



**VILLAGE OF  
LONG GROVE**  
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## Stormwater Outfall Inspection Data Form

### Section 1: Background Data

|                                                                                                                    |                                                                                                                          |                        |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------|
| Subwatershed:                                                                                                      | Outfall ID:                                                                                                              |                        |
| Date:                                                                                                              | Time (Military):                                                                                                         |                        |
| Temperature: °F                                                                                                    | Inspector(s):                                                                                                            |                        |
| Previous 48 Hours Precipitation:                                                                                   | Photo's Taken (Y/N)                                                                                                      | If yes, Photo Numbers: |
| Land Use in Drainage Area (Check all that apply):                                                                  | <input type="checkbox"/> Open Space<br><input type="checkbox"/> Institutional<br>Other: _____<br>Known Industries: _____ |                        |
| <input type="checkbox"/> Industrial<br><input type="checkbox"/> Residential<br><input type="checkbox"/> Commercial |                                                                                                                          |                        |

### Section 2: Outfall Description

| LOCATION                             | MATERIAL                                                                                                                                                                                                                                        | SHAPE                                                                                                                                             |                                                                                                                                                | DIMENSIONS (IN.)              | SUBMERGED                                                                                                                                                                                                                                 |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Storm Sewer<br/>(Closed Pipe)</b> | <input type="checkbox"/> RCP <input type="checkbox"/> CMP<br><input type="checkbox"/> PVC <input type="checkbox"/> HDPE<br><input type="checkbox"/> Steel<br><input type="checkbox"/> Clay / Draintile<br><input type="checkbox"/> Other: _____ | <input type="checkbox"/> Circular<br><input type="checkbox"/> Elliptical<br><input type="checkbox"/> Box<br><input type="checkbox"/> Other: _____ | <input type="checkbox"/> Single<br><input type="checkbox"/> Double<br><input type="checkbox"/> Triple<br><input type="checkbox"/> Other: _____ | Diameter/Dimensions:<br>_____ | In Water:<br><input type="checkbox"/> No<br><input type="checkbox"/> Partially<br><input type="checkbox"/> Fully<br>With Sediment:<br><input type="checkbox"/> No<br><input type="checkbox"/> Partially<br><input type="checkbox"/> Fully |
|                                      | <input type="checkbox"/> Concrete<br><input type="checkbox"/> Earthen<br><input type="checkbox"/> rip-rap<br><input type="checkbox"/> Other: _____                                                                                              | <input type="checkbox"/> Trapezoid<br><input type="checkbox"/> Parabolic<br><input type="checkbox"/> Other: _____                                 | Depth:<br><br>Top Width:<br><br>Bottom Width:                                                                                                  |                               |                                                                                                                                                                                                                                           |

### Section 3: Physical Indicators

| INDICATOR                                                             | CHECK if Present         | DESCRIPTION                                                                                                                                                                                                                                           | COMMENTS |
|-----------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Outfall Damage                                                        | <input type="checkbox"/> | <input type="checkbox"/> Spalling, Cracking or Chipping <input type="checkbox"/> Peeling Paint<br><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<br><input type="checkbox"/> Suds <input type="checkbox"/> Excessive Algae <input type="checkbox"/> Other: _____ |          |
| Pipe algae/growth                                                     | <input type="checkbox"/> | <input type="checkbox"/> Brown <input type="checkbox"/> Orange <input type="checkbox"/> Green <input type="checkbox"/> Other: _____                                                                                                                   |          |
| Do physical indicators suggest an illicit discharge is present (Y/N): |                          |                                                                                                                                                                                                                                                       |          |

|                  |                                                                                                         |                                                                           |
|------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| Flow Present?    | <input type="checkbox"/> Yes <input type="checkbox"/> No                                                | <b>If No, Skip to Section 7 and Close Illicit Discharge Investigation</b> |
| Flow Description | <input type="checkbox"/> Trickle <input type="checkbox"/> Moderate <input type="checkbox"/> Substantial |                                                                           |

