

APPENDIX D

SOIL TYPES

Millsholm Series

The Millsholm series consists of well-drained soils that formed from interbedded shale, and fine-grained sandstone. These soils are on uplands. Slopes are 15 to 75 percent. Elevation ranges from 300 to 2,000 feet. The average annual air temperature is about 59° F, and the frost-free season is 250 to 300 days. The average annual rainfall is 14 to 24 inches. These soils are generally moist throughout from mid-December to May and are dry from June to November. Vegetation is annual grasses, forbs and scattered oaks. Thick stands of coyote bush are in some areas. In a representative profile, the surface layer is grayish-brown, medium acid loam about 4 inches thick. The subsoil is also grayish-brown, medium acid loam. It is underlain at a depth of about 12 inches by sandstone. Permeability is moderate and the available water capacity is 2 to 4 inches. Roots can penetrate to a depth of 10 to 20 inches.

MeG (Millsholm Loam, 50 to 75% slopes) – This very steep soil is on uplands. Included with it in mapping are areas of soils that are similar to Millsholm loam but that have softer bedrock. These areas make up about 6 percent of the Contra Costa County mapping unit. Also included are areas of Los Osos clay loam that make up about 3 percent and areas of Los Gatos loam, generally on toe slopes and in concave areas, that make up about 3 percent. Areas of Felton loam near woodlands in the far western part of the county make up about 2 percent. A few areas of Gaviota sandy loam that is underlain by coarse-grained sandstone are also included. Runoff is rapid, and the hazard of erosion is very high where the soil is bare. This soil is used mainly for range, wildlife habitat, and water shed.

The Los Gatos Series

The Los Gatos series consists of well-drained soils underlain by interbedded sedimentary rock. These soils are on north-facing slopes in the uplands. Slopes are 15 to 75 percent. Elevation ranges from 500 to 2,000 feet. The average annual air temperature is 56° F, and the frost-free season is 260 to 300 days. The average annual rainfall is 18 to 25 inches. These soils are moist from December to July and are dry from July to November in most years. Vegetation is annual grasses, forbs and oak. Dense stands of oak, laurel, California buckeye, and poison oak and an understory of scattered annual grasses and forbs are in some areas. In a representative profile the surface layer is brown, slightly acid heavy loam about 8 inches thick. The subsoil is brown, medium acid, light clay loam in the upper 4 inches and reddish-brown, medium acid clay loam in the lower 15 inches. Sandstone bedrock is at a depth of about 27 inches. Permeability is moderately slow, and the available water capacity is 3.5 to 6 inches. Roots can penetrate to a depth of 20 to 40 inches.

LeG (Los Gatos Loam, 50 to 75%) – This very steep soil is on uplands. Included with it in mapping are Los Osos clay loam, Millsholm loam, and Gaviota sandy loam. Each of these soils make up about 4 percent of the Contra Costa County mapping unit. Also included are sandstone outcrops that make up about 3 percent. Runoff is rapid, and the hazard of erosion is high where the soil is bare. This soil is used for range, wildlife habitat, and watershed.

The Conejo Series

The Conejo series consists of well drained and moderately well drained soils on valley fill. These soils formed in material from sedimentary rock. Slopes are 0 to 5 percent. Elevation ranges from 10 to 1,000 feet. The average annual air temperature is 59° F and the frost-free season is 260 to 300 days. The average annual rainfall is 14 to 25 inches. These soils are moist from December to June and are dry from June to October in most years. Vegetation is annual grasses and forbs, scattered oaks, and a few sycamores along creeks. In a representative profile, the surface layer is dark-gray, neutral clay

loam about 27 inches thick. The subsoil is grayish-brown, neutral clay loam about 14 inches thick. The substratum is mottled, grayish-brown and brown, neutral clay loam that extends to a depth of more than 60 inches. Permeability is moderately slow, and the available water capacity is 7 to 12 inches. Roots can penetrate to a depth of 60 inches or more. Conejo soils are used for dryland small grain and volunteer hay and for homesites.

CeB (Conejo clay loam, 2 to 5%) – This gently sloping soil is on fans and in upland valleys. Included with it in mapping are areas of Botella clay loam that make up about 10 percent of the Contra Costa County mapping unit and areas of Cropley clay that make up 5 percent. This soil is well drained. Runoff is slow, and the hazard of erosion is slight where the soil is tilled and exposed. Roots can penetrate to a depth of more than 60 inches. The available water capacity is 10 to 12 inches. This soil is used for dryland small grain and homesites.

The Reyes Series

The Reyes series consists of very poorly drained soils in saltwater marshes affected by tides. Slopes are less than 1 percent. Elevation is at or near sea level. The average annual soil temperature is 59° F, and the frost-free season is 260-300 days. The average annual precipitation is 14 to 22 inches. Vegetation is pickleweed, saltgrass, and some sedges. In a representative profile, the surface layer is very dark, grayish-brown silty clay about 6 inches thick. The subsoil is dark-gray silty clay that extends to a depth of more than 60 inches. These soils are always moist and are subject to inundation by high tides. The water table is high to very high. Permeability is slow, and the available water capacity is 0.5 to 3 inches. Reyes soils are used for wildlife habitat and recreation areas.

Ra (Reyes silty clay) – This is the only Reyes soil mapped in the county. Included with it in mapping are areas of Joice muck along the upper boundary of the saltwater intrusion into Suisun Bay that make up as much as 15 percent of the mapping unit. Also included are small areas where 20 to 40 inches of silty clay loam or loam fill have been deposited. These areas are slightly better drained than Reyes silty clay. Runoff is very slow, and there is no hazard of erosion. Most areas are subject to inundation during high tides. This soil is used for wildlife habitat and recreation areas.

Urban Land

Ub (Urban land) – Urban land consists of areas that are filled with crushed rock or other material resistant to weathering. These areas are usually adjacent to the bay and are used for railroad yards and docks. Also included in this mapping unit are upland areas that are covered by blacktop material to reduce the hazard of fire after severe grading and shaping for industrial structures.

Quarry

Qa (Quarry) – Quarry consists of areas that are being quarried extensively for rock, limestone, and soft sandstone. Also included are some areas that were mined in the past.