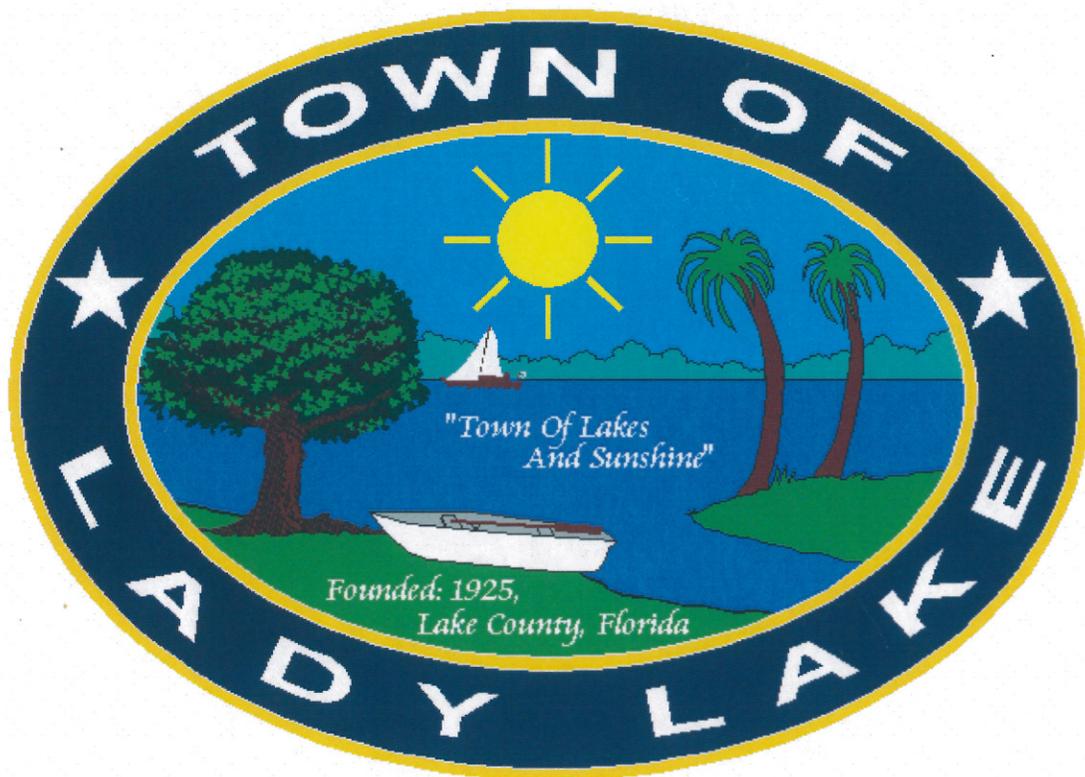


Town of Lady Lake



Illicit Discharge Detection Manual

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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 Florida Department of Environmental Protection (DEP) to implement the NPDES stormwater permitting program in Florida. The DEP, through rules adopted in 2003, required small municipalities (including Lady Lake) 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.

Why Are Illicit Discharge Detection and Elimination Efforts Necessary?

Discharges from MS4s can often include wastes and wastewater from non-storm water sources, including illicit discharges, which can enter the system through various means. The result of this is untreated discharges that contribute to high levels of pollutants, including heavy metals, toxics, oil and grease, solvents, nutrients, viruses, and bacteria to receiving water bodies. Pollutant levels from these illicit discharges have been shown in EPA studies to be high enough to significantly degrade receiving water quality and threaten aquatic, wildlife, and human health. The Town will utilize existing staff to carry out the important duty of identifying and reporting discharges. This booklet will help answer questions about what you can do to keep illicit discharges and stormwater from polluting our lakes.

WHY ARE WE INSPECTING FOR ILLICIT DISCHARGES?

The Town is responsible for ensuring 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 require the Town to adopt an ordinance to prohibit illicit discharges into County-owned storm sewer systems.

WHO WILL DO THE INSPECTING AND INVESTIGATING?

The DEP regulations require development of a program for managing our storm sewer system. This program includes procedures to be followed to locate and investigate potential illicit discharges and to enforce the ordinance.



As mentioned above, existing staff will keep an eye out for illicit discharges while in the field conducting normal work. The Town has a number of employees out everyday working around Town roads, ditches and ponds. The Town'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 Stormwater 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?

DO NOT try to collect samples. There is some possibility that an illicit discharge may be toxic or otherwise hazardous. The Town does not want its employees taking risks with their health.

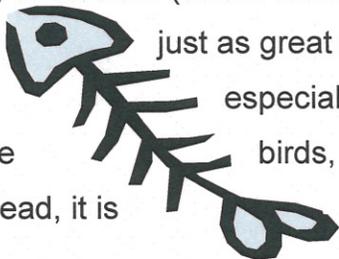


There is an art to taking evidence that will hold up in court, and people trained to collect samples for evidence should do the sampling. If you attempt to do it, you might end up contaminating either the samples or the site.

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?



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.

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

An **illicit discharge** is defined by the US EPA's Phase II Storm Water Regulations as "any discharge to an MS4 (Municipal Separate Storm Sewer System) that is not composed entirely of storm water..." with some exceptions. These exceptions include discharges from NPDES permitted industrial sources and discharges from fire-fighting activities. Illicit discharges are considered "illicit" because MS4s are not designed to accept, process, or discharge such nonstorm water wastes. Basically an illicit discharge is allowing any contaminant to enter the Town's storm sewers. The storm system was 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 (Intermittent Illicit Discharge)

- 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, etc.
- 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 downstream to the lakes, 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 (Transitory Illicit Discharge)

- This kind of discharge is sporadic, often occurring at night or 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 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. 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 – 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.

