

VII. Critical Areas and Topography

Background

Critical areas are lands with natural hazards or lands that support certain unique, fragile or valuable resource areas. The King County Code protects critical areas as well as their buffers in order to protect public health and safety and to promote environmental health. The following descriptions of critical areas within the demonstration area should be considered general. A property-specific critical area review would be required to conclusively determine the presence or lack of critical areas. For more information on the Critical Areas Ordinance see the Department of Development and Environmental Services [website](#).

Coal Mine Hazards

No coal mine hazards are present in the demonstration area.

Erosion Hazard Areas

The [Critical Areas Ordinance \(CAO\) User Manual](#) defines erosion hazard areas as those thought to be underlain by soils that are subject to severe erosion when exposed. Within the demonstration area a narrow band of mapped erosion hazard area extends from the eastern edge of the Cottage Lake Rural Neighborhood Commercial Center to the north across the Bear Creek Elementary school property. Another narrow band runs parallel to the west, beginning just north of the Cottage Lake shopping center. Within the demonstration area, both bands combined are less than a quarter-mile wide.

Flood Hazard Areas

In the southern portion of the demonstration area, near Avondale Road NE, there is a small area of floodplain mapped along Cottage Lake Creek. East of the demonstration area, floodway and floodplain have been mapped on Bear Creek.

Landslide Hazards

Landslide hazards are defined by the CAO User Manual as including a variety of geological features that together present hazards to development both above and below the landslide. In the demonstration area, a landslide hazard area is located on the Bear Creek Elementary School property and directly to the north. Within the demonstration area these are less than a quarter-mile wide.

Seismic Hazard Areas

The only mapped seismic area within the demonstration area is north of the Cottage Lake Rural Neighborhood Commercial Center on the Bear Creek Elementary School property.

Critical Aquifer Recharge Areas

The CAO User Manual defines critical aquifer recharge areas as those that overlie significant groundwater resources and are particularly susceptible to ground water contamination should pollutants be released on the surface or in the shallow subsurface.

Running at a northwest/southeast slant, a Category II critical aquifer recharge area covers a majority of the demonstration area. Category II areas include those that have: 1) a medium susceptibility to ground water contamination and are located in a sole source aquifer or a wellhead protection area or 2) are highly susceptible to ground water contamination and are not located in a sole source aquifer or wellhead protection area. The demonstration area is not located in a sole source aquifer.

Wetlands

Wetlands within the CAO, as defined by the User's Manual, are non-aquatic areas that are inundated or saturated by ground water at a frequency and duration sufficient to support, and under normal circumstances supports, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetlands are rated and then categorized into one of four categories. Category I wetlands 1) represent a unique or rare wetland type, or 2) are more sensitive to disturbances than most other wetlands, or 3) are relatively undisturbed and contain ecological attributes that are impossible to replace within a human lifetime, or 4) provide a high level of functions. Near Cottage Lake, a Category I wetland covers over 231 acres. This unique/outstanding wetland covers the majority of the Cold Creek and Bassett Pond Natural Areas as well as surrounding properties.

East of the intersection of Avondale Road NE and Bear Creek Road NE is an additional Category I wetland. This nearly 47 acre wetland is a unique/outstanding wetland that has the presence of plant associations of infrequent occurrence.

Category II wetlands are difficult but not impossible to replace and provide a high level of some functions. Within the demonstration area there are two Category II wetlands. Both are near Avondale Road NE, with one at the southeast corner of the intersection with NE Woodinville-Duvall Road and the other directly south less than one-quarter mile.

Aquatic Areas

The largest body of water in the demonstration area is Cottage Lake near the intersection of NE Woodinville-Duvall Road and Avondale Road NE. The approximately 65 acre lake is roughly one-half mile long and one-quarter mile wide on the east-west axis. Southwest of Cottage Lake, the 2.5 acre Bassett Pond is near NE 165th Street in the Bassett Pond Natural Area. Additional small unnamed ponds or wetlands are north of Bassett Pond in the two Natural Areas. Other small ponds are located in the southeast and northeast parts of the demonstration area and within the wetland southeast of the Cottage Lake Rural Neighborhood.

Several creeks are within the demonstration area, including Cottage Lake, Daniels and Cold Creeks. Several other small, unnamed streams can also be found within the demonstration area. Directly to the east of the demonstration area is Bear Creek.

Topography

The only area with severe elevation change is north of the Cottage Lake Rural Neighborhood Commercial Center. Starting at the north end of the center and extending through the Bear Creek Elementary School property the topography rises on both the east and west sides. The rise is approximately 80 to 100 feet.

Along 194th Avenue NE is an additional rise to the east of approximately 80 feet, before the land lowers again as it approaches Mink Road NE. Additional areas of rise are west of Cottage Lake and in the southwest corner of the demonstration area, though the majority of the demonstration area is flat with variations of only twenty to forty feet.