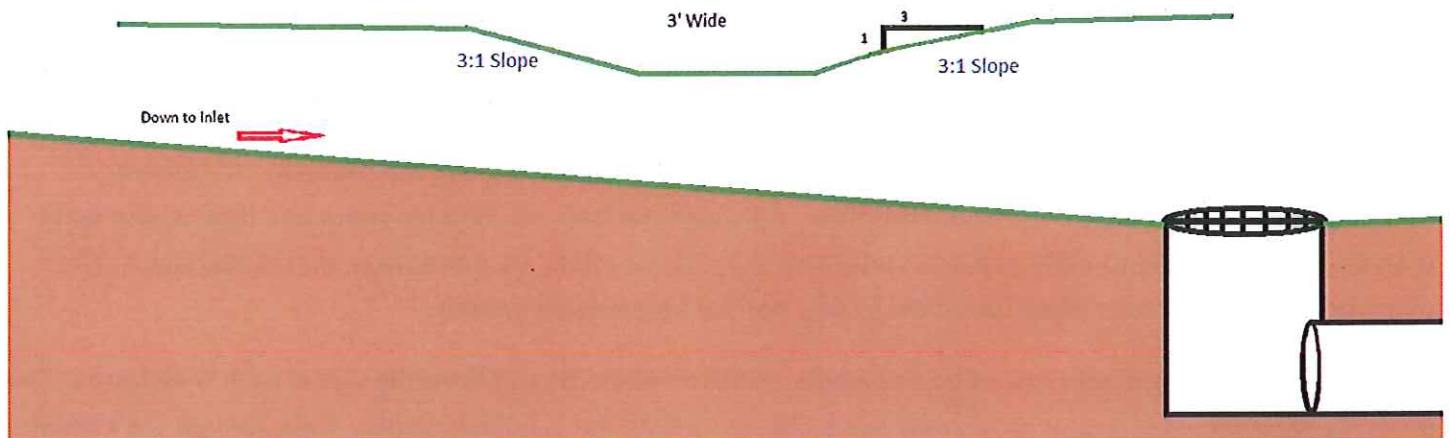


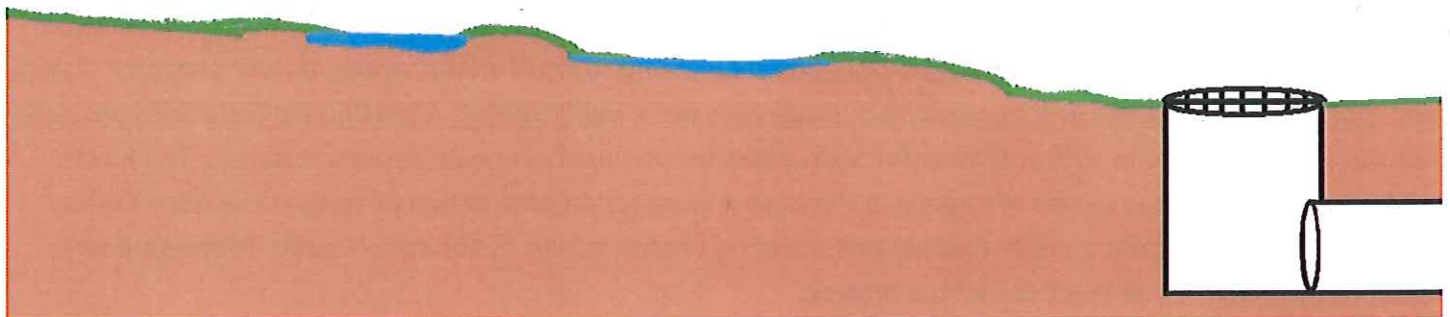
Drainage Swales

Water Wants to Flow Downhill

The most common drainage complaint brought forward from residents of neighborhoods is standing water. In almost all of these complaints, the problem lies in the area of the yard that is designed to be a surface drainage swale. These drainage swales generally run along the back property lines between houses. In most cases, the swales are designed to run slightly down slope to an inlet structure that leads to the storm sewer system. In some cases, the swales are designed to run to the street, where a street inlet picks up the water.



A properly graded swale has a 3' horizontal to 1' vertical or shallower side to side slope. The bottom is ideally 3 feet wide, but can be as narrow as a "V" in order to fit into a tight area. The slope from the highest point to the drainage point should be a steady negative grade, with no dips or humps along the length of the swale. The slope can vary in pitch, but must always be sloping down to the drain point.



The simple explanation for why the water is standing and causing problems is that the swale does not flow steadily down slope to the inlet of the storm sewer. Every little bump or mogul in the swale acts like a dam, backing up the water into miniature ponds. A one inch tall bump or flat spot in a swale will create a pond that is one inch deep, which is plenty of water to grow swamp weeds, algae, and mosquitoes.

The issue is that the majority of swales were not installed in accordance with the plans. Each lot is graded individually, at different times, as the houses are built. By the time the last house on a block is built and the landscape grading is completed, the first houses on the block are inhabited, often with well established lawns. The fact that the swales most often do double duty, serving also as a utility easement, adds to the complexity of the problem.

The simple solution is to go back and regrade the drainage swale so that it flows steadily from the high point down to the drain. When homeowners try to fix the problem by filling the low spots in, they merely move the pond up slope. Though this solution is simple on the surface, there are a few complicating factors.

Sometimes the obstruction in the swale is near the utility boxes and was caused by trench spoils or other disturbances during the installation of these utilities. The electronic utilities in these swales are generally very shallow. This complicates the actual work involved in reshaping the swale. Due to the liability involved in clipping one of the utility wires, it is better to hire the work out to a bonded professional rather than rent some equipment and do the job yourself. The extra care and time involved with working around the wires adds to the cost of the project. Always call 811 for a utility locator prior to any excavation.

Having sump pumps and downspout drains routed to the swale is not usually the problem. A properly functioning swale is designed to handle this flow. Although the best solution for sump and downspout water is an underground pipe directly to a drain inlet structure, these inlets are not always in practical reach. The overland swale is a proper place for a flow from a normal house drain system.

You are dealing with a whole row of homeowners, some of whom do not have the wet area in their yards. The property where an obstruction exists may not be the property that is holding water. Even though their swale area would need to be regraded to make the whole system work, they do not see an immediate problem in their yard. It is important to realize that a swale is a system that crosses property lines. Without continuity of flow, swales on individual lots are worth nothing.

Getting everyone's cooperation and participation in the project cannot be taken for granted. Cooperation is needed in the financing of the project as well. An effective Home Owner's Association can be invaluable in facilitating the cooperation needed for a multi-lot solution. If there is a landowner who does not choose to let the work be done on their property, it would be trespassing to work on the swale on their property. Even though there is a drainage easement, surface swales are not a public utility. Allen County Code does not give the Surveyor's Office the authority to enforce or assess for payment on swale easement issues. The key to getting access down the length of a swale in this case is filing for an obstruction hearing at the Allen County Drainage Board. Without a public hearing and a finding of obstruction by the Allen County Drainage Board, one property owner can block the whole project.

If neighbors fail to cooperate to find and implement an ethical solution; ultimately this becomes a civil matter to be settled in the courts.