

Manatee County, Florida
Nontechnical Soil Descriptions



Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units. These descriptions are written in terminology that nontechnical users of soil survey information can understand and are used to create reports. By linking the description to the soil survey map units these reports can be generated by conservation planners and other NRCS employees for distribution to land users. These descriptions are available through both Toolkit and NASIS.

In this subsection nontechnical descriptions are available through four categories they are Agronomic, ecological community, urban, and Water Quality. Separate map unit to description links are provided for each category.

AGRONOMIC

The following agronomic categories are available and linked through the Land Capability Unit (LCU) that are listed below.

Category

- aSOI - Soil Characteristics
- bSAC - Soil Agronomic Characteristics
- cH2O - Seasonal High Water Table
- dCUL - Cultivation Limitations
- eERO - Erosion Control
- fIRR - Irrigation Needs
- gCIT - Citrus Production
- hPAS - Pasture and Hayland
- iWMG - Water Table Management

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
1	3w9			
2		8w1		
3	3s23			
4	3w12	3w30		
5	3w12	3w30		
6	4w8	4w27		
7				7w1(Canova, Okeelanta)
		3w21(Anclote)		
8	6s9			

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
9	6s9			
10	6s9			
11	6s8			
12	6s8			
13		3w30		
14		7w3		
15		3w21		
16		3w21		
17	4w3(Eaugallie)	3w21(Delray)		
18	4w3(Pomona)	3w21(Delray)		
19	6s8			
20	4w3	4w22		
21		8w2		
22	3w2	3w21		
23		3w21(Felda)		
	4w3(Palmetto)	4w22(Palmetto)		
24		5w1		
25		3w21		
26		7w3(Floridana, Immokalee)		7w1(Okeelanta)
27				7w1
28	4w6	4w25		
29		3w30		
30	4w2	4w21		
31	4w2	4w21		
32	4w2	4w21		
33		8w2		
34		8w2		
35	3w3	3w22		
36	3s6			
37	4s22			
38	4w3	4w22		
39	3w12	3w30		
40	3w2	3w21		
41	8e1			
42	6s8			
43	3w3	3w22		
44		3w3(St.Johns)		
		4w2(Myakka)		
45	3s6			
46	3s3			
47		7w1		
48	3w3	3w22		

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
49	3w3	3w22		
50	3w3	3w22		
51	3w3	3w22		
52	4w9	4w29		
53		8w2		
54	3w9			
55	3w9			

Map Units without an LCU listed are either not suited to these uses or suitability is so variable that it must be determined on-site.

ECOLOGICAL COMMUNITY

The following categories are available below.

kRNG - Rangeland Suitability
 IWLD - Wildlife Suitability
 mWOD - Woodland Suitability

EC 2 (South Florida Coastal Strand) – Map Units 8, 9, 10

EC 3 (Sand Scrub) - Map Units 11, 12, 19, 37, 42

EC 4 (Longleaf Pine – Turkey Oak Hills) – Map Units 36, 45, 46

EC 6 (South Florida Flatwoods) - Map Units 1, 3, 6, 17, 18*, 20, 30, 31, 32, 35, 43, 44, 48, 49, 50, 51, 52, 54, 55

EC 8 (Cabbage Palm Flatwoods) – Map Units 4, 5, 28, 40

EC 13 (Cabbage Palm Hammock) – Map Unit 39

EC 15 (Oak Hammocks) Map Unit 23

EC 18 (Salt Marsh) - Map Units 33, 34

EC 19 (Mangrove Swamps) – Map Units 21, 53

EC 21 (Swamp Hardwoods) – Map Units 7*, 14*, 24

EC 25 (Freshwater Marsh and Ponds) – Map Units 7*, 14*, 15, 25, 26, 27, 29, 47

EC 26 (Slough) - Map Units 16, 17, 18*, 22, 38

* - These Map Units have more than one type of ecological community.

Map Units without an ecological community listed are not suited to these uses or suitability is so variable that it must be determined on-site.

URBAN USES

The following additional nontechnical descriptions are available for urban interpretations:

oURB - Urban Use Statement

- 01 – Map Unit 24
- 02 – Map Units 7, 13, 14, 15, 26, 27, 29
- 03 – Map Units 16, 17, 18, 20, 22, 23, 30, 31, 32, 35, 38, 39, 40, 43, 44, 48, 49, 51, 52
- 05 – Map Unit 50
- 07 – Map Unit 28
- 12 – Map Units 36, 37, 45, 46
- 13 – Map Unit 6
- 14 - Map Units 1, 11, 12, 19, 42, 54, 55
- 15 - Map Unit 41
- 16 – Map Unit 2
- 17 – Map Units 8, 9
- 18 – Map Unit 25
- 19 – Map Units 21, 33, 34, 53
- 21 – Map Units 10, 47

pSEP - Septic Tank Absorption Fields

- 01 – Map Unit 24
- 02 – Map Units 7, 13, 14, 15, 26, 27, 29
- 03 - Map Units 1, 30, 31, 32, 35, 38, 39, 43, 44, 52
- 04 - Map Units 16, 17, 18, 20, 22, 23, 25, 40, 48, 49
- 05 – Map Units 28, 50
- 06 - Map Units 11, 12, 42, 54, 55
- 10 - Map Unit 51
- 12 – Map Unit 36
- 15 - Map Units 6, 41
- 16 – Map Unit 2
- 18 – Map Units 8, 9, 19, 37, 45, 46
- 19 – Map Units 21, 33, 34, 53
- 21 – Map Units 10, 47

qLRS - Local Roads and Streets

- 01 – Map Unit 24
- 02 – Map Unit 7
- 03 - Map Units 13, 14, 15, 26, 28, 29, 30, 31, 32, 35, 38, 39, 43, 44, 52
- 04 - Map Units 16, 17, 18, 20, 22, 23, 40, 48, 49, 50, 51
- 10 – Map Units 1, 3, 6, 11, 12, 42, 54, 55
- 12 – Map Units 19, 36, 37, 45, 46
- 15 - Map Unit 41
- 16 – Map Unit 2
- 18 – Map Units 8, 9
- 19 – Map Units 33, 34, 53
- 21 – Map Unit 10, 21, 27, 47
- 22 – Map Unit 25

Map units without a link listed are either not suited to these uses or suitability is so variable that it must be determined on-site.

WATER QUALITY

The last group of nontechnical description in this subsection of this FOTG is that group dealing with water quality, specifically pesticide and nutrient management. The link between the statements and the map units is listed below.

- sWQ – Water Quality Statement
- tPES – Pesticide Management Statement
- uNUT – Nutrient Management Statement

- 02 - Map Units – 11, 12, 19, 36, 37, 45, 46
- 03 - Map Units – 1, 2, 3, 6, 8, 9, 10, 23, 25, 26, 28, 30, 31, 32, 33, 34, 35, 41, 42, 43, 44, 54, 55
- 04 - Map Units – 4, 5, 7, 13, 14, 15, 16, 17, 18, 20, 21, 22, 24, 27, 29, 38, 39, 40, 47, 48, 49, 50, 51, 52, 53

Nontechnical Soil Descriptions

3s3 Map Unit 46

"aSOI", "3s3", "This map unit consists of nearly level and gently sloping, well drained or moderately well drained soils of the uplands. The soils have sandy surface and subsurface layers 40 or more inches thick, and moderately to moderately rapidly permeable loamy subsoil layers."

"bSAC", "3s3", "The root zone of these soils is limited by droughtiness and somewhat by a seasonal high water table in wet seasons. Available water capacity averages very low to low in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "3s3", "In normal years these soils have a seasonal high water table at a depth of between 40 and 60 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s3", "These soils have severe limitations for cultivated crops. Droughtiness and rapid leaching of plant nutrients reduce the number of well adapted crops and the potential yields of plants that are adapted. The control of erosion is also a management concern. Nutrient management maximizes yields."

"eERO", "3s3", "Some erosion control measures are needed such as cultivating row crops on the contour in strips alternating with close growing, soil building crops. Crop rotations should include close growing, soil improving crops on the land at least two-thirds of the time. Soil building cover crops and all crop residues should be left on the land."

