

# Handbook for Identifying Illicit Stormwater Discharges



## Charlotte County Edition

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This document was prepared and produced by Charlotte County, for use by Charlotte County employees, to comply with the requirements of the State of Florida's National Pollutant Discharge Elimination System Program, and with the United States Clean Water Act.

## TABLE OF CONTENTS

REQUIREMENTS OF THE NPDES MUNICIPAL STORMWATER PROGRAM . . .	2
WHY ARE WE INSPECTING FOR ILLICIT DISCHARGES? . . . . .	3
WHO WILL DO THE INSPECTING AND INVESTIGATING? . . . . .	3
SHOULD YOU COLLECT SAMPLES OR OTHER PHYSICAL EVIDENCE? . . . . .	4
WHAT IF THERE ARE DEAD FISH OR ANIMALS? . . . . .	4
WHAT SHOULD I DO IF I FIND A SUSPECTED ILLICIT DISCHARGE? . . . . .	5
HOW SOON DO I NEED TO REPORT IT? . . . . .	5
WHAT IS AN ILLICIT DISCHARGE? WHAT ARE THEY LIKE? HOW DO I RECOGNIZE ONE? . . . . .	6
RUNOFF FROM CONTAMINATED SITES . . . . .	6
DELIBERATE DUMPING . . . . .	7
WHAT KINDS OF CLUES DO I LOOK FOR TO SPOT ILLICIT DISCHARGES? ..	7
RUNOFF FROM CONTAMINATED SITES . . . . .	7
DUMPING . . . . .	8
OTHER POSSIBLE SOURCES . . . . .	9
IF I SEE DELIBERATE DUMPING, SHOULD I TELL THEM TO STOP? . . . . .	10
IF I SEE DRUMS STORED IN THE OPEN AT A PLACE OF BUSINESS, SHOULD I TALK TO THEM ABOUT IT? . . . . .	10
LEGAL DISCHARGES . . . . .	11
WHAT KINDS OF THINGS SHOULD I REPORT? . . . . .	12
<b>SPECIAL INSTRUCTIONS TO SUPERVISORS OF COUNTY EMPLOYEES ONLY! . . . . .</b>	<b>13</b>
APPENDIX A FIELD REPORT FORM . . . . .	14

## REQUIREMENTS OF THE NPDES MUNICIPAL STORMWATER PROGRAM

The USEPA, through regulations adopted in 1990 under the National Pollutant Discharge Elimination System (NPDES), required large and medium sized municipalities to obtain permits for the operation and maintenance of their storm sewer systems where those systems discharge stormwater to the waters of the United States. These regulations were amended in 1999 to include smaller counties and cities. In 2000, EPA authorized the State of Florida Department of Environment Protection (DEP) to implement the NPDES stormwater permitting program in Florida. The FDEP, through rules adopted in 2003, required small municipalities (including Charlotte County) to obtain permits for the operation and maintenance of their storm sewer systems where those systems discharge stormwater to the waters of the United States or waters of the State of Florida. The rules required municipalities to, among other things, enact adequate legal authority to prohibit illicit discharges to our storm sewer systems, develop a stormwater management program that includes control measures to reduce pollutants in runoff, develop a program to detect and remove illicit discharges to our system, and develop a program for monitoring compliance and the success of our programs.

The County submitted its NPDES Stormwater Management Program to the Florida Department of Environmental Protection on January 2008. Rather than creating new jobs to identify and report illicit discharges to our storm sewer system, Charlotte County will utilize existing staff to carry out this important duty as a normal part of their work. This is where you, as a County employee, can help. This booklet will help answer questions about what you can do to keep our stormwater from polluting our streams, rivers and Gulf coastal waters.



## WHY ARE WE INSPECTING FOR ILLICIT DISCHARGES?

The County is basically responsible to ensure that our stormwater discharges do not pollute the waters of the U.S. or waters of the State. To do this, we have to be able to keep pollutants from being put into our storm sewers. The regulations required that we adopt an ordinance to prohibit illicit discharges into our County-owned storm sewer system. The Board of County Commissioners has adopted the NPDES Stormwater ordinance amending the County code. Any discharge to the County's Municipal Separate Storm Sewer System (MS4) not in compliance with the ordinance is considered an illicit discharge.

## WHO WILL DO THE INSPECTING AND INVESTIGATING?

The DEP regulations required that we develop a program for managing our storm sewer system. This program was to include our procedures to be followed to locate and investigate potential illicit discharges and to enforce our ordinance.

