



Michigan Municipal Separate Storm Sewer System (MS4) Program Illicit Discharge Elimination Program (IDEP)

Overview

The MS4 individual permit application is designed to develop a Stormwater Management Program (SWMP) by prompting the applicant to describe the current or proposed best management practices (BMP) to meet the six minimum control measures and water quality requirements. The IDEP is one of the six minimum control measures and should be designed to detect and eliminate illicit discharges and connections to the applicant's regulated MS4. This compliance assistance document addresses the MS4 permit application and implementation requirements associated with the IDEP. The compliance assistance document identifies the key components relating to these requirements which are considered necessary in order to have a complete application and an approvable SWMP. Applicants may work collaboratively with watershed or regional partners on any or all BMPs during the permit cycle if approved as part of the IDEP.

An MS4 includes both open and enclosed drainage systems that are owned or operated by the applicant; solely convey stormwater; and discharge, either directly or via an MS4 owned or operated by another public body, to a surface water of the state. An "outfall" means a discharge point from an MS4 directly to surface waters of the state. A "point of discharge" means a discharge from an MS4 to an MS4 owned or operated by another public body.

A water body cannot be both an MS4 and a surface water of the state. An MS4 is a conveyance designed to solely collect or convey stormwater. A surface water of the state has non-stormwater inputs such as groundwater, nonpoint source runoff, etc. Open county drains that are identified on a topographic map are usually a surface water of the state. The Michigan Water Quality Standards define surface waters of the state to include lakes, rivers, streams, open drains, and wetlands. Department of Environment Quality (DEQ) staff is available to provide assistance with identifying a surface water of the state.

Privately owned and operated drainage systems that discharge directly to surface waters of the state do not have to be included in the IDEP. See Appendix A for an example of where IDEP activities are required.

The IDEP should be designed to implement BMPs where the permittee owns and operates an MS4 in the regulated area identified on the 2010 urbanized area maps. These maps are available by going to www.michigan.gov/deqstormwater and clicking on MS4 Program / MS4 Compliance Assistance then clicking on the hyperlink under the heading *MS4 Permits*. All references to the applicant's MS4 in this compliance assistance document refer to the applicant's regulated MS4. An applicant that chooses to be responsible for permit requirements for another regulated MS4 should include BMPs to address both MS4s as part of the IDEP.

An example of a surface water of the state is an open county drain that flows in the historical path of a stream.

The county drain receives inputs of groundwater, nonpoint source runoff, and stormwater runoff.

The county drain is identified on a topographic map and would be protected as a surface water of the state.

Measurable Goals

Measurable goals are a means for assessing progress and effectiveness of the BMPs that, together, constitute the applicant's SWMP. The Application requires that a measurable goal be provided for each BMP. Measurable goals should be selected to fit each BMP and, as appropriate, each measurable goal should include a schedule for BMP implementation (month and years), including interim milestones and



the frequency of the action. Properly selected measurable goals will incorporate a means to assess a BMP's progress towards reaching the goal. While care should be taken to ensure a selected measurable goal fits the targeted BMP, bear in mind that it may be appropriate for some BMPs to share a common measurable goal.

Measurable goals may demonstrate: 1) specific actions, such as tracking implementation of the activity itself; 2) results, such as tracking behavioral change or quantifiable targets; and 3) the schedule to complete certain actions or targets. More information on developing measurable goals and measurable goals as they relate to the IDEP minimum control measure is available in the U.S. Environmental Protection Agency's (EPA) *Measurable Goals Guidance for Phase II Small MS4s* at <http://www.epa.gov/npdes/pubs/measurablegoals.pdf>.

Finding and Eliminating Illicit Connections and Discharges

A program should be developed to find and eliminate illicit connections and discharges to the regulated MS4 from commercial, industrial, private educational, public, and residential sources.

- An "illicit discharge" is any discharge to, or seepage into, an MS4 that is not composed entirely of stormwater or uncontaminated groundwater except discharges pursuant to an NPDES permit. A discharge that originates from the applicant's property and meets the illicit discharge definition is considered an illicit discharge.
- An "illicit connection" is a physical connection to an MS4 that primarily conveys non-stormwater discharges other than uncontaminated groundwater into the MS4; or a physical connection not authorized or permitted by the local authority, where a local authority requires authorization or a permit for physical connections.

The IDEP should include procedures and ordinances or other regulatory mechanism to meet the following requirements. The term "procedure" means a written process, policy or other mechanism describing how the applicant will implement the minimum requirements. The applicant is afforded flexibility in the formatting of the procedures and in the case of the IDEP requirements an applicant may choose to incorporate the various IDEP components into one procedure since many requirements build on one another.

Storm sewer system map

The applicant should provide the location where an up-to-date storm sewer system map(s) is available. In accordance with the application, the map shall identify the following: the regulated separate storm sewer system, the location of all outfalls and points of discharge, and the names and location of the surface waters of the state that receive the discharge from the applicant's regulated MS4 (for both outfalls and points of discharge). The maps are to be retained by the applicant and made available to the DEQ upon request. Storm sewer system information shall be maintained and updated as discharge points are identified or added.

A separate storm sewer system includes: roads, catch basins, curbs, gutters, parking lots, ditches, conduits, pumping devices, and man-made channels.

