

06-12-2019 Town Council Meeting
Responses to Council Questions #1

ITEM #15: Presentation on the Town’s Stormwater Program and Projects

Council Question: What are all of the local streams, creeks, rivers and lakes that the Town’s stormwater runs off into?

Staff Response: *Ultimately, all stormwater runoff within the Town’s jurisdiction drains to Jordan Lake. All receiving streams within the Town of Chapel Hill’s jurisdiction are within the Cape Fear River Basin and drain to both the Morgan Creek and New Hope arms of Jordan Lake. Below is a list of receiving streams.*

Receiving Stream Name
Little Creek
Bolin Creek
Tanyard Branch
Booker Creek
Crow Branch
Cedar Fork Creek
Old Field Creek
Morgan Creek
Wilson Creek
Fan Branch Creek
Meeting of the Waters
Battle Branch

Council Question: What are the indicators that drainage infrastructure needs repair?

Staff Response: *There are several factors that can contribute to the need for a repair. The most common indicators are if the system is repeatedly blocked or noticeable deficiencies like corrosion.*

Council Question: What all is part of the drainage infrastructure?

Staff Response: *The Chapel Hill storm sewer system is a combination of open channel and closed channel conveyances. Stormwater is conveyed to receiving streams by a combination of overland flow, swales and open channels, curbs, gutters, catch basins, pipes, culverts, ditches, outfalls and bridges.*

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Council Question: What is the life span of drainage pipes?

Staff Response: *Chapel Hill has several types of storm drainage pipes, however most are made of either precast re-enforced concrete or corrugated metal. For precast re-enforced concrete pipes, the typical lifespan is 70-100 years. For corrugated metal pipes, the typical lifespan can be from 35 to 75 years depending on the materials and coatings used.*

Council Question: What are the initiating factors of illicit discharge (pollution) investigations?

Staff Response: *The Town of Chapel Hill maintains an illicit discharge detection and elimination program that is responsive to citizen reports, and also one that is proactive, with a primary component being the use of surface water quality monitoring data, including chemical, physical and biological data, to detect water quality problem areas and to initiate field screening activities designed to identify and eliminate pollution sources and restore water quality conditions.*

Reports of illicit discharges to the Town's storm sewer system are typically initiated by citizens and Town staff, and are detected via random field tests of receiving streams for selected water quality parameters.

Illicit discharge investigations are also initiated by Stormwater Management staff by focusing on indicators from annual benthic macroinvertebrate monitoring results in subwatersheds with poor or declining water quality.

Council Question: What is the purpose of annual macroinvertebrate sampling?

Staff Response: *The Town conducts annual biological monitoring (at 28 sites currently) to analyze water quality trends over time in subwatersheds throughout the Town's jurisdiction. The sites are located in impaired stream segments and other receiving waters. Annual biological monitoring helps detect habitat changes and other impacts to species diversity and abundance; these changes in the health of macroinvertebrate communities are an excellent measure of prolonged changes to water quality.*

Town stormwater staff use the results of annual monitoring to target watersheds with poor water quality for improvements and to investigate possible sources of pollution, including illicit discharges.

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All annual reports are provided on the Town's [biological monitoring webpage](#)¹.

For example:

In 2015, a report of toxicity at one newly established benthic monitoring site prompted an investigation in 2016 that led to the resolution of a long-running discharge of swimming pool backwash from an apartment complex. Stormwater Management staff issued a NOV [Notice of Violation], and then worked with the property owner to remedy the illicit discharge.

¹ <https://www.townofchapelhill.org/town-hall/departments-services/public-works/stormwater-management/local-watersheds-water-quality/water-quality-monitoring/biological-monitoring>