"fIRR", "3s3", "Irrigation of some high value crops such as tobacco, and citrus is usually feasible where irrigation water is readily available."

"gCIT", "3e3", "These soils are well suited to citrus crops where they are in places that are relatively free from freezing in winter. Trees should be planted so a good ground cover of close growing vegetation is maintained between the trees to protect the soils from blowing. Good yields of citrus fruit can normally be obtained without irrigation. Nutrient management is needed for highest yields."

"hPAS", "3s3", "These soils are poorly suited to pastures and hay crops. The soils are so droughty and have such low nutrient holding capacity that most grasses make only fair growth when carefully managed. Deep rooting hybrid bermudagrass and bahiagrasses are best adapted. They require nutrient management and carefully controlled grazing to maintain vigorous plants."

"iWMG", "3s3", "Water table management is not normally practiced on these soils."

3s6 Map Units 36, 45

"aSOI", "3s6", "This map unit consists of nearly level and gently sloping, somewhat poorly drained to moderately well drained soils on low ridges. They have moderately to rapidly permeable sandy layers to depths of more than 80 inches."

"bSAC", "3s6", "The root zone of these soils is limited by a seasonal high water table in wet seasons and by droughtiness during periods of low rainfall. The available water capacity is very low in the root zone. Natural fertility is low and crop response to fertilization is low to moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "3s6", "In normal years these soils have a seasonal high water table at a depth of between 40 and 60 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s6", "These soils have severe limitations for most cultivated crops due to droughtiness and the rapid leaching of plant nutrients. These factors also limit the choice of plants and reduces potential yields of adapted crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "3s6", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3s6", "Irrigation of high value crops is usually feasible where irrigation water is readily available. Fair yields of citrus crops can normally be grown without irrigation, but irrigation to maintain optimum yields is usually feasible where irrigation water is readily available."

"gCIT", "3s6", "These soils are well suited for citrus trees where they occur in places that are relatively free from freezing temperatures. A good ground cover of close growing vegetation is needed between the trees to minimize erosion. Fair yields of citrus crops can normally be grown without irrigation."

"hPAS", "3s6", "These soils are well suited to pastures. Pangola grass, hybrid bermudagrass, and bahiagrasses are well adapted. White clover and lespedeza are also well adapted. These soils produce good yields where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "3s6", "Tile, or other types of drains, are needed for some crops such as citrus that are damaged by high water table during the growing season. Tiles can also be used as a source for subirrigation during periods of low rainfall."

3s23 Map Unit 3

"aSOI", "3s23", "This map unit consists of nearly level and gently sloping, somewhat poorly drained to moderately well drained soils on low ridges. They have rapidly permeable sandy layers to depths of 20 to 40 inches over moderately permeable subsoils."

"bSAC", "3s23", "The root zone of these soils is limited by a seasonal high water table in wet seasons and by droughtiness during periods of low rainfall. The available water capacity is low to moderate in the root zone. Natural fertility is low and crop response to fertilization is moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "3s23", "In normal years these soils have a seasonal high water table at a depth of between 30 and 40 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3s23", "These soils have severe limitations for most cultivated crops due to droughtiness and the rapid leaching of plant nutrients. These factors also limit the choice of plants and reduces potential yields of adapted crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "3s23", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3s23", "Irrigation of high value crops is usually feasible where irrigation water is readily available. Good yields of citrus crops can normally be grown without irrigation, but irrigation to maintain optimum yields is usually feasible where irrigation water is readily available."

"gCIT", "3s23", "These soils are moderately well suited for citrus trees where they occur in places that are relatively free from freezing temperatures. A good ground cover of close growing vegetation is needed between the trees to minimize erosion. Good yields of citrus crops can normally be grown without irrigation."

"hPAS", "3s23", "These soils are well suited to pastures. Pangola grass, hybrid bermudagrass, and bahiagrasses are well adapted. White clover and lespedeza are also well adapted. These soils produce good yields where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "3s23", "Tile, or other types of drains, are needed for some crops such as citrus that are damaged by high water table during the growing season. Tiles can also be used as a source for subirrigation during periods of low rainfall."

3w2 Non-hydric, portions of Map Units 22, 40

"aSOI", "3w2", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy surface and subsurface layers 20 to 40 inches thick over moderately to moderately rapidly permeable loamy layers."

"bSAC", "3w2", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w2", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3w2", "These soils have severe limitations for cultivated crops because of wetness. With a total water management system these soils are well suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "3w2", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3w2", "Highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w2", "With proper water table management these soils are suited to citrus crops where they occur in places relatively free from damaging cold in winter. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion."

"hPAS", "3w2", "These soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w2", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

3w3 Non-hydric, portions of Map Units 35, 43, 44(St.Johns part), 48, 49, 50, 51

"aSOI", "3w3", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy surface and subsurface layers over moderately to moderately rapidly permeable loamy or sandy subsoils. These soils have dark colored organic stained layers within 40 inches"

"bSAC", "3w3", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons. The available water capacity averages low to very low in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w3", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3w3", "These soils have severe limitations for cultivated crops because of wetness in wet seasons and droughtiness during periods of low rainfall. With a total water management system these soils are well suited to a variety of flower and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. All crop residue should be returned to the soil. Maximum yields require nutrient management."

"eERO", "3w3", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3w3", "Highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w3", "With proper water table management these soils are suited to citrus crops. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion. Irrigation is required for proper yields."

"hPAS", "3w3", "These soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w3", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

3w9 Map Units 1, 54, 55

"aSOI", "3w9", "This map unit consists of nearly level and gently sloping, somewhat poorly drained soils on low ridges within the flatwoods. They have rapidly permeable sandy layers to depths of more than 40 inches."

"bSAC", "3w9", "The root zone of these soils is limited by a seasonal high water table in wet seasons and by droughtiness during periods of low rainfall. The available water capacity is low in the root zone. Natural fertility is low but crop response to fertilization is moderate. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "3w9", "In normal years these soils have a seasonal high water table at a depth of between 18 and 40 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3w9", "These soils have severe limitations for most cultivated crops due to wetness in wet seasons, droughtiness during periods of low rainfall, and the rapid leaching of plant nutrients. These factors also limit the choice of plants and reduces potential yields of adapted crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "3w9", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3w9", "Irrigation of high value crops is usually feasible where irrigation water is readily available. Good yields of citrus crops can normally be grown without irrigation, but irrigation to maintain optimum yields is usually feasible where irrigation water is readily available."

"gCIT", "3w9", "These soils are moderately well suited to citrus trees where they occur in places that are relatively free from freezing temperatures. A good ground cover of close growing vegetation is needed between the trees to minimize erosion. Good yields of citrus crops can normally be grown without irrigation."

"hPAS", "3w9", "These soils are moderately suited to pastures. Pangolagrass, hybrid bermudagrass, and bahiagrasses are well adapted. White clover and lespedeza are also well adapted. These soils produce good yields where nutrient management is practiced. Controlled grazing is needed to maintain vigorous plants for maximum yields."

"iWMG", "3w9", "Tile, or other types of drains, are needed for some crops such as citrus that are damaged by high water table during the growing season. Tiles can also be used as a source for subirrigation during periods of low rainfall."

3w12 Non-hydric, portions of Map Units 4, 5, 39

"aSOI", "3w12", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy surface and subsurface layers less than 20 inches thick over moderately to moderately rapidly permeable loamy layers."

"bSAC", "3w12", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w12", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3w12", "These soils have severe limitations for cultivated crops because of wetness. With a total water management system these soils are well suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "3w12", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3w12", "Highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w12", "With proper water table management these soils are suited to citrus crops where they occur in places relatively free from damaging cold in winter. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion."

"hPAS", "3w12", "These soils are well suited to pastures and hay crops. Improved grasses such as pangola grass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w12", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

3w21 Hydric, portions of Map Units 7(Anclote), 15, 16, 17, 18(Delray), 22, 23, 25, 40

"aSOI", "3w21", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They have sandy surface and subsurface layers 20 to 40 inches thick over moderately to moderately rapidly permeable loamy layers."

