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VOLUSIA COUNTY SOILS SURVEY SUPPLEMENT
AND VEGETATIVE ANALYSIS

Prepared By:

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Acknowledgements:

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TABLE OF CONTENTS

INTRODUCTION	i
PART I SOILS SURVEY SUPPLEMENT	
SOIL PROPERTIES	1
HOW TO USE THIS SUPPLEMENT FOR SOILS INFORMATION	3
SOIL POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS	5
SOILS POTENTIAL FOR SELECTED LAND USES . . .	21
PART II VEGETATIVE ANALYSIS	
RATING BENEFITS OF NATURAL/VEGETATIVE COMMUNITIES	37
APPENDIX I ESTIMATED SOIL PROPERTIES	
APPENDIX II METHODOLOGY: SOIL POTENTIAL RATINGS	
APPENDIX III SOIL POTENTIALS: FREQUENCY AND RANKINGS	
APPENDIX IV SOIL EQUIVALENTS AND MAP SYMBOLS: VOLUSIA COUNTY ADVANCED SOIL SURVEY VERSUS FINAL SOIL SURVEY	
APPENDIX V SOIL PROPERTIES AND INTERPRETATION TABLES	
<u>Map Symbol</u> <u>Soil</u>	
1 Apopka fine sand, 0 to 5 percent slopes	V-1
2 Apopka fine sand, 5 to 12 percent slopes	V-2
3 Arents	V-3
4 Astatula fine sand, 0 to 8 percent slopes	V-4
5 Astatula fine sand, 8 to 17 percent slopes	V-5
6 Astatula-Urban land complex, 0 to 8 percent slopes	V-6
7 Astor fine sand	V-7
8 Basinger fine sand, depressional	V-8
9 Beaches	V-9
10 Bluff sandy clay loam	V-10
11 Bulow sand, 0 to 5 percent slopes	V-11

TABLE OF CONTENTS (Continued)

APPENDIX V (Continued)

<u>Map Symbol</u>	<u>Soil</u>	
12	Canaveral sand, 0 to 5 percent slopes	V-12
13	Cassia fine sand	V-13
14	Chobee fine sandy loam	V-14
15	Cocoa sand, 0 to 5 percent slopes	V-15
16	Cocoa-Urban land complex, 0 to 5 percent slopes	V-16
17	Daytona sand, 0 to 5 percent slopes	V-17
18	Daytona-Urban land complex, 0 to 5 percent slopes	V-18
19	DeLand fine sand, 0 to 5 percent slopes	V-19
20	EauGallie fine sand	V-20
21	EauGallie fine sand, depressional	V-21
22	Electra fine sand, 0 to 5 percent slopes	V-22
23	Farnton fine sand	V-23
24	Fluvaquents	V-24
25	Gator muck	V-25
26	Holopaw sand	V-26
27	Hontoon mucky peat	V-27
28	Hydraquents	V-28
29	Immokalee sand	V-29
30	Immokalee sand, depressional	V-30
31	Malabar fine sand	V-31
32	Myakka fine sand	V-32
33	Myakka fine sand, depressional	V-33
34	Myakka-St. Johns complex	V-34
35	Myakka-Urban land complex	V-35
36	Myakka Variant fine sand	V-36
37	Orsino fine sand, 0 to 5 percent slopes	V-37
38	Paisley fine sand	V-38
39	Palm Beach sand, 2 to 8 percent slopes	V-39
40	Palm Beach-Urban land-Paola complex, 0 to 8 percent slopes	V-40
41	Palm Beach-Paola association, 2 to 8 percent slopes	V-41
42	Paola fine sand, 0 to 8 percent slopes	V-42
43	Paola fine sand, 8 to 17 percent slopes	V-43
44	Paola-Urban land complex, 0 to 8 percent slopes	V-44
45	Pineda fine sand	V-45
46	Pinellas fine sand	V-46
48	Placid fine sand, depressional	V-47
49	Pomona fine sand	V-48
50	Pomona fine sand, depressional	V-49
51	Pomona-St. Johns complex	V-50
52	Pompano fine sand	V-51
53	Pompano-Placid complex	V-52

TABLE OF CONTENTS (Continued)

APPENDIX V (Continued)

<u>Map Symbol</u>	<u>Soil</u>	
54	Quartzipsamments, gently sloping	V-53
55	Riviera fine sand	V-54
56	Samsula muck	V-55
57	Satellite sand	V-56
58	Satellite-Urban land complex	V-57
59	Scoggin sand	V-58
60	Smyrna fine sand	V-59
61	St. Johns fine sand	V-60
62	St. Lucie fine sand, 0 to 8 percent slopes	V-61
63	Tavares fine sand, 0 to 5 percent slopes	V-62
64	Tequesta muck	V-63
65	Terra Ceia muck	V-64
66	Tomoka muck	V-65
67	Turnbull muck	V-66
68	Turnbull Variant, sand	V-67
69	Tuscawilla fine sand	V-68
70	Tuscawilla-Urban land complex	V-69
71	Urban land	V-70
72	Valkaria fine sand	V-71
73	Wabasso fine sand	V-72
74	Wabasso fine sand, depressional	V-73
75	Wauchula fine sand	V-74
76	Wauchula fine sand, depressional	V-75
77	Winder fine sand	V-76

APPENDIX VI NATURAL AND VEGETATIVE COMMUNITIES
FOR VOLUSIA COUNTY

LIST OF TABLES

TABLE 1	SOILS RANKINGS FOR POTENTIAL LAND USE Septic Tanks, Sanitary Landfills, Dwellings Without Basements, Low Commercial Buildings, Local Roads & Streets	24
TABLE 2	SOILS RANKINGS FOR POTENTIAL LAND USE Shallow Excavations, Active Play Areas, Passive Play Areas, Excavated Ponds Aquifer Fed, Lawn Grasses & Ornamental Plants	27
TABLE 3	SOILS RANKINGS FOR POTENTIAL LAND USE Improved Pastures, Woodland, Citrus, Specialized Row Crops	30
TABLE 4	SOIL POTENTIAL RANKINGS	33
TABLE 5	ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS .	34
TABLE 6	ENVIRONMENTAL BENEFIT RATINGS: NATURAL/ VEGETATIVE COMMUNITIES	40

INTRODUCTION

The Volusia County Soils Supplement and Vegetative Analysis is designed as a supplement to the U.S. Soil Conservation Service's (SCS's) Soil Survey of Volusia County, Florida and as a tool for land development and land use planning throughout Volusia County.¹ All the soils and map symbols as defined in SCS's soil survey for Volusia County are contained in PART I of this report. All soils have been rated for their development potential as well as development limitations by fourteen major categories of land use. (Tables 1, 2 and 3, pages 24 - 32). This soils supplement, when used in conjunction with the SCS detailed soil maps, will assist the developer, land planner, farmer or forester in determining potentials and limitations for the desired land use. More detailed analysis of any potential land parcel can be obtained by study of the SCS soil survey for Volusia County.

Finally, the major vegetative communities of Volusia County are defined in PART II of this publication. Each community has been rated on a scale of zero (0) to twenty (20) for five major categories of natural benefits to Volusia County residents. These vegetative communities and their ratings, should be considered side by side with the soil potential and soil potential ratings discussed in PART I of this report. The comparison of soil potential and environmental benefits will clearly and reliably define for the reader areas of high,

¹The Soil Survey of Volusia County, Florida is an unpublished report and is anticipated to be published sometime in 1979.

medium and low development potential for almost all major categories of future land use in Volusia County.

PART I
SOILS SURVEY SUPPLEMENT



SOIL PROPERTIES

The soil name and map symbol, the physical and chemical properties of each soil and the interpretations for each soil related to its potential, limitations and necessary practices for obtaining its potential for selected land uses is contained within the U.S. Soil Conservation Service's Soil Survey of Volusia County, Florida.¹ Similar information, although to a small degree abbreviated, has been included in APPENDIX I of this report.

All information, soil/land use ratings and conclusions of this soil supplement may be used with the Volusia County, Florida Soils (Survey); Special Advanced Report (U.S. Soil Conservation Service). The Advanced Report, however, utilizes soils and soil map symbols that will be revised in the final soils survey, Soil Survey of Volusia County, Florida - therefore, equivalent soils and soil map symbols for both editions of the soil survey have been listed in APPENDIX IV.²

Soil interpretations and soil/land use potential ratings listed in this supplement will not eliminate the need for on-site sampling, testing, and study of specific sites for the design and construction of engineering works and various uses. Estimated soil properties and interpretations presented in this supplement should be used primarily to plan more detailed field investigations for determining the conditions of the soil at the proposed site.

¹The Soil Survey of Volusia County, Florida is an unpublished report and is anticipated to be published sometime in 1979.

²Ibid.

When the soil interpretations contained in this supplement are used in connection with the official soil survey maps, the information pertains to the dominant soil of the delineated soil area. Other soils, too small in area to delineate, may occur within the delineated soil area. For example, areas mapped as Myakka fine sand may include small unmappable areas of Smyrna, St. Johns and Immokalee soils. Each of these soils represent 5 percent or less of any area mapped as Myakka fine sand.

Estimated Soil Properties .

Estimated soil properties for 76 soils in Volusia County are given in APPENDIX I, ESTIMATED SOIL PROPERTIES. These estimates are based on test data and experience with similar soils in other counties in Florida.

HOW TO USE THIS SUPPLEMENT FOR SOILS INFORMATION

This publication complements and supplements the Soil Survey of Volusia County, Florida, and is designed to be used in conjunction with it.

Soil Survey Maps

Individual soils are mapped and identified by a number in the Soil Survey of Volusia County, Florida.¹ This Soils Supplement identifies each soil type and number (map symbol) in APPENDIX IV AND APPENDIX V. The reader, by using the maps in the soil survey will be able to key the soils, soil interpretations and soil ratings in the Soils Supplement to any area of Volusia County. Each soil delineated on a soil survey map is the dominant soil within that area. There may be, however, other soils within any major soil map delineation. Moreover, because the soil map scale is 1"=1,666 feet, individual land owners, developers and surveyors should create their own soil maps for map scales significantly larger than 1"-1,666 feet. At larger map scales, pockets of soils that differ from the dominant soils in the area may influence decisions concerning the development of roads, houses, row crops and forestry.

¹The Soil Survey of Volusia County, Florida is an unpublished report and is anticipated to be published sometime in 1979.



SOIL POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES
TO REACH POTENTIAL FOR SELECTED USES OF SOILS

As summarized in Tables 1, 2 and 3, pages 24, 27 and 30, and as listed with detailed soil properties in APPENDIX V, SOIL PROPERTIES AND INTERPRETATIONS, each Volusia County soil has been rated for its potential development and usage for fourteen (14) major categories of land use. Additionally, in APPENDIX V, each soil is rated by these fourteen (14) major categories of land use as to the soil's degree of limitation, the specific kinds of soil limitations and the major practices that need to be applied to realize each soil's potential for a selected land use. The methodology used to derive the soil development potentials is contained in APPENDIX II, METHODOLOGY: SOIL POTENTIAL RATINGS.

Land Use

As stated, the Volusia soils have been rated for fourteen (14) major categories of land use. These land uses are defined and discussed in the following paragraphs:

Septic tank absorption fields - These are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into natural soil. The soil material from a depth of 18 inches to 6 feet is evaluated in determining a soil's potential for septic tank absorption fields. The soil properties considered are those that affect both absorption of effluent and construction and operation of the

system. Properties that affect absorption are permeability, depth to water table or rock, and susceptibility to flooding. Slope is a soil property that affects difficulty of layout and construction and also the risk of soil erosion, lateral seepage, and downslope flow of effluent. Subsidence can cause the tile or pipe to gradually come closer to the surface and to eventually rise above the ground surface.