Example Application Requirement Response

- An example response would be to identify the Department of Public Works office as the location where the maps are available.
- The map requirement may be a series of maps which together identify the entire separate storm sewer system. Maps may include available diagrams, such as certification maps, road

maps showing rights-of-way, as built-drawings, diagrams, or other hard copy or digital representation of the storm sewer system. Maps may be accompanied by narrative descriptions for portions of the system.

- When mapping discharge points, include enough detail for staff to easily locate discharge points. This may necessitate one general overview map and several detailed maps. Include the discharge point identification name/number on the maps. Narrative information about the discharge point can accompany the maps to allow the user to further understand the characteristics of the discharge point.

Dry-weather screening with options

The applicant should develop a procedure to perform dry-weather screening at outfalls and points of discharge during the permit cycle. The application affords two options for meeting this requirement: dry-weather screen all outfalls and points of discharge or prioritize outfalls and points of discharge for dry-weather screening to maximize implementation efforts during the permit cycle in areas with a high illicit discharge potential.

An applicant may choose to prioritize target areas during the permit cycle in an effort to maximize resources and implementation efforts in areas with a high illicit discharge potential. A procedure should be developed for prioritizing the MS4 for detecting non-stormwater discharges including identifying lower priority areas as part of the process. The procedure should document the process for selecting each priority area using the list below. A narrative description or map should be developed identifying the prioritized areas that will be targeted during the permit cycle.

- Areas with older infrastructure
- Industrial, commercial, or mixed use areas
- Areas with a history of past illicit discharges
- Areas with a history of illegal dumping
- Areas with onsite sewage disposal systems
- Areas with older sewer lines or with a history of sewer overflows or cross-connections
- Areas with sewer conversions or historic combined sewer systems
- Areas with poor dry-weather water quality
- Areas with water quality impacts, including water bodies identified in a Total Maximum Daily Load
- Priority areas applicable to the applicant not identified above

Example Procedure

Applicants may choose to conduct a desktop analysis by ranking each sewershed or outfall/point of discharge as a high, medium, or low risk for illicit discharge potential. Based on the ranking, applicants can develop a procedure to investigate sewersheds or outfalls/points of discharge in the highest risk areas first to maximize implementation efforts during the permit cycle. The procedure would also include a plan for investigating medium and low risk areas, with a timeframe for implementation. To meet the requirement to identify the geographical location of each prioritized area, the applicant may delineate areas on its MS4 map and include a year for dry-weather screening.

Additional detail on performing a desktop analysis can be found in the Environmental Protection Agency guidance manual titled *Illicit Discharge Detection and Elimination – A Guidance Manual for Program Development and Technical Assessments* which is available [here](#).

Performing dry-weather screening

Dry-weather screening is a term that includes a field observation followed by field screening and source investigation, as appropriate. An applicant should develop several procedures (or combine the procedures into one document) to identify the process of dry-weather screening during the permit cycle. The dry-weather screening requirements are described below.

<p>Field Observation</p>	<p>Develop a procedure for performing a field observation at all outfalls and points of discharge in the priority areas or for the entire MS4 during dry-weather once during the permit cycle.</p> <p>A schedule should be included in the procedure for completing field observations during the permit cycle or more expeditiously if the applicant becomes aware of a non-stormwater discharge. It is recommended that field observations be performed at least 48 hours after any precipitation.</p>	<p>The following should be observed as part of a field observation:</p> <ul style="list-style-type: none"> ✓ Presence/Absence of flow ✓ Water clarity ✓ Color ✓ Odor ✓ Floatable materials ✓ Deposits/Stains on the discharge structure or bank ✓ Vegetation condition ✓ Biology (e.g., bacterial sheens, algae, slimes)
<p>Field Screening</p>	<p>Develop a procedure for performing a field screening if flow is observed at an outfall or point of discharge and the source is not identified during the field observation. If the illicit discharge is identified during the field observation then an applicant shall eliminate the illicit discharge.</p> <p>A schedule should be included for performing field screening.</p>	<p>Indicator parameters should be identified. Example indicator parameters include ammonia, fluoride, detergents, and pH.</p> <p>The purpose of indicator parameters is to assist with determining if an illicit discharge is present and gathering information regarding potential sources. Select a set of indicator parameters using the nature of historic problems and land use as a guide. An example list is available here.</p>
<p>Source Investigation</p>	<p>Develop a procedure for performing a source investigation if the source of an illicit discharge is not identified by field screening.</p> <p>A schedule should be included for performing a source investigation.</p>	<p>A method for performing a source investigation should be included. The following are example methods:</p> <ul style="list-style-type: none"> ✓ Indicator parameter testing (chemical and bacterial sampling) ✓ Dye testing (Department approval is required – see Appendix C) ✓ Video testing ✓ Smoke testing ✓ Documented visual observation or physical indicators ✓ Homeowner surveys and surface condition inspections for on-site sewage disposal systems ✓ Drainage area investigations

If an applicant chooses to dry-weather screen in priority areas, then a procedure should be developed for responding to non-stormwater discharges outside of the priority areas. The procedure should include a schedule for performing field observations, and follow-up field screening and source investigations, as appropriate, when the applicant becomes aware of the discharge.

Illegal Dumping/Spills

Illegal dumping and accidental spills are significant sources of illicit discharges to an MS4. The applicant should develop a procedure for responding to illegal dumping and spills. The procedure should identify how spills will be contained and cleaned-up. The procedure should include a schedule for responding to complaints received, performing field observations and follow-up field screening and source investigations, as appropriate.

