

6.0 SOILS AND FARMLAND

This chapter discusses the soils and farmland resources in the study corridor.

6.1 Applicable Legal Authority

The U.S. Department of Agriculture, Natural Resources Conservation Service, *Soil Survey of Tidewater Cities and City of Richmond, Virginia* contains information that can be applied in managing farms and wetlands; in selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts of land for farming, industry, and recreation.

The Federal Farmland Protection Policy Act (7 U.S.C. 4201) establishes policies and procedures designed to minimize the loss of productive farmland and/or the conversion of prime agricultural soils resulting from implementation of transportation projects.

6.2 Affected Environment

The entire study area lies within the Tidewater area of the Atlantic Coastal Plain. During a relatively recent geological period, between 2,000 and 5,000 feet of fluvial and marine sediments have accumulated on bedrock, and provide the “foundation” for the City of Norfolk. The top three to six feet of these sediments, which range from clay particles to sands, have provided the material in which present day soils have developed.

6.2.1 Soils

The Natural Resource Conservation Service (NRCS) Soil Survey for the Tidewater Region, including the City of Norfolk, has been recently updated (June 2002). The mapping available for the project area includes updated soil survey maps and soil descriptions.

According to the survey, there are six mapped soil units in the project corridor. The vast majority of the project corridor is mapped as Urban land or Udorthents-Dumps complex, both of which are soils that have been severely modified by human activities. The remaining small portion of relatively natural soils is composed of sandy loam (mostly upland positions) and muck soils along saline and brackish water tidal

marshes. Below is a list of mapped soil units within the project corridor. Generally, upland soils are well drained and hydric soils are poorly drained.

- 1 Altavista fine sandy loam (u)
 - 2 Augusta fine sandy loam (u)
 - 6 Bohicket muck (h)
 - 24 Tomotley fine sandy loam (h)
 - 26 Udorthents-Dumps complex
 - 27 Urban Land
- h=hydric soils, u=upland soils

The large majority of soils in the project corridor have been subjected to grading and filling activities associated with track construction, service roads, etc. In addition, most areas surrounding the rail corridor have undergone residential, commercial or industrial development.

6.2.2 Farmland

Prime farmland is one of several kinds of important farmlands meeting certain criteria making it well suited to the production of food, feed, forage, fiber and oilseed crops, as defined by the US Department of Agriculture (USDA), NRCS. The Farmland Protection Policy Act (7 CFR Part 658) establishes criteria for identifying effects of federal programs on the conversion of prime farmland to non-agricultural uses. However, due to the project corridor being located completely within an area committed to urban development, the soils do not meet the criteria for prime farmland.

6.3 Environmental Impacts

6.3.1 No-Build Alternative

The No-Build Alternative would not require the disturbance of soils or farmland, therefore, there would be no impact to soils or farmland with the No-Build Alternative.

6.3.2 TSM Alternative

The TSM alternative includes improvements to highway and transit facilities. Some of these improvements may include localized construction, such as signal installation. Most of these improvements would occur within developed areas and would not impact soil resources.

6.3.3 Preferred Alternative

A. Soils

Erosion potential for most soils is minimal because of the flat topography. The primary locations for erosion are along drainage and stream channels in the study corridor. Impact to soils along the project corridor will occur primarily along the existing Norfolk Southern rail corridor, at station sites and associated park and ride lots. Because the soil within the project corridor has, for the most part, been

subjected to significant disturbance, there would be little or no appreciable impact to native soils as a result of light rail track development. In all cases, passenger stations are proposed for sites that have been previously disturbed, and therefore, there would be little impact to native soils.

B. Farmland

No Prime Farmland would be converted to non-agricultural uses. Therefore, a Farmland Conversion Impact Rating Form (AD-1006) would not need to be completed.

6.4 Mitigation Plan

6.4.1 No-Build Alternative

There would be no impacts on soils and farmland associated with the No-Build Alternative, therefore, no mitigation measures are planned.

6.4.2 TSM Alternative

There would be little to no impacts on soils and farmland associated with the TSM Alternative, therefore, no mitigation measures are planned.

6.4.3 Preferred Alternative

A. Soils

State and local regulations for erosion control would be followed to mitigate soil impacts. During Final Design, a Sediment and Erosion Control permit will be obtained from the City of Norfolk, Environmental Services Department that identifies the best management practices to minimize erosion and off-site sedimentation, such as silt fence, temporary sediment ponds, rock entrances at construction sites, etc.

Soil correction measures may be required in areas where deep peat is present. In the case of the proposed project, occurrences of mucky peat at Ohio and Mosely Creeks will need to be considered. Based on initial review of the soil boring logs, undercut of trackbed and pavement areas will be required in isolated areas throughout the project alignment to remove unsuitable material. Where construction is likely to occur in wetlands, some amount of undercut or removal of unsuitable materials will be necessary. When such excavations occur in designated wetlands, excavations will use temporary excavation supports (such as sheeting, cribbing, or slurry walls) as appropriate to minimize disturbances to areas outside of the target excavation footprint, as well as limit the need for any dewatering. All dewatering operations will employ settlement basins, filters, or other appropriate measures to prevent silt from entering adjacent wetlands or waterways.

B. Farmland

None of the land is considered Prime Farmland; no mitigation or further action would be required.