**Section 4: Physical Indicators (Flowing Outfalls Only)**

| INDICATOR                                                                       | CHECK if Present         | DESCRIPTION                                                                                                                                                                                                                                                                  | RELATIVE SEVERITY INDEX (1-3)                             |                                                               |                                                              |
|---------------------------------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------------|
| Odor                                                                            | <input type="checkbox"/> | <input type="checkbox"/> Sewage <input type="checkbox"/> Rancid/sour<br><input type="checkbox"/> Sulfide <input type="checkbox"/> Petroleum/gas<br><input type="checkbox"/> Laundry <input type="checkbox"/> Other:                                                          | <input type="checkbox"/> 1-Faint                          | <input type="checkbox"/> 2 – Easily detected                  | <input type="checkbox"/> 3 – Noticeable from a distance      |
| Color (color chart)                                                             | <input type="checkbox"/> | <input type="checkbox"/> Clear <input type="checkbox"/> Brown<br><input type="checkbox"/> Gray <input type="checkbox"/> Yellow<br><input type="checkbox"/> Green <input type="checkbox"/> Orange/Red<br><input type="checkbox"/> Multi-Color <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 -Does Not Include Trash!!                                            | <input type="checkbox"/> | <input type="checkbox"/> Sewage <input type="checkbox"/> Suds and Foam<br><input type="checkbox"/> Petroleum (oil sheen)<br><input type="checkbox"/> Grease <input type="checkbox"/> Other:                                                                                  | <input type="checkbox"/> 1-Few/slight; origin not obvious | <input type="checkbox"/> 2 – Some; indications of origin      | <input type="checkbox"/> 3 - Some; origin clear              |
| Do physical indicators (flowing) suggest an illicit discharge is present (Y/N): |                          |                                                                                                                                                                                                                                                                              |                                                           |                                                               |                                                              |

**Section 5: On-Site Sampling / Testing (Flowing Outfalls Only)**

| PARAMETER                 | RESULT | ACCEPTABLE RANGE                                    | WITHIN RANGE (Y/N) | EQUIPMENT         |
|---------------------------|--------|-----------------------------------------------------|--------------------|-------------------|
| Temperature               |        | NA                                                  | NA                 | Thermometer       |
| pH                        |        | 6 – 9                                               |                    | 5-in-1 Test Strip |
| Ammonia                   |        | <3 mg/L April – Oct<br>< 8 mg/L Nov - March         |                    | Test Strip        |
| Free Chlorine             |        | NA                                                  | NA                 | 5-in-1 Test Strip |
| Total Chlorine            |        | < 0.05 mg/L                                         |                    | 5-in-1 Test Strip |
| Phenols                   |        | < 0.1mg/L                                           |                    | Test Kit          |
| Detergents as Surfactants |        | > 0.25 mg/L residential<br>> 5 mg/L non-residential |                    | Test Kit          |
| Copper                    |        | <0.025 mg/L                                         |                    | Test Strip        |
| Alkalinity                |        | NA                                                  | NA                 | 5-in-1 Test Strip |
| Hardness                  |        | NA                                                  | NA                 | 5-in-1 Test Strip |
| Sample Location           |        |                                                     |                    |                   |

(Note NA values used for future tracing procedures)

**Section 6: Data Collection for Lab Testing (see flow chart)**

|                            |                               |                               |
|----------------------------|-------------------------------|-------------------------------|
| 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 |