As mentioned above, we made a decision to utilize existing staff to keep an eye out for illicit discharges while you are in the field conducting your normal part of your work. The County has a number of employees out every day working around County roads, ditches and ponds. The County's goal is to make sure its employees are able to recognize a potential illicit discharge when they come upon one, know what information to obtain, and know how to report it.

Once a potential problem has been reported, specially trained staff from the Code Compliance Department will conduct an investigation and make an informed determination of what to do next. This may require that samples of the stormwater be collected for lab analysis.



## SHOULD YOU COLLECT SAMPLES OR OTHER PHYSICAL EVIDENCE?



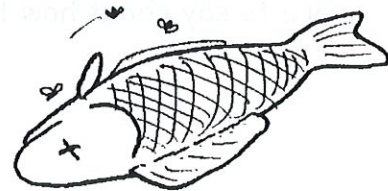
By all means, you should not try to collect samples. In the first place, there is some possibility that an illicit discharge may be toxic or otherwise hazardous. The County does not want its employees taking risks with their health.

In the second place, there is an art to taking evidence that will hold up in court, and people trained to collect samples for evidence should do the sampling. If you attempt to do it, you might end up contaminating either the samples or the site.

If you see an illicit discharge, report the problem and let trained people take it from there.

## WHAT IF THERE ARE DEAD FISH OR ANIMALS?

If there are dead fish or animals, it may be due to a natural phenomenon, such as low dissolved oxygen in the water, or disease (ducks often die of a form of botulism), but don't take any chances. There is just as great a chance that the animals have been killed by a toxic discharge, especially if there are animals besides fish involved. This is because animals like birds, frogs, mammals, etc., breathe air, so if those animals are found dead, it is not likely due to low dissolved oxygen in the water.

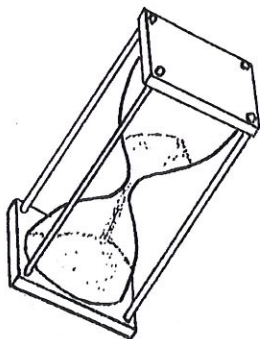


## WHAT SHOULD I DO IF I FIND A SUSPECTED ILLICIT DISCHARGE?

You should report it to your supervisor, or your next in the chain of command who is in the office. They will then decide whether to report it further, and to whom. They will also decide, based on your observation, whether it is an emergency that needs to be stopped right away.



## HOW SOON DO I NEED TO REPORT IT?



The best thing is to report it right away, especially if it appears to be still in progress. That way if it is something that needs to be stopped right away, someone can get to it before it is too late. If all you see is just evidence that a discharge may have happened, but isn't still happening, it would probably be ok to report it when you return to the office at the end of the day. We will have more to say about how to decide later on.



## WHAT IS AN ILLICIT DISCHARGE? WHAT ARE THEY LIKE? HOW DO I RECOGNIZE ONE?

Basically, an illicit discharge is allowing any contaminant to enter the County's storm sewers. They were designed to handle water, so as to prevent flooding, and not as a place to dump or discharge waste. There are two situations which constitute illicit discharges, runoff from contaminated sites, and deliberate dumping.

### RUNOFF FROM CONTAMINATED SITES



! This kind of discharge is not always visible, since while some pollutants cause obvious discoloration or cloudiness in the water, most don't. You often don't actually see the discharge, but may see telltale signs such as dead plants on the banks, dead fish, and so on.

! This kind of discharge usually happens during rain (but not always). It generally consists of pollution material that was spilled on the ground or pavement at the site, or possibly from contaminated containers stored at the site and exposed to rain.

! Since they are predictable, runoff episodes can be sampled if necessary, by setting up automatic samplers designed to sample when water starts running off the site.

! Unfortunately, after a while, the polluted water will have flowed on downstream to the bay, and it may be impossible to trace it anymore. If they aren't sampled when the runoff event is happening, it is hard to turn back time and gather evidence of this kind of discharge.

## DELIBERATE DUMPING

! This kind of discharge is sporadic, often occurring at night and on weekends, when the person involved thinks nobody is looking.

! Unlike runoff, this kind of discharge is not predictable, and as a result is hard to sample for gathering evidence.

! This kind of discharge could be toxic since it is often done by businesses trying to get rid of industrial wastes without having to do it properly. As a result, you really need to avoid coming in contact with it, or even breathing fumes if it is volatile.

