

Chapter 7 Illicit Discharge Detection and Elimination Program

7.0 Introduction

Illicit Discharge Detection and Elimination (IDDE) is an important component to a successful stormwater management plan. It is also one of the minimum requirements for the City of Charleston (city) in complying with its Municipal Separate Storm Sewer Systems (MS4) General permit.

An *Illicit Discharge** is any discharge to the MS4 or the waters of the State that does not consist entirely of stormwater, is not a discharge containing no pollutants covered under the City's NPDES MS4 permit or is not one of the discharges listed in Section 7.1.3 (page 4) of this chapter. As a result of these illicit discharges, polluted waste water enters into storm drains or directly into local waters. Illicit connections may be intentional or may be unknown to the property owners and often go undetected. Illicit discharges may also consist of uncontrolled waste water and/or sediment laden water, such as that illustrated in Figure 7-0.1.

The city has ratified an IDDE Ordinance that specifies the policies and procedures for compliance. The IDDE Ordinance is located in Division 1 of Article VIII, Chapter 102 of the Municipal Code of the City of Charleston and be found on the City of Charleston website or a copy can be obtained at the City's Stormwater Department. As per the City of Charleston IDDE Ordinance this applies to all stormwater and non-stormwater discharges entering the MS4 from any premises located within the city unless explicitly exempted by the city or the West Virginia Department of Environmental Protection (WVDEP)*.



Figure 7-0.1
Jobsite Runoff is identified as an Illicit Discharge

*Referenced from the City of Charleston IDDE Ordinance.

Types of Illicit Discharge



7.1 Types of Illicit Discharge

Prohibition of Illicit Discharges

Except for stormwater, no person shall discharge or cause to be discharged into the MS4 or waters of the state any materials, including, but not limited to, pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards or any other federal, state, or local regulations.*

Pollutant is defined as anything that causes or contributes to pollution and may include, but is not limited to:*

1. paints, varnishes, and solvents
2. oil and other automotive fluids
3. non-hazardous liquid and solid wastes and yard wastes;
4. refuse, rubbish, garbage, litter, or other discarded or abandoned objects
5. floatables
6. pesticides, herbicides, and fertilizers
7. hazardous substances and wastes
8. sewage, fecal coliform and pathogens
9. dissolved and particulate heavy metals
10. animal wastes
11. wastes and residues that result from constructing or renovating a building or structure
12. noxious or offensive matter of any kind
13. hyperchlorinated water
14. commercial car and building wash water

Illicit discharges can be further classified based on how they enter the storm sewer system. The mode of entry can either be direct or indirect. Direct entry means that the discharge is directly connected to the storm drain pipe through a sewage pipe, shop drain, or other kind of pipe. Direct entry usually produces discharges that are continuous or intermittent.*

7.1.1 Direct Discharges

Direct entry usually occurs when different kinds of “plumbing” are improperly connected. The three main situations where this occurs are:

- **Sewage cross-connections** - A sewer pipe that is illegally connected to the storm sewer system produces a continuous discharge of raw sewage to the pipe. This can occur in catchments where combined sewer or septic systems are converted to a separate sewer system.

*Referenced from the City of Charleston IDDE Ordinance.

Types of Illicit Discharge

- **Straight pipe** - This term refers to relatively small diameter pipes that intentionally bypass the sanitary connection or septic drain fields, producing a direct discharge into open channels or streams.
- **Industrial and commercial cross-connections** - This occurs when a drain pipe is improperly connected to the storm sewer system producing a discharge of waste water, process water or other inappropriate flows into the storm drain pipe.

7.1.2 Indirect Discharges

Indirect entry means that flows generated outside a storm drain system enter through storm drain inlets or by infiltrating through the joints of the storm drain pipe. Generally, indirect modes of entry produce intermittent or transitory discharges. The five main modes of indirect entry for discharges include:

- **Groundwater seepage into the storm drain pipe** - Seepage usually occurs in storm drains after long periods of above average rainfall. Groundwater, however, usually consists of relatively clean water that is not an illicit discharge by itself, but can mask other illicit discharges. For example, when storm drains are located close to sanitary sewers, groundwater may facilitate the flow of contaminated water.
- **Spills that enter the storm sewer system at an inlet** - These transitory discharges occur when a spill travels across paved areas, such as a road or sidewalk, and enters a storm drain inlet. A very common example of this is an oil or gas spill resulting from an accident traveling across the road and into the storm sewer system, see Figures 7-1.1 and 7-1.2 for examples.
- **Dumping a liquid into a storm drain inlet** - This type of discharge is created when liquid wastes such as oil, grease, paint, solvents, and various automotive fluids are dumped into the storm drain. An example of this might be draining antifreeze directly into a street gutter.