"bSAC", "3w21", "The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w21", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "3w21", "Cultivation of these hydric soils is not recommended. If cultivated, these soils have severe limitations because of wetness. With a total water management system these soils are suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "3w21", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "3w21", "If cultivated, highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w21", "With proper water table management these soils are suited to citrus crops where they occur in places relatively free from damaging cold in winter. Good management includes adequate water control to maintain the water table at least three feet below the surface. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion."

"hPAS", "3w21", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w21", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

3w22 Hydric, portions of Map Units 35, 43, 48, 49, 50, 51

"aSOI", "3w22", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They have sandy surface and subsurface layers over moderately to moderately rapidly permeable loamy or sandy subsoils. These soils have dark colored organic stained layers within 40 inches"

"bSAC", "3w22", "The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages low to very low in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w22", "In normal years these hydric soils have a seasonal high water table at a depth of less than 6 inches for 2 to 6 months. In other months the water table is usually below these depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "3w22", "Cultivation of these hydric soils is not recommended. If cultivated, severe limitations due to wetness in wet seasons and droughtiness during periods of low rainfall exist. With a total water management system these soils are suited to a variety of flower and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. All crop residue should be returned to the soil. Maximum yields require nutrient management."

"eERO", "3w22", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "3w22", "Highest yields on these hydric soils require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w22", "With proper water table management these hydric soils are suited to citrus crops. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion. Irrigation is required for proper yields."

"hPAS", "3w22", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as pangola grass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w22", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

3w30 Hydric, portions of Map Units 4, 5, 13, 29, 39

"aSOI", "3w30", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They have sandy surface and subsurface layers less than 20 inches thick over moderately to moderately rapidly permeable loamy layers."

"bSAC", "3w30", "The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "3w30", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "3w30", "Cultivation of these hydric soils is not recommended. If cultivated, these soils have severe limitations because of wetness. With a total water management system these soils are suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "3w30", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "3w30", "If cultivated, highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w30", "With proper water table management these soils are suited to citrus crops where they occur in places relatively free from damaging cold in winter. Good management includes adequate water control to maintain the water table at least three feet below the surface. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion."

"hPAS", "3w30", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as pangola grass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w30", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4s22 Map Unit 37

"aSOI", "4s22", "This map unit consists of nearly level and gently sloping, moderately well drained soils on coastal ridges. These soils have sandy layers that are rapidly permeable to depths of more than 80 inches."

"bSAC", "4s22", "The root zone of these soils is limited by a seasonal high water table in wet seasons as well as droughtiness during periods of low rainfall. The available water capacity is low to very low in all layers. Natural fertility is low and response to fertilization is moderate to low. Rainfall is rapidly absorbed and there is little runoff. The hazard of erosion is slight."

"cH2O", "4s22", "In normal years these soils have a seasonal high water table at a depth of between 40 and 60 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4s22", "These soils have severe limitations for cultivated crops. Droughtiness and the rapid leaching of plant nutrients limit the choice of plants and reduces potential yields of adapted crops. If cropped, soil management should include row crops on the contour in alternate strips with close growing crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximize yields. Soil improving cover crops and all crop residues should be left on the land."

"eERO", "4s22", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4s22", "Irrigation of high value crops is usually feasible where irrigation water is readily available."

"gCIT", "4s22", "These soils are suited to citrus crops where they are in places that are relatively free from freezing in winter. Trees should be planted on the contour and managed so that a good ground cover of close growing vegetation is maintained between the trees to protect the soils from blowing. Good yields of citrus fruit such as oranges and grapefruit can normally be obtained without irrigation. Nutrient management is needed for highest yields."

"hPAS", "4s22", "These soils are poorly suited to pastures and hay. These soils require nutrient management and controlled grazing to maintain vigorous plants for acceptable yields."

"iWMG", "4s22", "Water table management is not normally practiced on these soils."

4w2 Non-hydric portions of Map Units 30, 31, 32, 44

"aSOI", "4w2", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy layers more than 72 inches thick."

"bSAC", "4w2", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons. The available water capacity averages low in the root zone. Natural fertility is low but crop response to fertilization is moderate. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w2", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w2", "These soils have severe limitations for cultivated crops because of wetness. With a total water management system these soils are well suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "4w2", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4w2", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w2", "With proper water table management these soils are suited to citrus crops where they occur in places relatively free from damaging cold in winter. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion."

"hPAS", "4w2", "These soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w2", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w3 Non-hydric portions of Map Units 17, 18, 20, 23, 38

"aSOI", "4w3", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They are dominately sandy with a moderately slowly subsoil layer within 60 inches."

"bSAC", "4w3", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons and by droughtiness during periods of low rainfall. The available water capacity averages low to very low in the root zone. Natural fertility is low and crop response to fertilization is moderate. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"ch2O", "4w3", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w3", "These soils have severe limitations for cultivated crops because of wetness in wet seasons and droughtiness during periods of low rainfall. With a total water management system these soils are well suited to a variety of flower and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. All crop residue should be returned to the soil. Maximum yields require nutrient management."

"eERO", "4w3", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4w3", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w3", "With proper water table management these soils are suited to citrus crops. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion. Irrigation is required for proper yields."

"hPAS", "4w3", "These soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w3", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w6 Non-hydric portions of Map Unit 28

"aSOI", "4w6", "This map unit consists of nearly level poorly drained soils on flatwoods, hammocks, and upland hardwood hammocks. They have sandy surface and subsurface layers and loamy subsoils over limestone bedrock at a depth of less than 20 inches."

"bSAC", "4w6", "The root zone of these soils is limited by a seasonal high water table at or near the surface and the limestone bedrock. The available water capacity is low to very low in the root zone. Natural fertility is low and crop response to nutrients is low to moderate. The internal drainage is slow under natural conditions but the response to artificial drainage is rapid. The hazard of erosion is slight."

"cH2O", "4w6", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w6", "These soils have severe limitations for cultivated crops because of wetness and the depth to bedrock. The variety of crops is very limited without an adequate total water table management system that designed to remove excess water in wet seasons and provide subirrigation during dry periods. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "4w6", "Erosion control is not a management concern on these soils."

"fIRR", "4w6", "If cultivated, highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w6", "These soils have poor suitability for citrus crops. Soil depth and the low to very low available water capacity are severe limitations that are difficult to overcome."

"hPAS", "4w6", "These soils are only fairly suited to pastures and hay crops. Low to very low available water capacity is the main limitation. Improved grasses such as the improved bahiagrasses are adapted. Several varieties of clovers are also well adapted where properly managed. Moderate yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w6", "If cropped, these soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths for the planted crop. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w8 Non-hydric portions of Map Unit 6

"aSOI", "4w8", "This map unit consists of nearly level poorly drained soils on flatwoods, hammocks, and upland hardwood hammocks. They have sandy surface and subsurface layers and loamy subsoils over limestone bedrock at a depth of 20 to 40 inches."

"bSAC", "4w8", "The root zone of these soils is limited by a seasonal high water table at or near the surface and the limestone bedrock. The available water capacity is low to very low in the root zone. Natural fertility is low and crop response to nutrients is low to moderate. The internal drainage is slow under natural conditions but the response to artificial drainage is rapid. The hazard of erosion is slight."

"cH2O", "4w8", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w8", "These soils have severe limitations for cultivated crops because of wetness and the depth to bedrock. The variety of crops is very limited without an adequate total water table management system that designed to remove excess water in wet seasons and provide subirrigation during dry periods. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "4w8", "Erosion control is not a management concern on these soils."

"fIRR", "4w8", "If cultivated, Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w8", "These soils have poor suitability for citrus crops. Soil depth and the low to very low available water capacity are severe limitations that are difficult to overcome."

"hPAS", "4w8", "These soils are only fairly suited to pastures and hay crops. Low to very low available water capacity is the main limitation. Improved grasses such as the improved bahiagrasses are adapted. Several varieties of clovers are also well adapted where properly managed. Moderate yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w8", "If cropped, these soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths for the planted crop. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w9 Non-hydric portions of Map Unit 52

"aSOI", "4w9", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy layers more than 40 inches thick and cemented spodic horizons."

