Table 3. Soils Descriptions Found Onsite

MAP No.	SOIL NAME	SOIL DESCRIPTION	SEASONAL HIGH WATER		PERMEABILITY		HYDROLOGIC SOIL GROUP	DEGREE AND KIND OF LIMITATIONS FOR PONDS AND EMBANKMENTS
			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
1	Adamsville fine sand	This is a nearly level, somewhat poorly drained soil on low ridges. Typically, the surface layer is very dark gray fine sand 8 inches thick. Below the surface layer, there is a grayish brown fine sand 18 inches thick and very pale brown fine sand 13 inches thick. Below that, to a depth of 80 inches or more there is light gray fine sand.	0.5 - 1.5	June - Nov.	0-8 8-80	6.0 - 20 6.0 - 20	C	Severe: Seepage, Piping, Wetness.
7	Canova, Anclote, and Okeelanta	This map unit consists of nearly level, very poorly drained mineral and organic soils in freshwater swamps and in broad, poorly defined drainageways. In a typical mapped area, Okeelanta soils are in the lowest places; Anclote soils the highest places, generally near the edges; and Canova soils in an intermediate position.						
		Canova soils are dark reddish brown muck 8 inches thick and dark gray fine sand 9 inches thick. The subsurface layer is gray fine sand 7 inches thick. The subsoil is gray sandy clay loam about 39 inches thick. The substratum is gray fine sand loam. Permeability is rapid in the surface and subsurface layers and moderate in the subsoil.	+2 - 0	Jan. - Dec.	0 - 8 8 - 24 24 – 68	6.0 - 20 6.0 - 20 0.6 - 6.0	B/D	Severe: Seepage, Piping
		The surface layer of Anclote soils is black fine sand 16 inches thick. Below that, to a depth of 80 inches or more, there is grayish brown, gray, and light gray fine sand. Permeability is rapid throughout.	0 - 1.0	Jun. – Dec.	0 - 16 16 - 80	6.0 - 20 6.0 - 20	D	Severe: Seepage, Piping, Ponding
		Okeelanta soils are black muck 20 inches thick. Below the surface layer, there is black sand 7 inches thick, grayish brown sand 4 inches thick, and light brownish gray sand 29 inches thick. Permeability is rapid throughout.	+1 - 0	Jun. – Jan.	0 - 20 20 - 54	6.0 - 20 6.0 - 20	A/D	Severe: Seepage, Piping, Ponding
11	Cassia fine sand	This is a nearly level, somewhat poorly drained soil on low ridges and knolls that are slightly higher than the adjacent flatwoods. Typically, the surface layer is gray fine sand about 3 inches thick. The subsurface layer is light gray to white fine sand about 21 inches thick. The subsoil is black to dark reddish brown fine sand coated with organic material and is about 9 inches thick. The substratum to a depth of 80 inches or more is very pale brown and light gray fine sand.	1.5 - 3.5	Jul. – Jan.	0 - 24 24 - 33 33 - 80	6.0 - 20 0.6 - 6.0 6 - 20	C	Severe: Seepage, Piping, Wetness
12	Cassia fine sand, moderately well drained	This is a moderately well drained, nearly level soil on low ridges and knolls in the uplands. Typically, the surface layer is grayish brown fine sand about 5 inches thick. The subsurface layer is light gray to white fine sand. It extends to a depth of 29 inches. The subsoil is dark brown fine sand. It extends to a depth of 41 inches. Below the subsoil there is a layer of pale brown to white fine sand.	3.5- 5.0	Jul. – Jan.	0 - 29 29 - 41 41 - 80	>20 2.0 - 6.0 >20	B	Severe: Seepage, Piping.
16	Delray complex	This complex consists of several nearly level, very poorly drained soils on flats and in sloughs that are moderately broad, low, and grassy. Typically, the surface layer is black fine sand 15 inches thick. The	0 - 1.0	Jun. – Mar.	0-15 15-55	6.0-20 6.0 - 20	A	Severe: Seepage, Wetness.