The potential for spills to contain oil and other highly polluting materials is significant. The Part 5 Rules identify threshold quantities for spillage of oil and certain polluting materials and the requirements when threshold quantities are exceeded. The applicant should develop a procedure to immediately report any release of any polluting materials from the MS4 to the surface waters or groundwaters of the state, unless a determination is made that the release is not in excess of the threshold reporting quantities in the Part 5 Rules, by calling the appropriate DEQ District Office, or if the notice is provided after regular working hours call the DEQ's 24-Hour Pollution Emergency Alerting System telephone number 800-292-4706.

Working Collaboratively

The applicant may choose to work collaboratively to meet the dry-weather screening requirements by collaborating with the owner or operator of the downstream MS4 to identify responsibilities for dry-weather screening. Collaborative efforts can assist with maximizing available resources while still effectively eliminating illicit discharges. If this option is pursued, the applicant should submit as part of the procedure for performing field observations an interagency agreement with the owner or operator of the downstream MS4 identifying responsibilities and schedules for ensuring an illicit discharge is effectively eliminated if originating from the applicant's point of discharge. For more information and an example of an interagency agreement see Appendix B.

Example Procedure

- To make regular progress towards the schedule, perform field screening at a rate of 20% of outfalls and points of discharge in the high priority areas per year with scheduled completion of all dry-weather screening within the 5-year permit cycle. For example, a city owns and operates 200 outfalls and points of discharge. The city identified 100 outfalls and points of discharge in the high priority areas. The schedule for performing field screening is 20 outfalls or points of discharge per year with a focus on screening in the same sewersheds first.
- Consider integrating dry-weather screening with other watershed or stream assessments.
- The scheduling of field screening and source investigations should be minimized due to the variable nature of an illicit discharge. Prior to starting a dry-weather screening field season, purchase field kits or develop a relationship with a contract laboratory to ensure timely analysis of sampling and testing efforts.
- Create a template for performing dry-weather screening to prompt staff to record specific information. Staff can then enter the data into a database to track illicit discharges and generate reports.
- Illicit discharge source identification can be completed in various manners including a combination of a desktop analysis and field verification. There are four basic types of investigations, which may be used independently or in combination.

MS4 Investigation	Field crews perform an investigation by either strategically inspecting or testing manholes or by moving systematically upstream or downstream within the storm drain network.
Drainage Area Investigation	An initial desktop analysis is performed to determine potential generating sites by reviewing land uses followed by inspections or testing in areas where the illicit discharge appears to be specific to a certain type of land use or generating site.
On-Site Investigation	Dye, video, or smoke testing can isolate segments of the storm drain network to allow for focused on-site investigations. Discharges of tracer dyes shall be authorized by the Department in accordance with Appendix C.
On-Site Sewage Disposal System Investigation	On-site investigations may be necessary in areas with the potential for failing septic systems and illegal dumping.

- Establish a schedule for staff assigned to emergency response activities to practice implementing the procedure for illegal dumping and spills.

Eliminating illicit discharges

Once the field observation and potentially the field screening and source investigation is complete efforts should focus on responding to the illicit discharge with the requirement to effectively eliminate. The applicant should develop a procedure with response activities to implement once the source of the illicit discharge is identified. The procedure should include a schedule for requiring the elimination of illicit discharges and pursuing enforcement actions. The procedure should be encompassing of illegal spills/dumping.

Example Procedure

A procedure is developed to identify response activities for various types of illicit discharges (e.g., illegal dumping, illicit sanitary connection, failing soil erosion measures, large quantity spill), what enforcement tools are available to address illicit discharges (e.g., ordinances, regulatory mechanisms, procedures), and information on HAZMAT first responders (local, county, state, private clean-up companies). A schedule for eliminating illicit discharges within 90 days of becoming aware of the discharge is developed and enforced through the use of various enforcement tools.

Once an illicit discharge has been detected or reported a log of the type of illicit discharge, identification information, elimination status, and enforcement actions completed is maintained. This can be as simple as a hard copy information log or a more complex geographical information system database.

Training Staff

A training program is an important component to an effective IDEP. Applicants should develop a program to train staff employed by the applicant who are involved in illicit discharge-related activities. Training a wide range of staff at the appropriate level is an effective approach to increasing the potential for identifying illicit discharges. The application requires, at a minimum, training for existing staff at least once during the permit cycle and new hires within the first year of their hire date. It is recommended that staff is

trained more than once per permit cycle. Training refreshers are recommended when IDEP related policies and procedures are updated, or in response to program evaluation findings.

Who should be trained?