"bSAC", "4w9", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons, by droughtiness during periods of low rainfall, and by the cemented spodic horizon. The available water capacity averages low to very low in the root zone. Natural fertility is low and crop response to fertilization is moderate. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w9", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w9", "These soils have severe limitations for cultivated crops because of wetness in wet seasons and droughtiness during periods of low rainfall. With a total water management system these soils are well suited to a variety of flower and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least three-fourths of the time. All crop residue should be returned to the soil. Maximum yields require nutrient management."

"eERO", "4w9", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4w9", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers. The rate of water application should be low enough to prevent runoff and erosion."

"gCIT", "4w9", "With proper water table management these soils are suited to citrus crops. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion. Irrigation is required for proper yields."

"hPAS", "4w9", "These soils are well suited to pastures and hay crops. Improved grasses such as pangola grass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w9", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w21 Hydric portions of Map Units 30, 31, 32

"aSOI", "4w21", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They have sandy layers more than 72 inches thick and a spodic horizon within 30 inches."

"bSAC", "4w21", "The root zone is limited by a seasonal high water table that is at or slightly above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is low but crop response to fertilization is good. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w21", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w21", "Cultivation of these hydric soils is not recommended. If cultivated, these soils have severe limitations because of wetness. With a total water management system these soils are suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "4w21", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "4w21", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w21", "With proper water table management these soils are suited to citrus crops where they occur in places relatively free from damaging cold in winter. Good management includes adequate water control to maintain the water table at least three feet below the surface. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion."

"hPAS", "4w21", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w21", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w22 Hydric portions of Map Units 20, 23, 38

"aSOI", "4w22", "This map unit consists of nearly level, poorly drained soils on low flatwoods, low hammocks, and sloughs. They are dominately sandy with a moderately slowly subsoil layer within 60 inches."

"bSAC", "4w22", "The root zone is limited by a seasonal high water table that is at or near the surface in wet seasons and by droughtiness during periods of low rainfall. The available water capacity averages low to very low in the root zone. Natural fertility is low and crop response to fertilization is moderate. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w22", "In normal years these hydric soils have a seasonal high water table at a depth of less than 6 inches for 2 to 6 months. In other months the water table is usually below these depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w22", "Cultivation of these hydric soils is not recommended. If cultivated, severe limitations due to wetness in wet seasons and droughtiness during periods of low rainfall exist. With a total water management system these soils are suited to a variety of flower and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. All crop residue should be returned to the soil. Maximum yields require nutrient management."

"eERO", "4w22", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "4w22", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w22", "With proper water table management these hydric soils are suited to citrus crops. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion. Irrigation is required for proper yields."

"hPAS", "4w22", "These hydric soils are well suited to pastures and hay crops. Improved grasses such as pangolagrass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w22", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w25 Hydric portions of Map Unit 28

"aSOI", "4w25", "This map unit consists of nearly level poorly drained soils on low flatwoods, low hammocks, and wetland hardwood hammocks. They have sandy surface and subsurface layers and loamy subsoils over limestone bedrock at a depth of less than 20 inches."

"bSAC", "4w25", "The root zone of these hydric soils is limited by a seasonal high water table at or near the surface and the limestone bedrock. The available water capacity is low to very low in the root zone. Natural fertility is low but crop response to nutrients is moderate. The internal drainage is slow under natural conditions but the response to artificial drainage is rapid."

"cH2O", "4w25", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depth. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w25", "These hydric soils have severe limitations for cultivated crops because of wetness and the depth to bedrock and cultivation is not recommended. If they are cultivated the variety of crops is very limited without an adequate total water table management system. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "4w25", "Erosion control is not a management concern on these hydric soils."

"fIRR", "4w25", "If cultivated, highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w25", "These hydric soils have poor suitability for citrus crops. Soil depth and the low to very low available water capacity are severe limitations that are difficult to overcome."

"hPAS", "4w25", "These soils are only fairly suited to pastures and hay crops. Low to very low available water capacity is the main limitation. Improved grasses such as the improved bahiagrasses are adapted. Several varieties of clovers are also well adapted where properly managed. Moderate yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w25", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths for the planted crop. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w27 Hydric portions of Map Unit 6

"aSOI", "4w27", "This map unit consists of nearly level poorly drained soils on low flatwoods, low hammocks, and wetland hardwood hammocks. They have sandy surface and subsurface layers and loamy subsoils over limestone bedrock at a depth of 20 to 40 inches."

"bSAC", "4w27", "The root zone of these hydric soils is limited by a seasonal high water table at or near the surface and the limestone bedrock. The available water capacity is low to very low in the root zone. Natural fertility is low but crop response to nutrients is moderate. The internal drainage is slow under natural conditions but the response to artificial drainage is rapid."

"cH2O", "4w27", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depth. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w27", "These hydric soils have severe limitations for cultivated crops because of wetness and the depth to bedrock and cultivation is not recommended. If they are cultivated the variety of crops is very limited without an adequate total water table management system. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "4w27", "Erosion control is not a management concern on these hydric soils."

"fIRR", "4w27", "If cultivated, Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w27", "These hydric soils have poor suitability for citrus crops. Soil depth and the low to very low available water capacity are severe limitations that are difficult to overcome."

"hPAS", "4w27", "These soils are only fairly suited to pastures and hay crops. Low to very low available water capacity is the main limitation. Improved grasses such as the improved bahiagrasses are adapted. Several varieties of clovers are also well adapted where properly managed. Moderate yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w27", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths for the planted crop. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w29 Hydric portions of Map Unit 52

"aSOI", "4w29", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy layers more than 40 inches thick and cemented spodic horizons."

"bSAC", "4w29", "The root zone is limited by a seasonal high water table that is at or near the surface in wet seasons, by droughtiness during periods of low rainfall, and by the cemented spodic horizon. The available water capacity averages low to very low in the root zone. Natural fertility is low and crop response to fertilization is moderate. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w29", "In normal years these hydric soils have a seasonal high water table at a depth of less than 6 inches for 2 to 6 months. In other months the water table is usually below these depths. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w29", "Cultivation of these hydric soils is not recommended. If cultivated, severe limitations due to wetness in wet seasons and droughtiness during periods of low rainfall exist. With a total water management system these soils are suited to a variety of flower and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least three-fourths of the time. All crop residue should be returned to the soil. Maximum yields require nutrient management."

"eERO", "4w29", "Crops produced on these hydric soils do not normally need special erosion control practices."

"fIRR", "4w29", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w29", "With proper water table management these hydric soils are suited to citrus crops. Good management includes adequate water control to maintain the water table at least three feet below the surface. The trees should be planted on beds. Nutrient management is a preferred practice. Close growing vegetation between the trees is needed to protect the soil from erosion. Irrigation is required for proper yields."

"hPAS","4w29","These hydric soils are well suited to pastures and hay crops. Improved grasses such as pangola grass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG","4w29","A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

5w1 Map Units 24

"aSOI","5w1","This map unit consists of nearly level, poorly drained and very poorly drained soils on flood plains. These soils are subject to common flooding during the growing season."

"bSAC","5w1","Wetness and flooding severely limits the use of the root zone of these soils for agronomic crops."

"cH2O","5w1","In normal years these hydric soils have a seasonal high water table within 6 inches of the surface for 2 to 6 months or more. In other months the water table is usually below these depths. These soils are also flooded frequently for long duration. Most often flooding occurs in the spring, but it may occur during any wet season."

"dCUL","5w1","These hydric soils are not suited to cultivated crops without an extensive water table management system."

"eERO","5w1","Erosion is not a management concern on crops produced on these hydric soils."

"fIRR","5w1","If cultivated, highest yields require irrigation either subirrigated through the extensive water table management system or by sprinklers."

"hPAS","5w1","These hydric soils are not suited to pasture or hay crops without an extensive water table management system."

"iWMG","5w1","If these hydric soils are cultivated, an extensive water table management system is needed for crop and pasture production on these soils. It should remove excess water rapidly and provide a means of applying subirrigation. Dikes and a pumping systems are needed for flood control and tile drains and open ditches are needed to maintain the preferred water table depth. Rarely are drainage and flood protection economically feasible and environmentally sound."