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		subsurface layer is grayish brown and light brownish gray fine sand to a depth of about 55 inches. The subsoil is grayish brown and greenish gray fine sandy loam and sandy clay laom to a depth of 80 inches or more.			55-80	0.6-6.0		
18	Delray-Pomona complex	This complex consists of soils in nearly level, broad grassy sloughs. Delray soils make up about 50% of this complex, Pomona soils make up 40%, and scattered areas of Myakka, Wauchula, Waveland, and Palmetto soils make up 10%.						
		Typically, the surface layer of Delray soils is black fine sand about 15 inches thick. The subsurface layer is grayish brown and light brownish gray fine sand 40 inches thick. The subsoil is grayish brown and greenish gray fine sandy loam and sandy clay loam to a depth of 80 inches or more. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil.	0 - 1.0	Jun. - Mar.	0 - 15 15 - 55 55 - 80	6.0-20 6.0-20 0.6-6.0	B/D	Severe: Seepage, Wetness.
		Typically, the surface layer of Pomona soils is black fine sand about 6 inches thick. The subsurface layer is gray and light gray fine sand 16 inches thick. The subsoil in the upper part is dark reddish brown and dark brown fine sand 14 inches thick. Below that, there is pale brown fine sand 15 inches thick. The subsoil in the lower part is olive gray fine sandy loam 9 inches thick. The substratum is gray loamy fine sand to a depth of 80 inches. Permeability is moderately slow in the lower part of the subsoil, moderate in the upper part of the subsoil, and rapid in the other layers.	0 - 1.0	Jul. - Sep.	0 - 22 22 - 36 36 - 51 51 - 60 60 - 80	6.0-20 6.0-20 0.6-2.0 0.2-0.6 6.0-20	B/D	Severe: Seepage, Piping, Wetness.
19	Duette fine sand, 0 to 5% slopes	This is a moderately well drained soil on low ridges and knolls in flatwoods. Typically, the surface layer is very dark gray fine sand about 4 inches thick. The subsurface layer, to a depth of 58 inches, is fine sand. In the upper 8 inches it is light gray, and below that it is white. The subsoil is fine sand that is coated with organic material to a depth of 80 inches or more. To a depth of 64 inches, it is dark brown, and below that, it is black. Permeability is very rapid in the surface layer and moderately rapid in the subsoil.	4.0 - 6.0	Jun. - Oct.	0 - 4 4 - 58 58 - 80	>20 >20 2.0 - 6.0	A	Severe: Seepage, Piping.
23	Felda-Palmetto complex	This complex consists of soils in broad sloughs where stream channels are poorly defined. Felda soils make up about 40% of the complex, Palmetto soils and some similar soils make up 35%, and minor soils make up 25%.						
		Typically, the surface layer of Felda soils is very dark gray fine sand about 3 inches thick. The subsurface layer is grayish brown fine sand 21 inches thick. The subsoil in the upper part is grayish brown fine sandy loam 3 inches thick, in the middle part it is gray sandy clay loam 6 inches thick, and in the lower part it is light gray sandy clay loam 29	0 - 1.0	Jul. - Mar.	0 - 25 25 - 80	6.0 - 20 0.6 - 6.0	B/D	Severe: Seepage, Piping, Wetness.

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		inches thick. The substratum is at a depth of about 62 inches and is light gray sandy loam. Permeability is rapid in the surface and subsurface layers and moderately rapid in the subsoil.						
		Typically, the surface layer of Palmetto soils is black sand about 8 inches thick. The subsurface layer is dark gray or gray sand to a depth of 25 inches. The subsoil is dark grayish brown and very dark grayish brown sand to a depth of 45 inches. It is grayish brown and dark grayish brown sandy clay loam and sandy loam to a depth of 64 inches and dark grayish brown loamy sand to a depth of 68 inches. Permeability is rapid in the surface and subsurface layers and moderately slow in the subsoil.	0-1.0	Jun. - Nov.	0 - 25 25 - 45 46 - 64 64 - 68	6.0 - 20 6.0 - 20 0.2 - 0.6 2.0 - 6.0	B/D	Severe: Seepage, Piping, Wetness.
24	Felda-Wabasso association, frequently flooded	This association consists of nearly level, poorly drained Felda soils and Wabasso soils and soils that are closely similar to them. The soils are in regular and repeating pattern on the flood plains along the larger streams in the county.						
		Typically, the surface layer of Felda soils is very dark gray fine sand about 3 inches thick. The subsurface layer is grayish brown fine sand 21 inches thick. The subsoil between depths of 24 and 64 inches. In the upper part it is grayish brown fine sandy loam 3 inches thick. In the middle part it is gray sandy clay loam 6 inches thick. In the lower part it is light gray sandy clay loam 29 inches thick. The substratum to a depth of 80 inches or more is light gray sandy loam. Permeability is rapid in the surface and subsurface layers and moderate to moderately rapid in the subsoil.	0 - 1.0	Jul. - Mar.	0 - 22 22 - 32 32 – 60	6.0 - 20 0.6 - 6.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.
		Typically, Wabassso soils have a surface layer of very dark gray fine sand 7 inches thick. The subsurface layer is gray and light gray fine sand 14 inches thick. The subsoil in the upper part is black, dark reddish brown, and brown fine sand 10 inches thick. In the lower part it is grayish brown sandy loam and gray sandy clay loam 28 inches thick. A 6-inch layer of pale brown fine sand separates the two parts. The substratum to a depth of 80 inches or more is gray sand mixed with shell fragments. Permeability is rapid in the surface and subsurface layers, in the layer between the two parts of the subsoil and in the stratum. It is moderate to moderately rapid in the upper part of the subsoil and slow to very slow in the lower part.	0 - 1.0	Jun. - Nov.	0 - 21 21 - 31 31 - 37 37 - 65 65 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20 <0.2 6.0 - 20	B/D	Severe: Seepage & Wetness.
26	Floridana-Immokalee-Okeelanta association	This map unit consists of nearly level, very poorly drained Floridana soils, poorly drained Immokalee soils, and very poorly drained Okeelanta soils. It is about 35% Floridana soils, 30% Immokalee soils, 20% Okeelanta soils, and 15% minor soils. These soils are in small to large shallow grassy ponds.						