Sanitary landfill (trench) - This is a method of disposing of refuse in an excavated trench. The refuse is spread in thin layers, compacted, and covered with a layer of soil material usually at least 6 inches thick. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. For some soils reliable predictions as to its potential for sanitary landfill can be made to a depth of 10 or 15 feet, but in most instances geologic investigations will be needed below a depth of about 6 feet. Soil properties that have the most significance on a soil's potential are wetness, flooding or standing water, permeability, soil texture, and slope.

Dwellings without basements - Dwellings are considered to be buildings not more than three stories high that are supported by foundation footings placed in undisturbed soil. Dwellings greater than three stores high have not been rated using the soil rating process and should be evaluated on a case-by-case basis using the known soil properties, Appendix V.

Soil properties that have the most significance on a soil's potential for dwellings are flooding or standing water, wetness, shrink-swell potential, soil strength, subsidence, and slope.

Low commercial buildings - These are commercial buildings not more than three stories high that are supported by foundation footings. These buildings may occur as groups of buildings with connecting walls as in shopping centers or as single detached buildings. Land forming operations in preparing sites for these kinds of buildings may result in removal of all vegetation cover and exposure of the surface soil and, in some places, even the subsoil. Commercial buildings greater than three stores high have not been rated using the soil rating process and should be evaluated on a case-by-case basis using the known soil properties, Appendix V. Soil properties that have the most significance on a soil's potential for commercial buildings are flooding or standing water, soil erodibility and soil blowing, slope, wetness, shrink-swell potential, soil strength, and subsidence potential.

Local roads and streets - These are roads and streets that have an all-weather surface for carrying automobile traffic all year. They have a subgrade of underlying soil material; a base consisting of gravel, crushed rock, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. These roads are graded

to shed water and have ordinary provisions for drainage. They are built mainly from soil at hand, and most cuts and fills are less than 6 feet deep. Soil properties that have the most significance on a soil's potential are soil strength, shrink-swell potential, flooding or standing water, wetness, and slope.

Shallow excavations - These are the kinds of excavations that require excavating or trenching to a depth of less than 6 feet, as for example, excavations for pipelines, sewer lines, phone and power transmission lines, basements, open ditches, and cemeteries.

Soil properties that have the most significance on a soil's potential are soil texture as related to sidewall stability and to support for digging equipment, wetness, and slope.

Active play areas - These are areas that are used intensively for recreation. These include playgrounds, athletic fields, or any areas that are subject to heavy foot traffic in association with outdoor recreation. Soil properties that have the most significance on a soil's potential are flooding, soil texture in the upper foot of soil, wetness, slope, and permeability.

Passive play areas - These are areas used for outdoor recreation that are not subject to heavy foot

traffic, or the foot traffic is relegated to certain areas or paths. Soil properties that have the most significance on a soil's potential are flooding or standing water, soil texture in the upper foot of soil, wetness, and slope.

Excavated ponds aquifer fed - These are bodies of water created by excavating pits or dugouts into a ground-water aquifer. Excluded are ponds fed by runoff and also embankment-type ponds where the depth of water impounded against the embankment exceeds three feet. The assumption is made that the pond is properly designed, located and constructed, and that the water is of good quality. Soil properties that have the most significance on a soil's potential are depth to water table, duration of water table, and permeability of ground water aquifer.

Lawn grasses and ornamental plants - These include the common grasses used for lawns in Volusia County and ornamental plants adapted to the local climatic conditions. Soil properties that have the most significance on a soil's potential are available water capacity, average organic matter content in the upper foot of soil, wetness, texture of surface layer, and slope.

Improved pastures - These include the common grasses and legumes used in Volusia County for improved pastures.

Soil properties that have the most significance on a soil's potential are available water capacity, average organic matter content in the upper foot of soil, wetness, natural fertility, and slope.

Woodland - These are areas used for the commercial production of wood. The potential productivity is based on the site index. Site index is based on the average height of dominant pine trees at age 50. Some of the soil limitations are erosion hazard, equipment limitations, seedling mortality, and plant competition. Some of the soil properties that have a significant effect on the ability of a soil to grow trees are the effective depth of the root zone, available water capacity, thickness and texture of the surface layer, amount of organic matter, depth to fine-textured material, aeration of the soil, and wetness.

Citrus - These include the common citrus fruits grown for commercial production in Volusia County. Soil properties that have the most significance on a soil's potential are wetness, available water capacity, flooding or standing water, natural fertility, and slope.

Specialized row crops - These include such crops as cabbage, carrots, celery, cucumbers, lettuce, snap beans, and any other specialized vegetable crops grown in Volusia

County. Soil properties that have the most significance on a soil's potential are average organic matter content in the upper foot of soil, wetness, flooding or standing water, natural fertility, and slope.

Soil Potential

Each soil is rated as to its potential for 14 selected land uses. For the purpose of this Supplement, "soil potential" is defined as the ability of the soil to produce, yield, or support a given structure or activity expressed in economic, social or environmental units of value. The criteria used for rating soil potential includes the relative difficulty or cost of overcoming soil limitations, the continuing limitations after practices in general use in overcoming the limitations are installed, and the suitability of the soil relative to other soils in Volusia County.

In Volusia County, a five-class system of soil potentials is used. They are defined as follows:

Very High potential - Soil limitations are minor or are relatively easy to overcome; performance for the intended use is excellent. Soils rated as very high potential are the best in the county for the particular use.

High potential - Some soil limitations exist, but practices necessary to overcome limitations are available at

reasonable cost; performance for the intended use is good.

Medium potential - Soil limitations exist that can be overcome with recommended practices, but limitations are mostly of a continuing nature requiring practices that have to be maintained, or the practices are more difficult or costly than average; performance for the intended use ranges from fair to good.

Low potential - Serious soil limitations exist that are difficult to overcome and the practices necessary to overcome the limitations are costly compared to those required for soils with higher potential; necessary practices may involve environmental values and considerations; performance for the intended use is poor or unreliable.

Very Low potential - Very serious soil limitations exist that are most difficult to overcome; initial cost of the practices and maintenance cost are very high compared to those for soils with high potential; environmental values are usually depreciated; performance for the intended use is inadequate or below acceptable standards.

Soil Limitations

Soil limitations are given for the 14 selected land uses. Soils are rated as to their limitations as follows: Slight -

soil properties generally favorable; Moderate - soil properties moderately favorable; and Severe - soil properties unfavorable. The soil limitations are restrictive features or features that can adversely affect a particular use. Key phrases are shown which identify the specific kinds of soil limitations. A list of key phrases used and their definition follow:

<u>KEY PHRASE</u>	<u>EXPLANATION</u>
CLAYEY	Soil slippery and sticky when wet and slow to dry.
CUTBANKS CAVE-IN	Walls of cuts are unstable. The soil sloughs easily.
DEEP TO WATER	Deep to permanent water table during dry seasons.
DURATION HIGH WATER TABLE	Water table high for less than 6 months in most years.
EQUIPMENT LIMITATIONS	Reflects limitations in the use of equipment for managing or harvesting a tree crop.
DENSE VEGETATION	Thick natural plant growth that is difficult and costly to clear.
ERODES EASILY	Water erodes soil easily.
EROSION HAZARD	Potential severe erosion problem in woodland following cutting operations or in areas where the soil is exposed.
FLOODS	Soil temporarily flooded by stream overflow from adjacent slopes.

<u>KEY PHRASE</u>	<u>EXPLANATION</u>
LOOSE SAND	Soil is soft and loose and lacks structural aggregates
LOW AVAILABLE WATER HOLDING CAPACITY	Less than 4 inches of available water in the upper 80 inches of soil; plants on these soils may suffer from lack of moisture unless irrigated
LOW NATURAL FERTILITY	Soil rather infertile and low in essential nutrients
LOW ORGANIC MATTER	Average organic matter content in the upper foot of soil less than 1.5 percent
LOW SOIL REACTION	Phrase used only in organic soils (Histosols) with pH less than 4.5; the soils require large amounts of lime to raise the pH
LOW STRENGTH	The soil has inadequate strength to support loads
NO WATER	Too deep to ground water
PERCS SLOWLY	Water moves through the soil slowly; affecting the specified use
PLANT COMPETITION	A severe hazard from unwanted plants that prevent adequate natural or artificial regeneration without site preparation and maintenance treatments and that also compete with desirable trees
SALT SPRAY	Wind blown salt water vapor in strong enough concentrations to inhibit vegetative growth
SANDY	Sand texture that has structural aggregates but soil subject to becoming soft and loose with intensive use.

<u>KEY PHRASE</u>	<u>EXPLANATION</u>
SEEDLING MORTALITY	In woodland plantings or seedlings during the first two growing seasons, unsatisfactory survival is likely on more than 50 percent of the area
SEEPAGE	Water moves through the soil so quickly that it affects the specified use
SHRINK-SWELL	The soil expands on wetting and shrinks on drying, which may cause damage to roads, dams, building foundations or other structures
SLOPE	Slope too great
SLOW REFILL	Ponds fill slowly because the permeability of the soil is restricted
SOIL BLOWING	Soil easily moved and deposited by wind
STANDING WATER	Shallow water standing above the soil surface (ponded) for relatively long periods of time
SUBSIDENCE	Settlement of organic soils or of soils containing semi-fluid layers
VERY LOW ORGANIC MATTER CONTENT	Average organic matter content in the upper foot of soil less than 0.8 percent
WETNESS	Soil wet during period of use
WINDTHROW HAZARD	Potential severe hazard of trees being blown over by high winds during storms

Necessary Measures to Reach Potential

The necessary practices to reach a soil potential for land development are shown for the 14 selected land uses. The list of practices is not inclusive but covers the major and most

obvious ones. Listing of a practice does not necessarily condone its use. State and local regulations should be consulted prior to installation. Practices are identified and explained below in a general way and are not intended to imply design criteria.

<u>PRACTICE</u>	<u>EXPLAINED</u>
ADEQUATE LIME	Apply the necessary amount of agricultural lime to raise the pH level of the soil to the most desirable level for the growth of plants
ADEQUATE SURFACE DRAINAGE	Ditches or any other means to remove excess water from the surface or upper foot of soil
ADD WATER DURING DRY PERIODS	Apply water from any available source. This is not a practical solution unless the pond has been lined or sealed
BEDDING	A partial method of controlling excess water for the growth of citrus using regularly spaced shallow ditches and beds
BLASTING	Use of a jackhammer for rippable rock less than 48 inches from the surface. A back hoe is suggested to assist the process. For hard rock less than 48 inches from the surface explosives are recommended
CLEAR NATIVE VEGETATION	Dense vegetation cleared by whatever practical means so that improved pasture grasses can be planted and maintained
CONSTRUCT ABOVEGROUND WALKS	Walkways built of appropriate materials to carry foot traffic above ground level to help protect and preserve ecosystems
CONTROL FLOOD WATER (Control Flooding)	Protect area from accumulation of waters above the soil surface, such as by the use of dikes

PRACTICE

EXPLAINED

CONTROL SOIL BLOWING

Control the movement of soil material caused by wind action by such practices as windbreak plantings, good vegetative cover, keeping the surface moist, paving, etc.