6s8 Map Units 11, 12, 19, 42

"aSOI","6s8","This map unit consists of nearly level, somewhat poorly and moderately well drained soils on low ridges of the flatwoods. They have sandy layers to more than 72 inches deep. A layer 20 to 60 inches below the surface is weakly cemented with dark colored organic material."

"bSAC", "6s8", "The root zone is limited by a water table during wet seasons and by droughtiness during periods of low rainfall. The available water capacity is very low in the root zone. Natural fertility is very low and crop response to nutrient management is only fair. The internal drainage rate is slow under natural conditions but response to artificial drainage is rapid."

"cH2O", "6s8", "In normal years these soils have a seasonal high water table at a depth of 18 and 40 inches for 1 to 4 months. In other months the water table is usually below this depth. Only rarely, during periods of high rainfall, is the water table above 18 inches."

"dCUL", "6s8", "Due to the very low natural fertility, wetness in wet seasons, droughtiness during periods of low rainfall, and the rapid leaching of plant nutrients, these soils are not suited to cultivated field crops."

"eERO", "6s8", "If these soils are cultivated, erosion control measures are not normally needed."

"fIRR", "6s8", "Irrigation of high value crops is usually feasible where irrigation water is readily available. The rate of water application should be low enough to prevent runoff and erosion. A well designed irrigation system to maintain optimum moisture conditions is needed to assure acceptable citrus yields."

"gCIT", "6s8", "These soils are only fairly to poorly suited for citrus trees even where they are in places relatively free from freezing temperatures. A good ground cover of close growing plants is needed between the trees to protect the soil from blowing and washing. Poor to fair yields of oranges and grapefruit are usually obtained without irrigation."

"hPAS", "6s8", "These soils have only fair suitability for pastures. Grasses such as pangolagrass and bahiagrass make only fair growth where an intensive nutrient management system is maintained. Clovers are not adapted."

"iWMG", "6s8", "Water table management is not normally practiced on these soils."

6s9 Map Units 8, 9, 10

"aSOI", "6s9", "This map unit consists of nearly level, somewhat poorly and moderately well drained soils on low ridges of the flatwoods. They have sandy layers more than 80 inches deep."

"bSAC", "6s9", "The root zone is limited by a water table during wet seasons and by droughtiness during periods of low rainfall. The available water capacity is very low in the root zone. Natural fertility is very low and crop response to nutrient management is only fair. The internal drainage rate is slow under natural conditions but response to artificial drainage is rapid."

"cH2O", "6s9", "In normal years these soils have a seasonal high water table at a depth of 18 and 40 inches for 1 to 4 months. In other months the water table is usually below this depth. Only rarely, during periods of high rainfall, is the water table above 18 inches."

"eERO", "6s9", "If these soils are cultivated, erosion control measures are not normally needed."

"fIRR", "6s9", "Irrigation of high value crops is usually feasible where irrigation water is readily available. The rate of water application should be low enough to prevent runoff and erosion. A well designed irrigation system to maintain optimum moisture conditions is needed to assure acceptable citrus yields."

"gCIT", "6s9", "These soils are only fairly to poorly suited to citrus trees even where they are in places relatively free from freezing temperatures. A good ground cover of close growing plants is needed between the trees to protect the soil from blowing and washing. Poor to fair yields of oranges and grapefruit are usually obtained without irrigation."

"hPAS", "6s9", "These soils have only fair suitability for pastures. Grasses such as pangolagrass and bahiagrass make only fair growth where an intensive nutrient management system is maintained. Clovers are not adapted."

"iWMG", "6s9", "Water table management is not normally practiced on these soils."

7w1 Map Units 7(Canova, Okeelanta part), 26(Okeelanta part), 27, 47

"aSOI", "7w1", "This map unit consists of nearly level, very poorly drained organic soils in depressional areas. They have thick layers of partially decomposed remains of aquatic plants."

"bSAC", "7w1", "The root zone is limited by water that is above the surface in wet seasons. The available water capacity averages high in the root zone. Natural fertility is high. The internal drainage rate is very slow in the natural condition and seepage water seeps from the soil in wet seasons."

"cH2O", "7w1", "In normal years these soils have a seasonal high water table within 6 inches of the surface for 2 to 6 months of most years. During other months the water table is deeper. These soils are also subject to frequent ponding and/or flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "7w1", "If water control measures are established, these soil would be moderately well to well suited to cultivated crops. Due to the difficulty of installing these measures and the lack of outlets in most areas, they have seldom, if ever, been used for crops."

"eERO", "7w1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7w1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7w1", "If water control measures are established, these soil would be moderately well to well suited to improved pastures. Due to the difficulty of installing these measures and the lack of outlets in most areas, they have seldom, if ever, been used for pasture."

"iWMG", "7w1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

7w3 Map Units 14, 26

"aSOI", "7w3", "This map unit consists of nearly level, very poorly drained soils on depressions. They have sandy or loamy surface layers and sandy, loamy or clayey subsoil layers."

"bSAC", "7w3", "The root zone is limited by water that is above the surface in wet seasons. The available water capacity averages moderate in the root zone. Natural fertility is moderate. The internal drainage rate is very slow in the natural condition and seepage water seeps from the soil in wet seasons."

"cH2O", "7w3", "In normal years these soils have a seasonal high water table within 6 inches of the surface for 2 to 6 months of most years. During other months the water table is deeper. These soils are also subject to frequent ponding. Only rarely is the water table below the surface for an extended period."

"dCUL", "7w3", "Due to extreme wetness, these soils are not suited to cultivated crops."

"eERO", "7w3", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7w3", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7w3", "If water control measures are established, these soil would be moderately well suited to improved pastures. Due to the difficulty of installing these measures and the lack of outlets in most areas, they have seldom, if ever, been used for pasture."

"iWMG", "7w3", "Water table management is not a normal practice on these soils because of the lack of cultivation."

8e1 Map Unit 41

"aSOI", "8e1", "This map unit consists of areas where soil materials have been removed by erosion or by mining operations. Some of these areas fill with water periodically and other areas have geologic materials exposed."

"bSAC", "8e1", "Due to infertile exposed geologic soil material, these areas are not vegetated."

"cH2O", "8e1", "These soils have a highly variable water table."

"dCUL", "8e1", "Due to the infertile material, these soils are not suited to cultivated crops."

"eERO", "8e1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8e1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8e1", "Due to the infertile material, these soils are not suited to hay and pasture."

"iWMG", "8e1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

8w1 Map Units 2

"aSOI", "8w1", "This map unit consists of narrow strips of land between water and the inland. These strips of land consist of quartz sand and shell fragments that are constantly shifted by wave action."

"bSAC", "8w1", "Beaches are not vegetated due to tidal and wave actions."

"cH2O", "8w1", "In normal years these soils have a seasonal high water table at the surface throughout the year. These soils are also subject to daily tidal flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "8w1", "Due to tidal and wave actions, these soils are not suited to cultivated crops."

"eERO", "8w1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8w1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8w1", "Due to tidal and wave actions, these soils are not suited to hay and pasture."

"iWMG", "8w1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

8w2 Map Unit 21, 33, 34, 53

"aSOI", "8w2", "This map unit consists of nearly level, very poorly drained soils of the tidal marshes."

"bSAC", "8w2", "The variety of plants growing on these soils is limited to those that are tolerant of extreme wetness and saline conditions."

"cH2O", "8w2", "In normal years these soils have a seasonal high water table at the surface throughout the year. These soils are also subject to daily tidal flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "8w2", "Due to extreme wetness and salinity, these soils are not suited to cultivated crops."

"eERO", "8w2", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8w2", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8w2", "Due to extreme wetness and salinity, these soils are not suited to hay and pasture."

"iWMG", "8w2", "Water table management is not a normal practice on these soils because of the lack of cultivation."

ECOLOGICAL COMMUNITIES

kRNG - Rangeland

IWLD - Wildlife

mWOD - Woodland

South Florida Coastal Strand – Map Units 8, 9, 10

"kRNG", "02", "This South Florida Coastal Strand site has little or no range value and is not used for rangeland."

