

Wastewater Monitoring for COVID-19

Sampling Protocol

Montgomery County

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Wastewater Sampling Protocol

1.0 Purpose and Scope

The purpose of wastewater monitoring for COVID-19, at Montgomery County Maryland, is to determine COVID-19 incidence and trends in a community. Wastewater is a consistent and reliable data source which can provide a good indication of disease incidence in a selected geographical region. The data collected over time can be used to observe trends, create predictive modeling and to assist in public health decision making.

2.0 Personnel Qualifications

IEI shall employ trained and qualified sampling technicians to perform Waste Water sample collection. All sampling shall be in accordance with approved EPA methods, Standard Methods, state regulations and guidance and/or WSSAP, Federal methods. All technicians have completed the Blood borne pathogen training and OSHA 10hr safety and health training.

3.0 Equipment and Materials

- Extech PH100 ExStik pH Meter
- ISCO/ HACH unit
- GLS Composite sampling units
- Appropriate sample containers and labels.
- Nitrile Gloves
- Field Logbook and Indelible Black Ink Pens
- Hard plastic cooler with ice for sample preservation during the sample transportation.

3.1 pH meter use:

Setup for pH and temperature

- Rinse plastic cell with tap water and fill
- Remove cap from the pH meter and enter the probe into the cell
- Push On and wait for the reading to stabilize
- Note the pH and temperature values (F).

4.0 Waste Water Sampling Protocol.

Untreated wastewater is sampled at wastewater pump stations (WWPS), in accordance with the guidelines of CDC; for Waterborne Disease & Outbreak Surveillance Reporting.

(https://www.cdc.gov/healthywater/surveillance/wastewater-surveillance/developing-a-wastewater-surveillance-sampling-strategy.html#anchor_1602855439211)



4.1 Sampling Method

Composite samples are collected by pooling multiple grab samples at a specified frequency over a 24 hour time period. The untreated wastewater is collected utilizing an automated sampler, where the sample is maintained under low (refrigeration) temperatures. The samples are delivered to the laboratory on the same day, with the completed chain of custody forms.

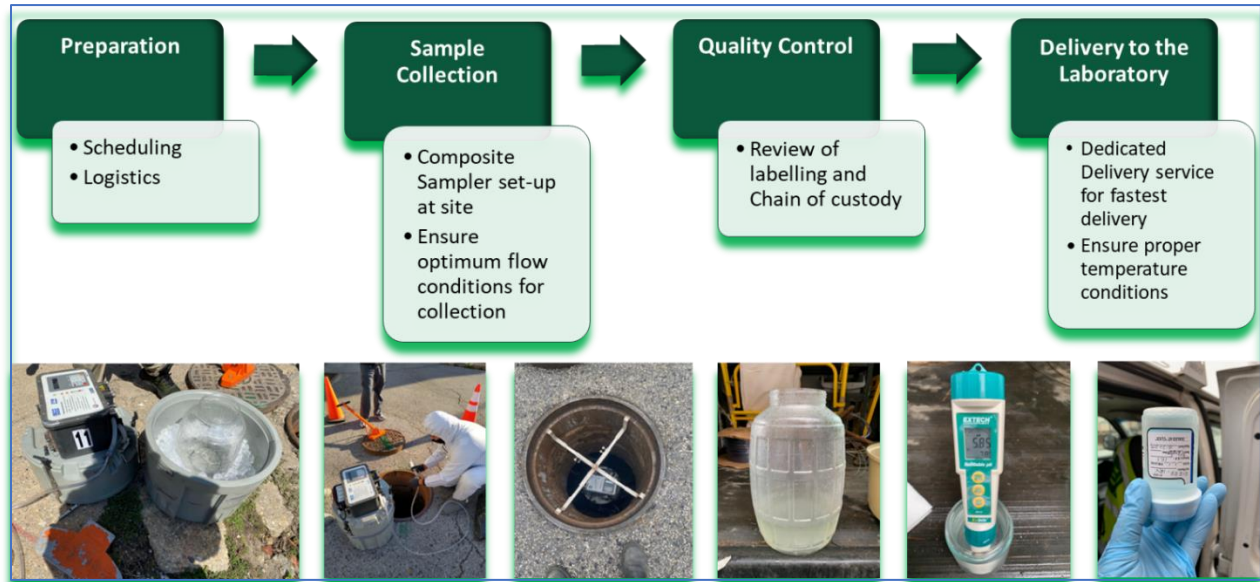


Figure 01: Wastewater Sample Collection Protocol

4.2 Setting up composite sampler unit

- Check locationID with your schedule.
- Set up the composite sampling unit and parts according to equipment manual and set the program for composite sample collection.
- If the unit is inside a manhole,
 - Uncover the manhole carefully
 - Connect the battery or electricity supply and run a program cycle to check pump is properly configured
 - Connect the harness and brackets to the pump
 - Lower the pump carefully and suspend it in manhole with harness and bracket
 - Lock the pump to a rig if available
 - Close the manhole safely and check surroundings to ensure everything is secured.



4.3 Sampling locations and frequency

Sampling location addresses are provided below followed by data for each site summarized in Figure 01;

1. Reddy Branch - 2611 Brighton Dam Rd, Brookville MD 20833
2. Wexford -21225 Seneca Crossing Dr. Germantown, MD 20876
3. King Farm - 315 Pure Spring Crescent Rockville, MD 20850
4. Hoyles Mill - 15001 Hoyles Mill Rd, Boyds, MD 20841
5. Arcola WWTP - 2001 Henderson Avenue, Wheaton, MD 20902

PCSA	Sewer network Zip codes which feed to the location (Based on sewer basin maps)	Site Name and Address	Sampling Location	SDI	Case rate
Silver Spring	20901, 20902,20903, 20906, 20910, 20912, 20832(GIS Analysis)	Arcola WWTP - (06068001P) 2001 Henderson Avenue, Wheaton, MD 20902	Wet well, Depth 18 Ft	High	High
Gaithersburg	20874, 20876, 20886	Wexford (15063001P) 21225 Seneca Crossing Dr. Germantown, MD 20876	Wet well. Depth 15ft	High	High
Rockville	20850, 20854	King Farm (16997001P) 315 Pure Spring Crescent Rockville, MD 20850	Manhole. 13 Ft	Medium	Medium
Poolesville	20841, 20874	Hoyles Mill (15071001P), 15001 Hoyles Mill Rd, Boyds, MD 20841	Manhole. Depth 15 ft. Daily Flowrate - 295,000 Gallons/day.	Medium	Medium
Olney	20832, 20833	Reddy Branch (05179001P) 2611 Brighton Dam Rd, Brookville MD 20833	Wet well. Depth 30 Ft, Daily Average flow is 64,000 Gallons/day	Medium	Medium

Figure 02: Wastewater Sampling locations