DESIGN BUILDING TO
FIT SLOPE

Use good design and place buildings in harmony with the landscape

FILL AREA

Raise the surface level of the land to the desired level by filling area with suitable soil material

GENERALLY NOT SUITED

No known feasible or practical practices available

HIGH LEVEL MANAGEMENT

For growing grasses, crops, citrus, trees, or any plants, use recommended management practices for obtaining and maintaining good production, and maintaining and protecting the soil. Recommended management practices will vary with the product being grown and the kind of soil such as: the fertilization program, erosion control measures to use, whether to lime, the amount of supplemental irrigation water to apply and when and cultivating and harvesting methods

INCREASE AREA FOR
FOUNDATIONS AND
FOOTINGS

By recommended building methods increase the area to the necessary level to provide adequate strength and support for the building

INCREASE STRUCTURAL
STRENGTH IN
FOUNDATION

By recommended building methods, insure that additional strength is added to withstand large amounts of stress

LAND FORMING

Reduce slope gradient by cutting and filling

LAND SMOOTHING

Rearrangement of soil materials by cutting and filling to form a level or nearly level surface

<u>PRACTICE</u>	<u>EXPLAINED</u>
MAINTAIN EVEN MOISTURE CONTENT	Prevent soil from drying out by whatever appropriate or feasible method so as to prevent the soil from shrinking
MOUNDING	Filling the area for the septic tank absorption field with suitable soil material to the level above the water table necessary to meet local and State requirements
NONE NEEDED	No practices needed for the applicable land use
PAVING (Hard Surface)	Covering of the surface with asphalt, concrete, or other similar materials
PLANT ON BEDS	Plant tree seedlings on beds to keep roots of seedlings above the water table to aid in establishment
REMOVE AND REPLACE WITH SUITABLE MATERIAL	Remove undesirable soil material and replace with suitable soil material
RESTRICT USE DURING FLOODING	Restrict use of the area while the area is covered with flood waters
SEALING OR LINING	Seal or line the bottom of the excavation with the appropriate materials to prevent the downward movement of water or seal or line the side of the excavated trench with the appropriate materials to prevent the lateral movement of water
SHORING	Construct walls along sides of excavated trenches to prevent soil from sloughing
SPECIAL EQUIPMENT	Digging equipment needed that can traverse soft and wet soils of low strength
STABILIZE SIDESLOPES	By whatever practical means stabilize sideslopes of excavated ponds

PRACTICE

EXPLAINED

SUBSURFACE IRRIGATION

Provide water below ground level to crops and grasses by manipulating and controlling the water table

SUITABLE TOPSOIL AND OTHER AMENDMENTS

Add suitable topsoil or appropriate soil amendments to help facilitate stabilization of the soil surface

SURFACE STABILIZATION

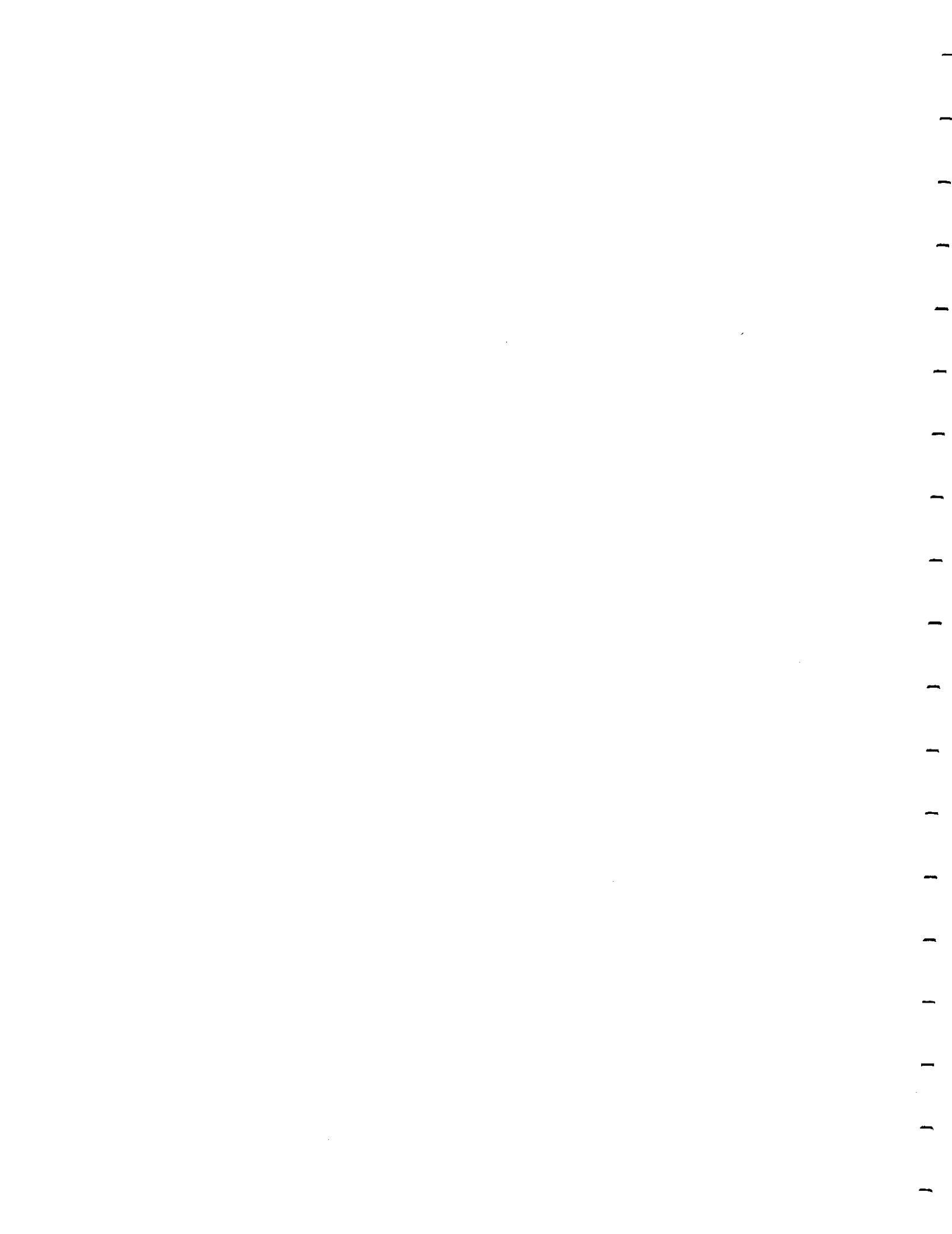
Stabilize the surface by whatever appropriate means so that vehicles can move into and out of the area

USE CALCIUM TOLERANT ORNAMENTAL OR REDUCE SOIL REACTION

Use ornamentals that can grow on soils high in calcium or apply the appropriate chemicals to reduce the soil reaction or pH to the desired level

WATER CONTROL

Regulate the water table according to the need of the land use by canals, ditches, pumping, tile, or any other appropriate method



SOILS POTENTIAL FOR SELECTED LAND USES

In Tables 1 to 3 the soils of Volusia County are arrayed according to their potential for a specific land use. In Table 4 these soils are grouped and arrayed from very high to very low potential. The numerical rankings displayed in Tables 1 to 4, were determined by assigning positive points to those soil properties that affect a particular use, multiplying each point by a "weighting factor", and then factoring the resulting products by various "Degree of Difficulty Factors".¹

The "weighting factor" is a variable number or device used to maneuver or weight the properties so that a soil with all favorable properties will have a numerical ranking of 100. Properties considered favorable were assigned a point value of 5, those less favorable a point value of 4, 3, 2 or 1, and those considered most unfavorable a value of 0.

The "Degree of Difficulty Factor" is the factor that measures the degree of difficulty to apply corrective measures to a soil to reach its potential and to maintain these corrective measures once applied. The "Degree of Difficulty Factor" ranges from 0 to 30 percent and is based on the standard of 100 percent. Application of a difficulty factor has a negative impact on the positive points assigned to any particular soil property.

¹Rating system and weighting factors were developed by the U.S. Soil Conservation Service Florida State Office for use in the State of Florida.

For all soils the highest point totals were assigned to those soil properties that would have the most effect on a particular land use. Theoretically, a soil could have a potential lower than 0 or as high as 100, but for all land uses considered, most soils in Volusia County came out with a numerical ranking of more than 0. For some land uses, there were some soils that had a numerical ranking of 100, and for other land uses, there were not any soils that had a numerical ranking as high as 100. A copy of the detailed rating and weighting system is contained in APPENDIX II.

Soil potential ranges, Table 4, page 33, were developed based on the distribution of rankings for each land use category. See APPENDIX III for soil ranking distribution tables. The soil potential ranking ranges have been applied to all soil potential rating scores, APPENDIX V.

The percent of the county and approximate number of acres that each soil comprises is shown in Table 5, pages 34-36. The first column in Table 5 allows the reader to key the soil to the Soil Conservation Service's Volusia Soils Survey maps.

Preparing Interpretive Maps

Individual maps showing the potential of soils for various land uses can be developed by using the soil maps and the soil interpretations, provided in the Soil Survey and this Soil Supplement. Potentials can be shown visually by color coding soil maps or transparent overlays to point up the potential

of the soils for a particular use. A map or overlay can be made in this manner for each of the land uses rated in this Supplement. Once the interpretive map is complete, the patterns of soil potentials will become readily apparent.



TABLE 1

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	SEPTIC TANKS	SANITARY LANDFILLS	DWELLINGS WITHOUT BASEMENTS	LOW COMMERCIAL BUILDINGS	LOCAL ROADS & STREETS
1	V-1	Apopka fine sand, 0-5% slopes	1.5	91	80	100	87	100
2	V-2	Apopka fine sand, 5-12% slopes	+	82	65	89	65	90
3	V-3	Arents	0.2	-	-	-	-	-
4	V-4	Astatula fine sand, 0-8% slopes	5.5	100	50	100	81	100
5	V-5	Astatula fine sand, 8-17% slopes	0.2	91	40	89	65	90
6	V-6	Astatula-Urban land complex, 0-8% slopes	0.4	-	-	-	-	-
7	V-7	Astor fine sand	0.4	35	0	20	30	30
8	V-8	Basinger fine sand, depressional	1.3	5	0	20	30	30
9	V-9	Beaches	0.2	-	-	-	-	-
10	V-10	Bluff sandy clay loam	0.3	0	0	0	0	0
11	V-11	Bulow sand, 0-5% slopes	0.2	95	35	100	87	100
12	V-12	Canaveral sand, 0-5% slopes	0.3	71	15	83	76	80
13	V-13	Cassia fine sand	1.2	71	15	83	79	80
14	V-14	Chobee fine sandy loam	1.4	1	0	0	16	0
15	V-15	Cocoa sand, 0-5% slopes	0.2	85	25	100	87	100
16	V-16	Cocoa-Urban land complex, 0-5% slopes	0.1	-	-	-	-	-
17	V-17	Daytona sand, 0-5% slopes	2.5	95	35	100	87	100
18	V-18	Daytona-Urban land complex, 0-5% slopes	0.1	-	-	-	-	-
19	V-19	DeLand fine sand, 0-5% slopes	1.0	100	65	100	87	100
20	V-20	EauGallie fine sand	1.7	65	5	75	70	70
21	V-21	EauGallie fine sand, depressional	0.3	5	0	20	30	30
22	V-22	Electra fine sand, 0-5% slopes	0.4	62	25	83	76	80
23	V-23	Farmton fine sand	1.1	56	30	75	65	70
24	V-24	Fluvaquents	0.4	5	0	20	25	30
25	V-25	Gator muck	1.1	0	0	0	0	0
26	V-26	Holopaw sand	0.5	65	5	75	70	80
27	V-27	Hontoon mucky peat	2.9	0	0	0	0	0
28	V-28	Hydraquents	1.5	0	0	0	0	0