- Staff or a representative that will participate in:
 - IDEP activities to find and eliminate illicit discharges and connections
 - Spill response and response to emergency IDEP situations
 - Ordinance/regulatory mechanism enforcement
- Staff or a representative that may have the opportunity to identify illicit discharges and connections in day-to-day activities
- Staff or a representative, such as building and engineering department staff, that have the opportunity to identify cross-connections and drainage issues in processes such as plan review
- Municipal officials who oversee IDEP related work, as appropriate

Example Training Program

Who should be trained	Content of Training
All municipal staff and consultants that have responsibility for any IDEP related program activities, including spill and IDEP related emergency response and observation of illicit discharges in the course of their daily work	<ul style="list-style-type: none"> ◆ The definitions of illicit discharges, illicit connections, and sanitary seepage ◆ The municipality’s stormwater infrastructure, and where to obtain municipal storm sewer maps and/or electronic storm sewer datasets ◆ Contact information to report illicit discharges to staff with emergency response responsibility ◆ Common types of illicit discharges that occur in or are commonly associated with the local area ◆ Recognition of naturally occurring phenomena and their sources (mineral deposits, bacterial sheens, slimes and films, bryozoans, pollen, blue-green algae, green algae, tannins and foams) ◆ The municipal ordinance/regulatory mechanism/procedures, including the requirements and authority given to the municipality to eliminate illicit discharges ◆ The authority of other agencies that may also be involved in local spill response ◆ Illicit discharge preventative measures
Staff that will participate in the municipal program to find and eliminate illicit discharges	<ul style="list-style-type: none"> ◆ The IDEP investigation history for the municipality ◆ Desktop analysis of illicit discharge potential within the municipality, including assessment of the highest priority investigation areas based on the prioritization criteria ◆ Field observation planning and preparation for field work ◆ Procedures for performing field observations, field screenings and source investigations ◆ Methods for eliminating illicit discharges and the proper enforcement response

Who should be trained	Content of Training
Staff that will participate in enforcement of the IDEP ordinance/regulatory mechanism/procedures	<ul style="list-style-type: none"> ◆ The requirements and authority of the ordinance/regulatory mechanism ◆ The process that will be used to prohibit and eliminate illicit discharges, including ordinance enforcement mechanisms ◆ Tracking illicit discharge elimination status and enforcement actions
Staff that has responsibility for IDEP related spill response and environmental emergency response	<ul style="list-style-type: none"> ◆ The municipal spill response protocols and responsibilities ◆ The municipal authority during spill response ◆ Protocols for release/spill reporting to other agencies, and response coordination with other agencies ◆ Methods to prevent further migration of materials through a storm sewer system ◆ Methods to prevent materials from entering storm sewer systems ◆ Recordkeeping ◆ Tracking illicit discharge elimination status and enforcement actions ◆ A number of other regulations may also apply to spill and emergency situations. These may require additional training and reporting related to spill response.

Additional Training Topics

Additional training topics for municipal staff and consultants may include:

- Safety issues associated with IDEP activities
- Training schedule during the term of the permit
- Conducting internal audits of the IDEP program
- Mock incidents for response practice
- Case history review
- Local and regional spill response debriefings – assessing what worked, what should be improved

Resources

- ✓ Wayne County Illicit Connection and Discharge Elimination Training Program. Contact Wayne County at 734-326-4483
- ✓ EPA Illicit Discharge Detection and Elimination Resources
<http://cfpub.epa.gov/npdes/stormwater/idde.cfm>
- ✓ EPA Emergency Management Program Guidance
<http://www.epa.gov/emergencies/programs.htm>
- ✓ Part 5 Rules- Spillage of Oil and Polluting Materials
http://www.michigan.gov/deq/0,1607,7-135-3313_23420---,00.html

Evaluating IDEP effectiveness

Overall IDEP effectiveness assesses how well implementation is working at the program level to determine the success of the program in detecting and eliminating illicit connections and discharges to the MS4. A procedure should be developed for evaluating and determining the overall effectiveness of the IDEP. The appropriate method of determining effectiveness will depend on the IDEP approach.

Example Procedure

The procedure should focus on an effectiveness evaluation that provides results to meet permit requirements. The following are examples of evaluation methods:

- Evaluate the prioritization process to determine if efforts are being maximized in areas with high illicit discharge potential
- Evaluate the effectiveness of using different detection methods
- Evaluate the number of discharges and/or quantity of discharges eliminated using different enforcement methods
- Evaluate ambient water quality monitoring data to measure changes in the receiving water
- Evaluate program efficiency and staff training frequency

IDEP Ordinance or Other Regulatory Mechanism Requirement

The applicant is required to develop an ordinance or other regulatory mechanism to effectively prohibit illicit discharges into the applicant’s regulated MS4 to be implemented and enforced during the permit cycle. Examples of non-ordinance regulatory mechanisms include internal policies or procedures.

Factors that influence the appropriateness of an ordinance or other regulatory mechanism are whether or not the applicant has ordinance authority and the potential for illicit discharges. A combination of an ordinance and other regulatory mechanism may also be appropriate. In addition, as long as the IDEP requirements are fully addressed, the requirements may be distributed throughout a combination of several ordinances and/or regulatory mechanisms. The following table provides likely scenarios for the applicability of ordinance and other regulatory mechanisms.

<ul style="list-style-type: none"> ◆ Cities and villages ◆ Townships with a more complex MS4 (e.g., a township that owns or operates roads) 	<ul style="list-style-type: none"> ◆ County agencies ◆ Townships with a regulated MS4 limited to township-owned property ◆ Public institutions (e.g., school systems and universities)
Primary Legal Authority: Ordinance	Primary Legal Authority: Regulatory Mechanism
Secondary Legal Authority: Policies and procedures for staff to implement IDEP activities	

The ordinance or regulatory mechanism shall include the following application requirements for the regulated MS4:

- (1) Prohibit non-stormwater discharges (see exceptions below)
- (2) Regulate the contribution of pollutants
- (3) Prohibit illicit discharges, including illicit connections and direct dumping/disposal
- (4) Establish the authority to investigate, inspect, and monitor suspected illicit discharges
- (5) Require and enforce elimination of illicit discharges and connections

Options to exclude prohibiting certain non-stormwater discharges

Applicants may choose to exclude prohibiting the discharges or flows from the following categories of non-stormwater discharges as part of the ordinance or other regulatory mechanism requirement.

