



Introduction to Compliance Assistance Documents



Part II



Compliance Assistance Documents

- Afternoon overview:
 - Illicit Discharge Elimination Program
 - Construction Storm Water Runoff
 - Program Assessment – SWPPI/SWMP



IDEP Requirements

- The main requirements of the IDEP include:
 - An IDEP Ordinance or other regulatory mechanism
 - A storm sewer system map
 - An identification of prioritized areas for dry-weather screening
 - A plan and procedures for performing dry-weather screening
 - Procedures for eliminating illicit discharges, including spills & emergency situations
 - A program for employee training
 - A method for evaluating the effectiveness of the IDEP
 - Progress reporting requirements

Illicit Discharge Elimination Plan

Where is it implemented?

- Watershed Permit - where the permittee owns and operates MS4s in the regulated area (watershed and urbanized area)
- Jurisdictional Permit - where the permittee owns and operates MS4s in the urbanized area.

IDEP Ordinance/Other Regulatory Mechanism Requirement

- Develop an ordinance or other regulatory mechanism
 - Prohibit Illicit Discharges
 - Authority to investigate
 - Require and enforce illicit discharge elimination



Storm Sewer System Map

- A map showing the storm sewer system must include:
 - Discharge points
 - Receiving waters
 - Complete storm sewer system
- May be combination of many maps
- Kept on site and available for review



Prioritizing Areas for Dry-Weather Screening

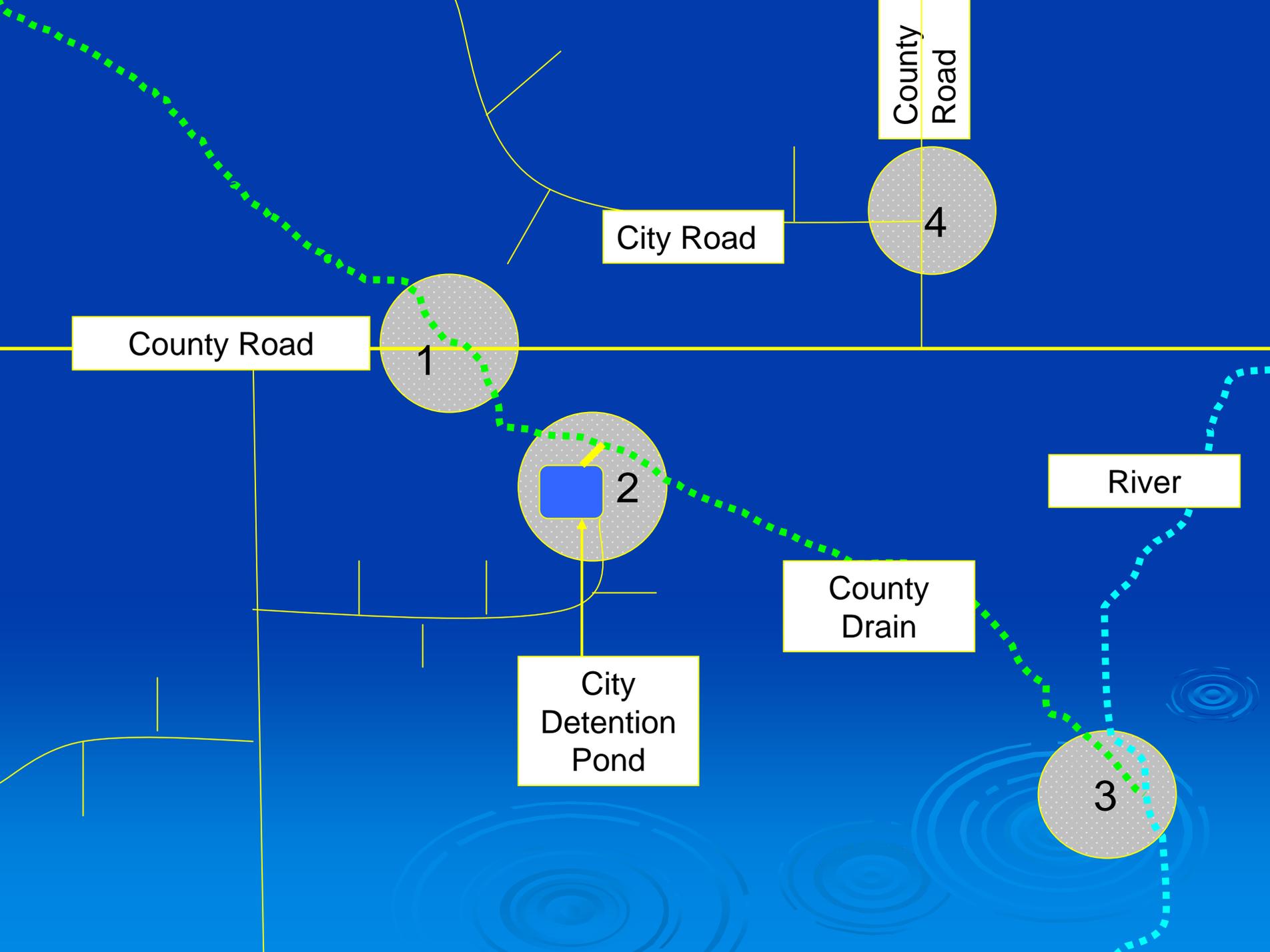
- The IDEP must include an identification of the process and areas prioritized for dry-weather screening
- Shall consider criteria listed in the permit and IDEP assistance document