TABLE 1 (Continued)

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	SEPTIC TANKS	SANITARY LANDFILLS	DWELLINGS WITHOUT BASEMENTS	LOW COMMERCIAL BUILDINGS	LOCAL ROADS & STREETS
29	V-29	Immokalee sand	4.8	65	5	75	62	70
30	V-30	Immokalee sand, depressional	0.2	5	0	20	22	40
31	V-31	Malabar fine sand	1.9	56	30	75	65	70
32	V-32	Myakka fine sand	7.4	65	5	75	65	70
33	V-33	Myakka fine sand, depressional	1.1	5	0	20	25	30
34	V-34	Myakka-St. Johns complex	1.3	-	-	-	-	-
35	V-35	Myakka-Urban land complex	0.2	-	-	-	-	-
36	V-36	Myakka Variant fine sand	0.3	56	5	75	65	70
37	V-37	Orsino fine sand, 0-5% slopes	1.4	95	25	100	87	100
38	V-38	Paisley fine sand	0.2	37	30	25	15	5
39	V-39	Palm Beach sand, 2-8% slopes	0.3	100	50	100	76	100
40	V-40	Palm Beach-Urban land-Paola complex, 0-8% slopes						
41	V-41	Palm Beach-Paola association, 2-8% slopes	0.9	-	-	-	-	-
42	V-42	Paola fine sand, 0-8% slopes	0.1	-	-	-	-	-
43	V-43	Paola fine sand, 8-17% slopes	3.3	100	50	100	76	100
44	V-44	Paola-Urban land complex, 0-8% slopes	0.1	86	40	85	60	90
45	V-45	Pineda fine sand	0.2	-	-	-	-	-
46	V-46	Pinellas fine sand	1.8	65	5	75	65	70
47	V-47	Pits*	0.2	56	5	75	65	70
48	V-48	Placid fine sand, depressional	0.2	-	-	-	-	-
49	V-49	Pomona fine sand	0.3	5	0	20	30	30
50	V-50	Pomona fine sand, depressional	7.2	40	30	75	65	70
51	V-51	Pomona-St. Johns complex	0.9	0	0	20	25	30
52	V-52	Pompano fine sand	1.6	-	-	-	-	-
53	V-53	Pompano-Placid complex	0.6	65	5	75	70	70
			1.2	-	-	-	-	-

*Not rated and not included in soil supplement. Pits include all man made pits and borrow pits.

TABLE 1. (Continued)

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	SEPTIC TANKS	SANITARY LANDFILLS	DWELLINGS WITHOUT BASEMENTS	LOW COMMERCIAL BUILDINGS	LOCAL ROADS & STREETS
54	V-53	Quartzipsammments, gently sloping	0.3	-	-	-	-	-
55	V-54	Riviera fine sand	1.5	65	5	64	59	30
56	V-55	Samsula muck	6.0	0	0	0	0	0
57	V-56	Satellite sand	0.5	71	15	83	79	80
58	V-57	Satellite-Urban land complex	+	-	-	-	-	-
59	V-58	Scoggin sand	0.8	0	0	11	16	0
60	V-59	Smyrna fine sand	4.3	56	5	75	65	70
61	V-60	St. Johns fine sand	1.0	56	5	75	65	70
62	V-61	St. Lucie fine sand, 0-8% slopes	0.2	100	50	100	81	100
63	V-62	Tavares fine sand, 0-5% slopes	3.1	95	25	100	87	100
64	V-63	Tequesta muck	2.3	0	0	0	0	0
65	V-64	Terra Ceia muck	4.0	0	0	0	0	0
66	V-65	Tomoka muck	2.2	0	0	0	0	0
67	V-66	Turnbull muck	0.9	0	0	0	0	0
68	V-67	Turnbull Variant, sand	0.4	-	-	-	-	-
69	V-68	Tuscawilla fine sand	2.0	56	5	72	62	50
70	V-69	Tuscawilla-Urban land complex	0.3	-	-	-	-	-
71	V-70	Urban land	0.4	-	-	-	-	-
72	V-71	Valkaria fine sand	0.3	10	0	20	30	30
73	V-72	Wabasso fine sand	1.4	56	30	75	65	50
74	V-73	Wabasso fine sand, depressional	0.3	0	0	20	25	10
75	V-74	Wauchula fine sand	2.0	56	5	75	65	50
76	V-75	Wauchula fine sand, depressional	0.1	0	0	20	25	10
77	V-76	Winder fine sand	0.3	1	0	20	20	10
		Water	0.6					
		Area Not Mapped	0.1					
		TOTAL	100.0					

TABLE 2

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	SHALLOW EXCAVATIONS	ACTIVE PLAY AREAS	PASSIVE PLAY AREAS	EXCAVATED PONDS AQUIFER FED	LAWN GRASSES & ORNAMENTAL PLANTS
1	V-1	Apopka fine sand, 0-5% slopes	1.5	75	85	95	10	60
2	V-2	Apopka fine sand, 5-12% slopes	+	60	70	75	10	50
3	V-3	Arents	0.2	-	-	-	-	-
4	V-4	Astatula fine sand, 0-8% slopes	5.5	70	80	95	10	55
5	V-5	Astatula fine sand, 8-17% slopes	0.2	60	70	75	10	45
6	V-6	Astatula-Urban land complex, 0-8% slopes	0.4	-	-	-	-	-
7	V-7	Astor fine sand	0.4	35	15	50	100	60
8	V-8	Basinger fine sand, depressional	1.3	45	15	60	95	35
9	V-9	Beaches	0.2	-	-	-	-	-
10	V-10	Bluff sandy clay loam	0.3	50	0	50	85	25
11	V-11	Bulow sand, 0-5% slopes	0.2	100	85	95	10	60
12	V-12	Canaveral sand, 0-5% slopes	0.3	60	65	85	50	55
13	V-13	Cassia fine sand	1.2	60	70	90	70	65
14	V-14	Chobee fine sandy loam	1.4	60	10	40	90	40
15	V-15	Cocoa sand, 0-5% slopes	0.2	85	85	95	0	70
16	V-16	Cocoa-Urban land complex, 0-5% slopes	0.1	-	-	-	-	-
17	V-17	Daytona sand, 0-5% slopes	2.5	65	85	95	15	70
18	V-18	Daytona-Urban land complex, 0-5% slopes	0.1	-	-	-	-	-
19	V-19	DeLand fine sand, 0-5% slopes	1.0	75	80	95	0	75
20	V-20	EauGallie fine sand	1.7	50	60	80	95	65
21	V-21	EauGallie fine sand, depressional	0.3	45	15	60	95	35
22	V-22	Electra fine sand, 0-5% slopes	0.4	65	80	95	40	70
23	V-23	Farnton fine sand	1.1	50	55	80	85	80
24	V-24	Fluvaquents	0.4	60	0	50	100	20
25	V-25	Gator muck	1.1	40	0	30	90	45
26	V-26	Holopaw sand	0.5	50	70	80	100	60
27	V-27	Hontoon mucky peat	2.9	15	0	30	90	45
28	V-28	Hydraquents	1.5	25	0	40	80	25

TABLE 2 (Continued)
SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	SHALLOW EXCAVATIONS	ACTIVE PLAY AREAS	PASSIVE PLAY AREAS	EXCAVATED PONDS AQUIFER FED	LAWN GRASSES & ORNAMENTAL PLANTS
29	V-29	Immokalee sand	4.8	50	55	80	100	50
30	V-30	Immokalee sand, depressional	0.2	45	10	50	100	20
31	V-31	Malabar fine sand	1.9	50	55	80	95	65
32	V-32	Myakka fine sand	7.4	50	60	80	95	65
33	V-33	Myakka fine sand, depressional	1.1	45	15	60	95	35
34	V-34	Myakka-St. Johns complex	1.3	-	-	-	-	-
35	V-35	Myakka-Urban land complex	0.2	-	-	-	-	-
36	V-36	Myakka Variant fine sand	0.3	50	55	80	85	75
37	V-37	Orsino fine sand, 0-5% slopes	1.4	65	85	95	5	60
38	V-38	Paisley fine sand	0.2	65	50	80	85	65
39	V-39	Palm Beach sand, 2-8% slopes	0.3	70	60	85	0	55
40	V-40	Palm Beach-Urban land-Paola complex, 0-8% slopes	-	-	-	-	-	-
41	V-41	Palm Beach-Paola association, 2-8% slopes	0.9	-	-	-	-	-
42	V-42	Paola fine sand, 0-8% slopes	0.1	-	-	-	-	-
43	V-43	Paola fine sand, 8-17% slopes	3.3	70	60	85	0	55
44	V-44	Paola-Urban land complex, 0-8% slopes	0.1	60	50	65	0	45
45	V-45	Pineda fine sand	0.2	-	-	-	-	-
46	V-46	Pinellas fine sand	1.8	75	60	80	95	60
47	V-47	Pits*	0.2	50	55	80	95	60
48	V-48	Placid fine sand, depressional	0.2	-	-	-	-	-
49	V-49	Pomona fine sand	0.3	45	15	60	100	55
50	V-50	Pomona fine sand, depressional	7.2	50	55	80	95	65
51	V-51	Pomona-St. Johns complex	0.9	45	10	60	100	35
52	V-52	Pompano fine sand	1.6	-	-	-	-	-
53	V-53	Pompano-Placid complex	0.6	50	60	80	95	65
			1.2	-	-	-	-	-

*Not rated and not included in soil supplement. Pits include all man made pits and borrow pits.

TABLE 2 (Continued)

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	SHALLOW EXCAVATIONS	ACTIVE PLAY AREAS	PASSIVE PLAY AREAS	EXCAVATED PONDS & AQUIFER FED	LAWN GRASSES & ORNAMENTAL PLANTS
54	V-53	Quartzipsamments, gently sloping	0.3	-	-	-	-	-
55	V-54	Riviera fine sand	1.5	65	60	80	95	80
56	V-55	Samsula muck	6.0	25	0	30	90	45
57	V-56	Satellite sand	0.5	60	70	90	60	55
58	V-57	Satellite-Urban land complex	+	-	-	-	-	-
59	V-58	Scoggin sand	0.8	25	0	30	100	20
60	V-59	Smyrna fine sand	4.3	50	55	80	100	65
61	V-60	St. Johns fine sand	1.0	50	55	80	100	65
62	V-61	St. Lucie fine sand, 0-8% slopes	0.2	70	60	85	0	55
63	V-62	Tavares fine sand, 0-5% slopes	3.1	65	85	95	5	60
64	V-63	Tequesta muck	2.3	50	0	30	90	40
65	V-64	Terra Ceia muck	4.0	50	0	30	90	45
66	V-65	Tomoka muck	2.2	50	0	30	90	45
67	V-66	Turnbull muck	0.9	40	0	30	90	45
68	V-67	Turnbull Variant, sand	0.4	-	-	-	-	-
69	V-68	Tuscawilla fine sand	2.0	50	55	80	100	80
70	V-69	Tuscawilla-Urban land complex	0.3	-	-	-	-	-
71	V-70	Urban land	0.4	-	-	-	-	-
72	V-71	Valkaria fine sand	0.3	35	40	60	100	30
73	V-72	Wabasso fine sand	1.4	75	55	80	100	65
74	V-73	Wabasso fine sand, depressional	0.3	70	10	50	100	35
75	V-74	Wauchula fine sand	2.0	50	55	80	95	80
76	V-75	Wauchula fine sand, depressional	0.1	70	10	50	100	50
77	V-76	Winder fine sand	0.3	60	10	60	100	30
		Water	0.6					
		Area Not Mapped	0.1					
		TOTAL	100.0					