1. Firefighting Activities – Applicants have the option to exclude prohibiting the discharges or flows from firefighting activities to the MS4 as part of the ordinance or other regulatory mechanism and

require that these discharges or flows only be addressed if they are identified as significant sources of pollutants *to waters of the State*.

2. Non-Stormwater Categories – Applicants have the option to exclude prohibiting the discharges and flows from the following list of non-storm water discharges as part of the ordinance or other regulatory mechanism provided that they are identified as not being *a significant contributor to violations of Water Quality Standards*.

- Water line flushing and discharges from potable water sources
- Landscape irrigation runoff, lawn watering runoff, and irrigation waters
- Diverted stream flows and flows from riparian habitats and wetlands
- Rising groundwaters and springs
- Uncontaminated groundwater infiltration and seepage (see discussion below)
- Uncontaminated pumped groundwater, except for groundwater cleanups specifically authorized by NPDES permits
- Foundation drains, water from crawl space pumps, footing drains, and basement sump pumps
- Air conditioning condensation
- Waters from noncommercial car washing
- Street wash water
- Dechlorinated swimming pool water from single, two, or three family residences. (A swimming pool operated by the permittee shall not be discharged to a separate storm sewer or to surface waters of the state without NPDES permit authorization from the Department.

These discharges shall not be authorized. Authorization to discharge these non-stormwater discharges would be in conflict with the ordinance/regulatory mechanism requirement above to prohibit non-stormwater discharges.

Contaminated Groundwater

Uncontaminated groundwater infiltration and seepage into an MS4 is identified above as a discharge or flow that does not need to be prohibited provided the uncontaminated groundwater is not a significant contributor to violations of Michigan Water Quality Standards. If an applicant chooses to allow this option, a procedure should be established to determine whether or not groundwater infiltrating or seeping into the MS4 is contaminated. Appendix C includes a flowchart and narrative description to assist with developing a procedure. The flowchart provides the framework for determining whether groundwater infiltration/seepage is contaminated and options for eliminating the groundwater infiltration/seepage if it is contaminated.

An applicant may be the responsible party for a Part 201 cleanup site or Part 213 leaking underground storage tank (LUST) site or may be aware of a Part 201 cleanup site or Part 213 LUST site infiltrating or seeping into the applicant's MS4. In December 2010 Part 201 was amended, specifically the criteria associated with the generic groundwater surface water interface (GSI) criteria. It is important to note that the illicit discharge definition applies at the point of infiltrating or seeping into the regulated MS4 while the GSI criteria are applied at the outlet to surface waters of the state. An MS4 permittee shall apply the ordinance or regulatory requirement to eliminate illicit discharges prior to infiltrating/seeping into the MS4 in accordance with permit requirement.

Example Implementation

- An applicant may use an existing ordinance/regulatory mechanism or multiple ordinances/regulatory mechanisms as the primary legal authority as long as the application requirements

are met. Supplemental documents may also be used to further support the primary legal authority, such as adopting standard plumbing or Michigan building codes to further support ordinance language; using existing ordinances, such as planning or zoning ordinances; and adopting the county's environmental health codes. If the MS4 is owned or operated by a drain commissioner the existing Drain Code, PA 40 of 1956 and Chapter 18, section 280.423, is applicable where discharge of certain sewage and waste matter is prohibited.

- Develop an all-encompassing ordinance to fulfill the requirements above. Applicants may want to collaborate with other municipalities to develop consistent ordinance or other regulatory mechanism language and legal authority.

Progress Reporting

Once a permit is issued, the permittee will be required to track implementation of the SWMP. For the IDEP, in addition to evaluating its effectiveness, a permittee shall provide documentation of the actions taken to eliminate illicit discharges. If an illicit discharge has been identified, but not yet eliminated, a schedule for eliminating the illicit discharge shall be identified.

For illicit discharges identified under an interagency agreement coming from other participating owners/operators of the MS4, the permittee performing dry-weather screening at the discharge points to surface waters of the state shall provide documentation of the notifications to the other participating operators and the information given to them with the notifications.