Performing Dry-Weather Screening

- Must screen all discharge points within 5 years of IDEP submittal
- Screen at a minimum 48 hours after precipitation



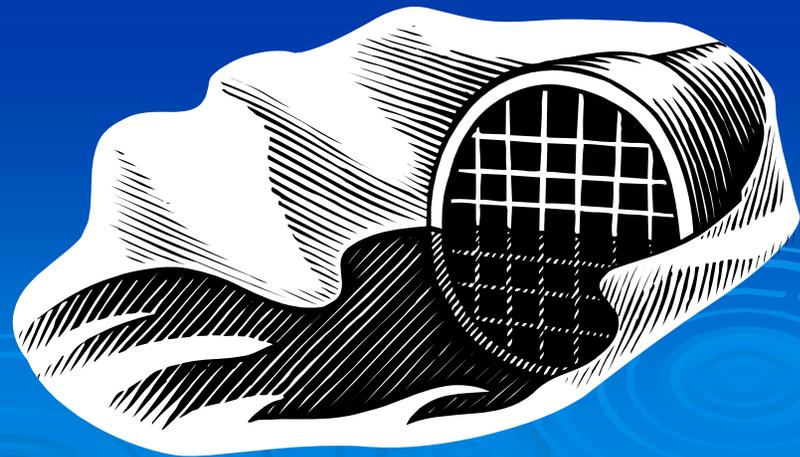


Map Explanation

- Dry-weather screening is required at the location where the MS4 first discharges to surface waters of the state. MS4s can be both a MS4 and waters of the state.
- This is an example of four different discharge point scenarios where dry weather screening is required.
- In this example, the county drain is owned and operated by a County Drain Commissioner and is also a surface waters of the state.
- Location 1
- If the County Road is owned or operated by a Road Commission 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.
- Even if the Road Commission is nested under a County wide permit which also covers the Drain Commission, then dry-weather screening would still be required at this point as it is a MS4 discharge to a surface water of the state.
- Location 2
- The detention pond is owned and operated by the City and therefore, dry-weather screening at this point is required. Note that in this example the detention pond was constructed for the sole purpose of treatment and control of storm water discharges and therefore is not considered to be a waters of the state
- Location 3
- This is the point where the County drain discharges into a river. The Drain Commissioner will need to perform dry-weather screening, when possible, at the discharge point of the county drain to the river, since it is a discharge from a MS4 to a surface water of the state.
- Location 4
- This is an internal discharge point from a City Road to the County Road drainage system. The City is required to perform dry-weather screening at this location unless they are working under the elective option.
- The Department can provide assistance if you have questions on whether something is waters of the state and where screening is required.

Dry-Weather Screening Observations

Document observations for MS4 discharge point flows and the receiving water characteristics



Water Clarity, Color, and Odor

Of the Discharge Point



Water Clarity, Color, and Odor

And of the Receiving Water



Suds



Oil Sheens



Sewage



St. Clair County HD, St. Clair River IDEP Project



Oakland County DC IDEP Project

Floatable Materials



City of Battle Creek IDEP Project

Bacterial sheens and blooms, algae, and slimes



Staining of the banks and unusual vegetative growth



Dry-Weather Screening Observations

- MS4 discharge structures:
 - Integrity of structure, presence of staining or undocumented connections



Dry-weather Screening Documentation

- Document screening activities on standard form
- Record accurate observations of:
 - the discharge point flow
 - receiving water characteristics
 - and discharge point structure