TABLE 3
SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	IMPROVED PASTURES	WOODLAND	CITRUS	SPECIALIZED ROW CROPS
1	V-1	Apopka fine sand, 0-5% slopes	1.5	40	76-85	75	35
2	V-2	Apopka fine sand, 5-12% slopes	+	35	76-85	65	35
3	V-3	Arents	0.2	-	-	-	-
4	V-4	Astatula fine sand, 0-8% slopes	5.5	40	0-65	60	30
5	V-5	Astatula fine sand, 8-17% slopes	0.2	35	0-65	55	25
6	V-6	Astatula-Urban land complex, 0-8% slopes	0.4	-	-	-	-
7	V-7	Astor fine sand	0.4	60	86-95	20	60
8	V-8	Basinger fine sand, depressional	1.3	25	0-65	0	25
9	V-9	Beaches	0.2	-	-	-	-
10	V-10	Bluff sandy clay loam	0.3	40	86-95	30	30
11	V-11	Bulow sand, 0-5% slopes	0.2	45	76-85	55	45
12	V-12	Canaveral sand, 0-5% slopes	0.3	45	66-75	60	40
13	V-13	Cassia fine sand	1.2	60	66-75	70	45
14	V-14	Chobee fine sandy loam	1.4	40	86-95	20	30
15	V-15	Cocoa sand, 0-5% slopes	0.2	55	76-85	65	45
16	V-16	Cocoa-Urban land complex, 0-5% slopes	0.1	-	-	-	-
17	V-17	Daytona sand, 0-5% slopes	2.5	55	66-75	75	35
18	V-18	Daytona-Urban land complex, 0-5% slopes	0.1	-	-	-	-
19	V-19	Deland fine sand, 0-5% slopes	1.0	60	66-75	75	35
20	V-20	EauGallie fine sand	1.7	65	76-85	40	55
21	V-21	EauGallie fine sand, depressional	0.3	30	0-65	10	20
22	V-22	Electra fine sand, 0-5% slopes	0.4	65	66-75	70	50
23	V-23	Farmton fine sand	1.1	75	76-85	40	60
24	V-24	Fluvaquents	0.4	30	0-65	0	20
25	V-25	Gator muck	1.1	60	0-65	20	60
26	V-26	Holopaw sand	0.5	60	76-85	45	70
27	V-27	Hontoon mucky peat	2.9	60	0-65	20	60
28	V-28	Hydraquents	1.5	25	0-65	10	20

TABLE 3 (Continued)

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	IMPROVED PASTURES	WOODLAND	CITRUS	SPECIALIZED ROW CROPS
29	V-29	Immokalee sand	4.8	50	0-65	20	60
30	V-30	Immokalee sand, depressional	0.2	25	0-65	10	20
31	V-31	Malabar fine sand	1.9	60	76-85	40	60
32	V-32	Myakka fine sand	7.4	60	66-75	40	60
33	V-33	Myakka fine sand, depressional	1.1	25	0-65	10	25
34	V-34	Myakka-St. Johns complex	1.3	-	-	-	-
35	V-35	Myakka-Urban land complex	0.2	-	-	-	-
36	V-36	Myakka Variant fine sand	0.3	70	0-65	40	70
37	V-37	Orsino fine sand, 0-5% slopes	1.4	40	66-75	65	35
38	V-38	Paisley fine sand	0.2	65	96-100	45	65
39	V-39	Palm Beach sand, 2-8% slopes	0.3	40	0-65	60	30
40	V-40	Palm Beach-Urban land-Paola complex, 0-8% slopes	0.9	-	-	-	-
41	V-41	Palm Beach-Paola association, 2-8% slopes	0.1	-	-	-	-
42	V-42	Paola fine sand, 0-8% slopes	3.3	35	0-65	60	30
43	V-43	Paola fine sand, 8-17% slopes	0.1	30	0-65	55	25
44	V-44	Paola-Urban land complex, 0-8% slopes	0.2	-	-	-	-
45	V-45	Pineda fine sand	1.8	55	76-85	40	55
46	V-46	Pinellas fine sand	0.2	65	66-75	45	65
47	V-47	Pits*	0.2	-	-	-	-
48	V-48	Placid fine sand, depressional	0.3	45	76-85	15	50
49	V-49	Pomona fine sand	7.2	60	76-85	40	60
50	V-50	Pomona fine sand, depressional	0.9	25	66-75	10	25
51	V-51	Pomona-St. Johns complex	1.6	-	-	-	-
52	V-52	Pompano fine sand	0.6	60	66-75	30	70
53	V-53	Pompano-Placid complex	1.2	-	-	-	-

*Not rated and not included in soil supplement. Pits include all man made pits and borrow pits.

TABLE 3 (Continued)

SOILS RANKINGS FOR POTENTIAL LAND USE

MAP SYMBOL	APPENDIX V PAGE	SOIL NAME	% OF COUNTY	IMPROVED PASTURES	WOODLAND	CITRUS	SPECIALIZED ROW CROPS
54	V-53	Quartzipsammments, gently sloping	0.3	-	-	-	-
55	V-54	Riviera fine sand	1.5	75	76-85	45	80
56	V-55	Samsula muck	6.0	60	0-65	20	60
57	V-56	Satellite sand	0.5	50	66-75	60	45
58	V-57	Satellite-Urban land complex	+	-	-	-	-
59	V-58	Scoggin sand	0.8	25	76-85	10	20
60	V-59	Smyrna fine sand	4.3	60	76-85	50	55
61	V-60	St. Johns fine sand	1.0	60	76-85	50	55
62	V-61	St. Lucie fine sand, 0-8% slopes	0.2	35	0-65	50	25
63	V-62	Tavares fine sand, 0-5% slopes	3.1	40	76-85	65	35
64	V-63	Tequesta muck	2.3	50	86-95	20	60
65	V-64	Terra Ceia muck	4.0	60	0-65	20	60
66	V-65	Tomoka muck	2.2	60	66-75	20	60
67	V-66	Turnbull muck	0.9	50	0-65	10	30
68	V-67	Turnbull Variant, sand	0.4	-	-	-	-
69	V-68	Tuscawilla fine sand	2.0	80	0-65	55	80
70	V-69	Tuscawilla-Urban land complex	0.3	-	-	-	-
71	V-70	Urban land	0.4	-	-	-	-
72	V-71	Valkaria fine sand	0.3	20	66-75	10	10
73	V-72	Wabasso fine sand	1.4	60	76-85	50	55
74	V-73	Wabasso fine sand, depressional	0.3	25	0-65	10	20
75	V-74	Wauchula fine sand	2.0	75	66-75	50	70
76	V-75	Wauchula fine sand, depressional	0.1	40	0-65	10	35
77	V-76	Winder fine sand	0.3	25	86-95	15	20
		Water	0.6				
		Area Not Mapped	0.1				
		TOTAL	100.0				

TABLE 4

SOIL POTENTIAL RANKINGS

LAND USES	VERY HIGH	HIGH	MEDIUM	LOW	VERY LOW
Septic Tank Absorption Fields	96-100	90-95	80-89	50-79	<50
Sanitary Landfill (Trench)	90-100	80-89	60-79	40-59	<40
Dwellings Without Basements	90-100	80-89	70-79	60-69	<60
Low Commercial Buildings	85-100	75-94	65-74	50-64	<50
Local Roads and Streets	91-100	81-90	71-80	55-70	<55
Shallow Excavations	90-100	70-89	60-69	45-59	<45
Active Play Areas	90-100	80-89	61-79	50-60	<50
Passive Play Areas	90-100	80-89	60-79	50-59	<50
Excavated Ponds Aquifer Fed	95-100	90-94	85-89	60-84	<60
Lawn Grasses and Ornamental Plants	90-100	80-89	60-79	45-59	<45
Improved Pastures	85-100	70-84	60-69	50-59	<50
Woodlands	96-100	86-95	76-85	66-75	<66
Citrus	85-100	75-84	60-74	55-59	<55
Specialized Row Crops	81-100	70-80	60-69	50-59	<50

TABLE 5--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map Symbol	Soil Name	Acres	Percent
1	Apopka fine sand, 0 to 5 percent slopes-----	10,840	1.5
2	Apopka fine sand, 5 to 12 percent slopes-----	270	*
3	Arents-----	1,380	0.2
4	Astatula fine sand, 0 to 8 percent slopes-----	39,360	5.5
5	Astatula fine sand, 8 to 17 percent slopes-----	1,250	0.2
6	Astatula-Urban land complex, 0 to 8 percent slopes-----	3,040	0.4
7	Astor fine sand-----	2,970	0.4
8	Basinger fine sand, depressional----	9,100	1.3
9	Beaches-----	1,530	0.2
10	Bluff sandy clay loam-----	2,070	0.3
11	Bulow sand, 0 to 5 percent slopes---	1,670	0.2
12	Canaveral sand, 0 to 5 percent slopes	1,950	0.3
13	Cassia fine sand-----	8,570	1.2
14	Chobee fine sandy loam-----	10,240	1.4
15	Cocoa sand, 0 to 5 percent slopes---	1,780	0.2
16	Cocoa-Urban land complex, 0 to 5 percent slopes-----	430	0.1
17	Daytona sand, 0 to 5 percent slopes-	17,580	2.5
18	Daytona-Urban land complex, 0 to 5 percent slopes-----	630	0.1
19	DeLand fine sand, 0 to 5 percent slopes-----	7,090	1.0
20	Eaugallie fine sand-----	12,320	1.7
21	Eaugallie fine sand, depressional---	1,840	0.3
22	Electra fine sand, 0 to 5 percent slopes-----	2,560	0.4
23	Farnton fine sand-----	8,110	1.1
24	Fluvaquents-----	2,880	0.4
25	Gator muck-----	7,600	1.1
26	Holopaw sand-----	3,850	0.5
27	Hontoon mucky peat-----	20,910	2.9
28	Hydraquents-----	10,780	1.5
29	Immokalee sand-----	33,930	4.8
30	Immokalee sand, depressional----	1,500	0.2
31	Malabar fine sand-----	13,270	1.9
32	Myakka fine sand-----	52,660	7.4
33	Myakka fine sand, depressional----	7,620	1.1
34	Myakka-St. Johns complex-----	9,430	1.3
35	Myakka-Urban land complex-----	1,550	0.2
36	Myakka Variant fine sand-----	1,880	0.3

*See footnote at end of table.

TABLE 5--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

(Continued)

Map Symbol	Soil Name	Acres	Percent
37	Orsino fine sand, 0 to 5 percent slopes-----	10,060	1.4
38	Paisley fine sand-----	1,490	0.2
39	Palm Beach sand, 2 to 8 percent slopes-----	2,170	0.3
40	Palm Beach-Urban land-Paola complex, 0 to 8 percent slopes-----	6,110	0.9
41	Palm Beach-Paola association, 2 to 8 percent slopes-----	960	0.1
42	Paola fine sand, 0 to 8 percent slopes-----	23,390	3.3
43	Paola fine sand, 8 to 17 percent slopes-----	710	0.1
44	Paola-Urban land complex, 0 to 8 percent slopes-----	1,590	0.2
45	Pineda fine sand-----	12,860	1.8
46	Pinellas fine sand-----	1,210	0.2
47	Pits-----	1,490	0.2
48	Placid fine sand, depressional-----	2,340	0.3
49	Pomona fine sand-----	51,580	7.2
50	Pomona fine sand, depressional-----	6,710	0.9
51	Pomona-St. Johns complex-----	11,710	1.6
52	Pompano fine sand-----	3,990	0.6
53	Pompano-Placid complex-----	8,660	1.2
54	Quartzipsamments, gently sloping---	1,930	0.3
55	Riviera fine sand-----	10,360	1.5
56	Samsula muck-----	42,660	6.0
57	Satellite sand-----	3,730	0.5
58	Satellite-Urban land complex-----	70	*
59	Scoggin sand-----	5,730	0.8
60	Smyrna fine sand-----	30,480	4.3
61	St. Johns fine sand-----	6,930	1.0
62	St. Lucie fine sand, 0 to 8 percent slopes-----	1,540	0.2
63	Tavares fine sand, 0 to 5 percent slopes-----	22,230	3.1
64	Tequesta muck-----	16,550	2.3
65	Terra Ceia muck-----	28,210	4.0
66	Tomoka muck-----	15,780	2.2
67	Turnbull muck-----	6,730	0.9
68	Turnbull Variant sand-----	2,990	0.4
69	Tuscawilla fine sand-----	14,210	2.0

*See footnote at end of table.