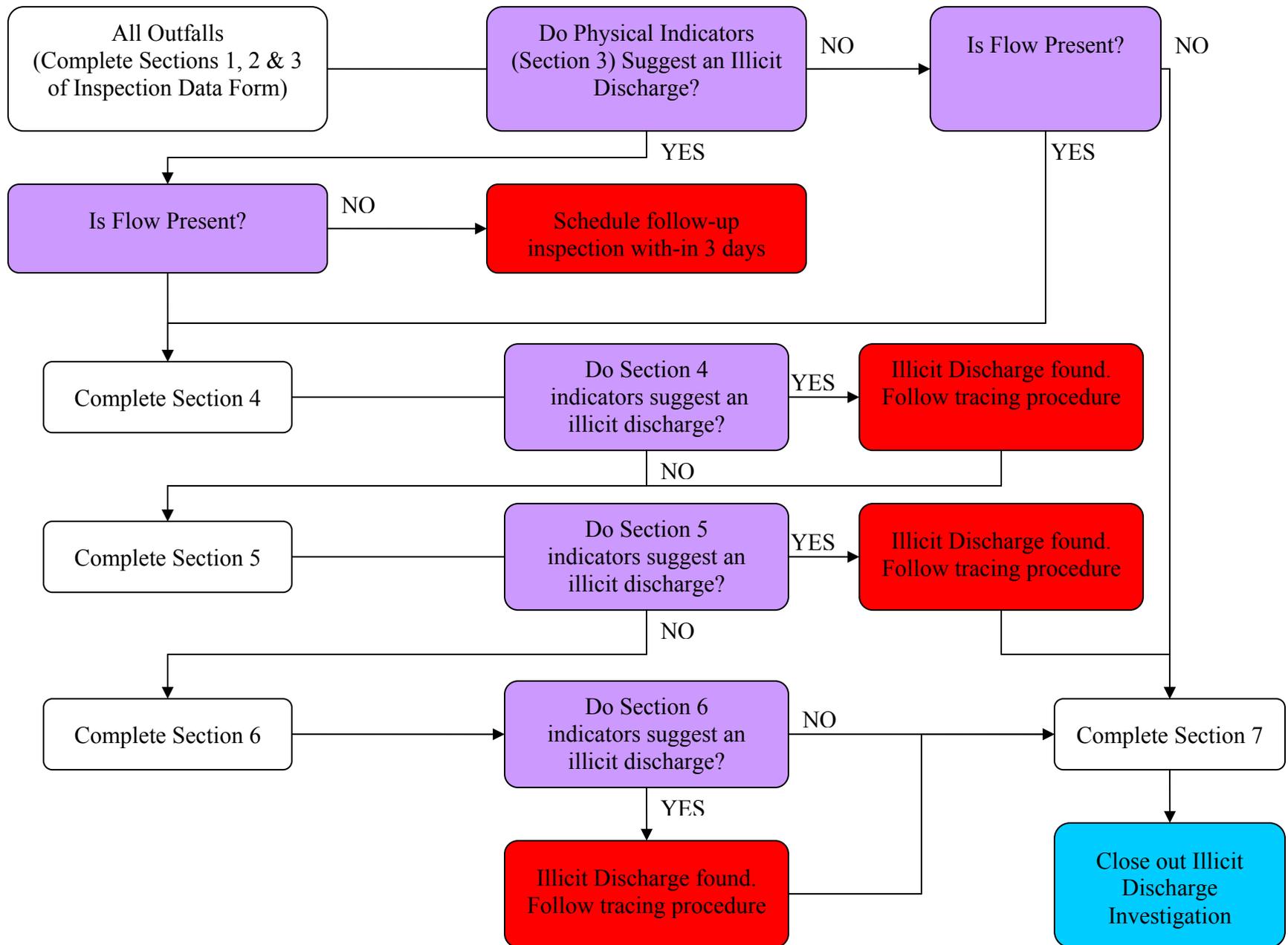
| PARAMETER      | RESULT (from lab) | ACCEPTABLE RANGE                     | WITHIN RANGE (Y/N) |
|----------------|-------------------|--------------------------------------|--------------------|
| Fecal Coliform |                   | 400 per 100 mL                       |                    |
| Flouride       |                   | 0.6 mg/l                             |                    |
| Potassium      |                   | Ammonium/Potassium ratio or > 20mg/l |                    |

\*note label sample with outfall number

**Section 7: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?**

|  |
|--|
|  |
|  |

**Figure 4: Outfall Inspection Procedure Flow Chart**



Instructions for completing the  
***Stormwater Outfall Inspection Data Form***

Strike out incorrect entries with a single line; correct values or descriptions are written above or near the struck-out entries. Do not use a new data entry form to correct an incorrect entry. At the completion of each outfall inspection, the field crews are responsible for ensuring that a ***Stormwater Outfall Inspection Data Form*** has been completely and correctly filled out and that all data and remarks are legible. **It is important to check that values for all chemical parameters have been entered.**

**Section 1: Background Data**

Subwatershed: The receiving water from the stormwater outfall inventory to be entered here.

Outfall ID: Enter the outfall identification number from the stormwater outfall inventory.

Date: To avoid confusion, dates are to be written in the following manner: DAY MONTH YEAR. For example, 10 MARCH 2007.

Time: Military time (24-hour clock) to be used (for example, 8:30 a.m. would be written as 0830; likewise, 1:30 p.m. would be written as 1330).

Temperature: A concise description of the weather conditions at the time of the screening is to be recorded (for example, Clear, 75° F).

Inspector: The name(s) of the field personnel.

Previous 48 Hours Precipitation: The total amount of precipitation during the 48 hours preceding the inspection is to be noted (for example, none-72 Hours or 0"=4 days). If the total precipitation is not known, it is appropriate to enter a qualitative assessment if the precipitation was minor. For example, *Drizzle-36 Hours* if appropriate. If the precipitation amount was significant, actual precipitation totals is obtained from a local rain gage, if available.