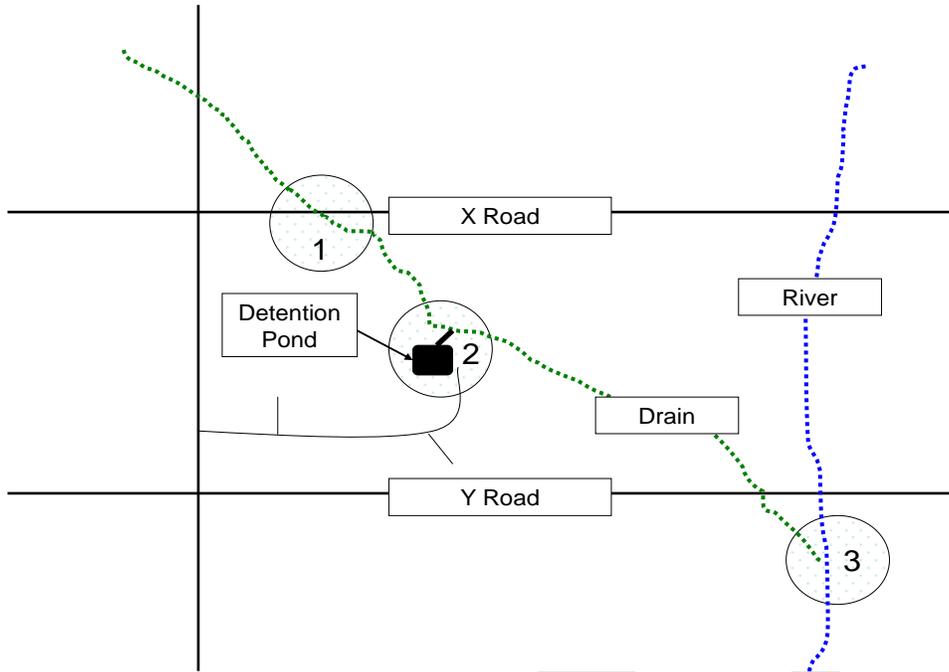
Example Implementation

The following are examples of activities that when fully tracked provide enough details to describe IDEP implementation efforts.

- Number of discharge points observed for dry-weather screening
- Number of illicit discharges identified
- Location of the illicit discharge into the permittee's MS4 and the receiving water
- Documentation of the illicit discharge notification and information provided with the notification if the illicit discharge does not originate within the permittee's MS4
- Number of illicit discharges corrected. If an illicit discharge is not corrected provide a schedule for elimination.

If implementing an IDEP as part of an interagency agreement, each responsible permittee shall keep detailed records of progress/implementation that shall be provided to the DEQ.

Appendix A - Keep? – Edit if we do



As noted in the overview on page one of this compliance assistance document, a determination needs to be made as to whether or not the receiving water for the MS4 discharge point is considered surface waters of the state. In the example above, dry-weather screening is required at the location where the discharge point first discharges to surface waters of the state.

Dry-weather screening shall be performed based on the following factors in the above example:

- The drain is owned and operated by a drain commissioner. The Department has determined that this designated county drain is a surface water of the state throughout the open and closed portions since it is marked as blue on a topographic map and is designed to only convey stormwater. We need to change the color from green to blue to make this work.
- The detention pond discharges to the drain and is not surface waters of the state.

Location 1

- If X Road is owned or operated by a road commission or city who has their own permit (i.e., not nested under another permit) and a discharge point to the drain, then dry-weather screening shall be performed by the road commission or city.
- If X Road is owned or operated by a road commission who is nested under a drain commissioner's permit, then dry-weather screening is required by the drain commissioner at the point where the MS4 discharges to surface waters of the state.

Location 2

- If the detention pond is owned or operated by a permittee, including the drain commissioner, then dry-weather screening shall be performed by the permittee.

Location 3

- If the drain commissioner owns or operates the drain with a discharge to the river, then dry-weather screening will not be necessary at the discharge point to the river, since this would be considered a surface water to surface water point.

DRAFT

Appendix B – Example of Dry Weather Screening Collaborative IDEP

Each participating applicant should fill in the specific details for the italicized placeholders below and include this document in their application. Delete remaining italicized text.

Application/Permit Requirement: Procedures for performing field observations at all outfalls and points of discharge in the priority areas

Best Management Practice: Collaborative IDEP for performing field observations at all outfalls and points of discharge in the priority areas

Responsible Applicants/Permittees: [*List MS4 owners/operators Participating*] certify a commitment and participation in this collaborative IDEP.

Method of Implementation: [*List Responsible MS4 owners/operators*] (responsible applicants/permittees) have agreed to work collaboratively to perform dry-weather screening at all outfalls and points of discharge in the priority areas [*Define the scope of the regulated MS4s and direct discharges to surface waters of the state*] (see attached map). If an illicit connection or discharge is detected, the responsible permittees will work collaboratively to identify and eliminate the source.

The responsible applicants/permittees have agreed that [*List Primary Applicant/Permittee*] will be the primary contact for performing the field observations. Additional permittees not included with this agreement, but who own or operate storm sewer systems within this regulated MS4 area include, but are not limited to, [*List Permittees*].

The [*Primary Applicant/Permittee*] will take responsibility for performing field observations at all outfalls and points of discharge in the priority areas at least once during the permit cycle. The [*List Primary Applicant/Permittee*] agrees to complete this task no later than [*Insert date not to exceed five years from expected permit issuance*]. The [*List Primary Applicant/Permittee*] may choose to complete this task using a consultant or internal staff.

At the time of application for all responsible applicants/permittees, outfalls and points of discharge in the priority areas will be identified, given a unique ID and the owner/operator identified by the responsible permittees. If unknown outfalls or points of discharge are identified in the field, they will be noted and observed by the [*List Primary Applicant/Permittee*]. The Primary Applicant/Permittee will make a determination about the ownership of previously-unknown outfalls or points of discharge. Dry-weather flow from private drainage systems will be reported to the DEQ. Outfalls or points of discharge that are found to be associated with orphan drains will be reported to the DEQ and local health department for further follow-up, if required.