TABLE 5--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

(Continued)

Map Symbol	Soil Name	Acres	Percent
70	Tuscawilla-Urban land complex-----	1,860	0.3
71	Urban land-----	3,000	0.4
72	Valkaria fine sand-----	2,390	0.3
73	Wabasso fine sand-----	10,120	1.4
74	Wabasso fine sand, depressional-----	2,270	0.3
75	Wauchula fine sand-----	14,490	2.0
76	Wauchula fine sand, depressional---	550	0.1
77	Winder fine sand-----	2,010	0.3
	Water-----	4,590	0.6
	Area not mapped-----	720	0.1
	Total	713,600	100.0

*Less than 0.1 percent



PART II
VEGETATIVE ANALYSIS



RATING BENEFITS OF NATURAL/VEGETATIVE COMMUNITIES

The natural/vegetative communities such as the pitcher plant, live oak forest and freshwater mangrove are types of vegetation from which natural communities of plants and animals can be identified. For Volusia County 16 communities have been identified by the U. S. Soil Conservation Service, Department of Agriculture. These communities are discussed in more detail in APPENDIX VI. In Table 6 each community is rated and evaluated by five (5) significant categories of benefits they provide to Volusia County residents. These categories are described below. The ratings should be considered simultaneously with soil potential ratings (PART I: VOLUSIA COUNTY SOILS SURVEY SUPPLEMENT) in development of any parcel of land.

It is suggested that by comparing the natural/vegetative ratings with soil potential ratings a combined development potential can be derived for any parcel of land in Volusia County. These composite development potentials can provide valuable guidance as to what land parcels will be difficult to develop as well as those parcels that may contain significant environmental benefits.

Water Recharge Function

Volusia County is totally dependent on groundwater for potable water. The water in the aquifer results from the recharge of rainfall which occurs locally within the boundaries of the County. Certain plant communities inhabit soils which

are extremely porous and allow rainfall to percolate into the aquifer to replenish our drinking water supply. The environmental value of these areas is obvious. It is crucial to maintain the permeability of these soils in order to allow water recharge to continue rather than generate surface runoff.

Surface Water Quality Benefits

Certain plant communities, by their proximity to surface water bodies, perform valuable functions by reducing and assimilating upstream and upland pollutants, thereby preventing the degradation and eutrophication of surface water bodies. These plant communities assimilate nutrients and trap sediments which otherwise would be harmful to the aquatic ecosystem. In addition to filtering runoff, secondary benefits are manifested in food chains and reproductive functions.

Wildlife Habitat/Food Chains

Plant communities provide an absolutely critical function in our ecosystem, upon which all higher forms of life depend. Through the plant's photosynthetic process, inorganic substances are converted to organic materials for subsequent use in higher trophic levels. Plants as primary producers therefore initiate all food chains. In addition to plants important role in food chains, plant communities also provide wildlife habitat necessary for the survival of numerous species. Food, shelter, and reproductive opportunities require suitable habitat.

Number of Rare and Endangered Wildlife

Closely related to wildlife/vegetative communities is the number of rare and endangered wildlife inhabiting that particular community. This category is important because not only is habitat suitability necessary, but the actual presence of threatened wildlife accents the sensitivity of these plant communities. Normally, wildlife is displaced by development into smaller and less desirable habitats which stresses the very existence of the species. A further reduction in habitat usually cannot be tolerated and may drive a species into extinction.

Unique Physical Features (Aesthetics)

Some plant communities exhibit unique physical features which are aesthetically pleasing and improve the desirability and amenities of the environment. These areas provide the most benefit to the public in their natural, unaltered state. Secondary considerations for noise reduction, screening, and greenbelt areas are also important.

Table 6

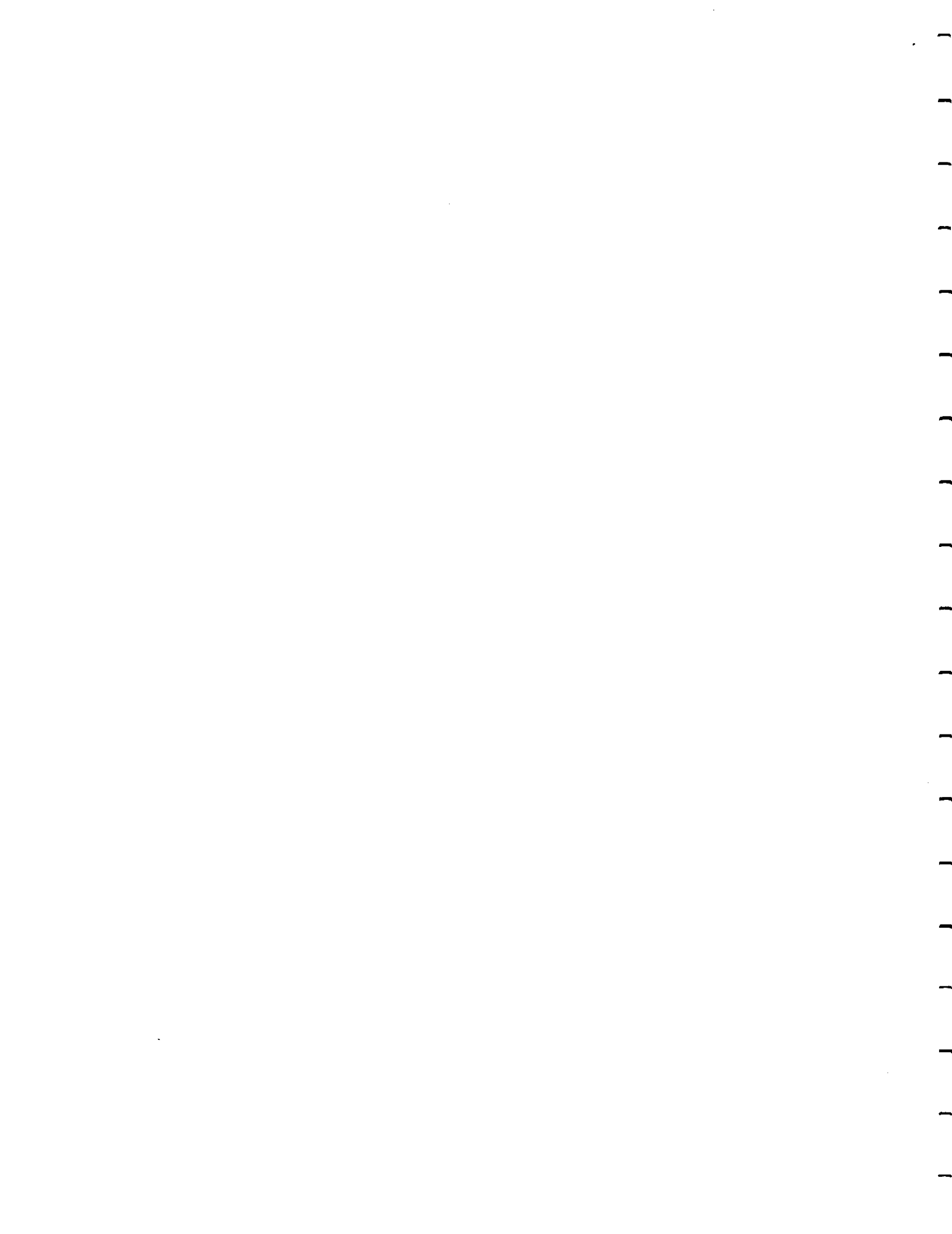
ENVIRONMENTAL BENEFIT RATINGS: NATURAL/VEGETATIVE COMMUNITIES

Natural/Vegetative Community	Water Recharge Function (0-5)	Surface Water Quality Benefits (0-5)	Wildlife Habitat Food Chains (0-5)	% of Rare and Endangered Wildlife (0-5)	Unique Physical Feature (Aesthetics) (0-5)	Total
N. Fl. Coastal Strand	4	2	3	5	5	19
Sand Pine Scrub	5	1	2	5	1	14
Longleaf Pine/Turkey Oak	5	1	3	5	2	16
S. Fl. Flatwoods	3	2	3	4	1	13
Cabbage Palm Flatwoods	1	3	3	4	2	13
Upland Hardwood Hammock	4	1	4	3	5	17
Wetland Hardwood Hammock	1	4	4	3	5	17
Cabbage Palm Hammock	1	4	3	1	4	13
Oak Hammock	3	2	3	3	5	16
Cypress Swamp	1	5	4	4	4	18
Salt Marsh	0	5	5	5	4	19
Mangrove Swamp	0	5	5	4	5	19
Swamp Hardwoods	1	5	4	3	4	17

Table 6 (Cont)

ENVIRONMENTAL BENEFIT RATINGS: NATURAL/VEGETATIVE COMMUNITIES

Natural/Vegetative Community	Water Recharge Function (0-5)	Surface Water Quality Benefits (0-5)	Wildlife Habitat Food Chains (0-5)	% of Rare and Endangered Wildlife (0-5)	Unique Physical Feature (Aesthetics) (0-5)	Total
Pitcher Plant Bog	2	2	2	2	3	11
Freshwater Marsh	2	5	5	5	4	21
Slough	1	4	4	2	3	14



APPENDIX I
ESTIMATED SOIL PROPERTIES



Depth (In.) - The depth in inches of the major soil horizons that have similar properties are given.

USDA (United States Department of Agriculture) Texture -

The USDA texture is based on the relative amounts of sand, silt, and clay in a soil, giving rise to textural classes such as sand, sandy loam, loam, clay loam, and clay. (USDA Handbook No. 18, SOIL SURVEY MANUAL).

Unified Classification - In the Unified System, soils are classified according to particle size, distribution, plasticity, liquid limit, and organic matter. Soils are grouped in 15 classes. There are eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils identified as Pt. Soils on the borderline between two classes are designated by symbols for both classes; for example, SP-SM.

AASTO (American Association of State Transportation Officials)

Classification - The AASTO system is used to classify soils according to those properties that affect use in highway construction and maintenance. In this system, a soil is placed in one of seven basic groups ranging from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. In Group A-1 are gravelly soils of high bearing strength, or the best soils for subgrade (foundation). At the other extreme, in group A-7, are clay soils that have low strength

when wet and that are the poorest soils for subgrade. The A-1, A-2, and A-7 groups can be further divided as follows: A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, and A-7-6.

Fraction Greater than 3 Inches (Pct.) - Soils in Volusia County do not have material this coarse, with the possible exception of some of the soils in the Sandy alluvial land (Sn) mapping unit.

