

Standard Operating Procedures Locating Illicit Discharges

The University of Alabama takes great strides in protecting the water quality on Campus. For The University of Alabama to continue to keep the water clean we need to prevent Illicit Discharges at all costs. An Illicit Discharge is any discharge to an engineered storm drain that is not entirely composed of storm water. Illicit Discharges may enter the storm drain systems through direct and indirect connections, such as; cross-connections of sewer services to The University of Alabama's storm drain systems, Intentional discharge of pollutants to the storm drain systems, floor drains and sump pumps. Illicit discharges can contribute to high levels of pollutants, such as heavy metals, toxics, oil, grease, solvents nutrients and pathogens to receiving streams.

Illicit discharges can be located by routine dry weather inspections and by student and faculty/staff report.

I. Identifying Illicit Discharges

The following are often indicators of an Illicit Discharge from a Storm-Water Outfall:

1. Foam: Indicator of upstream vehicle washing activities, or an illicit discharge.
2. Oil Sheen: result of a leak or spill.
3. Cloudiness: indicator of suspended solids such as dust, ash, powdered chemicals and grown up materials.
4. Color or Odor: Indicator of raw materials, chemicals, or sewage.
5. Excessive sediment: Indicator of upstream construction activities or unpaved areas lacking adequate erosion control measures.
6. Sanitary waste and optical enhancers: indicator of the cross-connection of a sewer service.
7. Orange staining: Indicator of high mineral concentrations.

Bacteria and petroleum both can create a sheen on the waters surface. The way to differentiate the source of the sheen is to disturb it, such as with a stick or pole. A sheen caused by petroleum will remain intact and move in a swirl pattern. A sheen caused by bacteria will separate and appear blocky in nature. Bacterial sheen is not a pollutant but should be noted.

II. Call in Reports

Reports by students and faculty/staff can be a very effective tool for identifying the presence of an potential Illicit Discharge. If a call is received of a potential Illicit Discharge the IDDE Incident Tracking Sheet shall be used to document appropriate information. Subsequent steps for acting to trace, document, and eliminate the Illicit Discharge are described in the following sections.

Potential Illicit Discharges reported by students and faculty/staff should be reviewed on an annual basis to locate potential patterns of Illicit Discharges.

III Tracing Illicit Discharges

The University of Alabama will trace the contaminates back to its original inlet source and sample all outfalls in the chain until it has determined there are no contaminates and then will make the determination whether the Illicit Discharge is The University of Alabama's or if it has come from an adjacent MS4. The University of Alabama will provide sampling and testing analysis for all pathogens deemed necessary. If further sampling is needed The University of Alabama will utilize an accredited laboratory to perform the sampling and analysis. The Incident Tracking Sheet shall be utilized in the event of a potential Illicit Discharge.

If the source of the Illicit Discharge could not be determined by the procedure listed above, consider using dye testing, smoke testing or closed-circuit television inspection (CCTV) to locate the Illicit Discharge.

1) Dye Testing

Dye testing is used to confirm a suspected illicit connection to a storm drain system. Prior to testing, permission to access the site should be obtained. Dye is discharged into the suspected fixture, and nearby storm drain structures and sanitary sewer manholes observed for presence of the dye. Each fixture, such as sinks, toilets, and sump pumps, should be tested separately. A third-party contractor may be required to perform this testing activity.

2) Smoke Testing

Smoke testing is a useful method of locating the source of illicit discharges when there is no obvious potential source. Smoke testing is an appropriate tracing technique for short sections of pipe and for pipes with small diameters. Smoke added to the storm drain system will emerge in connected locations. A third-party contractor may be required to perform this testing activity.

