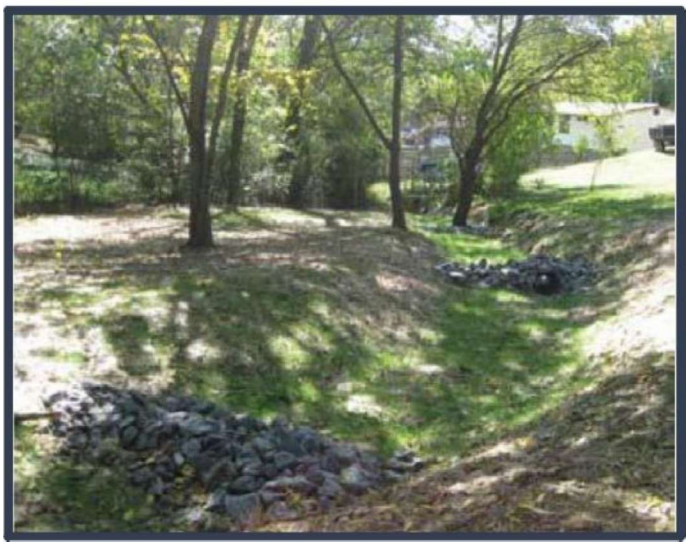
GRADING: OVERLAND FLOW SWALES

In newer subdivisions, residential lots are designed for surface water to flow away from the structure towards the lot lines. An overland flow swale is provided along the property lines within an easement, which is designed to keep the area open. This swale allows stormwater runoff to flow towards drainage infrastructure, such as detention basins.



DESIGN CONSIDERATIONS

Older subdivisions may not have been designed with overland flow swales, or any other means of conveying stormwater away from the structures. In newer subdivisions, the overland flow swales may become obstructed or filled. Property owners build fences, garages, sheds, and other obstructions, which block the flow in the original swale. This can be rectified by removing the obstructions and restoring the swales in newer subdivisions or an overland flow swale can be constructed in older subdivisions.

CONSTRUCTION AND COSTS

The effectiveness of an overland flow swale is impacted by the surrounding grading and drainage area. Some specific design considerations include the grading of adjacent properties, tributary area and grading and flow restrictions downstream. Construction costs for overland flow swales can vary significantly. The grading process for an individual residential parcel can be accomplished by a small crew of workers in a day or two. Key construction elements to consider that could add substantial cost and extend the project timeline include encroachments on stormwater easements, existing structures that would need to be relocated, public utilities, access and the amount of soil that can effectively be excavated.

ADVANTAGES	DISADVANTAGES
• Occupants usually do not have to leave the structure during construction, • Typically, less expensive than structure elevation or relocation, • Structural flood protection provided without significant changes to the structure.	• Will not reduce flood insurance premiums, • The swale may hold water for an extended period of time following a storm event.

MAINTENANCE

Maintenance tasks in these areas should be no different than that which the residents are currently performing. These include watering, fertilizing and mowing the turf grass.

FLOOD REDUCTION

Overland flow swales can improve the drainage around a structure and reduce the occurrence of structural flooding. Overland flow swales are not intended to store stormwater runoff, but rather convey runoff away from a structure towards an outfall. Therefore, installing an overland flow swale will impact the location of surface storage, but will not reduce the volume of stormwater runoff.