

transported only by rail to mitigate noise and dust.

Mineral resource deposits in Montgomery County can be protected from pre-emptive development by the County's Mineral Resources Recovery (MRR) Zone. The MRR Zone is viewed as an interim zone that is replaced upon depletion of the area's mineral resources. The zone can cover commercially valuable crushed stone, building stone, and sand and gravel deposits only and does not include metallic minerals or fossil fuels. This zone establishes regulations and performance standards for the extraction, processing, use, and transport of mineral resources to protect the surrounding environment from noise, vibrations, and dust.

The designation of an MRR Zone is contingent upon the developer's submission of a plan for the reclamation, regrading, and ultimate reuse of all lands once the minerals are depleted. For example, owners of the Travilah Quarry have proposed filling the quarry with water for use as a lake surrounded by housing and commercial establishments after quarrying is completed. No action has been taken to implement this proposal to date since the quarry has about 25 more years of useful life.

## 2. CLIMATE

\* Local temperatures have been steadily rising for more than a century. Both average annual temperatures and record highs in Washington, D.C. have risen every decade since the National Weather Service started keeping records in 1871. 1990 and 1991 were the hottest years on record for Washington, D.C., Baltimore-Washington International Airport, and the State of Maryland. This rise is partly due to local factors, such as moving the official thermometer in 1941 from downtown Washington to a warmer spot at National Airport and the greater amount of heat retaining concrete and asphalt in the area, which creates a "heat island" effect. Nationwide, the 1991 average temperature was only slightly below 1990's record high, reinforcing some clima-

tologists' contention that the burning of fossil fuels may be causing global warming.

## 3. DRAINAGE BASINS

Montgomery County has 25 drainage basins, flowing into four rivers. The County is bordered by two parallel rivers, the Potomac and the Patuxent. Most of the County drains into the Potomac and its major tributaries including Rock Creek, Cabin John Creek, and Great Seneca Creek. A strip along the Howard County line, northeast of Route 198 and New Hampshire Avenue, drains into the Patuxent River. Eastern Montgomery County south of Olney and east of Georgia Avenue drains into the Anacostia River through the Northwest Branch and Paint Branch. Portions of the county north of Comus Road and MD 121 (east of I-270) drain toward Monocacy River via Bennett and Little Bennett creeks. The above-mentioned roads generally follow ridge lines, the same routes as Indian paths that followed ridge lines because they were flat and dry.

The County adopted functional master plans for two major drainage basins, Rock Creek, in 1980, and Seneca Creek and Muddy Branch, in 1977. These functional plans for conservation and management cover such subjects as managing stormwater and flooding, erosion and sedimentation, controlling sources of water pollution, and improving lake water quality, and include related policy recommendations. Where an area master plan covers part of a functional plan watershed, the master plan usually acknowledges and reinforces the functional plan's recommendations. Most master plans look at various environmental factors, including environmental impacts within drainage basins, at varying levels of comprehensiveness.

One factor considered when analyzing environmental impacts is the amount and location of impervious areas. The amount of impervious area affects water quality, erosion, and stormwater management. Some studies indicate that impervious levels above 12 to 15 percent adversely affect