Percentage of Material Less than 3 Inches Passing Sieve No. - The measured or estimated percentages of materials passing the numbers 4, 10, 40, and 200 sieves are given for each major horizon. The percent passing the 200 sieve approximates the amount of silt and clay, but does include some very fine sand. A range is listed because of the variability for a given soil.

Liquid Limit and Plasticity Index - These indicate the effect of water on the strength and consistence of soil material. As the moisture content of a clayey soil is increased from a dry state, the material changes from a semisolid to a plastic state. If the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material changes from the semisolid to plastic state; and the liquid limit from a plastic

to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is plastic.

Permeability (In./Hr.) - That quality of a soil that enables it to transmit water or air. Values listed are estimates of the range in rate and time it takes for downward movement of water in the major soil layers when saturated, but allowed to drain freely. The estimates are based on soil texture, soil structure, available data on permeability and infiltration tests, and drainage observations of the water movement through soils. On a given soil, percolation through the surface layer varies according to land use and management as well as with initial moisture content. The permeability is shown in inches per hour. For example, in a soil that has a permeability rate of 6.0 inches per hour in 3 hours free water would move downward a distance of (3 x 6") 18 inches.

Available Water Capacity (In./In.) - The ability of soils to hold water for plant use. The available water capacity is given in inches per inch of soil for the major horizons. It is commonly defined as the difference between field capacity (1/3 atmosphere)

and the wilting percentage (15 atmospheres) times bulk density times the thickness in inches of the soil. The water retention by soil is related to the particle size and to the arrangement and size of soil pores. Fine-textured soils tend to have higher water retention due to small pores than do sandy soils with large pores. Estimates of the available water capacity for soils with normally high water tables may appear meaningless until one considers the possibility of artificial drainage or the natural lowering of the water table during dry seasons, or later summer or fall. Soils of the same series vary from place to place. Therefore, values can deviate considerably from those listed. The available water capacity is expressed in inches per inch. For example, in a soil that has an available water capacity of 0.10 in 1 inch of soil, there would be 0.1 inch of water available for plant growth, and in 24 inches of soil (0.1 x 24") 2.4 inches available.

Soil Reaction - Is the degree of acidity or alkalinity of a soil. It is expressed in pH -- the logarithm of the reciprocal of the H-ion concentration. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. In words, the degrees of acidity or alkalinity are expressed thus:

	<u>pH</u>
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Salinity (mmhos/cm) - The salinity is expressed in terms of the electrical conductivity of a saturation extract in millimhos per centimeter at 25° centigrade. The following shows the response of plants associated with different ranges of electrical conductivity of saturation extracts of soils.

<u>Electrical conductivity of saturation extract mmho./cm. at 25° C</u>	<u>Plant response</u>
0-2	Salinity effects usually negligible.
2-4	Yield of very salt-sensitive crops may be restricted.
4-8	Yield of salt sensitive crops restricted.
8-16	Only salt-tolerant crops yield satisfactorily.

Electrical conductivity
of saturation extract
mmho./cm. at 25° C

Plant response

>16

Only a few very salt-
tolerant crops yield
satisfactorily

If salinity is zero or no problem for growing crops,
a dash is shown on the sheet.

Shrink-swell Potential - Is the relative change in volume
to be expected of soil material with changes in
moisture content; that is, the extent to which the
soil shrinks as it dries out or swells when it becomes
wet. Extent of shrinking and swelling is influ-
enced by the amount and kind of clay in the soil.
Shrinking and swelling of soils cause much damage
to building foundations, roads, and other structures.
A high shrink-swell potential indicates a hazard to
maintenance of structures built in, on, or with
material having this rating.

Corrosivity - Steel - This refers to the potential for
corrosion of uncoated steel pipe buried in the soil.
The soils are rated as follows: LOW (noncorrosive
or only slightly corrosive), MODERATE (moderately
corrosive), and HIGH (severely corrosive). Corro-
sion of uncoated steel pipe is a physical-biochemical

process converting iron into its ions. Soil moisture is needed to form solutions with soluble salts before the process can operate. The corrosivity is estimated by electrical resistivity or resistance to flow of current, total acidity, soil drainage, and soil texture.

Corrosivity - Concrete - This refers to the potential for deterioration of concrete placed in soil materials. Deterioration is caused by a chemical reaction between the concrete (a base) and the soil solution (potential weak acid). Special cements and methods of manufacturing may be used to reduce rate of deterioration in soils of high corrosivity. Some of the soil properties that affect the rate of deterioration are soil texture and acidity, the amount of sodium or magnesium present in the soil singly or in combination, and amount of sodium chloride in the soil. The presence of large amounts of sodium chloride in the soil usually indicates that sea water has been present in the soil. Sea water contains sulphates which is one of the principal corrosive agents.

Erosion Factors (K and T) - A soil erodibility factor (K) and the soil-loss tolerance (T) are used in an equation that predicts the amount of soil loss resulting from rainfall erosion. The soil erodibility

factor "K" is measure of the rate at which a soil will erode. Values are expressed as tons of soil loss per acre per unit of R (rainfall factor) from continuous fallow (three years or more) on a 9 percent slope, 73 feet long. Thus, the K factor reflects the rate that soil erodes when other factors affecting erosion are constant. Soil properties that influence erodibility by water are: those that affect infiltration rate, movement of water through the soil, and water storage capacity; and those that resist dispersion, splashing, abrasion, and transporting forces from rainfall and runoff. Some of the soil properties that are most important are texture and organic matter of the surface layer, size and stability of structural aggregates in the surface layer, permeability of the subsoil, and depth to slowly permeable layers.

The soil-loss tolerance "T" sometimes called permissible soil loss, is the maximum rate of soil erosion that will permit a high level of crop productivity to be sustained economically and indefinitely.

These rates are expressed in tons of soil loss per acre per year. Rates of 1 through 5 are used in the south, depending upon soil properties, soil depth, and prior erosion.

Wind Erodibility Groups - Soils that are subject to wind erosion are grouped into eight groups according to their susceptibility to soil blowing. Soils that are permanently wet or that are deemed not to have a wind erosion hazard are shown by a dash on the soil properties interpretations sheet. Sandy soils are grouped into wind erodibility groups and are most susceptible to soil blowing, especially during dry periods and when wind velocities are high. Organic soils are normally wet, but they are also subject to soil blowing when drained and cultivated if the soil surface is left bare during extreme dry periods and wind velocities are high.

Flooding - Flooding is defined as temporary covering of soil surface by water from any source, such as streams overflowing their banks, runoff from adjacent or surrounding slopes, or combinations of these. Shallow water standing above the soil surface in a more or less ponded condition for relatively long periods of time are excluded from the definition of flooding because water is more than a temporary covering; it is a water table above the soil surface rather than flooding.

Flooding hazard may be expressed by one of three general flood frequency classes -- none, rare, or

common. Duration and time of year that the flooding occurs is given for those soils with common flood hazards. Not considered here, but nevertheless important, are velocity and depth of flood waters.

The classes of flooding are defined as follows:

None -- No reasonable possibility of flooding.

Rare -- Flooding unlikely but possible under unusual weather conditions. No evidence of recent water deposited sediments on surface or within the pedon.

Common - Flooding is likely under usual weather conditions. Most pedons show evidence of recent water deposited sediments or scouring. The probability of recurring floods is great.

Duration refers to the length of time that the soils are flooded. These classes are as follows:

Brief - 2 to 7 days.

Long - 7 days to 1 month.

Very long - More than 1 month.

The time of year that flooding would most likely occur is expressed in months, for example, June-October.

The economic and social consequences of improper land use of flood prone areas are serious. Problems begin when structures are located in flood prone

areas. The initial development encourages additional construction and the installation of streets and utilities. The capacity of the floodway may be reduced by these kinds of development increasing the flood hazard. When flooding occurs, losses are not borne only by the property owner but by the community as well. The public is usually called upon to bear the cost of flood fighting, rehabilitation, and flood protection.

Dwellings, commercial buildings, and other high cost developments that are easily damaged by floods should not be located on flood prone soils. Sanitary facilities such as septic tank filter fields, sewage lagoons, and sanitary landfills built on flood prone soils present a health hazard. Roads and streets built on flood prone soils are likely to be closed during floods and may require extensive maintenance or restoration after floods.

In agricultural areas the consequences of flooding are much less expensive, but nevertheless may present a hazard to the production of crops. The frequency, duration, and time of year that flooding occurs influences whether trees, pasture, or crops can be grown.

Trees and pasture can withstand more flooding than crops. Certain short season crops, however, can be grown successfully if the growing season is relatively flood free.

High Water Table - A high water table is defined as a zone of saturation at the highest average depth during the wettest season. It persists in the soil for more than a few days and occurs within 80 inches of the soil surface.

Most water tables occur within the soil and are measured from the surface of the soil down to the free-water level. In swamps, marshes, and depressional areas, however, the water table is above the surface of the soil much of the time, and the water table is measured from the surface of the water down to the soil surface.

Soils that have seasonal high water tables are classified according to depth to the water table, kind of water table, and time of year that the water table is highest.

The depth of the high water table from the soil surface is given in feet or half feet. The range in depth reflects the year-to-year variation in average highest depth. Depth to water table within the soil

is recorded with the small number first, e.g., 1.5-2.5. Water table above the soil surface is used for marshes, swamps, and depressional areas and is recorded with the large number first with a +, e.g. + 1.0-0. Where a water table is below 6 feet or exists for less than one month, >6 is shown under depth.

Three kinds of seasonal high water tables are recognized within the soil: apparent, perched, and artesian.

Apparent water table is the level at which water stands in a freshly dug unlined borehole. It is influenced by the hydrostatic pressure of soil water and by pressure at greater depths penetrated by the borehole, water relations across impermeable layers, and other factors. In the absence of evidence that would permit greater specificity, therefore, the term apparent water table is used for the level at which water stands in an uncased borehole after adequate time for adjustment in the surrounding soil. Perched water table is one that exists in the soil above an unsaturated zone. A water table may be inferred to be perched on the basis of general knowledge of the water levels of an area, the landscape position, the permeability of soil layers,

and from other evidence. To prove that a water table is perched, it is necessary to observe the water levels in cased wells placed above, in, and below the less permeable layer. If the water in the well above the less permeable layer is consistently higher than the other two, the water table is perched.

Artesian water table is one that exists under hydrostatic head beneath an impermeable layer; when the impermeable layer has been penetrated by a cased borehole, the water rises. The final level of the water in the cased borehole may then be characterized as an artesian water table.

The months that the water table normally persists at the average highest depth range is shown, for example, June-December.

A seasonal high water table is an important criterion in a number of engineering and biological uses of soils. Its depth and duration influences the potential and limitations of soils for septic tank absorption fields, shallow excavations, sanitary landfills, dwellings, and local roads and streets.

The water table also influences the growth of crops - a water table that is near the surface during the

growing season is detrimental to most crop plants. Growing plants, however, tend to lower the water table through transpiration. A change in land use may drastically change the wetness of an area. For example, a change from trees to row crops changes the transpiration rate and may cause a wetter soil condition. Changing land use from cropland, pasture, or forest to urban areas with streets and houses covering a much larger area not only decreases the transpiration by vegetation but also causes increased runoff. A wetter soil may result.

Cemented Pan - This refers to a horizon or layer in the soil that is strongly cemented through the natural processes of soil formation. The depth to this kind of layer is shown in inches. The hardness of the pan is shown as RIPPABLE or HARD in the hardness column. If a soil does not have a cemented pan, a dash is shown in the depth column. (Rippable and hard are defined under "bedrock" below.) Weakly cemented soil horizons are common in some soils in Volusia County, but these are outside the definition of "Cemented Pan".