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	<input type="checkbox"/>	<input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour <input type="checkbox"/> Petroleum/gas <input type="checkbox"/> Sulfide <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint	<input type="checkbox"/> 2 - Easily detected	<input type="checkbox"/> 3 - Noticeable from a distance
Color	<input type="checkbox"/>	<input type="checkbox"/> Clear <input type="checkbox"/> Brown <input type="checkbox"/> Gray <input type="checkbox"/> <input type="checkbox"/> Yellow <input type="checkbox"/> Orange <input type="checkbox"/> Red <input type="checkbox"/> <input type="checkbox"/> Green <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Faint colors in sample bottle	<input type="checkbox"/> 2 - Clearly visible in sample bottle	<input type="checkbox"/> 3 - Clearly visible in outfall flow
Turbidity	<input type="checkbox"/>	See severity	<input type="checkbox"/> 1 - Slight cloudiness	<input type="checkbox"/> 2 - Cloudy	<input type="checkbox"/> 3 - Opaque
Floatables <i>Does Not Include Trash!!</i>	<input type="checkbox"/>	<input type="checkbox"/> Sewage (Toilet Paper, etc.) <input type="checkbox"/> Suds <input type="checkbox"/> Petroleum (oil sheen) <input type="checkbox"/> Other:	<input type="checkbox"/> 1 - Few/slight; origin not obvious	<input type="checkbox"/> 2 - Some; indicators of origin (e.g., possible suds or oil sheen)	<input type="checkbox"/> 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	<input type="checkbox"/>	<input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint <input type="checkbox"/> Corrosion	
Deposits/Stains	<input type="checkbox"/>	<input type="checkbox"/> Oily <input type="checkbox"/> Flow Line <input type="checkbox"/> Paint <input type="checkbox"/> Other:	
Abnormal Vegetation	<input type="checkbox"/>	<input type="checkbox"/> Excessive <input type="checkbox"/> Inhibited	
Poor pool quality	<input type="checkbox"/>	<input type="checkbox"/> Odors <input type="checkbox"/> Colors <input type="checkbox"/> Floatables <input type="checkbox"/> Oil Sheen <input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other:	
Pipe benthic growth	<input type="checkbox"/>	<input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> 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?	<input type="checkbox"/> Yes <input type="checkbox"/> No
2. If yes, collected from:	<input type="checkbox"/> Flow <input type="checkbox"/> Pool
3. Intermittent flow trap set?	<input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, type: <input type="checkbox"/> OBM <input type="checkbox"/> Caulk dam

When dry weather flow is observed...

If the source is obvious:

Document and move towards elimination of the discharge



(no analysis/sampling is required)

When the source is not obvious...

➤ Conduct field assessment and analyze at a minimum for:

- ❖ pH
- ❖ ammonia
- ❖ surfactants
- ❖ temperature



Jackson County DC, Upper Grand River IDEP Project

Elective Option - Watershed Permit

An opportunity to work collaboratively with adjacent MS4 permittees, for those with inter-jurisdictional discharge points.



Watershed Permit

Alternative Option - Both Permits

- Based on priority areas
- Must be at least as effective as dry weather screening every 5 years



Illicit Discharge Source Identification

- Indicator parameter testing (chemical and bacterial sampling)
- Dye testing (Department approval is required)
- Documented visual observation or physical indicators
- Homeowner surveys and surface condition inspections for on-site sewage disposal systems
- Drainage area investigations
- Video testing
- Smoke testing



Indicator parameter testing (chemical and bacterial sampling)



Oakland County DC IDEP Project

Dye testing

(Department approval is required)



St. Clair County IDEP Project



Macomb County HD – Facility and residential dye testing project

Documented visual observation or physical indicators



Video and Smoke Testing



Video testing a storm sewer.



Washtenaw County Mallets Creek IDEP

Homeowner surveys and surface condition inspections for on-site sewage disposal systems



St. Clair County HD St. Clair River IDEP Project

Eliminating Illicit Discharges and Pursuing Enforcement Action

- Procedures required for:
 - Expeditious response to and elimination of illicit discharges
 - Pursuing enforcement actions, if needed
 - Track illicit discharge elimination
 - Confirming removal of illicit connections and that illicit discharges have been permanently ceased

Example IDEP Log for Tracking

Discharge Type	Identification Information	Contact List	Response	Enforcement Type	Enforcement Actions	Elimination Status
Illegal Connection	Call received via hotline (Include date)	Local DPW County Health Department	Confirmed Source Contacted Owner Required Correction within 30 days	Plumbing Code	Violation written allowing for a period of corrective action	Discharge permanently ceased (Include date)
Fuel Spill (HAZMAT)	Notified by State Police (Include date)	Local Police/ Fire County Environmental DNRE/PEAS	Contact First Responders Control Issue Clean-Up Problem Review Environmental Impacts	Emergency Response Procedure	Spill response charged to company in accordance with municipal procedure	Discharge terminated (Include date)

Spills and Emergency Situations

A procedure to respond to spills and emergency situations is required



IDEP Training

- A program to train staff who are involved in illicit discharge-related activities, or who have field jobs with the potential for witnessing illicit discharges and connections.
- Potential field staff to receive IDEP training may include staff from the:
 - Parks and Rec Dept,
 - DPW or DPS,
 - Soil erosion inspectors,
 - Building inspectors and,
 - Code enforcement officials.