Figure 7-1.1
Oil around Inlet



Figure 7-1.2
This oil and debris will eventually find its way into the storm drain system

Excluded Discharge



- **Outdoor washing activities that create flow to a storm drain inlet** - Outdoor washing may or may not be an illicit discharge, depending on the nature of the activity that produces the wash water. For example, hosing off individual sidewalks and driveways may not generate significant flows of contaminated water. On the other hand, routine washing of fueling areas, outdoor storage areas, parking lots (i.e. power washing), and construction equipment cleanouts may result in an unacceptable amount of pollutants.
- **Non-specific irrigation from landscaping or lawns that reach the storm drain system** - Irrigation can produce intermittent discharges from over watering or misdirected sprinklers that send tap water over surfaces incapable of absorbing water. In some cases, these flows can carry excess sediment, nutrients from animal waste, fertilizers and pesticides.

7.1.3 Excluded Discharges

The IDDE Ordinance does not consider certain discharges an IDDE unless the city identifies it to be a significant source of pollutant:

The following is a list of discharge that are excluded for IDDE:

- Discharges (not containing pollutants) from the following:^{*}
 1. potable water sources including waterline flushings from which chlorine has been removed to the Maximum Extent Practicable
 2. landscape irrigation or lawn watering with potable water
 3. diverted stream flows
 4. rising ground water
 5. groundwater infiltration to storm drains
 6. pumped groundwater
 7. foundation or footing drains where flows are not contaminated with pollutants (e.g. do not contain process materials such as solvents, heavy metals, etc.)
 8. crawl space pumps
 9. air conditioning condensation
 10. uncontaminated groundwater or spring water
 11. springs
 12. dewatering of work areas of collected stormwater and ground water (filtering or chemical treatment may be necessary prior to discharge)
 13. water used to control dust
 14. routine external building washdown that does not use detergents or other chemicals
 15. waters used to wash vehicles (of dust and soil, not process materials such as oils, asphalt or concrete) where detergents are not used and detention and/or filtering is provided before the water leaves the wash site
 16. non-commercial washing of vehicles

^{*}Referenced from the City of Charleston IDDE Ordinance.

17. natural riparian habitat or wetland flows
 18. swimming pools (if dechlorinated to a concentration of one Part Per Million (PPM) chlorine or less)
 19. firefighting activities
 20. any other water source not containing pollutants
- Discharges approved in writing by a compliance officer as being necessary to protect public health and safety.*
 - Dye testing is an allowable discharge, but requires written notification to a compliance officer prior to the time of the test.*
 - The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the EPA, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge into the MS4.*

7.1.4 Watercourse Protection

The IDDE Ordinance defined watercourse as a body of water flowing in a reasonably defined channel with a bed and banks.*

The IDDE Ordinance provides specific protection for watercourses. Every person owning property through which a watercourse passes, or such person's lessee as a condition of its lease, shall keep and maintain that part of the watercourse located within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or cause the flow of water through the watercourse to back up. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.*

7.1.5 Requirement to prevent, control, and reduce Stormwater Pollutants by the use of Best Management Practices*

The City will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of stormwater, the MS4, or waters of the State. The owner or operator of a commercial or industrial establishment shall provide, at his or her own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the MS4 or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which is, or may be, the source of an Illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the MS4. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater associated with Industrial Activity, to the extent practicable, shall be deemed in compliance with the provisions of this section. These BMPs shall be part of a Stormwater Pollution Prevention Plan (SWPPP) as is necessary for compliance with requirements of the NPDES permit.*

*Referenced from the City of Charleston IDDE Ordinance.



