

## APPENDIX 2

### SOILS DESCRIPTIONS

Descriptions of the soils, by parent group located in the Albany Airport Study Area are presented below:

#### SOILS IN GLACIAL TILL

- 38 GRANBY soils are deep, very poorly drained and poorly drained, coarse textured, slightly acid to alkaline soils developed in sandy deposits of glacial lake bottoms. They are flat or slightly depressed areas. Granby soils have 1/2 to 1 foot of rapidly permeable loamy fine sand over a very friable, very rapidly permeable sand. Available water capacity is moderate. Flooding is frequent but brief during March and April. An apparent high water table exists at the surface to a foot below during November to June. Potential frost action is moderate.
- 50 NUNDA soils are deep, moderately well drained, medium textured soils developed in medium lime glacial till. These are nearly level to steep soils in upland glaciated areas. Nunda soils have a moderately permeable, coarse silty upper deposit up to 3 feet thick underlain by a slowly permeable gravelly, channery or shaley silt loam or clay loam. Available water capacity is moderate. A perched water table exists at 1-1/2 to 2 feet below the surface during march through May. Potential frost action is high.
- 51 BURDETT soils are deep, somewhat poorly drained, medium textured soils developed in medium lime glacial till dominated by clayey shales. These nearly level to moderately steep soils are found in the glaciated uplands. Burdett soils have 2 feet of moderately permeable silt loam over slowly permeable shaley clay loam or shaley loam. Available water capacity is moderate to high. A perched water table 1/2 to 1-1/2 feet below the surface exists from December to May. Potential frost action is high.
- 53 ILION soils are deep, poorly drained, moderately fine textured soils. the substratum is mildly alkaline. Ilion soils formed in nearly level till plains. Ilion soils have a moderately permeable silt loam surface, a slowly permeable silty clay loam subsoil and shaley silty clay loam substratum. Available water capacity is moderate to high. A perched high water table exists at the surface during November to May. Potential frost action is high.
- 80 VALOIS soils are deep, well drained, acid, medium textured soils formed in glacial till dominated by sandstone, silt-stone or shale. They are gently sloping to sloping. They are commonly found on low lying till plains or complex slopes characteristic of end or lateral moraines. Valois soils have 2-1/2 feet of gravelly loam over 1-1/2 feet of gravelly silt loam. Permeability is moderate. Available water capacity is moderate. High water table is at 3 to 6 feet below the surface. Potential frost action is low.

- 31 **ELNORA** soils are deep, moderately well drained, strongly to moderately acid, coarse textured soils that have formed in wind or water-deposited sands. They are nearly level to gently sloping, old off-shore sand bars, and sandy deltas. Elnora soils are dominated by fine sands to a depth of at least 3-1/2 feet. Below 3-1/2 feet, they often contain finer textured layers of other lake sediments of compact glacial till. Available water capacity is low. An apparent high water table exists at 1-1/2 to 2 feet below the surface during February to May. Potential frost action is moderate.
- 32 **STAFFORD** soils consist of deep, somewhat poorly drained, strongly acid to slightly acid, coarse textured soils. They have formed in level or nearly level sandy deltas, off-shore sand bars, and beach deposits that are associated with former glacial lake and melt waters. Stafford soils are dominated by loamy fine sands or sands to a depth of 3-1/2 feet. These layers are moderately to rapidly permeable. Available water capacity is very low. An apparent high water table exists 1/2 to 1-1/2 feet below the surface during January to May. Potential frost action is moderate.
- 38 **GRANBY** soils are deep, very poorly drained and poorly drained, coarse textured, slightly acid to alkaline soils developed in sandy deposits of glacial lake bottoms. They are flat or slightly depressed areas. Granby soils have 1/2 to 1 foot of rapidly permeable loamy fine sand over a very friable, very rapidly permeable sand. Available water capacity is moderate. Flooding is frequent during March and April. An apparent high water table exists at the surface to a foot below during November to June. Potential frost action is moderate.