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		Typically, the surface layer of Floridana soils is black and very dark gray fine sand about 19 inches thick. The subsurface layer is gray fine sand about 17 inches thick. The subsoil is dark gray sandy clay loam 17 inches thick The substratum is light gray fine sand that extends to a depth of 80 inches or more. Permeability is rapid in the surface layer, subsurface layer, and substratum; it is slow in the subsoil.	+2 - 1.0	Jun. - Feb.	0 - 19 19 - 36 36 - 63	6.0 - 20 6.0 - 20 <0.2	B/D	Severe: Seepage & Ponding.
		Typically, the surface layer of Immokalee soils is black fine sand about 5 inches thick. The subsurface layer is dark gray, gray, and light gray fine sand 29 inches thick. The subsoil is dark reddish brown and dark brown fine sand 9 inches thick. The substratum to a depth of 80 inches or more is grayish brown fine sand. Permeability is moderate in the subsoil and rapid in all other layers.	+2 - 1.0	Jun. - Feb.	0 - 10 10 - 34 34 - 43 43 - 80	6.0 - 20 6.0 - 20 0.6 - 2.0 6.0 - 20	D	Severe: Seepage, Piping, Wetness.
		Typically, Okeelanta soils in the uppermost 20 inches are black muck. Below that, to a depth of 54 inches or more, there is black and light brownish gray sand. Permeability is rapid throughout the soil.	+1 - 0	Jun. - Feb.	0 - 20 20 - 54	6.0 - 20 6.0 - 20	A/D	Severe: Seepage, Piping, Ponding.
30	Myakka fine sand, 0 to 2% slopes	Nearly level, poorly drained soils in areas of broad flatwoods. Typically, the surface layer is dark gray fine sand about 5 inches thick. The subsurface layer is fine sand. In the upper 8 inches it is gray, and below that, it is light gray. The subsoil is fine sand 22 inches thick. In the upper 6 inches it is black, in the next 8 inches it is dark reddish brown, and in the lower 8 inches it is dark brown. Below the subsoil there is brown fine sand to a depth of 61 inches, and below that, there is very dark brown fine sand to a depth of 75 inches or more. Permeability is rapid in the surface and subsurface layers and substratum and moderate or moderately rapid in the subsoil.	0 - 1.0	Jun. - Nov.	0 - 23 23 - 37 37 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.
35	Ona fine sand, orstein substratum	This is a nearly level, poorly drained soil that is in areas of broad flatwoods. Typically, the surface layer is black fine sand about 5 inches thick. The subsoil in the upper part is very dark brown and dark reddish brown fine sand 11 inches thick. The next layer is brown and light brownish gray fine sand 36 inches thick. The subsoil in the lower part is black fine sand that is weakly cemented to a depth of 68 inches and black friable fine sand to a depth of 80 inches or more. Permeability is moderate in the upper part of the subsoil, slow or very slow in the lower part of the subsoil, and rapid in the other layers.	0 -1.0	Jun. - Nov.	0 - 5 5 - 16 16 - 52 52 - 68 68 - 80	6.0 - 20 0.6 – 2.0 6.0 - 20 <0.2 0.06 - 0.6	B/D	Severe: Seepage, Piping, Wetness.
38	Palmetto sand	This is a nearly level, poorly drained soil in flatwoods. The soil is in sloughs, in poorly defined drainage ways, and in narrow bands around some ponds. Typically, the surface layer is black sand about 8 inches thick. The subsurface layer is dark gray or gray sand to a depth of 25 inches. The upper part of the subsoil is dark grayish brown and very dark grayish brown sand to a depth of about 45 inches. The lower part	0 -1.0	Jun. - Nov.	0 - 25 25 - 45 45 - 64 64 - 68	6.0 - 20 6.0 - 20 0.2 -0.6 2.0 – 6.0	B/D	Severe: Seepage, Piping, Wetness,