7.1.6 Notification of Spill

Notwithstanding other requirements of state or federal law, as soon as any person responsible for a facility or responsible for emergency response for a facility, has information of any known or suspected release of materials which are resulting, or may result, in illicit discharges or pollutants discharging into stormwater, the MS4, or waters of the State, said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of all other illicit discharges, said person shall notify the City's Stormwater Management Department in person or by phone or email, no later than the next business day. All relevant contact information shall be listed on the City's website. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Stormwater Management Department within three business days of the notice. If the Illicit discharge emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.*

7.1.7 Notice of Violation

- When a compliance officer determines after reasonable observation or investigation that a person has violated a prohibition or failed to meet a requirement of this division, he/she may order compliance by written notice of violation to that person. Such notice may require, without limitation:
 - 1. the performance of monitoring, analyses and reporting
 - 2. the elimination of Illicit connections or discharges
 - 3. that discharges, practices or operations that are in violation shall cease and desist
 - 4. the abatement or remediation of stormwater pollution or contamination hazards and the restoration of any affected property
 - 5. the implementation of source control or treatment BMPs
- Notice(s) of violation shall be served in accordance with the law of the State of West Virginia concerning the service of process in civil actions, except that a method of service effectuated by a mailing by the clerk of a court (e.g., service pursuant to West Virginia Rule of Civil Procedure 4(d)(1)(D)) shall be deemed to be effectuated by a mailing by a compliance officer. If service is made by certified mail consistent with West Virginia Rule of Civil Procedure 4(d)(1)(D) and delivery of the notice of the violation is refused, the Compliance Officer, promptly upon the receipt of the notice of such refusal, shall mail to the Person being noticed, by first class mail, postage prepaid, (1) a copy of the notice of the violation(s) (2) a notice that despite such refusal, the notice of the violation(s) is valid, and (3) advising that the City will proceed to enforce the notice of violation(s). So long as such first class mailing is not returned as undeliverable by the U.S. Postal Service, service of the notice of violation(s) will be conclusively presumed to have been effectuated. Proof of service shall be made at the time of service by a written declaration, under oath, executed by the enforcement official effecting service and shall declare the time, date and manner by which service was made.*

*Referenced from the City of Charleston IDDE Ordinance.

- Any notice of violation(s) under this section shall be in writing and shall contain the following:
 1. the date the notice of violation is given
 2. the name and address of the person(s) charged with the violation
 3. the nature of the violation
 4. a statement of the action required to be taken in order to correct the violation and further prevent it
 5. the time period allowed for the violation to be corrected. When determining the time period allowed for correction, a compliance officer shall take into consideration the threat posed by the violation to the health, safety and welfare of the public and the nature of the work required to correct the violation
 6. the maximum fines that may be assessed if the violation is not corrected and a citation is issued
 7. the name, address and telephone number of the compliance officer issuing the notice of violation
- Nothing in this section shall limit the authority of compliance officers to take any other lawfully prescribed enforcement action, including emergency actions or any other enforcement action, without first issuing a notice of violation.

7.1.8 Violations Deemed a Public Nuisance

In addition to the enforcement processes and penalties provided in the IDDE Ordinance any condition caused or permitted to exist in violation of any of the provisions of this division shall be considered a threat to the public health, safety, welfare and the environment, may be declared and deemed a nuisance, and may be summarily abated and/or restored by, or at the direction of, the City, by and through its compliance officer. The City may initiate any administrative and civil actions as necessary to abate, enjoin or otherwise compel the cessation of such nuisance.

The cost of such abatement and/or restoration shall be the sole responsibility of the owner of the property and the cost thereof shall be a lien upon and against the property. Such lien shall continue in existence until the same shall be paid.

*Referenced from the City of Charleston IDDE Ordinance.

Components of the City's IDDE Program



7.2 Components of the City's IDDE Program

The City is committed to resolving unauthorized illicit discharges to ensure the protection of public health and local water resources and is currently working on developing a comprehensive IDDE program. The following outlines the components of the future IDDE program:

- Development of a storm sewer system map showing the location of all discharge points along with the names and locations of all receiving waterways of that particular discharge point;
- Enforcement the IDDE ordinance that prohibits non-stormwater discharges into MS4s, and appropriate enforcement and procedures of that ordinance.
- The Stormwater Compliance Officer, an employee of the City of Charleston City Engineer's Office or City Building Department designated by the City to administer, implement, and enforce the IDDE ordinance.
- Creation of a Stormwater Management Board to hear and decide appeals of any order or decision of a Stormwater Compliance Officer or any denial of a request for reconsideration by the City Engineer issued pursuant to this division.*
- Development and implementation of a plan to detect and address non-stormwater discharges, including illegal dumping;
- Educate of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper waste disposal, see Figure 7.2.1 for examples of education brochures.

To report a possible IDDE call the Spill Hotline at (304) 348-8106 or the WVDEP Spill Hotline at (800) 642-3074.



Figure 7-2.1
City IDDE Brochures

*Reference from the City of Charleston IDDE Ordinance.