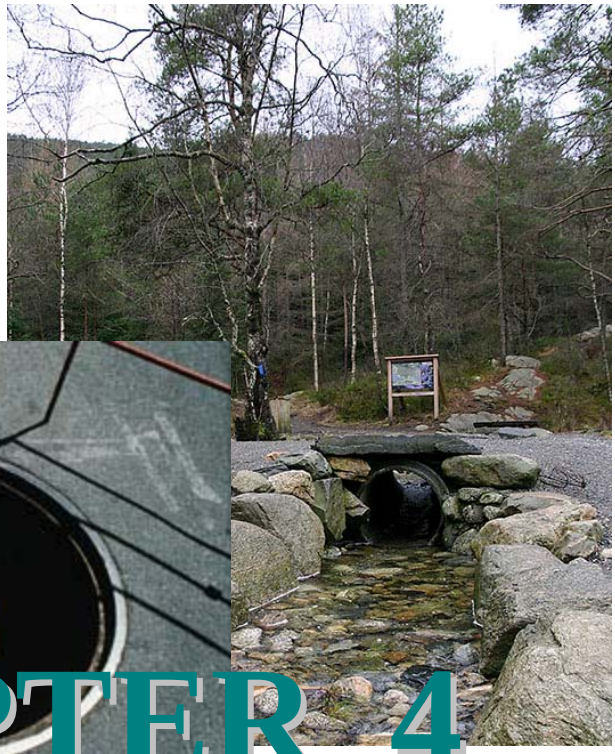

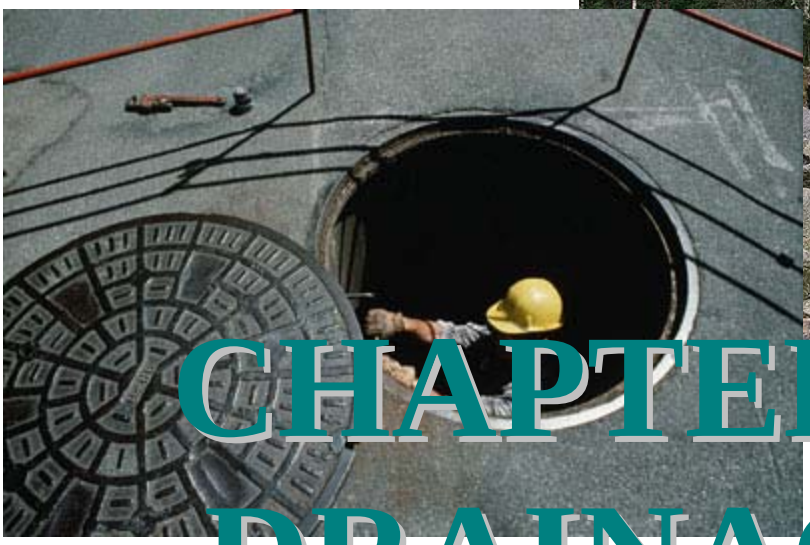

CHAPTER 4
DRAINAGE SYSTEMS

4.01 Drainage Systems

The stormwater drainage system is a network of structures, channels and underground pipes that carry stormwater (rain water) to ponds, lakes, streams and rivers. The network consists of both public and private systems. It's an integral part of the stormwater management system in the Town that is designed to control the quantity, quality, timing, and distribution of storm runoff. All stormwater in the Town of Collierville eventually flows to the Wolf River and Nonconnah Creek as previously described. This system is not part of the wastewater (sanitary) sewer system, which carries water and waste from drains (sinks, bathtubs, showers, etc.) and toilets to a treatment plant to be treated and filtered. Stormwater does not flow to a treatment plant.

The parts of the stormwater drainage system that you can see and are most likely familiar with are the ones that are visible. You can see the above ground parts of the system, including:

-roadside ditches
-curb inlets
-yard inlets
-channels: grass, concrete, stone (rip-rap) and some asphalt
-outfalls (pipe openings)
-grass swales

The Town maintains the public storm drainage system contained within dedicated storm drainage easements as well as the storm systems in public street rights-of-way. There are numerous private systems that are the responsibility of private property owners, including driveway culverts and bridges that cross public drainage systems. The Town is responsible for maintaining the public drainage system and structures within the easement to allow for proper function of the system.

Property owners are responsible for:

-routine grounds maintenance such as grass mowing and trash/debris removal - owners should ensure that systems and structures are kept free of yard waste (grass clippings, tree trimmings, leaves) or other obstructions that may block the flow of water;
-trees, shrubs and other growth within easements;
-driveways and their associated culverts or bridges;
-fences, which are allowed in easements as long as they do not block the flow of storm drainage

4.02 Pipes

Storm drain pipe systems, sometimes referred to as storm sewers or lateral closed systems, are pipe conveyances used in the minor stormwater drainage system for transporting runoff from the roadway and other inlets to outfalls at structural stormwater BMPs and receiving waters. Pipe drain systems are suitable mainly for medium to high-density residential and commercial/industrial development where the use of natural drainageways and/or vegetated open channels is not feasible.

4.03 Catchbasins and Manholes

Drainage systems need a method to collect and concentrate water flow at a location. Catchbasins and manholes allow pipes coming from different directions and elevations to converge at specific locations. They can convert surface flow to subsurface pipe flow. Catchbasins and manholes can trap larger sediment and debris allowing only drainage with fine sediments to enter pipes. Also, they can provide a drop in elevation down a slope and dissipate the energy of pipe flows. Catchbasin and manhole structures are commonly constructed of concrete or polyethylene and have a number of lid options ranging from open grates to watertight construction

Manholes and/or inlets shall be installed to provide human access to continuous underground storm sewers for the purpose of inspection and maintenance. Manholes should be located in the following locations:

-Where two or more storm sewers converge.
-Where pipe size or the pipe material changes.
-Where a change in horizontal alignment occurs.
-Where a change in pipe slope occurs.
-At designated intervals, typically no greater than 400 feet or one city block