



Stormwater Runoff Conveyances

Town of Hillsborough Information Sheet

A stormwater runoff conveyance is a structure that carries stormwater runoff to its destination. In Hillsborough, stormwater runoff is conveyed primarily through underground pipes and open ditches or “swales.”

While both systems work, vegetative swales are preferred because of their benefits to water quality. As stormwater runoff flows across exposed soil or impervious surfaces — such as pavement or rooftops — it picks up various pollutants. Well-maintained, vegetated swales and ditches can help reduce the amount of pollutants reaching the Eno River. They reduce impacts from stormwater runoff by:

- Slowing the velocity of the stormwater runoff, which reduces erosion.
- Increasing infiltration into the soil, which reduces the volume of stormwater runoff as well as pollutants, which are broken down through various natural processes in the soil.
- Allowing plants to trap sediment and other pollutants before reaching the Eno River.
- Allowing plants to soak up excess nutrients and other pollutants, which are then broken down by natural biotic processes.

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In this well-maintained grass swale in the Kenion Grove neighborhood, water flows into the swale through a pipe under Constitution Way.

Who is Responsible for Maintenance?

While the Town of Hillsborough has a stormwater permit that allows the discharge of stormwater into the municipal separate storm sewer system (MS4), responsibility is limited in certain situations.

The town is only responsible for maintaining stormwater conveyances — such as ditches, swales, pipes, culverts and catch basins — within town-owned property and street rights-of-way. Owners of property that fronts a town-maintained street are required to mow drainage ditches and swales along their street frontage, per Section 7-7 of the town’s municipal code.

Stormwater conveyances within state maintained roads, such as Churton Street, are the responsibility of the North Carolina Department of Transportation. Stormwater conveyances on private property are the responsibility of the property owner. In the case of a residential development, the owner may be the homeowners association. Stormwater ponds, detention basins and other stormwater control measures installed on private property must also be maintained by the property owner or homeowners association. This includes those installed to meet Hillsborough development requirements. Additionally, the town has the right to inspect any aspect of the stormwater system to ensure proper function, even on private property.

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- Reducing the breeding habitat of certain mosquito species.
- Costing less typically to install and maintain.

Piped stormwater conveyance systems do have their place. They are typically installed in developments that require “curb and gutter” streets. Piped stormwater systems are also used when the runoff’s velocity is too fast for vegetation to grow or when specific hazards dictate. Piped systems can have adverse impacts on stormwater runoff by:

- Concentrating the flow of stormwater runoff, often requiring a stormwater control measure, like a detention pond, to help treat the runoff.
- Increasing the velocity of stormwater, which increases the erosion potential, especially where pipes flow into streams.
- Providing mosquito breeding habitat in some instances because water remains well after a rain event due to limited evaporation from a lack of sunlight.
- Costing more typically to install or replace.
- Often being more difficult to clear blockages.

The North Carolina Department of Transportation is responsible for maintaining stormwater conveyances within state-owned streets. Within town-owned streets, the Hillsborough Public Works Division is responsible for maintaining both piped and open swale/ditch stormwater conveyance systems — except for mowing. Owners of property that fronts a town-maintained street are required to mow and otherwise keep the area free of obstruction and noxious growth, per Section 7-7 of the Hillsborough Code of Ordinances.

If you have questions about drainage ditches or swales or other drainage issues, contact the Public Works Division at 919-296-9600. For information on how you can help reduce stormwater runoff pollution, contact the Stormwater and Environmental Services Division.



A well-maintained grass swale within Gold Park helps reduce stormwater runoff pollution from reaching the Eno River.



Some stormwater runoff is conveyed through pipes and discharged to a stream. Prior to this section of the creek being restored, stormwater collected in various pipes and then flowed into this pipe under East Margaret Lane, where it flowed into Stillhouse Creek.

Stormwater and Environmental Services Division

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