#### SOIL IN GLACIAL OUTWASH AND DELTA DEPOSITS

- 13 **UNADILLA** soils are deep, well drained, strongly acid, very fine sandy loam and silt loam soils developed in water or windsorted deposits. They typically are on silty undulating to rolling areas of lake plains. Permeability is commonly moderate, but some areas of these soils have layers with slow permeability. Unadilla soils consist of stratified very fine sandy loam to silt loam. The depth to the water table is greater than 6 feet. Available water capacity is high. Potential frost action is high.
- 14 **SCIO** soils are deep, moderately well drained, strongly acid, medium textured soils developed in wind or water deposited material very high in coarse silt and very fine sand. These nearly level to gently sloping areas are on terraces, old alluvial fans and on lake plains. Scio soils have 3-1/2 or more feet of moderately permeable silt loam or very fine sandy loam underlain by layers of silt loam, silty clay and fine sandy loam. Available water capacity is high. An apparent high water table exists at 1-1/2 to 2 feet during March to May. Potential frost action is high.
- 15 **RAYNHAM** soils consist of deep, nearly level, poorly drained to somewhat poorly drained, medium to high lime, medium textured soils that have developed in material very high in silt and fine sands. The permeability is slow. They are on nearly level areas in the lake plain. Available water capacity is high. An apparent high water table occurs at 1/2 foot to 2 feet during November to June. Potential frost actions is high.

- 16 **BIRDSALL** soils consist of deep, very poorly drained, strongly acid to neutral, medium textured soils that have developed in water-laid deposits of silt and very fine sand. The silt loam surface is high in organic matter. Permeability is slow. An apparent high water table occurs at the surface from October to July. Available water capacity is high. Potential frost action is high.
- 30 **COLONIE** soils are deep, excessively drained, strongly to medium acid, coarse textured soils that formed in outwash or lacustrine materials and associated wind blow deposits dominated by fine and very fine sand. The soil is typically free of gravel. These nearly level to steep soils are on landforms associated with deltaic deposits. Colonic soils have 16 to 24 inches of very friable, rapidly permeable loamy fine sand over friable to loose, rapidly permeable fine sand containing thin, moderately permeable dark brown bands. Available water capacity is low to moderate.
- 154 **CHENANGO** soils are deep, well drained to somewhat excessively drained, strongly acid, medium textured, gravelly soils formed in glacial outwash sand and gravel which contains very little lime. They are level outwash terraces in the valleys, kames, and hilly gravel deposits where streams that issued from the glacier dropped their loads. Chenango soils have 1 to 1-1/2 feet of moderately to rapidly permeable gravelly silt loam or gravelly loam over 1 to 1-1/2 feet of very gravelly loam or very gravelly silt loam that is underlain by very rapidly permeable gravel and cobbles with stratified sand. Available water capacity is low. The water table is at a depth greater than 6 feet deep. Potential frost action is low.

#### **SOILS IN GLACIO LACUSTRINE DEPOSITS**

- 1 **HUDSON** soils are deep, moderately well drained, medium acid to neutral, fine textured soils formed in calcareous, clayey glacial lake deposits. They occupy level to dissected lake plains and other glacial landforms that were mantled with lake sediments. Hudson soils have 1 to 2 feet of moderately slowly permeable silt loam or silty clay loam over slowly permeable silty clay to a depth of 3-1/2 feet. These materials are underlain by slowly permeable lake-laid deposits consisting of layers of silty clay or clay separated by thinner silty layers. Available water capacity is high. A perched water table exists at 1-1/2 to 2 feet during November to April. The potential for frost action is high.
- 2 **RHINEBECK** soils are deep, somewhat poorly drained, medium acid to neutral soils, free of coarse fragments. They are on nearly level and gently sloping areas once occupied by glacial lakes. Rhinebeck soils have 1 foot of moderately to slowly permeable fine silt loam over slowly permeable silty clay loam or silty clay that extends to a depth of 2 to 3 feet. This soil material is underlain by layers of lake-laid calcareous silty clay separated by thin silty layers. Available water capacity is high. A perched water table exists at 1/2 to 1-1/2 feet during January to May. The potential for frost action is moderate.
- 3 **MADALIN** soils are deep, poorly drained and very poorly drained, moderately fine textured soils formed in calcareous water-deposited materials. They are in level or nearly level areas on glacial lake plains and depressions in the uplands. Permeability is slow or very slow. Madalin soils have a

silty clay loam surface layer over a silty clay subsoil. Available water capacity is high. An apparent high water table exists at the surface during December to May. Potential frost action is moderate.