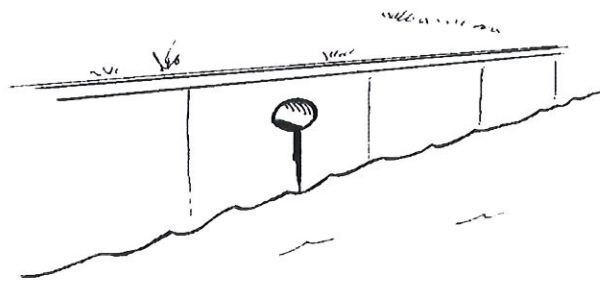
! Often we need to make a quick decision to respond to this kind of event. If you see it actually occurring, it needs to be reported immediately so proper action can be taken. Later, after it has already happened, it may be too late; the damage may have already been done.



## WHAT KINDS OF CLUES DO I LOOK FOR TO SPOT ILLICIT DISCHARGES?

### RUNOFF FROM CONTAMINATED SITES

First, we'll talk about the runoff type. If it has rained recently, the polluted water may still be flowing in the ditches or culverts. The water may be discolored or murky. It may have an odd smell. (However, a word of caution: don't go sniffing around an illicit discharge! It may be dangerous.)



Maybe the runoff event didn't happen recently, but there still may be evidence that something happened. The vegetation along the ditch banks may be dead if the material was toxic to plants. There might be dead fish or other animals in the water



or along the banks. There might be unnatural discoloration of the mouth of a culvert or on the concrete wing wall below a culvert. For example, a bumper plating shop discharge might turn the concrete bright green.

Some of these things can be explained naturally; fish can die of natural causes for example. Discolored water may be due to algae. But it might just as easily be due to an illicit discharge. Don't leave it to chance. Go ahead and report it to your supervisor or appropriate contact person, and let trained staff make an informed decision.

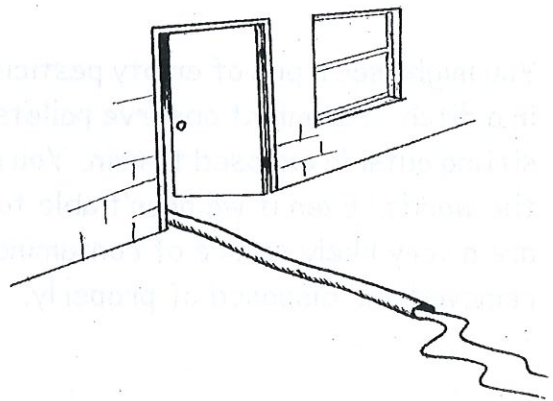


### DUMPING

Now a word about deliberate dumping. It is likely you won't observe this directly, because the people doing it purposely try to do it when they won't be seen. This isn't always the case, however; some people just don't realize that the storm sewer carries water to lakes and the bay - they think it goes to a waste treatment plant.

Dumping may not consist of a person emptying a bucket or drum of waste. It might be a tank truck draining its contents through a hose into a manhole. Sometimes this is legal; septic tank cleaning people may have a permit allowing them to discharge to the *sanitary* sewer system through a manhole.

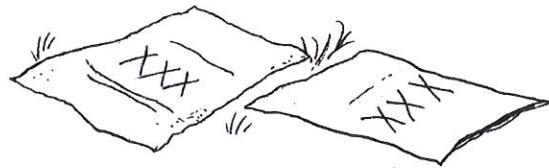
Dumping may also consist of a hose running out the back door of an industrial site and into a ditch, or simply out into a wooded lot.



If you are in the business of inspecting storm sewers, you might occasionally run across an unauthorized pipe which has been connected to the storm sewer.

Often, all you will see is evidence that illicit dumping has occurred, such as discoloration of channels and pipes.

Another telltale sign of a possible illicit discharge is flow when there shouldn't be any. In general, ditches and other channels should be carrying water just after a rainfall event. Depending upon the size of the area being drained, the ditch might continue to flow for a day or more following a large rain. Ditches may have some flow, even when it hasn't rained recently, since groundwater can seep into the banks of the ditch. This is called base flow, and is generally very low. If it hasn't rained recently, but you observe a significant flow in a ditch, or coming out of a culvert, there is a good chance that someone is discharging wastewater into the system.



