



Experimental stream restoration project at the Fairfax County Government Center.

6. Environment

The county's environmental goals and policies are contained in the Environment section of the Policy Plan and the Chesapeake Bay Preservation Supplement. These goals reflect the belief of the community that environmental protection and preservation are overarching components of the quality of life. The opportunities and limitations on what may be achieved through environmental planning are affected by past actions and by the county's function as a home and employment center to a large number of people. Because thousands of acres of forest and agricultural land have been converted to urban and suburban development since the 1950s, the ability to achieve environmental protection goals simply by limiting future development no longer exists. The current scarcity of certain environmental amenities focuses current and future environmental planning efforts on the conservation of remaining resources and the rehabilitation of degraded environments.

The protection of Environmental Quality Corridors (EQCs) is a long-standing county policy designed to promote ecological resource conservation. A preserved network of the county's natural landscape can provide habitats for native species of flora and fauna, corridors for wildlife movement, open space, which in some cases can be used for passive recreation for the county's residents. EQCs also help mitigate pollution relating to water quality, microclimate control, and/or reductions in noise. The core of the EQC system is the county's stream valleys, which include the 100-year floodplains, adjacent steep slopes, and wetlands. Preservation of EQC land is currently achieved through the development review process, acquisition of parkland, and the donation of easements.

Fairfax County's Chesapeake Bay Preservation Ordinance divides the county between Resource Protection Areas (RPAs) and Resource Management Areas (RMAs). The RPAs are generally comparable to the EQCs, but are smaller in geographic extent. Within RPAs, redevelopment of existing uses and public utilities are permitted. Other uses may be allowed through an exception process which requires an assessment of the water quality impacts of the proposed use and selection of mitigation measures



Severely eroded stream bed.



Stream restoration project on Fairfax County Government Center property.



The Fairfax Center Fire Station 40 is a Leadership in Energy and Environmental Design (LEED) Certified building.
Source: Hughes Group Architects

that minimize these impacts. In RPA areas that have been significantly impacted by earlier development, it may be relatively easy to demonstrate that a well-designed project with water quality mitigation measures equals or improves upon existing conditions. In RPAs characterized by pristine conditions, designing adequate mitigation measures may be more difficult.

In addition to the abovementioned policies, the Policy Plan contains guidance regarding air quality, noise pollution, light pollution, soil quality, green building standards, and other environmental issues. Within Suburban Centers and other mixed-use centers, the Policy Plan ties attainment of certain Comprehensive Plan options, planned uses, or densities/intensities of development to the incorporation of green building practices. The use of these practices provides a holistic approach to the reduction of adverse environmental impacts associated with buildings and their landscapes.

The following section contains a survey of the environmental resources and constraints of the Fairfax Center Area.

Resource Protection Areas

The study area has several stream valleys and significant portions of RPA, as shown in Figure 6.1. Small tributaries of Rocky Run and Difficult Run flow into the study area from the north, and Little Rocky Run, Piney Branch, and a small portion of Popes Head Creek are located in the southern portion of the study area. Throughout the Fairfax Center Area, the condition of the RPA varies. Most of the RPA is contained in forested areas; however some portions of these streams, primarily by I-66 and Lee Highway, are diverted underground through piping. Environmental guidance within the adopted Fairfax Center Area Plan does not contain a discussion of RPA since policy about these areas was established in 1993 with the Chesapeake Bay Ordinance, after the Fairfax Center Area Comprehensive Plan's original adoption. While the adopted Comprehensive Plan text does not speak to RPAs, it does speak to the presence of EQCs within the Fairfax Center Area. Existing policy recommends that where practical and to the greatest extent possible, redevelopment should be seen as an opportunity to restore impacted areas to a more natural state.