Dry-weather screening will be completed in accordance with the prioritized areas identified for the purpose of maximizing the detection and elimination of illicit discharges [*Insert or attach prioritized areas as a narrative description or map*]. Dry-weather screening will be completed, at a minimum of 48 hours after any precipitation, and include observations of the receiving water characteristics, discharge pipe characteristics and flows. The observations will include: presence/absence of flow; water clarity, color,

odor and floatable materials; deposits/stains on the discharge structure or bank; vegetation condition of receiving water; structural condition of discharge pipe; and biology, such as bacterial sheens, algae, and slimes; and staining of the banks and unusual vegetative growth.

If flow is observed from the outfall or point of discharge, then the responsible applicants/permittees commit to do one of the following:

1. If by observation it is obvious that an illicit discharge is present and the source is obvious, the [Primary Applicant/Permittee] will document the observations and source for follow-up by the responsible permittees. The [Primary Applicant/Permittee] will notify the responsible permittees in writing within 10 days of detection and provide all applicable observation information, including the date and location where the illicit discharge was detected and the obvious source. The illicit discharge will be eliminated.
2. If flow is observed and the source is not obvious, the [Primary Applicant/Permittee] will conduct a field screening of the dry-weather flow to analyze the discharge for the following indicator parameters: [Insert indicator parameters]. Field screening will be conducted at a minimum of two times within two-weeks of the initial observation to determine if flow is intermittent or constant. The [Primary Applicant/Permittee] will notify the responsible permittees in writing within 30 days of detection and given all applicable field information, including the date and location where the illicit discharge was detected. All responsible permittees where the illicit discharge was detected will perform dry-weather screening of their outfalls and points of discharge in the jointly-operated MS4 within 13 months of detection, unless the illicit discharge is eliminated or identified in a portion of the MS4 not influenced by discharges from the responsible permittee's outfalls or points of discharge.

Optional: *The [Primary Applicant/Permittee] will perform dry-weather screening of all outfalls or discharge points within the jointly-operated MS4 where the illicit discharge was detected within 13 months of detection, unless the discharge is eliminated or identified in a portion of the MS4 not influenced by discharges from the responsible permittee's outfalls or discharge points. The [Primary Permittee] will provide all applicable information to the responsible permittees for illicit discharge elimination.*

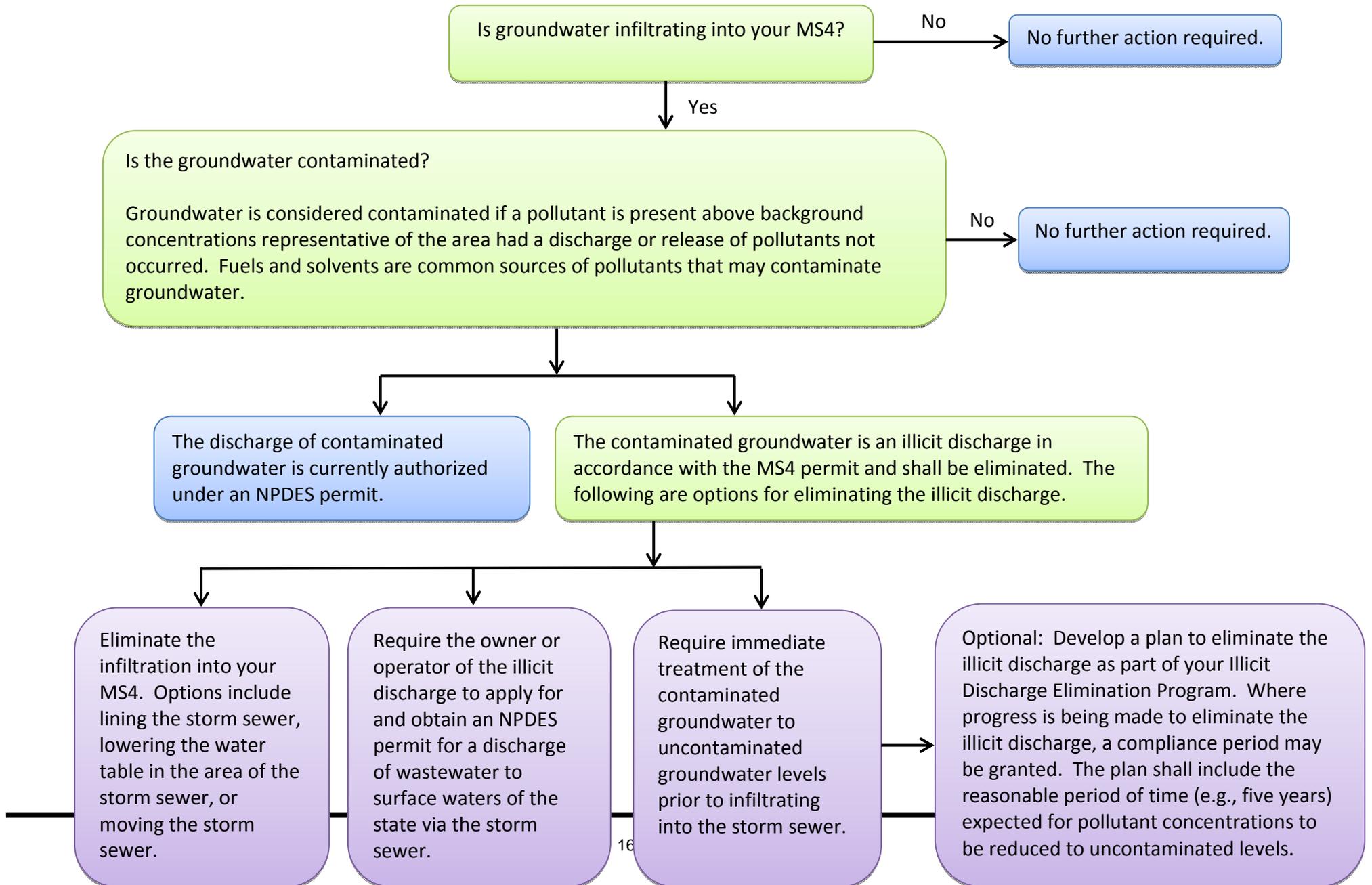
If an illicit discharge is detected, but the source has not been identified, the source will be confirmed by the [responsible applicants/permittees OR primary applicant/permittee] by performing a source investigation. The source investigation includes the following activities: [Insert activities, such as indicator parameter sampling, which may include chemical and bacterial sampling; dye testing; video testing; smoke testing; documented visual observation or physical indicators; homeowner surveys and surface condition inspections for on-site sewage disposal systems; and drainage area investigations].