"IWLD", "02", "This South Florida Coastal Strand site is well suited to a variety of shorebirds, gulls, and terns. The native grasses and legumes are good food sources and nesting sites. The area is important as a nesting ground for sea turtles. It is suited to mammals such as mice, raccoons, bobcats, foxes, and skunks. Many songbirds also inhabit the area."

"mWOD", "02", "This South Florida Coastal Strand site is not generally used for commercial production of wood or timber."

Sand Scrub - Map Units 11, 12, 19, 37, 42

"kRNG", "03", "This Sand Scrub range site supports a dense stand of trees and shrubs and has limited potential for producing native forage. Sites in excellent condition produce 1500 to 3500 pounds per acre annually. Fifteen to 40 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 75% grasses and grass-like plants, 15% trees and shrubs, and 10% forbs."

"IWLD", "03", "This Sand Scrub site is suited to deer and turkey, especially as escape cover. Many birds inhabit the area including warblers, towhees, flycatchers, scrub jays, and quail. Native legumes furnish food (seeds) for the birds. Fruits of palmetto, gopher apple, and various species of oak are also a good food source. Timber harvest and other disturbances increase wildlife food by increasing the amount and types of Herbaceous plants and by sprout production."

"mWOD", "03", "This Sand Scrub site has a low potential for commercial production of wood and timber. The soils create severe equipment limitations and moderate seedling mortality problems. Sand pine is a commercial species suited to planting. It has a potential annual growth of approximately 0.4 to 0.5 cords per acre."

Longleaf Pine - Turkey Oak Hills – Map Units 36, 45, 46

"kRNG", "04", "This Longleaf Pine - Turkey Oak Hills range site provides poor quality and low quantity forage and has limited potential for producing native forage. Sites in excellent condition produce 2000 to 4000 pounds per acre annually. Ten to 35 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 75% grasses and grass-like plants, 15% trees and shrubs, and 10% forbs."

"IWLD", "04", "This Longleaf Pine - Turkey Oak Hills site is suited to deer and turkey, especially as escape cover. Many birds inhabit the area including warblers, towhees, flycatchers, scrub jays, and quail. Native legumes furnish food (seeds) for the birds. Fruits of palmetto, gopher apple, and various species of oak are also a good food source. Timber harvest and other disturbances increase wildlife food by increasing the amount and types of herbaceous plants and by sprout production."

"mWOD", "04", "This Longleaf Pine - Turkey Oak Hills site has a moderately high potential for commercial production of wood and timber. The soils create moderate equipment limitations and moderate seedling mortality problems. Commercial species suited to planting and their potential annual growth in cords are as follows; Sand pine, 1.2 to 1.0. Slash pine, 1.2 to 1.0. Loblolly pine, 1.0 to 0.8. Longleaf pine, 0.6 to 0.5."

South Florida Flatwoods - Map Units 1, 3, 6, 17, 18*, 20, 30, 31, 32, 35, 43, 44, 48, 49, 50, 51, 52, 54, 55

"kRNG", "06", "This South Florida Flatwoods range site has the potential for producing significant amounts of high quality forage from creeping bluestem, chalky bluestem, and indiagrass. Sites in excellent condition produce 3000 to 6000 pounds per acre annually. Three to 16 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 75% grasses and grass-like plants, 15% trees and shrubs, and 10% herbaceous plants."

"IWLD", "06", "This South Florida Flatwoods site is well suited to deer, turkey, and quail. It is fairly suited to squirrels and well suited to many songbirds. Palmetto fruit, pine mast, oak acorns, legume seed, and grasses are good sources of wildlife food. Mature hardwoods and snags provide good nesting sites for birds. This site is also well suited to bobcat, raccoons, opossums, and skunks. It is poorly suited to dove."

"mWOD", "06", "This South Florida Flatwoods site has a moderate potential for commercial production of wood and timber. The soils create moderate equipment limitations and moderate seedling mortality rates. Commercial species suited to planting and their potential annual growth in cords are as follows: Slash pine, 0.9 to 0.7. Longleaf pine, 0.5 to 0.4."

Cabbage Palm Flatwoods – Map Units 4, 5, 28, 40

"kRNG", "08", "This Cabbage Palm Flatwoods range site has the potential for producing significant amounts of high quality forage from bluestems and indiagrass. Sites in excellent condition produce 4500 to 9000 pounds per acre annually. Three to 14 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 70% grasses and grass-like plants, 15% trees and shrubs, and 15% herbaceous plants."

"IWLD", "08", "This Cabbage Palm Flatwoods site is well suited to deer, turkey, and quail. It is fairly suited to squirrels and well suited to many songbirds. Palm and palmetto fruit, pine mast, oak acorns, legume seed, and grasses are good sources of wildlife food. This site is also well suited to bobcat, raccoons, opossums, and skunks. It is poorly suited to dove."

"mWOD", "08", "This Cabbage Palm Flatwoods site has a moderately high potential for commercial production of wood and timber. The soils create moderate equipment limitations and moderate seedling mortality rates. Commercial species suited to planting and their potential annual growth in cords are as follows: Slash pine, 1.2 to 1.0. Loblolly pine, 1.0 to 0.8."

Cabbage Palm Hammock – Map Unit 39

"kRNG", "13", "This Cabbage Palm Hammock range site has a low potential for producing forage due to a dense canopy of and cabbage palms. It provides livestock protection in cold and hot weather. Sites in excellent condition produce 2000 to 4000 pounds per acre each year. Ten to 30 acres per animal unit are needed. If the tree canopy cover exceeds 60%, little forage will be available. The annual forage produced is 55% grasses and grass-like plants, 25% trees and shrubs, and 20% herbaceous plants."

"IWLD", "13", "This Cabbage Palm Hammock site is well suited to deer, turkey, squirrel, black bear, feral and wild hogs, woodpeckers, and owls. Palm and palmetto fruit, pine mast, oak acorns, legume seed, and grasses are good sources of wildlife food. Habitat is poor for quail and dove and fair for most songbirds and squirrels."

"mWOD", "13", "This Cabbage Palm Hammock site has a moderately high to high potential for commercial production of wood and timber. The soils create moderate equipment limitations and moderate seedling mortality rates. Commercial species suited to planting and their potential annual growth in cords are as follows: Slash pine, 1.5 to 1.3. Loblolly pine, 1.2 to 1.0. Sweetgum, 1.5 to 1.3. Sycamore is also suitable for planting."

Oak Hammocks – Map Unit 23

"kRNG", "15", "This Oak Hammock range site has a low potential for producing forage due to a dense canopy of and hardwoods. It provides livestock protection in cold and hot weather. Sites in excellent condition produce 2000 to 3500 pounds per acre each year. Twelve to 35 acres or more per animal unit are needed. If the tree canopy cover exceeds 60%, little forage will be available. The annual forage produced is 40% grasses and grass-like plants, 40% trees and shrubs, and 20% herbaceous plants."

"IWLD", "15", "This Oak Hammock site is well suited to deer, turkey, squirrel, black bear, and many songbirds. Hardwood mast (acorns, nuts, fruits, buds, and berries) furnish a good source of wildlife food. Mature hardwoods and snags provide good nesting sites for birds. Habitat is good for raccoons and opossums; poor for quail and dove; fair for reptiles; and poor for most amphibians."

"mWOD", "15", "This Oak Hammock site has a moderately high to high potential for commercial production of wood and timber. The soils create moderate equipment limitations and moderate seedling mortality rates. Commercial species suited to planting and their potential annual growth in cords are as follows: Slash pine, 1.5 to 1.3. Loblolly pine, 1.2 to 1.0. Sweetgum, 1.5 to 1.3. Sycamore, 0.8 to 0.6."

Salt Marsh - Map Unit 33, 34

"kRNG", "18", "This Salt Marsh range site has the potential for producing significant amounts of high quality forage from cordgrasses, saltgrasses, and other grasses and forbs. Sites in excellent condition produce 4000 to 8000 pounds per acre annually. Three to 15 acres or more are usually needed per animal unit. Poor trafficability is a hazard. Forage is usually 90% grasses and grass-like plants, 5% trees and shrubs, and 5% herbaceous plants and vines."