#### OTHER POSSIBLE SOURCES

You might see a pile of empty pesticide containers or bags discarded on a vacant lot or in a ditch. You might observe pallets filled with bags of fertilizer or other products sitting outside exposed to rain. You might see old drums discarded in an open lot or in the woods. Even if we aren't able to trace these to the responsible party, they still are a very likely source of contamination and will need to be reported so they can be removed and disposed of properly.



## IF I SEE DELIBERATE DUMPING, SHOULD I TELL THEM TO STOP?



People deliberately dumping are breaking the law, and sometimes they know it but do it anyway. You shouldn't take chances by confronting people like this. Report it to your identified contact immediately, and if it needs to be stopped, a sheriff's deputy or other law officer can take steps to stop it. Whether it needs to be stopped immediately can be determined depending upon the other observations you make. We will discuss what kinds of things you need to look for shortly.

## IF I SEE DRUMS STORED IN THE OPEN AT A PLACE OF BUSINESS, SHOULD I TALK TO THEM ABOUT IT?



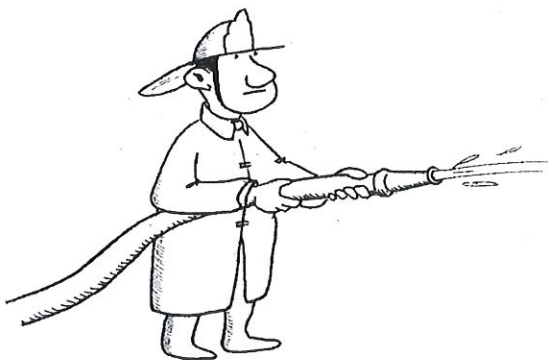
You shouldn't take it on yourself to try to interpret the law to business people. It is only a violation of our ordinance if pollutants are actually entering the storm sewer system. Even then, you can help most by reporting it and letting others decide what needs to be done. If you observe unsanitary business practices such as storage of materials where they are exposed to rain, report it. People whose job is counseling businesses for pollution prevention can talk to them about it, or they can simply be reported to the State or EPA, if appropriate.



## LEGAL DISCHARGES

Some discharges are NOT considered illegal under the County's ordinance. These include:

- flows from firefighting,
- water line flushing and other contributions from potable water sources,
- landscape irrigation and lawn watering,
- irrigation water,
- diverted stream flows,
- rising groundwaters,
- direct infiltration of groundwater to the separate storm sewer system,
- uncontaminated pumped groundwater,
- foundation and footing drains,
- water from crawl space pumps,



- uncontaminated air conditioning condensation,
- springs,
- individual residential car washing,
- filter backwash from residential swimming pools, and
- flows from riparian habitats and wetlands

Note, not all of these are considered good practices. It is not a good idea to backwash your swimming pool filter directly into a ditch or other water body; the chlorine that you put into your pool to kill bacteria will also kill aquatic life. If you wash your own car, it's a good idea to do it over your lawn, so the soapy water can be absorbed by the lawn and not run down the street and into the storm sewer system, or to a lake. These activities, while not all good things to do, are exempt from the County's ordinance, unless we are able to show that such a discharge is really causing significant harm to water quality or aquatic life. It simply was not the intent of the County to use the ordinance to try to make people stop washing their cars, etc. The law was intended to deal with large scale polluters such as industries and commercial establishments.

## WHAT KINDS OF THINGS SHOULD I REPORT?

**Location** - It is extremely important to provide a good location so that the next person investigating the problem won't have any trouble finding it. If there is an address at the site, it might be simple to say something like "ditch behind 222 Fourth Street", but oftentimes, there won't be an address. You can use directional instructions like "200 feet east of the intersection of Pine Street and Oak Avenue" You may even want to sketch a simple map to assist the investigator.

**What you observed** - Whatever it was that you observed may not be so obvious to another person. Be sure to describe thoroughly what you saw, or what happened, that made you suspect an illicit discharge. The form in Appendix A will provide some useful suggestions as to the kinds of things to report.

**Any identifying marks** - Was there a commercial vehicle or car at the site? Did the truck have any identification on the door panel? Any telephone number? Any information of this kind can be very useful in attempting to determine who was responsible. Even an automobile license number is helpful. Remember, however, we don't want you taking risks. If you have to confront the person dumping in order to copy down their license number, then maybe you'd better not take the chance.