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
		of the subsoil is grayish brown and dark grayish brown sandy clay loam and sandy loam to a depth of about 64 inches and dark grayish brown loamy sand to a depth of 68 inches. Permeability is rapid in the surface and subsurface layers and moderately slow in the subsoil.						
42	Pomello fine sand, 0 to 2% slopes	Nearly level, moderately well drained soil on low ridges in flawoods. Typically, the surface layer is gray fine sand 2 inches thick. The subsurface layer is white fine sand to a depth of 46 inches. The subsoil is fine sand. In the upper 5 inches it is black. Below that, to a depth of 80 inches or more it is dark reddish brown. Permeability is very rapid in the surface and subsurface layers and moderately rapid in the subsoil.	2.0 – 3.5	Jul. - Nov.	0 - 46 46 - 80	>20 2.0 – 6.0	C	Severe: Seepage, Piping, Wetness.
44	St. Johns-Myakka complex	This complex consists of nearly level soils in broad areas of latwoods. St. Johns soils make up about 45% of the complex; Myakka soils make up 40%; and Immokalee, Ona, Palmetto, and Wauchula soils make up 15%.						
		Typically, the surface layer of St. Johns soils is black fine sand about 11 inches thick. The subsurface layer is light gray fine sand 15 inches thick. The subsoil is black and dark reddish brown fine sand. It extends to a depth of 43 inches. Below that, to a depth of 80 inches or more, there is brown, pale brown, and light brownish gray fine sand. Permeability is moderate in the subsoil and rapid in the other layers.	0 - 1.0	Jun. - Apr.	0 - 11 11 - 26 26 - 43 43 - 80	6.0 - 20 6.0 - 20 0.6 - 2.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.
		Typically, the surface layer of Myakka soils is very dark gray fine sand about 5 inches thick. The subsurface layer is gray and light gray fine sand about 19 inches thick. The subsoil, to a depth of about 46 inches, is black, dark reddish brown, and dark brown fine sand. Below that, to a depth of 80 inches or more, there is brown, pale brown, and light brownish gray fine sand. Permeability is rapid in the surface layer, subsurface layer, and substratum and moderate or moderately rapid in the subsoil.	0 - 1.0	Jun. – Nov.	0 - 24 24 - 46 46 - 80	6.0 - 20 0.6 - 6.0 6.0 - 20	B/D	Severe: Seepage, Piping, Wetness.

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			DEPTH (feet)	DURATION (months)	DEPTH (in)	RATE (in/hr)		
52	Waveland fine sand	This is a poorly drained, nearly level soil in broad areas of flatwoods. Typically, the surface layer is fine sand about 8 inches thick. In the upper 5 inches it is black, and below that, it is dark gray. The subsurface layer is 24 inches thick. In the uppermost 13 inches it is grayish brown sand, and below that, it is light gray fine sand. The subsoil, to a depth of 51 inches, is black sand. The substratum to a depth of 80 inches or more is sand that has pockets of sandy loam. In the upper 6 inches it is dark grayish brown, in the next 9 inches it is grayish brown, and in the lower part it is olive. Included with this soil mapping are small areas of Myakka, Ona, and Pomona soils. Permeability is rapid in the surface and subsurface layers, very slow to slow in the subsoil, and moderate to rapid in the substratum.	0 - 1.0	Jun. - Oct.	0 - 5 5 - 32 32 - 40 40 - 51 51 - 80	>6.0 >6.0 <0.2 <0.2 2.0 -20	B/D	Severe: Seeping, Piping, Wetness.

Source: USDA SCS 1983 Soil Survey, Manatee County.