicit Discharge Detection

Observed or complaint driven illicit discharges will be investigated to determine the source and nature of the discharge. Table 1.2 identifies the potential illicit discharges that will be investigated.

2.1 IDENTIFY ILLICIT DISCHARGES

2.1.1 INSPECTION PROCEDURES

Forest Lake will inspect for illicit discharges during their routine inspections of their storm sewer system outfalls. Forest Lake inspects 20% of the MS4 outfalls yearly; illicit discharge inspections will be integrated into a standard outfall inspection procedure. MS4 outfall inspections will be scheduled during dry weather (at least 48 hours with no precipitation).

Areas within the City's jurisdiction that are brought forward due to a complaint will be inspected within 48 hours. If necessary a repeat inspection will be scheduled to be able to clearly determine that a discharge is occurring.

Typically investigation will be done to review a discharge for its potential to contain pollutants if it is present during dry weather, however other factors may contribute to the presence of pollutants during the discharge, such as an oily sheen over the surface of the water, soap suds present at an outfall, abnormal discoloration of the water at the discharge point or a smell that may be considered to contain pollutants.

2.2 FIND THE SOURCE

When a problem area or discharge is found, additional efforts are necessary to determine the source of the discharge. Upon discovery of a problem area or prohibited discharge where the source is in question, Forest Lake may coordinate with Washington County and/or watershed to determine the best method of searching. Methods that can find the source of illicit discharges include: thorough inspections by trained City staff, water sampling/testing, dye-testing buildings in the area of concern, dye- or smoke-testing buildings at the time of sale, tracing the discharge upstream in the storm sewer, employing a certification program that shows that buildings have been checked for illicit connections, and using video to inspect storm sewers.

2.2.1 RESIDENTIAL BENCHMARKS

Residential benchmarks are used to determine if illicit discharges are occurring in residential neighborhoods. Residential neighborhoods will typically be different from that of Illicit Discharges found discharging from industrial sites. The flowchart method shown below will assist the City in determining the source of an Illicit Discharge based on the typical benchmark pollutant tested in residential areas.

2.2.2 INDUSTRIAL BENCHMARKS

Industrial sites are different from that of Residential Sites in that we look for a different set of benchmark concentrations. Table 2.1 provides the indicator parameter and the associated benchmark concentration.

TABLE 2.1 BENCHMARK CONCENTRATIONS TO IDENTIFY INDUSTRIAL DISCHARGES

Indicator Parameter	¹ Benchmark Concentration	Notes
Ammonia	≥50 mg/L	<ul style="list-style-type: none"> Existing "Flow Chart" Parameter. Concentrations higher than the benchmark can identify a few industrial discharges.
Color	≥500 Units	<ul style="list-style-type: none"> Supplemental parameter that identifies a few specific industrial discharges. Should be refined with local data.
Conductivity	≥2,000 μs/cm	<ul style="list-style-type: none"> Identifies a few industrial discharges. May be useful to distinguish between industrial sources.
Hardness	≤10 mg/L as CaCO ₃ ≥2,000 mg/L as CaCO ₃	<ul style="list-style-type: none"> Identifies a few industrial discharges. May be useful to distinguish between industrial sources.
pH	≤5	<ul style="list-style-type: none"> Only captures a few industrial discharges. High pH values may also indicate an industrial discharge but residential wash waters can have a high pH as well.
Potassium	≥20mg/L	<ul style="list-style-type: none"> Existing "Flow Chart" Parameter. Excellent indicator of a broad range of industrial discharges.
Turbidity	≥1,000 NTU	<ul style="list-style-type: none"> Supplemental parameter that identifies a few specific industrial discharges. Should be refined with local data.

¹ Industrial parameters adopted from the *Illicit Discharge Detection and Elimination Manual, Center for Watershed Protection, 2004.*

2.3 RESPONSIBLE PARTIES

Responsibilities for illicit discharge detection and typical illicit discharge inspection type are assigned to the Public Works Department. Table 2.1 identifies the individuals responsible for inspections.

TABLE 2.2 RESPONSIBLE PARTIES

Responsible Party	Tasks(s)
Public works/engineering	Inspection
Engineering	Source Determination
Fire Department	Emergency Spill Response

2.4 DOCUMENT ACTIONS TAKEN

All actions relating to illicit discharge detection will be recorded in a database administered by the City of Forest Lake. The database will be organized by MS4 outfall and will contain information such as: the number of outfalls inspected, any complaints received, and the number of dye

3.0 Illicit Discharge Elimination

3.1 ILLICIT DISCHARGE MANAGEMENT

All illicit discharges that fall outside normal City responsibilities will be directed to Washington County or the appropriate LGU if discharging to other MS4's.

When illicit discharges are documented, the City will work with the discharger to find a solution to the problem. The intention is to work with the individual(s) to provide any necessary education and to resolve the problem in a cooperative manner in order to allow a business to continue to operate. Professional organizations may be consulted for technical support.

In all cases the discharger will be notified of an illicit discharge violation and referred to local, state, and federal agencies with jurisdiction.

3.2 ENFORCEMENT

Forest Lake has developed enforcement procedures identified in the City Code, Ordinance NO. 581. Other local, state, and federal agencies will be notified of illicit discharges under their jurisdiction. Forest Lake will ensure that all agencies that have jurisdiction collaborate so that enforcement efforts are coordinated.

3.3 RESPONSIBLE PARTIES

Responsibility for illicit discharge elimination is divided as follows:

TABLE 3.1 RESPONSIBLE PARTIES

Responsible Party	Tasks(s)
Public works/engineering/Washington Conservation District	Education
Public works/engineering/Washington Conservation District	Technical Assistance
Attorney/MPCA	Enforcement

3.4 DOCUMENT ACTIONS TAKEN

All actions relating to illicit discharge elimination will be recorded in a database administered by Forest Lake. The database will be organized by MS4 outfall and will contain information such as: the number of illicit connections eliminated, any complaints received and corrected, and the number of discharges and quantities of flow eliminated. Illicit discharge elimination activities will also be documented on the storm sewer system map.

3.5 COORDINATION OPPORTUNITIES

Forest Lake will coordinate illicit discharge elimination efforts with other LGUs and watershed districts/water management organizations in order to eliminate duplication of effort within the County ROW. For discharges from industrial site the City of Forest Lake will work with the MPCA to resolve all violations.