- 23 **ELMWOOD** soils are deep, moderately well drained strongly acid, moderately coarse textured soils over clay. They are on nearly level and gently sloping areas in lake plains. Elmwood soils have 1-1/2 to 3 feet of moderately rapidly permeable sandy loam over a slowly permeable calcareous clay, silty clay, or varved silt and clay. Available water capacity is high. A perched high water table at 1 to 3 feet exists during November to May. Potential frost action is high.
- 24 **SWANTON** soils are deep, poorly drained to somewhat poorly drained, slightly acid, moderately coarse to coarse textured soils over clay. They developed in lacustrine deposits. They are on nearly level or depressional areas in lake plains. Swanton soils have 1-1/2 to 3 feet of moderately to rapidly permeable fine or very fine sandy loam underlain by slowly to very slowly permeable calcareous silty clay loam or clay. Available water capacity is high. An apparent high water table exists at the surface to 1-1/2 feet below the surface during October to June. Potential frost action is high.
- 33 **CLAVERACK** soils are deep, moderately well drained, strongly acid to neutral, coarse textured soils that formed in sandy lake sediments that overlie clayey lake-laid deposits. The soils are typically free of stones. These nearly level to gently sloping soils are on deltas, or similar sandy sediments associated with glacial lake deposits. Claverack soils have 7 to 10 inches of friable to loose, rapidly permeable, loamy fine sand over 13 to 30 inches of very friable, rapidly permeable loamy fine sand or fine sand. The substratum is firm, very slowly permeable, calcareous silty clay loam to clay that is varved. Available water capacity is low to moderate. A perched high water table exists at 1-1/2 to 2 feet below the surface during March to May. Potential frost action is moderate.
- 34 **COSAD** soils are deep, somewhat poorly drained, strongly to slightly acid, coarse textured soils that formed in sandy lake sediments that overlie clayey and silty lake-laid deposits. These nearly level soils are on slightly depressional areas of lake plains. Cosad soils have 18 to 36 inches of very friable, rapidly permeable, loamy fine sand or fine sand over layers of silty clay, silt loam, very fine sandy loam and loamy very fine sand. Available water capacity is moderate. A perched high water table at 1/2 to 1-1/2 feet below the surface exists during December to May. Potential frost action is moderate.
- 250 **HUDSON SOILS** occur on steep and very steep slopes in the dissected lake plains. They are subject to landslides and are better drained than other Hudson soils. (Refer to soil number 1 for information on Hudson soils.)

#### **SOILS IN ALLUVIAL DEPOSITS**

- 201 **TEEL** soils are deep, moderately well drained to somewhat poorly drained, slightly acid to neutral, medium to moderately coarse textured soils that formed in alluvial deposits derived mainly from limestone with some shale and sandstone influence. Most areas are essentially free of coarse fragments but the content in some soils may range to 20 percent in the substratum. These nearly level soils are on flood plains along streams and

are subject to flooding. Teel soils have 24 to 40 inches of friable, moderately permeable silt loam to fine sandy loam over friable, moderately permeable silt loam or fine sandy loam that may be gravelly. Available water capacity is high. Flooding is common and brief during November to May. An apparent high water table exists 1/2 to 2 feet below the surface during January to May. Potential frost action is high.

- 305 FLUVAQUENTS loamy, are alluvial soils in which the drainage ranges from good to very poor, but are dominantly very poor. Textures are variable. They occur adjacent to streams and creeks and are subject to frequent flooding.

#### SOILS IN ORGANIC DEPOSITS

- 230 CARLISLE soils are deep, very poorly drained, slightly acid to neutral soils that formed in woody organic deposits more than 51 inches deep in bogs on lake plains, outwash plains, till plains and moraines. Carlisle soils have a mucky surface layer over more than 50 inches of decomposed plant and woody material. Available water capacity is high. Permeability is moderately rapid. Flooding is frequent from November to May. An apparent high water table exists at the surface during September to June. Potential frost action is high.

- 325 MEDIHEMISTS AND HYDRAQUENTS are fresh water marshes that are found around lakes or in ponded areas. Shallow water covers the surface for all, or practically all of the year. The soil material that lies beneath the water is quite variable. Drainage is very poor. The surface layer usually consists of an organic layer that is underlain by loamy or sandy material formed in lake laid sands or silts, alluvial material along streams, or in glacial till in the uplands. It occurs in depression areas throughout the county.