"IWLD", "18", "This Salt Marsh site is well suited to a variety of wildlife including otter, raccoons, pelicans, alligators, coots, and many waterfowl. Species suitability depends upon salinity which varies seasonally and by management style. Dikes can be used to maintain a saline wildlife population or a fresh water population. Prescribed burning can also be used to improve forage value."

"mWOD", "18", "This Salt Marsh site is unsuited to the commercial production of wood and timber."

Mangrove Swamp – Map Units 21, 53

"kRNG", "19", "This Mangrove Swamp site has little or no range value."

"IWLD", "19", "This Mangrove Swamp site is well suited to mink, raccoons, alligators, and snakes. It serves as a roosting and breeding area for many birds including grackle, herons, gulls, hawks, pelicans, ibis, eagles, osprey and many other. Both local and migratory birds use the area."

"mWOD", "19", "This Mangrove Swamp site is unsuited to the commercial production of wood and timber."

Swamp Hardwoods – Map Units 7*, 14*, 24

"kRNG", "21", "This Swamp Hardwoods site has little or no range value."

"IWLD", "21", "This Swamp Hardwoods site is well suited to a wide variety of waterfowl, reptiles, amphibians, and mammals. These species must withstand periodic flooding. Inhabitants include squirrels, deer, mink, otter, raccoons, chickadees, titmice, flycatchers, owls, ducks, woodpeckers, wrens, and many other birds. Hardwood vegetation provides good cover and wildlife food for these and many other wildlife species."

"mWOD", "21", "This Swamp Hardwoods site is generally not used for the commercial production of wood and timber; however, it does potential.. The soils create severe equipment limitations and severe seedling mortality rates. Commercial species suited to planting in areas with adequate surface drainage and their potential annual growth in cords are as follows: Slash pine, 1.5 to 1.3. Loblolly pine, 1.2 to 1.0. Cottonwood, 0.8 to 0.6. Sweetgum and sycamore are additional species suitable to plant."

Freshwater Marshes and Ponds - Map Units 7*, 14*, 15, 25, 26, 27, 29, 47

"kRNG", "25", "This Freshwater Marsh and Ponds range site has the potential for producing significant amounts of high quality forage from a variety of high quality forage plants. Sites in excellent condition produce 5000 to 10000 pounds per acre annually. Three to 13 acres or more are usually needed per animal unit. Forage is usually 80% grasses and grass-like plants, 5% trees and shrubs, and 15% herbaceous plants."

"IWLD", "25", "This Freshwater Marsh and Ponds site is well suited to a wide variety of wetland wildlife species including waterfowl, reptiles, amphibians, and mammals. These species must withstand ponding of long or very long duration. Inhabitants include mink, otter, raccoons, herons, bitterns, ibis, cranes, snipe, ducks, kites, killdeer, caracara, and hawks. This community also serves as a water source for species from surrounding communities."

"mWOD", "25", "This Freshwater Marsh and Ponds site is seldom used for the commercial production of wood and timber. The soils create very severe limitations that are difficult to overcome."

Slough - Map Units 16, 17, 18*, 22, 38

"kRNG", "26", "This Slough range site has the potential for producing significant amounts of high quality forage from a variety of high quality forage plants such as maidencanes, bluestems, and panicums. Sites in excellent condition produce 3000 to 6000 pounds per acre annually. Four to 16 acres or more are usually needed per animal unit. Forage is usually 85% grasses and grass-like plants and 15% herbaceous plants."

"IWLD", "26", "This Slough site is well suited to snakes, frogs, salamanders, raccoons, and wading birds. The grass dominated vegetation is a highly valued food source for quail and deer; however, it provides poor cover for these and most other wildlife species except at its confluence with other communities."

"mWOD", "26", "This Slough site is seldom used for the commercial production of wood and timber. The soils create very severe limitations that are difficult to overcome."

* - These Map Units have more than one type of ecological community.

URBAN USES

oURB - Urban Use Statement

pSEP - Septic Tank Absorption Fields

qLRS - Local Roads and Streets

Map Units 24

"oURB", "01", "This soil is generally unsuited to most urban uses because of flooding. Dwellings and small buildings can be constructed on pilings, however, access may be limited during flood events and structural integrity of the building may be threatened by currents and floating debris. Landscaping considerations should include use of species that are adapted to withstanding flood water."

"pSEP", "01", "This soil has very severe limitations for septic tank absorption fields. Flooding interferes with absorption of effluent from septic tanks and poses risks of contamination to adjacent surface waters."

"qLRS", "01", "This soil has severe limitations for local roads and streets. Road surfaces and bases may be eroded by floodwaters and travel is dangerous or impractical during flood events."

Map Units 7, 13, 14, 15, 26, 27, 29

"oURB", "02", "This soil is generally unsuited to most urban uses because of ponding and low bearing strength of the soil. Dwellings and small buildings can be constructed on pilings driven to suitable depths, however, access may be limited during periods when water tables are highest. Drainage may be impractical in many areas because of a lack of suitable outlets. Landscaping considerations should include use of species that are adapted to ponded water and organic soils."

"pSEP", "02", "This soil has severe limitations for septic tank absorption fields. Ponded water tables and organic soil materials interfere with the absorption of effluent from septic tanks and pose risks of contamination to adjacent surface waters."

Map Units 7

"qLRS", "02", "This soil has severe limitations for local roads and streets. Road and street surfaces may subside, crack or ripple if sufficient fill is not used as a base. When possible, organic soil material should be removed and filled with suitable soil material to prevent subsidence and damage to road surfaces."

Map Units 16, 17, 18, 20, 22, 23, 30, 31, 32, 35, 38, 39, 40, 43, 44, 48, 49, 51, 52

"oURB", "03", "This soil is poorly suited to most urban uses because of a seasonal high water table at or near the soil surface. Housing pads, driveways, and other home site areas can be elevated using suitable fill. Area drainage can be installed to lower the water table if suitable outlets are available. Fill may also be used to elevate sites for small commercial buildings. Landscaping considerations should include use of species that are adapted to wetness."

Map Units 1, 30, 31, 32, 35, 38, 39, 43, 44, 52

"pSEP", "03", "This soil has severe limitations for septic tank absorption fields. High water tables interfere with the absorption of effluent from septic tanks and pose risks of contamination to adjacent surface waters. Septic tank absorption fields can be mounded to maintain the system above the seasonal high water table."

Map Units 13, 14, 15, 26, 28, 29, 30, 31, 32, 35, 38, 39, 43, 44, 52

"qLRS", "03", "This soil has severe limitations for local roads and streets. For any construction, care should be taken not to impede natural drainage or impound water on the site and adjacent areas. Well designed culvert placement beneath any fill and use of existing water conveying landscapes can help minimize disturbance to natural drainage."

Map Units 16, 17, 18, 20, 22, 23, 25, 40, 48, 49

"pSEP", "04", "This soil has severe limitations for septic tank absorption fields. High water table and fine textured soil material interfere with the absorption of effluent from septic tanks and creates a risk of contamination to adjacent surface waters and system failure. Absorption fields can be mounded or fine textured soil layers can be excavated and replaced with suitable soil material. Absorption field laterals should be installed downslope from dwellings."

Map Units 16, 17, 18, 20, 22, 23, 40, 48, 49, 50, 51

"qLRS", "04", "This soil has severe limitations for local roads and streets. They can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. An engineer or soil scientist should be consulted to determine the shrink-swell potential of near surface soil material. Additional design precautions can be planned if shrink-swell is determined to be a concern."

Map Unit 50

"oURB", "05", "Suitability is poor for most urban uses because of a seasonal high water table and bedrock within 40 inches of the soil surface, fine textured soil material near the soil surface. House or small building pads can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. Landscape considerations should include use of species that are adapted to wetness, alkalinity, and fine textured soils."

