

SECTION 3.0 ENVIRONMENTAL SETTING

The APE is located within the Upper Coastal Plain Physiographic Province and Mid-Peninsular Drainage Divide Geographic Zone in an area that is gently sloping to hilly at an approximate elevation of 180 to 210 feet (54.9 to 64 meters) above mean sea level (Figure 3.1; see Figure 1.2). The APE is situated on nearly level uplands at elevations of approximately 60 to 80 feet (18.3 to 24.4 meters) above mean sea level. The APE is drained by the headwaters of St. George's Creek, an east-flowing tidal stream that bisects the western portion of the APE (see Figure 1.2). Extensive forested wetlands associated with this drainage and with Lums Pond, an eighteenth century impoundment of St. George's Creek, are located south of the APE. Like many streams in the Upper Coastal Plain, St. George's Creek flows easterly into the Delaware River.

The APE is underlain by mid-Pleistocene Columbia Formation sediments derived from glacial outwash. The Columbia Formation contains fine to coarse feldspathic quartz sand as well as quartzite, quartz and chert gravels deposited by high discharge as streams crossed the Fall Line and entered onto the Coastal Plain (Ramsey 2005; Jordan 1964; Spoljaric 1970).

Soils within the APE are mapped as Fallsington loam, 0 to 2 percent slopes (FgA), Fallsington-Urban Land complex, 0 to 5 percent slopes (FzB), Greenwich loam, 2 to 5 percent slopes (GrB), Hambrook-Urban Land complex, 0 to 5 percent slopes (HkB), Ingleside sandy loam, 2 to 5 percent slopes (IgB), and Ingleside-Hammonton-Fallsington complex, 0 to 5 percent slopes (ImB) (Figure 3.2). Representative profiles for soil types found within the APE are presented in Table 3.1.

Fallsington soils are characterized as nearly level, loamy fluviomarine sediments found in wetlands and on upland flats adjacent to streams and associated wetlands. Fallsington soils are classified as poorly drained hydric soils with moderately high water movement, occasional ponding, and a seasonal zone of saturation at five inches from January through April. Fallsington soils have a high organic content in the surface layer, low shrink-swell potential, a moderate potential for frost action, and a low susceptibility to whole soil erosion (NRCS 2010).

Greenwich soils are characterized as nearly level, silt loam eolian deposits over fluviomarine sediments found on upland flats. Greenwich soils are well drained with moderately high water movement, no seasonal zone of saturation, a low shrink-swell potential, a moderate potential for frost action, and a low to moderate susceptibility to whole soil erosion (NRCS 2010).