**Photographs** - If you happen to have a camera with you, especially a digital camera, it would be very useful if you were to take a few snapshots of what you observed. If you do, be sure to identify on the back of each photo the date taken, the place taken, and sign it. If you do, it may end up being used as evidence; if you don't, it probably won't be useful. It also helps to sketch a map of the site on your report, and identify where each photo was taken, and from what direction.

Original images should always be preserved in their original format by saving the image on a hard drive, or on a CD. If a photograph must be enhanced for investigation or demonstrative purposes, the enhanced image should not replace the original, but rather should be saved as a separate image.



## **SPECIAL INSTRUCTIONS TO SUPERVISORS OF COUNTY EMPLOYEES ONLY!**

If you are the person designated to receive reports from your field staff, it will be necessary for you to sometimes make a decision as to the urgency of a report. Generally, if an illicit discharge, dumping or otherwise, is in progress at the time you receive the report, it should be reported to the County Code Compliance Department promptly, along with any other field observations about the condition of the water. If the report is about observed evidence that an illicit discharge may have happened, but is not going on at the time, there is no urgency, and the report can be filed with the Code Compliance Department at your earliest convenience. If, however, the evidence suggests a possible hazardous situation, whether it is currently going on or not, it should be reported promptly. An example might be location of discarded pesticide containers in a ditch. If you have any doubt, call the Code Compliance Department for advice. The number to call is 743-1247.

It is also important that you have a second person designated as your backup, in case a report comes in while you are away from your office, or on vacation. That backup person needs to be familiar with this program, and what to do in case of a report.



POTENTIAL ILLICIT DISCHARGE FIELD REPORT FORM

REPORT DATE \_\_\_\_\_

REPORT TIME \_\_\_\_\_

REPORTED BY \_\_\_\_\_

REPORT TO \_\_\_\_\_

ON \_\_\_\_\_

DESCRIBE THE LOCATION OF THE POTENTIAL ILLICIT DISCHARGE (USE THE BACK OF THIS PAGE TO DRAW A MAP, IF NECESSARY)

APPENDIX A  
FIELD REPORT FORM

Please keep copies of this form in your County vehicle at all times. Use it to report potential illicit discharges or any potential water pollution problems. Remember, you don't have to wait until you're sure there is a real problem before you report to your supervisor that there may be a problem.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

POTENTIAL ILLICIT DISCHARGE FIELD REPORT, Page 1 of 3

REPORT DATE \_\_\_\_\_ REPORT TIME \_\_\_\_\_

REPORTED BY \_\_\_\_\_ PHONE \_\_\_\_\_

SUPERVISOR \_\_\_\_\_ DEPT \_\_\_\_\_

REPORT SENT TO \_\_\_\_\_ ON \_\_\_\_\_ (date)

DESCRIBE THE LOCATION OF THE POTENTIAL ILLICIT DISCHARGE (USE THE BACK OF THIS PAGE TO DRAW A MAP, IF NECESSARY):

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DESCRIBE THE POTENTIAL ILLICIT DISCHARGE:

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POTENTIAL ILLICIT DISCHARGE FIELD REPORT, Page 2 of 3

CONDITION OF WATER:

Odor:  None  Rotten egg  Musty  Sewage

Other (describe) \_\_\_\_\_  
\_\_\_\_\_

Color: (describe) \_\_\_\_\_

Clarity:  Clear  Cloudy  Opaque

Floatables:  Oily sheen  Trash  Sewage  Other \_\_\_\_\_

Deposits/Stains:  Sediments  Oily  Structures stained

(describe)  Other \_\_\_\_\_  
\_\_\_\_\_

Vegetation condition:  None  Dead  Discolored  Normal

Other \_\_\_\_\_

Biological:  Algae/green scum  Dead fish  Other \_\_\_\_\_

Flow:  Low/none  Unusually high

Has rained in the past 24 hours  Has not rained in the past 24 hours

Physical evidence of an illicit discharge:  Drums  Other (Describe)

\_\_\_\_\_



POTENTIAL ILLICIT DISCHARGE FIELD REPORT, Page 3 of 3

OTHER OBSERVATIONS:

Is a discharge occurring now?  Yes  No

Do you see the source?  Yes  No

Auto tag number and/or other identifying information: \_\_\_\_\_

PHOTO LOG:

Photo Number	Facing Direction (N, S, E, W)	Photo Content
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Photos Taken By \_\_\_\_\_ Camera Type \_\_\_\_\_

Date \_\_\_\_\_ Time \_\_\_\_\_ Signature \_\_\_\_\_

Photos received by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_