IDEP Training Content

- Definition of illicit discharges and connections
- Techniques for finding illicit discharges
 - field screening
 - source identification
 - illicit discharge & connection recognition
- Methods for eliminating illicit discharges
- Proper enforcement response



IDEP Training Frequency

- At least once during the 5 year permit cycle.
- Refresher training:
 - Every 3 years under the jurisdictional permit
 - According to the schedule provided in the SWPPI under the watershed permit



IDEP Program Effectiveness

- Identify methods or measurable goals for determining effectiveness of IDEP actions
- Describe a method for determining the overall effectiveness of the IDEP



IDEP Program Effectiveness (cont.)

➤ Example items to evaluate:

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



IDEP Progress Reporting

- In addition to evaluating effectiveness:
 - provide documentation of the actions taken to eliminate illicit discharges
 - For identified discharges –
 - Estimate volume and pollutant load eliminated for the main pollutants of concern
 - provide locations of the discharges into both the MS4 and the receiving water.





Questions?

Construction Storm Water Runoff Control

A procedure to provide notice to:

- the Part 91 permitting entity and the Department when soil and sediment are discharged to your MS4.
- the Department when other wastes are discharged, e.g., concrete wash out, oils and grease, paints.



Const. Storm Water Runoff Control (cont.)

- Allow adequate space for soil erosion and sedimentation controls on preliminary site plans



Const. Storm Water Runoff Control (cont.)

- Procedure to receive and consider complaints or other information submitted by the public regarding construction activities
- Current IDEP reporting system can be used



Notification Requirements

The permittee shall verbally notify the Department within 24 hours of becoming aware of any discharge to or from the MS4 that the permittee suspects may endanger public health or the environment.





Questions?

Action Assessment and Evaluating Effectiveness

- Determining effectiveness of actions is a multi-part process which involves measuring activities and/or results and then conducting an evaluation.



Activity Measurement

- Activity measurements are direct analysis of the work being performed that show what a permittee is doing to carry out an action.
- Otherwise known as “Bean Counting”.



Examples of Activity Measurements

- Number of public education activities conducted
- Ordinance completion
- Number of storm water discharge points screened
- Number of people trained



Results Measurements

Results Measurements are outcome, benefit, improvement, or consequence findings that show how the actions have affected the watershed.



Examples of Results Measurements

- Tracking pollution removal or prevention
 - Measurement or estimation of pollutant load reduction to the MS4 and/or lake or stream.
- Direct assessment of the resource
 - Monitoring water quality, living organisms, or other aspect of the surface water the permittee is trying to protect/restore
- Social surveys
 - Indirect measurement of potential water quality improvement
 - Assess changes in behaviors or processes that contribute to storm water pollution



Evaluating Effectiveness

- Use the activity and results measurements data to:
 - evaluate the effectiveness of the activity
 - determine areas for improvement
 - make decisions regarding whether an activity should be maintained, expanded, modified, or eliminated



Evaluating Effectiveness

➤ Questions to ask:

- “What does this measurement mean?”
- “How does this measurement compare to the desired outcome for the action or actions?”
- “What changes can be made to make this action or actions more effective?”
- “Is a change needed that could better allow us to meet the desired outcome?”

Watershed Permit Assessment and Evaluating Effectiveness

- Evaluating effectiveness may occur at the individual action level or the watershed level, or some combination of the two.

Watershed-Wide Evaluation

- Examples of watershed-wide evaluation include:
 - A social survey to determine PEP effectiveness.
 - A surface water quality monitoring program for E. coli to assess IDEP program effectiveness.
- Permittees will still be expected to demonstrate implementation of SWPPI actions in the progress report.

SWMP Assessment--Measurable Goals

- Jurisdictional Permit
- Each BMP must be accompanied by a measurable goal
- The goal should be met during the permit cycle
- Action vs. Results



Progress Reporting

- Progress reports are due in the 2nd and 4th years of both permit cycles
- Timely documentation = accurate reporting



Questions?



www.michigan.gov/deqstormwater