Map Units 28, 50

"pSEP", "05", "This soil has severe limitations for septic tank absorption fields. High water table, bedrock, and fine textured soil material interfere with the absorption of effluent from septic tanks and creates a risk of contamination to adjacent surface waters and stem failure. Absorption fields can be mounded or fine textured soil layers can be excavated and replaced with suitable soil material. Absorption field laterals should be installed downslope from dwellings."

Map Units 11, 12, 42, 54, 55

"pSEP", "06", "This soil has severe limitations for septic tank absorption fields. High water tables interfere with the absorption of effluent from septic tanks. This poses risks of contamination to adjacent surface waters and system failure. Septic tank absorption fields can be mounded to maintain the system above the seasonal high water table. Absorption field laterals should be installed on a slight downslope gradient. Absorption fields should be placed downslope from dwellings."

Map Unit 28

"oURB", "07", "Suitability is poor for most urban uses because of a seasonal high water table and limestone bedrock within 40 inches of the soil surface. House and small building pads can be elevated using suitable fill. The fill can be placed with a slight grade to all water to drain away from the house or building. Landscaping considerations should include use of species that are adapted to fine textured soils."

Map Unit 51

"pSEP", "10", "Fine textured soil material within 20 to 40 inches of the soil surface interferes with the absorption of effluent from septic tanks. This poses risks of contamination to adjacent surface waters and system failure. Absorption fields can be mounded slightly to maintain the system above fine textured soil layers. Excavation and replacement of unsuited soil material and absorption field area expansion are other alternatives. Absorption field laterals should be installed downslope from dwellings."

Map Units 1, 3, 6, 11, 12, 42, 54, 55

"qLRS", "10", "This soil has moderate limitations for local roads and streets. They can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. An engineer or soil scientist should be consulted to determine the shrink-swell potential of near surface soil material. Additional design precautions can be planned if shrink-swell is determined to be a concern."

Map Units 36, 37, 45, 46

"oURB", "12", "This soil is well suited to most urban uses. There are no significant limitations. Landscaping considerations should include use of species that are adapted to droughty soil conditions. Irrigation can be helpful in establishing and maintaining lawns and landscaping plants."

Map Unit 36

"pSEP", "12", "Septic tank absorption field laterals should be installed on a slight downslope gradient."

Map Units 19, 36, 37, 45, 46

"qLRS", "12", "This soil has no significant limitations important in the construction of local roads and streets."

Map Unit 6

"oURB", "13", "This soil is moderately suited to most urban uses because of the depth to bedrock. Irrigation can be helpful in establishing and maintaining lawns and landscaping plants."

Map Units 1, 11, 12, 19, 42, 54, 55

"oURB", "14", "This soil is moderately suited to most urban land uses. Because of the very rapid permeability of this soil, careful selection of on-site waste disposal areas can help prevent contamination of shallow groundwater and adjacent surface waters. Irrigation, mulching, and fertilizing help establish and maintain lawns and landscaping plants."

Map Unit 41

"oURB", "15", "This soil survey map unit is so variable that no general suitability for urban land use can be given. On-site investigation by a soil scientist and/or engineer is recommended for any urban land use."

Map Units 6, 41

"pSEP", "15", "This soil survey map unit is so variable that no general interpretations for the installation of any type on-site sewage disposal system can be given. On-site investigation by a soil scientist and/or engineer is recommended."

Map Unit 41

"qLRS", "15", "This soil survey map unit is so variable that no general interpretations for the construction of local roads and streets can be given. On-site investigation by a soil scientist and/or engineer is recommended."

Map Unit 2

"oURB", "16", "Beaches are unsuited to any urban use because of frequent tidal flooding and instability of the land surface."

"pSEP", "16", "Beaches are unsuited to the installation of any type on-site sewage disposal system due of frequent tidal flooding."

"qLRS", "16", "Beaches are unsuited to the construction of local roads and streets due to frequent tidal flooding."

Map Units 8, 9

"oURB", "17", "This map unit is unsuited to most urban uses. Shifting sands, salt spray, and very rapid permeability are the major limitations. Existing natural vegetation should be protected since it helps protect the site from coastal erosion. Where vegetation has been removed or has not grown naturally, salt and drought tolerant vegetation is best adapted for landscaping. Irrigation and nutrient management helps establish and maintain vegetation."

Map Unit 25

"oURB", "18", "This soil has severe limitations for sanitary facilities, building site development, and recreational uses. Water control measures are needed to overcome excessive wetness."

Map Units 8, 9, 19, 37, 45, 46

"pSEP", "18", "This soil has a medium potential for septic tank absorption fields. Use of a slowly or very slowly permeable soil material to seal trench sanitary landfills and sewage lagoons can reduce excessive seepage."

Map Units 8, 9

"qLRS", "18", "Where constructing local roads and streets on these soils a good vegetative cover is needed to stabilize the sandy surface. Sidewalls of shallow excavations require shoring to prevent cave-ins."

Map Unit 21, 33, 34, 53

"oURB", "19", "This soil is not suited to urban uses due to tidal flooding."

Map Units 21, 33, 34, 53

"pSEP", "19", "This soil is not suited to any on-site sewage disposal system due to wetness and tidal flooding."

Map Units 33, 34, 53

"qLRS", "19", "This soil is not suited to local roads and streets due to wetness and tidal flooding."

Map Units 10, 47

"oURB", "21", "This soil has a low suitability for urban uses because of the low strength of the organic layers and the likelihood of subsidence if drained."

Map Units 10, 47

"pSEP", "21", "This soil has severe limitations for any on-site waste disposal system due to wetness and subsidence of the organic soil material."

Map Units 10, 21, 27, 47

"qLRS", "21", "This soil has severe limitations for local roads and streets due to wetness and subsidence of the organic soil material. Excavating and filling is required to assure roads function properly."

Map Unit 25

"qLRS", "22", "This soil has a low potential for local roads and streets. Fill is needed to make sure the roads are usable."

WATER QUALITY: PESTICIDE AND NUTRIENT MANAGEMENT

sWQ – Water Quality Statement

tPES – Pesticide Management Statement

uNUT – Nutrient Management Statement

Map Units 11, 12, 19, 36, 37, 45, 46

"sWQ", "02", "These soils have a medium or high potential for pesticide leaching to the groundwater and a low potential for pesticide runoff from the field(s) to surface water. They have a medium or high potential for nitrogen leaching to the groundwater and a low potential for phosphorous runoff to surface runoff."

"tPES", "02", "The Florida Pest Control Guide from the Cooperative Extension Service contains a list of pesticides suited to each pest. This list also contains Relative Leaching Potential Index (RLPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RLPI value and Health Advisory Level (HAL or HALEQ) value. Read and follow pesticide labels."

"uNUT", "02", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

Map Units 1, 2, 3, 6, 8, 9, 10, 23, 25, 26, 28, 30, 31, 32, 33, 34, 35, 41, 42, 43, 44, 54, 55

"sWQ", "03", "These soils have a medium or high potential for pesticide leaching to groundwater and a medium to high potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to the groundwater and a medium or high potential for phosphorous runoff to surface runoff."

"tPES", "03", "The Florida Pest Control Guide from the Cooperative Extension Service contains a list of pesticides suited to each pest. This list also contains Relative Leaching Potential Index (RLPI) and Relative Runoff Potential Index (RRPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RLPI value, RRPI value, Health Advisory Level (HAL or HALEQ) value, and Aquatic Toxicity value. Read and follow pesticide labels."

"uNUT", "03", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

Map Units 4, 5, 7, 13, 14, 15, 16, 17, 18, 20, 21, 22, 24, 27, 29, 38, 39, 40, 47, 48, 49, 50, 51, 52, 53

"sWQ", "04", "These soils have a low potential for pesticide leaching to groundwater and a medium or high potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to groundwater and a medium or high potential for phosphorous runoff to surface runoff."

"tPES", "04", "The Florida Pest Control Guide from the Cooperative Extension Service contains a listing of pesticides suited to each pest. This list also contains Relative Runoff Potential Index (RRPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RRPI value and a larger Aquatic Toxicity value. Read and follow pesticide labels."

"uNUT", "04", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown, or according to the producer's goals, whichever is lower."