The responsible permittee with legal authority to eliminate the illicit discharge and pursue enforcement will follow their ordinance and procedures for the expeditious response to and elimination of each identified illicit discharge.

If it is determined that the potential source is coming from an MS4 that is not a party to this agreement then that non-participating MS4 permittee will be notified within 10 days of discovery of the suspected illicit discharge and where applicable all parties will work together to address the problem.

Schedule: Complete by [Insert same date from above]

Appendix C – Options for Eliminating an Illicit Discharge of Contaminated Groundwater into a regulated MS4



Illicit discharges of contaminated groundwater to a regulated MS4

Illicit discharges to regulated MS4s are prohibited and the permittee is required to eliminate the illicit discharge to comply with permit requirements. This document will focus on when an NPDES permit may be appropriate.

Questions to consider regarding the illicit discharge:

- Is the contaminated groundwater entering the MS4?
- If yes, how has this been documented?
- What are the parameters of concern?
- Has the owner of the MS4 been notified?
- Is there an existing clean-up plan in place that will eliminate the illicit discharge to the MS4 in the next 5 years (e.g. a permit cycle)?

Options for eliminating illicit discharges to the MS4:

- Prohibit the discharge into the storm sewer (options include lining it, lowering the water table in the area of the storm sewer or moving the storm sewer)
- Treat on-site to uncontaminated groundwater levels
- Apply for and obtain an NPDES permit for the discharge to surface waters of the state via the storm sewer system

NPDES Permit considerations for illicit discharges to MS4s

- Has the groundwater plume been adequately characterized with respect to pollutants and how the plume intersects the MS4?
 - Natural attenuation in the groundwater can be a plan in some cases when there is a clean-up effort in place and Technology-Based Effluent Limits (TTBELs) won't be more restrictive.
- The NPDES compliance point for the TTBEL/Water Quality Based Effluent Limits (WQBELs) should be representative of the discharge prior to mixing with in the MS4 unless otherwise allowed by the MS4 for WQBELs.
 - Note that water quality requirements must ensure that Water Quality Standards are met in waters of the state; therefore, consistent and reliable dilution available from the storm water/infiltration into the MS4 upstream of surface waters of the state can be considered. Seasonal variation should be addressed.
- The NPDES permit must ensure that TTBELs are specified and that more stringent WQBELs are achieved if applicable.
- The treatment-based requirements should be based on effluent guidelines if promulgated, or previous DEQ decisions for a class of discharges under Best Professional Judgment (BPJ). If these are not available, a new case-specific BPJ decision under 40 CFR 125 should be made and appropriate conditions established. Such conditions could include effluent limits, operational conditions, and/or appropriate Best Management Practices.
- Ensure the discharge of the pollutant will not jeopardize the structural integrity of the MS4.

Appendix D – Tracer Dye Authorization

In compliance with the provisions R323.1097 of Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451), the Department of Environment Quality has regulatory jurisdiction over projects involving the application of tracer dyes to surface waters of the state.

An entity is authorized to apply tracer dyes to surface waters of the state by following the provisions under the appropriate certification. The certifications are as follows:

1. For applications or discharges of tracer dyes appearing on the Acceptable Michigan Tracer Dye List to surface waters of the state, coverage under the General Rule 97 Certification of Approval Authorizing Tracer Dyes in Surface Waters is necessary. This process is initiated by submittal of a Notification of Intent by the applicant. Upon acknowledgement from the Department that a Notification of Intent has been received, the applicant is authorized to commence tracer dye study in compliance with the certification. Acknowledgement of receipt of the Notification of Intent can be determined at www.michigan.gov/deq or by contacting Ms. Renee Comage at 517-241-8714 or by e-mail at comager@michigan.gov.
2. For any application or discharge of tracer dyes to waters of the state that is not authorized by a General Rule 97 Certification of Approval, an Individual Rule 97 Certification of Approval is necessary. Upon receipt of approval by the Department, the applicant is authorized to commence treatment under the individual Rule 97 approval.

Additional information on tracer dye studies can be found at www.michigan.gov/deq. On the left side of the screen, click on "Water," followed by "Rule 97 Certifications," then "Tracer Dye Studies." This website includes the Acceptable Michigan Tracer Dye List and Notification of Intent.