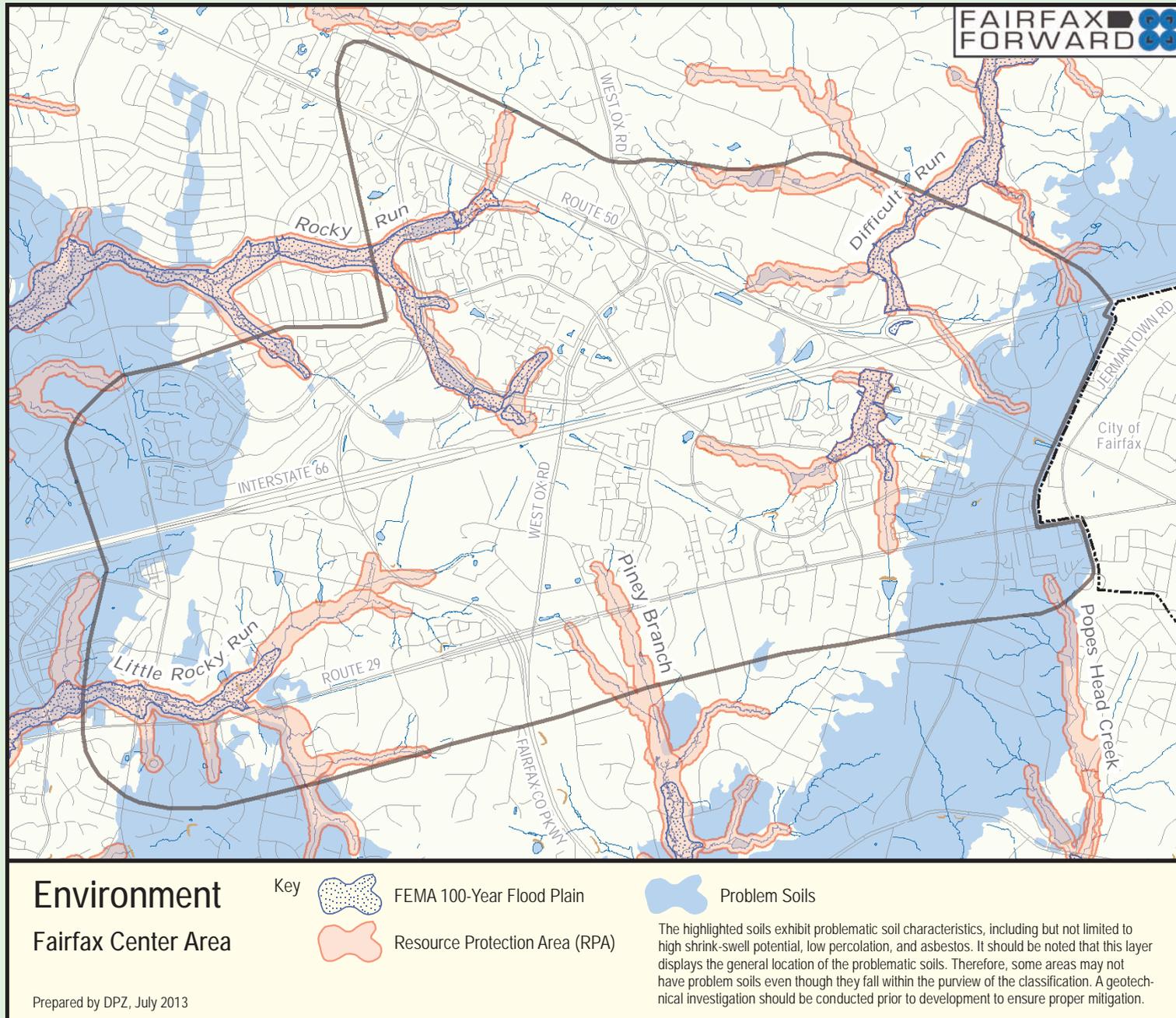


Figure 6.1 Environmental features in the Fairfax Center Area.



Rocky Run.

Noise

Transportation generated from I-66, Lee Highway, Fairfax County Parkway, and Lee-Jackson Memorial Highway may impact residential and other noise sensitive uses within the study area. Current Comprehensive Plan policies recommend against new residential development in areas with projected highway noise levels exceed Day-Night Loudness (DNL) 75 decibel (dBA). Noise levels exceeding DNL 65 dBA require mitigation for residential and other noise sensitive uses proposes for this area. A noise study is required to determine the actual extent of noise impacts to the site for existing and future predicted conditions.

Water Quality

Portions of the study area are covered with impervious surfaces as a result of development. These modifications to the natural environment have adversely affected the ability of the stream valley headwaters to maintain water quality by altering naturally intermittent streams, changing the natural topography, and replacing porous landscapes with impervious surfaces. The combined effects of these alterations have deteriorated stream channels and increased water pollution. Earthwork, reduction in vegetation cover, and increased rates of runoff resulting from the use of imperious surface materials have led to erosion and increased sedimentation into the stream system. As a result, the water quality, stream profiles, and vegetated wildlife habitats are adversely impacted.

The Plan recommends that high water quality be promoted in the Fairfax Center Area using several water quality management strategies. These strategies include using stormwater Best Management Practices (BMPs) and low impact development techniques, maintaining low-density development in environmentally constrained areas and stream valley headwaters, creating an extended EQC system to protect the stream valleys, and providing regional stormwater management ponds in lieu of on-site stormwater management. All development in the study area is recommended to utilize one or more of these techniques.

Portions of the Fairfax Center Area are located outside of the Approved Sewer Service Area (ASSA), including areas south of Lee Highway within the Occoquan River



Sound barrier wall along I-66 mitigates highway noise.
Source: VDOT



Stormwater BMP in a residential development.



Soil filling on a development site to mitigate problem soil.

Watershed and part of the Fairfax Farms subdivision within the Difficult Run Watershed. Long-standing county policies call for the preservation of areas outside of the ASSA as low density residential uses in order to safeguard water quality in these watersheds. These policies conform to the findings of the 1978 Difficult Run Headwaters Land Use Study and the 1982 Occoquan Basin Study, which sought to protect these environmentally-sensitive watersheds by reducing nonpoint source pollution.

Problem Soils

The Fairfax Center Area contains problem soils in several locations. The eastern portion of the Fairfax Center Area contains rock formations that contain naturally occurring fibrous asbestos. Additionally, shrink-swell clays occur in the eastern and far western portions of the study area. Highly erodible soils are also found adjacent to small tributaries on steep slopes. These soils and steep slopes along stream valleys make watershed preservation a top concern for the study area.



Green roof on Herrity and Pennino Building parking structure.