

## Stormwater Reader July 2023

### Water Sampling

The City of Carrollton monitors our waterways or what goes into our waterways using two different methods: surface water quality monitoring and dry weather sampling. Both practices keep us compliant with our stormwater permit. One help us understand the quality of surface waters in our area and the other tells us if we have an illicit discharge occurring at that moment into our waterways. An illicit discharge is any discharge *into the City's storm sewer system that is not composed entirely of stormwater.*



Sampling Location at Furneaux Creek

### Surface Water Quality Monitoring

This is used to help us determine the quality of our waterways and whether we should be concerned about any of the segments that are monitored. The monitoring is completed twice per year, once in the winter and once in the summer. 18 different locations in 5 creeks

throughout the city have been selected for this regular testing. The first thing that happens at a sampling site is recording physical observations; Is there any trash or litter present? What is the weather like? Is there any wildlife present at the site?

Then a sample of the water is collected from the center of the stream or an area with good flow and placed into a cooler to keep it at a certain temperature. Next, several tests are done on-site including dissolved oxygen, pH, turbidity, and conductivity. This data is recorded using a GIS survey and saved to be analyzed later after further testing is done.

When sampling is completed for the day, all the containers full of water are brought up to the lab and placed in a fridge. The samples must be tested within 48 hours for quality assurance and control. In the lab, tests for total phosphate and nitrate content are run. The tests in the lab involve the usage of reagent “pillow” packets, acids, and bases, and can take over 45 minutes for one sample. All the results are recorded and used to determine the water quality index – or the health of our waterways.



Samples being tested in the lab.

### Dry Weather Sampling

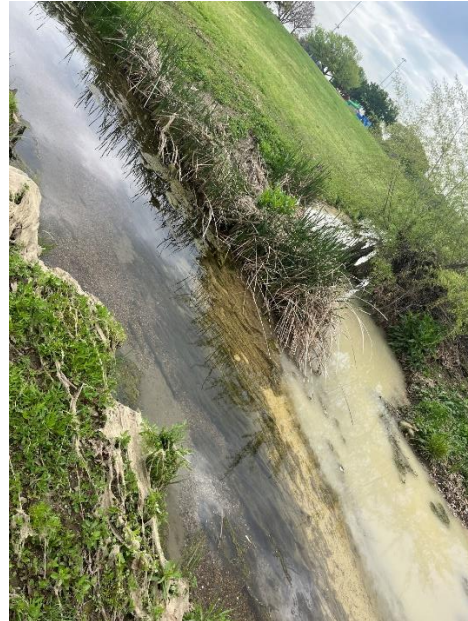
This helps us find illicit discharges into our surface waters by checking outfalls when there has been no rain. Also done twice per year, certain outfalls are selected as high priority for monitoring based on surface water quality data, size of outfall, land use, or has a history of discharge issues.



Outfall flow tested positive for detergent.

These outfalls are monitored after there has been no rain for at least 72 hours because it means any flow coming out of the outfall is unlikely to be related to the last storm. In Carrollton we have a high-water table compared to most of DFW, so there are several outfalls throughout the city that are always flowing with natural ground water. All outfalls have physical observations of the site recorded, and any with active flow observed are tested for pH, conductivity, detergent (could indicate a leak from an industry or wastewater), ammonia nitrogen (determines possible presence of sewer wastewater), chlorine (found in irrigation water and pools), and turbidity. This monitoring

is done twice within 24 hours but at least 4 hours apart, to indicate if the discharge is a one-time dumping event or an ongoing leak.



Sediment-laden flow entering a creek.