#### URBAN LAND

- 4 COLONIE - URBAN LAND COMPLEX are areas where 15 to 50 percent of the surface has been covered with impervious materials, such as buildings and asphalt, 30 percent of the area is undisturbed Colonie soils, 20 percent of the area is disturbed Colonie soils, and up to 20 percent are inclusions of poorer drained soils. The natural soils and urban land occur in such an intricate pattern that it is not feasible to separate them in mapping. Undisturbed Colonie soils are well to somewhat excessively drained. Inclusions are the moderately well drained Elnora and somewhat poorly drained Stafford soils. Slopes in this complex range from nearly level to gently sloping. Available water capacity is low to moderate in undisturbed soils, and low to very low in disturbed soils. The water table is generally greater than 6 feet below the surface.
- 5 URBAN - COLONIE COMPLEX are areas where 50 to 85 percent of the surface has been covered with impervious materials, such as building and asphalt, 20 percent of the area is undisturbed Colonie soil, 15 percent is disturbed Colonie soil with small inclusions of poorer drained soils. The urban land and natural soils occur in such an intricate pattern that it was not feasible to separate them in mapping. Undisturbed Colonie Soils are well to somewhat excessively drained. Inclusions are the moderately well

drained Elnora and somewhat poorly drained Stafford soils. Slopes in this complex range from nearly level to gently sloping. Available water capacity is low to moderate undisturbed soils, and low to very low in disturbed soils. The water table is greater than 6 feet below the surface.

- 6 **UDIPSAMMENTS, SMOOTHED** are areas that have been cut or filled for the removal of sandy material during grading for large highways, housing development or recreational areas. The cuts and fills often occur in such an intricate pattern that it is not feasible to separate them in mapping. The fill is over areas where the natural drainage varied from well drained to very poorly drained. Slopes range from nearly level and simple to very steep and complex. The cut areas of this unit are often steep and the texture is commonly loamy fine sand. The fill areas are loamy sand to loamy very fine sand. Available water capacity is low to moderate.
- 7 **UDORTHENTS LOAMY, SMOOTHED** are areas where loamy fill material, that can not be identified as a natural soil, has been placed on soils of various drainage classes. These areas have been created to provide sites for buildings, roads, recreation areas. Some areas have been excavated and similar fill has been placed in these cuts. Slopes range from nearly level to steep, but are generally nearly level to moderately sloping. A few areas have complex slopes. The loamy fill is commonly greater than 20 inches deep. Included in this unit are areas of deeply buried rubbish or other non-soil materials such as building trash, cinders, coal ashes and miscellaneous solid garbage wastes. Also included are small areas of undisturbed soils and freshwater marsh that were not covered up during filling activities. The available water capacity is low to moderate.
- 8 **UDORTHENTS - URBAN LAND COMPLEX** are areas where nearly 55 percent of the surface is disturbed loamy soils and fill material, 10 percent of the areas is undisturbed natural soils, and nearly 35 percent of the surface has been covered with impervious materials, such as buildings and asphalt. These areas of disturbed loamy fills and urban land occur in such an intricate pattern that it is not feasible to separate them in mapping. Undisturbed loamy soils, disturbed loamy soils, and fill material range from well drained to poorly drained. Slopes in this complex range from nearly level to steep. Available water capacity is variable. Depth to the water table is variable.
- 9 **URBAN LAND - UDORTHENTS COMPLEX** are areas where 50 to 85 percent of the surface has been covered with impervious materials, such as buildings and asphalt, and 15 to 50 percent of the surface is disturbed, loamy soils and fill material. Less than 10 percent of some areas have undisturbed, loamy soils. These areas of urban land and disturbed loamy fills occur in such an intricate pattern that it is not feasible to separate them in mapping. Disturbed loamy soils, undisturbed loamy soils and fill materials range from well drained to poorly drained. Slopes in the complex range from nearly level to steep. Available water capacity is variable. Depth to the water table is variable.
- 311 **URBAN LAND** consists of areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings or other impervious surfaces. Parking lots, shopping centers, industrial parks and urban centers are examples of urban land. They are nearly level to sloping. Examination and identification of earthy materials is impractical in this unit.