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 law enforcement officer can take steps to stop it. Whether it needs to be stopped immediately can be determined depending upon the other observations you make.



LEGAL DISCHARGES

Some discharges are NOT considered illegal under most ordinances. These include:

- Flows from firefighting,
- Uncontaminated water line flushing,
- Irrigation,
- Rising ground waters,
- Potable water,
- Uncontaminated groundwater infiltration,
- Uncontaminated pumped groundwater,
- Foundation and footing drains,
- Water from crawl space pumps,
- Air conditioning condensate,
- Springs,
- Individual residential car washing,
- Natural flows from riparian habitats and wetlands,
- Dechlorinated swimming pool discharges.



Note, not all of these are considered good practices. 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 most ordinances, unless we are able to show that such a discharge is really causing significant harm to water quality or aquatic life.

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 note something like "ditch behind 222 Fourth Street", but often, 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 B 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? A 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 – Take a camera with you. 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.

SPECIAL INSTRUCTIONS TO SUPERVISORS OF TOWN EMPLOYEES

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 or dumping is in progress at the time you receive the report, it should be reported to the Public Department promptly, along with any other field observations about the condition of the water. If the report is regarding 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 Public Works 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 Public Works Department for advice.

The number to call is 352-751-1504 between the hours of 7:00 am – 4:00 pm. Fax your report as soon as possible to 352-751-1595. If you do not get an answer by the end of the day or it is after hours or a weekend, call the non-emergency police department number (352-751-1565) if the discharge is in progress.



APPENDIX A

LIKELY SOURCE LOCATIONS

Table 1-1: LAND USES, LIKELY SOURCE LOCATIONS AND ACTIVITIES THAT CAN PRODUCE TRANSITORY OR INTERMITTENT ILLICIT DISCHARGES

Land Use	Likely Source Locations	Condition/Activity that Produces Discharge
Residential	<ul style="list-style-type: none"> · Apartments · Multi-family · Single Family Detached 	<ul style="list-style-type: none"> · Car Washing · Driveway Cleaning · Dumping/Spills · Equipment Wash-downs · Lawn/Landscape Watering · Septic System Maintenance · Swimming Pool Discharges · Laundry Wastewater · Improper Plumbing (garage floor drains)
Commercial	<ul style="list-style-type: none"> · Campgrounds/RV Parks · Car Dealers/Rental Car Co. · Car Washes · Commercial Laundry · Gas Stations/Auto Repair Shops · Marinas · Nurseries and Garden Centers · Oil Change Shops · Restaurants · Swimming Pools · Service Garages 	<ul style="list-style-type: none"> · Building Maintenance (power washing) · Dumping/Spills · Landscaping/Grounds Care (irrigation) · Outdoor Fluid Storage · Parking Lot Maintenance (power washing) · Vehicle Fueling · Vehicle Maintenance/Repair · Vehicle Washing · Wash-down of Greasy Equipment & Grease Traps
Industrial	<ul style="list-style-type: none"> · Auto Recyclers · Beverages and Brewing · Construction Vehicle Washouts · Distribution Centers · Food Processing · Garbage Truck Washouts · Marinas, Boat Building and repair · Metal Plating Operations · Paper and Wood Products · Petroleum Storage and Refining · Printing 	<ul style="list-style-type: none"> · All Commercial Activities · Industrial Process Water or Rinse Water · Loading and Un-loading Area Wash-downs · Outdoor Material Storage (fluids)
Municipal	<ul style="list-style-type: none"> · Airports · Landfills · Maintenance Depots · Municipal Fleet Storage Areas · Ports · Public Works Yards · Streets and Highways 	<ul style="list-style-type: none"> · Building Maintenance (power washing) · Dumping/Spills · Landscaping/Grounds Care (irrigation) · Outdoor Fluid Storage · Parking Lot Maintenance (power washing) · Road Maintenance · Emergency Response · Vehicle Fueling · Vehicle Maintenance/Repair · Vehicle Washing

SOURCE: Modified from *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments*, Center for Watershed Protection, 2004, p. 12, Table 2.

APPENDIX B

FIELD REPORT FORM

ILLCIT DISCHARGE FIELD REPORT

DATE _____ TIME _____ INSPECTOR'S NAME _____

EVIDENCE OBSERVED: _____

CONDITION OF WATER:

Odor: None Rotten egg Musty Sewage

Other (describe) _____

Color: (describe) _____

Clarity: Clear Cloudy Opaque

Floatables: Oily sheen Trash Sewage

Other (describe) _____

Deposits/Stains: Sediments Oily Structures stained

Other (describe) _____

Vegetation condition: None Dead Discolored Normal

Other _____

Biological: Algae/green scum Dead fish Other _____

Flow: Low/none Unusually high

Has rained recently Has not rained recently

Physical evidence: Drums Other containers (describe) Other

OTHER OBSERVATIONS:

Is a discharge occurring now? Yes No

Do you see the source? Yes No

License number and/or other identifying information: _____

Site accessibility for lab staff – Any special equipment needed? _____