Photo's Taken (Yes/No): Photographs are to be taken with a camera that superimposes a date and time on the film. The date and time should correspond to the date and time recorded on the data form.

Photo Numbers: If photographs are taken, the number(s) is recorded.

Land Use: Check all that apply, noting which land use is predominate. If the industrial box is checked, any known industries are listed to facilitate potential tracing efforts.

## **Section 2: Outfall Description**

Type of Outfall: Storm Sewer (Closed Pipe) or Open Drainage (Swale/Ditch):

First check if the outfall is either from a Closed Pipe or Open Drainage. Then complete the following row to describe outfall characteristics.

## **Section 3: Physical Indicators**

Indicators: Complete rows describing outfall characteristics (Outfall Damage, Deposits/Stains, Abnormal Vegetation, Poor pool quality, Pipe alga/growth). This section is filled out regardless of current flow conditions. No flow during the time of the inspection, does not rule out the potential of illicit discharges. Corroding or stained pipes, dead or absence of vegetation, are potential indicators of illicit discharges from direct or indirect (i.e. dumping) sources.

Likelihood: After inspecting the physical conditions of the outfall, the likelihood of an illicit discharge is assessed.

Flow Present (Yes/No): A *Yes* or *No* is entered here to indicate the presence or absence of dry-weather flow. If the outfall is submerged or inaccessible, “See Notes” is entered and an explanation provided in the “Notes” section.

Flow Description: A description of the quantity of the dry-weather flow is provided. Refer to Figure 6 of the SMPP.

Flow Chart Procedure:

- If *No* is entered in the “Flow Present” block and no non-flowing physical indicators appear present the inspection can be closed, skip to Section 7 of the form.
- If *No* is entered in the “Flow Present” block but indicators appear present, place the outfall on the follow-up inspection log, then the current inspection can be closed, skip to Section 7 of the form.
- If *Yes* is entered in the “Flow Present” block (regardless of the presence of non-flowing physical indicators), complete remainder of Section and proceed to Section 4.

## **Section 4: Physical Indicators (Flowing Outfalls Only)**

Complete rows describing outfall characteristics (Odor, Color, Turbidity, Floatables). This section is filled out for flowing outfalls only.

Odor: The presence of an odor is to be assessed by fanning the hand toward the nose over a wide-mouth container of the sample, keeping the sample about 6 to 8 inches from the face. Be careful not to be distracted by odors in the air. Provide a description of the odor, if present. Refer to Table 2 of the SMPP.

Color: The presence of color in the discharge is to be assessed by filling a clean glass sample container with a portion of the grab sample and comparing the sample with a color chart, if color is present. If a color chart is used, the number corresponding to the color matching the sample is to be entered in this blank. Color is not assessed by looking into the discharge. Refer to Table 3 of the SMPP.

Turbidity “clarity”: Turbidity is a measure of the clarity of water. Turbidity may be caused by many factors, including suspended matter such as clay, silt, or finely divided organic and inorganic matter. Turbidity is a measure of the optical properties that cause light to be scattered and not transmitted through a sample. The presence of turbidity is to be assessed by comparing the sample to clean glass sample container with colorless distilled water. Refer to Table 4 of the SMPP.

Floatables: The presence of floating scum, foam, oil sheen, or other materials on the surface of the discharge are to be noted. Describe of any floatables present that are attributable to discharges from the outfall. Do not include trash originating from areas adjacent to the outfall in this observation. Refer to Figure 5 and Table 4 of the SMPP.

Likelihood: After inspecting the physical conditions of the outfall discharge, the likelihood of an illicit discharge is assessed. If flowing physical indicators are present the tracing procedure are immediately implemented by one of the field crew. The second member of the field crew continues with the inspection by performing the on-site testing in Section 5.

#### Flow Chart Procedure:

- If flowing physical indicators are present the tracing procedure is immediately implemented by one of the field crew. The second member of the field crew continues with the inspection by performing the on-site testing in Section 5.
- If flowing physical indicators do not suggest an illicit discharge continue with the inspection by performing the on-site testing in Section 5.

### **Section 5: On-Site Sampling/Testing (Flowing Outfalls Only)**



Parameters: Test strip or kit chemical analyses are conducted for the following parameters in accordance with the Flow Chart, refer to Figure 7 of the SMPP.