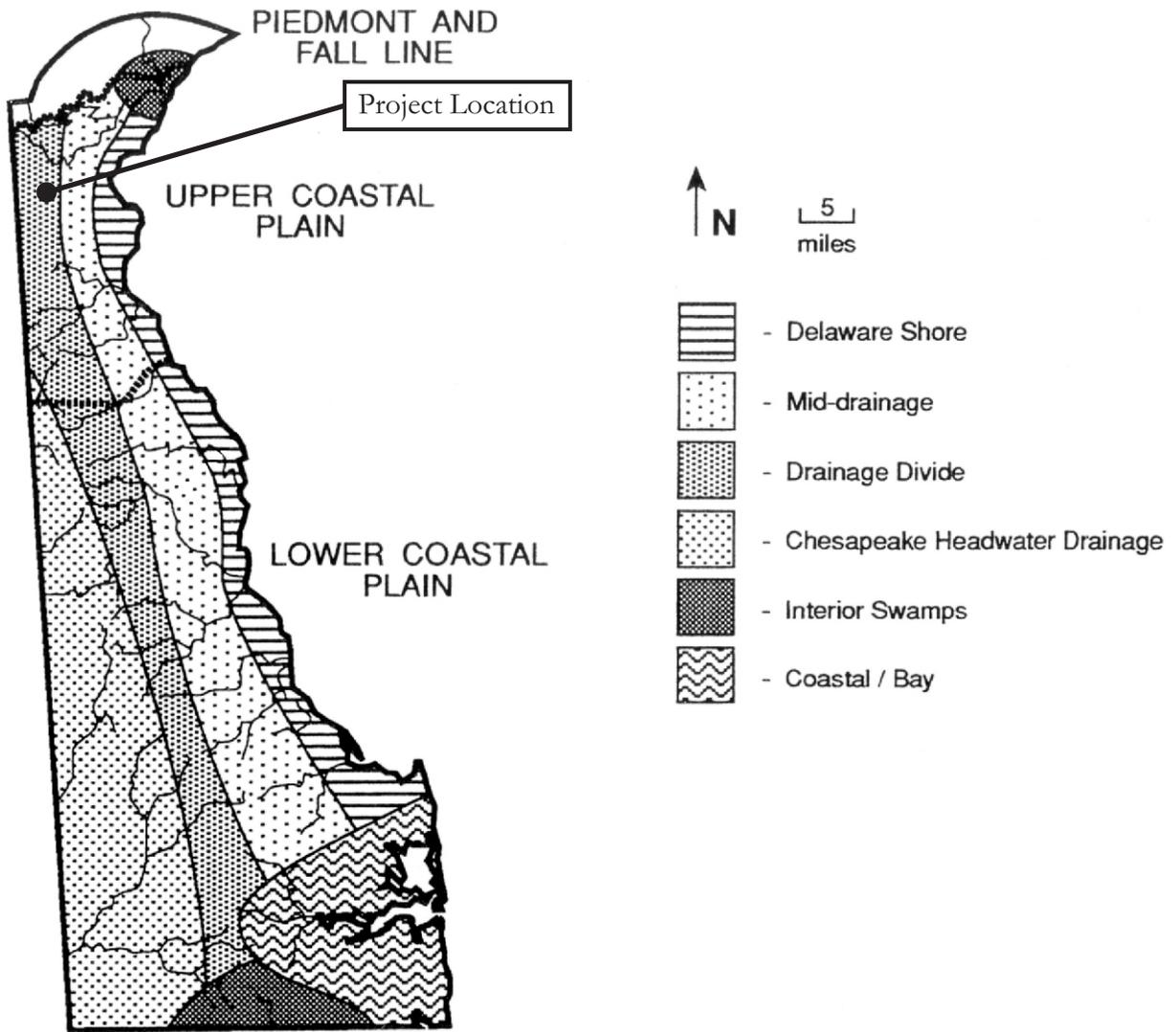


Figure 3.1:

Physiographic Provinces Map
 (Delaware Physiographic Zones, redrawn from Custer 1986).

Table 3.1: Typical profiles for soils series present within the APE (NRCS 2010).

Soil Series (Soil Type)	Soil Characteristics	Drainage	Landform
Fallsington loam (FgA: 0-2% slopes)	Oe: 0-2", black moderately decomposed plant material A: 2-10", very dark grayish brown loam Btg: 10-32", light brownish gray sandy clay loam BCg1: 32-39", gray loamy sand CBtg: 39-46", gray sandy clay loam Cg: 46-80", light brownish gray sand	Poorly drained	Flats
Fallsington-Urban Land complex (FzB: 0-5% slopes)	Ap: 0-10", very dark grayish brown sandy loam Btg: 10-32", light brownish gray sandy clay loam BCg1: 32-39", gray loamy sand CBtg: 39-46", gray sandy clay loam Cg: 46-80", light brownish gray sand	Poorly drained	Flats
Greenwich loam (GrB: 2-5% slopes)	Ap: 0-10", brown loam Bt1: 10-16", yellowish brown loam Bt2: 16-22", strong brown loam 2Bt3: 22-29", strong brown sandy loam 2C1: 29-46", yellowish brown loamy sand 2C2: 46-80", yellowish brown coarse sand	Well drained	Flats
Hambrook-Urban Land complex (HkB: 0-5% slopes)	Ap: 0-10", dark grayish brown sandy loam BE: 10-14", yellowish brown loam Bt: 14-28", yellowish brown sandy clay loam BC: 28-65", strong brown loamy sand Cg: 65-80", light gray silt loam	Well drained	Flats
Ingleside sandy loam (IgB: 2-5% slopes)	Ap: 0-10", dark brown sandy loam E: 10-15", dark brown sandy loam Bt1: 15-33", dark yellowish brown sandy loam BC: 33-43", yellowish brown sandy loam C1: 43-56", yellowish brown loamy sand C2: 56-80", yellowish brown silt loam	Well drained	Flats
Ingleside- Hammonton- Fallsington complex (ImB: 0-5% slopes)	Ingleside Component: (see above) Hammonton Component: Ap: 0-11", dark grayish brown sandy loam Bt: 11-30", yellowish brown sandy loam C: 30-80", brownish yellow sand Fallsington Component: (see above)	Well drained	Flats

The Hambrook component of the Hambrook-Urban Land complex soils is classified as nearly level, loamy fluviomarine sediments found on upland flats. Hambrook soils are well drained with moderately high water movement, a low shrink-swell potential, a moderate potential for frost action, and a low susceptibility to whole soil erosion (NRCS 2010).

Ingleside soils are characterized as gently sloping, loamy eolian deposits and/or fluviomarine sediments found on upland flats. Greenwich soils are well drained with moderately low water movement, no seasonal zone of saturation, a low shrink-swell potential, a low potential for frost action, and a low susceptibility to whole soil erosion (NRCS 2010).

The Hammonton component of the Ingleside-Hammonton-Fallsington complex soils is classified as nearly level, loamy fluviomarine sediments found on upland flats. Hammonton soils are moderately well drained with high water movement, a low shrink-swell potential, and a zone of seasonal

saturation at 24 inches below surface in February. Hammonton soils have a low potential for frost action and a low susceptibility to whole soil erosion (NRCS 2010).

The natural vegetation of the APE is classified as oak-chestnut forest composed of several species of oaks, as well as poplar, beech, chestnut, hickory, maple, ash, cherry, elm, walnut and butternut. Agricultural use within and in the vicinity of the APE since the eighteenth century has altered the local environment, which is now composed of a mixture of agricultural fields planted in corn, secondary growth hardwood forest with a shrub understory of thorn bushes, greenbrier, poison ivy, and multi-flora rose, and residential lawns with ornamental trees and shrubs.