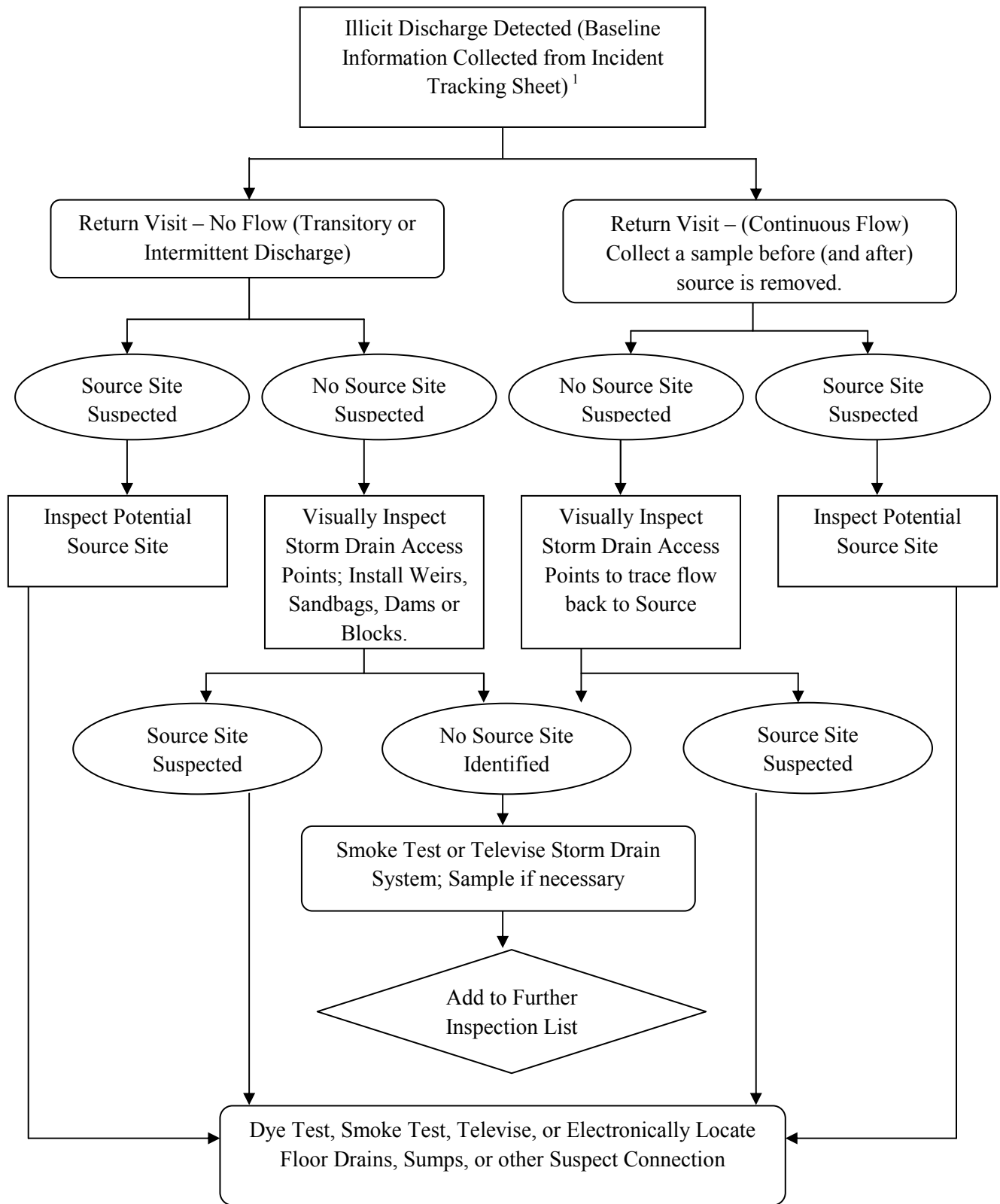
3) Closed Circuit Television Inspection (CCTV)

Televised video inspection can be used to locate illicit connections and infiltration from sanitary sewers. In CCTV, cameras are used to record the interior of the storm drain pipes. They can be manually pushed with a stiff cable or guided remotely on treads or wheels. A third-party contractor may be required to perform this testing activity.

IV Removing Illicit Discharges

Proper removal of an Illicit Discharge will ensure it does not recur. In any scenario, conduct a follow up inspection to confirm the Illicit Discharge has been removed. Suspend access to the storm drain system if an "imminent and substantial danger" exists or if there is a threat of serious physical harm to humans or the environment.

Standard Operating Procedures



Illicit Discharge Incident Tracking Sheet

Incident ID:			
Responder Information (for Citizen-Reported issues)			
Call Taken By:		Call Date:	
Call Time:		Precipitation (inches) in past 24-48 hours:	
Observer Information			
Date and Time of Observation:		Observed During Regular Maintenance or Inspections? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Caller Contact Information (optional) or Municipal Employee Information:			
Observation Location: (complete one or more below)			
Latitude and Longitude:			
Stream Address or Outfall #:			
Closest Street Address:			
Nearby Landmark:			
Primary Location Description		Secondary Location Description:	
<input type="checkbox"/> Stream Corridor (In or adjacent to stream)		<input type="checkbox"/> Outfall	<input type="checkbox"/> In-stream Flow <input type="checkbox"/> Along Banks
<input type="checkbox"/> Upland Area (Land not adjacent to stream)		<input type="checkbox"/> Near Storm Drain	<input type="checkbox"/> Near other water source (stormwater pond, wetland, ect.):
Narrative description of location:			
Upland Problem Indicator Description			
<input type="checkbox"/> Dumping	<input type="checkbox"/> Oil/Solvents/Chemicals	<input type="checkbox"/> Sewage	
<input type="checkbox"/> Detergent, suds, etc.	<input type="checkbox"/> Other: _____		
Stream Corridor Problem Indicator Description			
Odor	<input type="checkbox"/> None	<input type="checkbox"/> Sewage	<input type="checkbox"/> Rancid/Sour <input type="checkbox"/> Petroleum (gas)
	<input type="checkbox"/> Sulfide (rotten eggs); natural gas	<input type="checkbox"/> Other: Describe in "Narrative" section	
Appearance	<input type="checkbox"/> "Normal"	<input type="checkbox"/> Oil Sheen	<input type="checkbox"/> Cloudy <input type="checkbox"/> Foam
	<input type="checkbox"/> Optical enhancers	<input type="checkbox"/> Discolored	
	<input type="checkbox"/> Other: Describe in "Narrative" section		
Floatables	<input type="checkbox"/> None	<input type="checkbox"/> Sewage (toilet paper, etc)	<input type="checkbox"/> Algae <input type="checkbox"/> Trash or debris
	<input type="checkbox"/> Other: Describe in "Narrative" section		
Narrative description of problem indicators:			
Suspected Source (name, personal or vehicle description, license plate #, address, etc.):			