- pH, test strip,
- Color, color chart,
- Chlorine, test strip,
- Copper, test strip,
- Ammonia, test strip,
- Phenols, test kit, and
- Detergents, test kit.

Testing is done by either a test strip or test kit as applicable (refer to the equipment column). The results are compared with the “acceptable range” and the “within range” column is filled out with a Yes or No. Note that the Temperature, Alkalinity and Hardness are determined although these results do not need to be compared with an “acceptable range”. These values are used to assist in determining the source of the illicit discharge during the tracing procedure.

Sampling Location: A description of the actual sampling location is to be recorded (for example, at end of outfall pipe). If the outfall is submerged or is inaccessible for sampling, an upstream sampling location may be required. A description of any upstream sampling locations is recorded here. Grab samples are collected from the middle, both vertically and horizontally, of the dry-weather flow discharge in a critically cleaned glass container. Samples can be collected by manually dipping a sample container into the flow.

Sampling Procedures: Detailed, step-by-step instructions for using the test strips and kits are available through the Public Works Department. Please also refer to Chapter 3.3.B.7.b. for test kit safety information. Use the following procedures for all test kit analyses:

1. Take a grab sample and swirl to ensure that the sample is well mixed.
2. Rinse the sample cup (25ml) twice with distilled water. Next, rinse the sample cup twice with water from the grab sample.
3. Fill the sample cup to the 25 ml mark, or as required by the instructions for the test kits. Hold the sample cup at eye level to ensure that measurements are accurate.
4. Conduct the test kit analyses following the manufacturer’s instructions.
5. Dispose of the sample as follows:
  - If no chemical or reagents have been added to the sample, the water can be poured on the ground.
  - If any chemical or reagent is added to the sample, pour the water into a container marked “Liquid Waste” for proper disposal to a sanitary sewer system at the end of the day.
6. Rinse the sample cup three times with tap water and dry with a paper towel.

Flow Chart Procedure:

- If any parameter is outside of the “acceptable range” then an illicit discharge has likely been found. The tracing procedure is immediately implemented by one of the field crew. Testing can be stopped, and the second member of the field crew continues with the inspection by completing Section 7.
- If none of the parameters are outside of the acceptable range, proceed to Section 6.

### **Section 6: Data Collection for Lab Testing**

Determine if the Village’s Waste Water Treatment Plant (WWTP) has adequate staff capacity to analyze the samples.

- If the WWTP has adequate staff capacity, collect grab samples and provide them to the WWTP. Note the location of the sample. Label the sample with the outfall ID number. Proceed to Section 7 while in the field and complete the remainder of Section 6 after the lab results are available.
- If the WWTP does not currently have adequate capacity, determine if Sections 3 or 4 of the inspection form suggest an illicit discharge.
  - If Sections 3 or 4 suggest an illicit discharge contact and outside lab to perform the testing. Proceed to Section 7 while in the field and complete the remainder of Section 6 after the lab results are available.
  - If Sections 3 or 4 do not suggest an illicit discharge, note the outfall ID number. Place the outfall on the follow-up inspection log and proceed to Section 7 of the form. Re-inspect and sample the discharge when the WWTP has adequate capacity.

Sample Location: The location of the sample is noted. Additionally, the sample is labeled with the outfall ID number. Use the **insert MS4 type’s** sampling procedures and refer to Chapter 3.3.B.7.b. for test kit safety information. . The following additional items are noted.

1. When you collect any samples you must fill out an ***Outfall Sampling Report (Appendix 5.4)***. The report must document time you arrive on location, take the sample and get to the plant to drop off the sample.
2. A 500-ml glass bottle sample is used to collect the sample. If you are collecting a sample that has grease 2-250ml samples taken with a glass container are required.
3. If you use the sampling container that is on a rope, it must be washed with soap and water after every use.

Parameters: Grab samples and lab testing is performed. After lab results are available enter the results here.

- If any parameter is outside of the “acceptable range” then an illicit discharge has likely been found. The tracing procedure should be immediately implemented.
- If none of the parameters are outside of the acceptable then the investigation can be closed.

## **Section 7 Any Non-Illicit Discharge Concerns**

Any problems or unusual features are to be entered here. If the outfall appears to be potentially impacted by inappropriate discharges, this can be recorded here. This section is to be completed even if no flow is observed.