Bedrock - This is solid rock beneath the soil. The depth to bedrock is shown in inches for soils with bedrock within 72 inches of the soil surface. All other soils are shown as >72. The hardness of the bedrock

is shown as RIPPABLE or HARD. "Rippable" rock can be excavated using a single tooth ripping attachment mounted on a 200-300 horsepower tractor. "Hard" rock requires blasting or use of excavators larger than 200-300 horsepower. Most of the soils in Volusia County have bedrock at depths of more than 72 inches.

Subsidence - This refers to the lowering of the level of the soil surface. When water is removed and the water table is lowered in organic soils and some mineral soils with low strength, the soil will subside. Initially, or in the first few years, the subsidence is most pronounced or greatest. Due to insufficient data, the initial subsidence is not estimated. After initial subsidence, organic soils in Florida subside or oxidize at the rate of about 1 inch per year. Total subsidence is estimated in inches.

Hydrologic Group - Soils are grouped into four hydrologic soil groups, A through D. These groups are used mostly in watershed planning to estimate runoff from rainfall. Soil properties were considered that influence the minimum rate of infiltration obtained for a bare soil after prolonged wetting. These properties are: depth to seasonally high water table, intake rate and permeability after prolonged wetting, and depth to a layer or layers that slow or impede water movement.

Dual hydrologic groups are given for wet soils rated D in their natural condition that can be adequately drained. It is considered that drainage is feasible and practical and that drainage improves the hydrologic group by at least two classes (from D to A or B). The first letter applies to the drained condition.

Hydrologic group A - (Low runoff potential). Soils that have high infiltration rates even when thoroughly wetted and a high rate of water transmission.

Hydrologic group B - (Moderately low runoff potential). Soils that have moderate infiltration rates when thoroughly wetted and a moderate rate of water transmission.

Hydrologic group C - (Moderately high runoff potential). Soils that have slow infiltration rates when thoroughly wetted and a slow rate of water transmission.

Hydrologic group D - (High runoff potential). Soils having very slow infiltration rates when thoroughly wetted and a very slow rate of water transmission.



APPENDIX II
METHODOLOGY :
SOIL POTENTIAL RATINGS

A. Septic Tank Absorption Fields

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Flooding or standing water above the surface for periods of 2 weeks or more	5	5	25	0	
None or rare	0	5	0	30	
Common					
2. Wetness (water table)	5	5	25	0	
Below 60 inches	4	5	20	0	
36 to 60 inches	2	3	6	10	
15 to 36 inches	0	3	0	10	
0 to 15 inches				15	
+ 2 to 0 inches					
3. Permeability (of least permeable layer in upper 72 inches)	5	5	25	0	
>2.5 inches per hour	4	4	16	0	
0.8-2.5 inches per hour	2	1	2	2	
0.2-0.8 inches per hour	0	1	0	3	
<0.2 inches per hour					
4. Slope	5	2	10	0	
0-8 percent	3	2	6	5	
8-15 percent					
8-15 percent (with soil material within 72" that has permeability of less than 2.5 inches per hour)	2	1	2	5	

*percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

A. Septic Tank Absorption Fields Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
4. Slope Cont.					
>15 percent (with soil material within 72" that has permeability of less than 2.5 inches per hour)	1	1	1	5	
5. Subsidence					
None					
Subsides (usually about 1 inch year on the average)	5	3	15	0	
6. Bedrock					
None or >48" in depth	0	3	0	25	
<48" rippable				0	
<48" hard				5	
				15	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

B. Sanitary Landfill (Trench type)

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Wetness (Depth to water table)					
72 to 80 inches	5	6	30	0**	
30 to 72 inches	4	5	20	20	
15 to 30 inches	2	5	10	20	
0 to 15 inches	0	5	0	20	
2. Flooding or stand water above the surface for periods of 2 weeks or more					
None or rare	5	5	25	0	
Common	0	5	0	30	
3. Permeability (Below a depth of 60")					
Less than 2.5 inches/hour or 2.5 to 5 inches/hour with texture of sandy loam or finer	5	5	25	0	
More than 2.5 inches/hour and texture of loamy fine sand or coarser	0	5	0	0	
4. Soil texture (surface layer or upper 10")					
Sandy loam, sandy clay loam	5	2	10	0	
Loamy sands, clay loam, mucky loam	5	1	5	0	
Muck, peat, sands	0	1	0	10	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

** Depends on where water table is.

B. Sanitary Landfill (Trench type) Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
5. Slope					
0 to 5 percent	5	2	10	0	
5 to 8 percent	5	1	5	0	
8 to 15 percent	0	1	0	5	
6. Bedrock					
None				0	
Rippable				20	
Hard				30	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

C. Dwellings Without Basements

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Flooding or standing water above the surface for periods of 2 weeks or more	5	5	25	0	
None or rare	0	5	0	30	
Common					
2. Wetness (Depth to water table)					
Below 30 inches	5	4	20	0	
20 to 30 inches	2	4	8	5	
0 to 20 inches	0	4	0	5	
3. Shrink-Swell potential					
Low	5	3	15	0	
Moderate within depths of 24 to 48 inches	4	3	12	20	
Moderate within depths of 0 to 24 inches	2	3	6	20	
High within depths of 24 to 48 inches	2	2	4	20	
High within depths of 0 to 24 inches	0	0	0	20	
4. Soil strength					
High within depths of 0 to 24 inches	5	3	15	0	
High within depths of 24 to 48 inches	4	3	12	0	
Moderate within depths of 0 to 24 inches	2	3	6	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

C. Dwellings Without Basements Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
4. Soil strength Cont.					
Moderate within depths of 24 to 48 inches	2	2	4	0	
Low	0	2	0	0	
5. Subsidence					
None	5	3	15	0	
Subsides (usually about 1 inch per year on the average)	0	3	0	15	
6. Slope					
0 to 8 percent	5	2	10	0	
8 to 15 percent	2	2	4	5	
>15 percent	0	2	0	5	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

D. Low Commercial Buildings

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Flooding or standing water above the surface for periods of 2 weeks or more	5	3	15	0	
None or rare	0	3	0	25	
Common					
2. Erodibility					
K value within upper 24 inches <.20	5	2	10	0	
K value within upper 24 inches .20-.28	5	1	5	0	
K value within upper 24 inches >.28	0	1	0	0	
3. Soil Blowing					
Wind erodibility group 3 or more	5	2	10	0	
Wind erodibility group 1 or 2	0	2	0	0	
4. Slope					
0 to 2 percent	5	3	15	0	
2 to 5 percent (includes 0 to 5)	4	3	12	0	
5 to 8 percent	3	2	6	0	
8 to 12 percent	0	2	0	10	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

D. Low Commercial Buildings Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
5. Wetness (Depth of water table)					
Below 30 inches	5	3	15	0	
20 to 30 inches	3	3	9	5	
0 to 20 inches	0	3	0	5	
6. Shrink-Swell potential					
Low	5	3	15	0	
Moderate within depths of 24 to 48 inches	4	3	12	0	
Moderate within depths of 0 to 24 inches	2	3	6	15	
High within depths of 24 to 48 inches	2	2	4	15	
High within depths of 0 to 24 inches	0	2	0	15	
7. Soil strength					
High within depths of 0 to 24 inches	5	3	15	0	
High within depths of 24 to 48 inches	4	3	12	0	
Moderate within depths of 0 to 24 inches	2	3	6	0	
Moderate within depths of 24 to 40 inches	2	2	4	0	
Low	0	2	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.



D. Low Commercial Buildings Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
8. Subsidence					
None	5	1	5	0	
Subsides (usually about 1 inches per year on the average)	0	2	0	15	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

E. Local Roads and Streets

Soil Property	Positive Points (0-5)	Weighting Factor (1-5)	Product	% Difficulty Factor*	Total
1. Soil strength for subgrade (based on unified soil groups)					
SP, SP-SM, SM, SM-SC, or soils with AASHO group index 0-4)	5	5	25	0	
SC (with low PI-less than 15 or AASHO group index 5-8)	3	5	15	10	
PT, CH, OH, OL, SC (with high PI-more than 15)	0	5	0	15	
2. Shrink-Swell potential					
Low	5	5	25	0	
Moderate	3	4	12	0	
High	0	4	0	0	
3. Flooding or standing water above the surface for periods of 2 weeks or more					
None or rare	5	4	20	0	
Common	0	4	0	20	
4. Wetness (Depth of water table)					
Below 30 inches	5	4	20	0	
15 to 30 inches	5	2	10	10	
0 to 15 inches	0	4	0	10	
5. Slope					
0 to 8 percent	5	2	10	0	
8 to 15 percent	5	1	5	5	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

F. Shallow Excavations

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Soil texture (sidewall stability only)					
Sandy clay loam, clay, loam, clay loam, sandy loam, muck, peat, mucky loam	5 12	5 5	25 10	0	
Rock					
Fine sand, sand, loamy fine sand, mucky fine sand	0	5	0	0	
2. Wetness (Depth of water table)					
Below 60 inches	5	6	30	0	
30 to 60 inches	4	5	20	0	
15 to 30 inches	3	5	15	0	
0 to 15 inches	1	5	5	0	
Standing water above the soil surface for periods of 2 weeks or more	0	5	0		
3. Soil texture (support for digging equipment)					
Fine sand, sand, loamy fine sand	5	4	20	0	
Clay loam, mucky loam, mucky fine sand	5	2	10	0	
Muck, peat	0	2	0	0	
4. Slope					
0 to 5 percent	5	3	15	0	
5 to 8 percent	5	2	10	0	
8 to 15 percent	0	2	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

F. Shallow Excavations Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
5. Flooding (by stream overflow)					
None or rare	5	2	10	0	
Common	0	2	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

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G. Active Play Areas

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Flooding					
None or rare	5	5	25	0	
Common (likely under normal conditions by stream overflow)	1	5	5	0	
Frequent flooding with duration of more than one week or standing water above the soil surface for more than one month	0	5	0	20	
2. Soil texture in upper 12 inches					
Sandy loam	5	5	25	0	
Sands (except loose sands) and loamy sands	3	5	15	0	
Sand (loose), clay, clay loam (sticky and plastic)	1	5	5	10	
Mucky loam	0	5	0	10	
Muck or peat					
3. Wetness (Depth of water table)					
Below 30 inches	5	4	20	0	
**15 to 30 inches (except for loose sands)	2	5	10	10	
0 to 15 inches	0	5	0	10	

Active Play Areas--These are areas that are used intensively for recreation. These include playgrounds, athletic fields, or any areas that are subject to heavy foot traffic in association with outdoor recreation. Soil properties that have the most significance on a soil's potential are flooding, soil texture in the upper foot of soil, wetness, slope, and permeability.

 *Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

**Loose sands with a water table at depths of 15 to 30 inches are given the same points as soils with a water table below 30 inches

G. Active Play Areas Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
4. Slope					
0 to 2 percent	5	4	20	0	
2 to 5 percent (includes mapping units of 0 to 5 percent)	5	3	15	0	
5 to 8 percent	2	5	10	0	
8 to 12 percent	0	5	0	0	
5. Permeability of most restrictive layer (inches per hour)					
More than 2.5	5	2	10	0	
0.2 to 2.5	1	5	5	0	
0.05 to 0.2	0	5	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

H. Passive Play Areas

Soil Property	Positive Points (0-5)	Weighting Factor (1-5)	Product	% Difficulty Factor*	Total
1. Flooding or standing water					
None or rare	5	6	30	0	
Common (likely under normal conditions by stream overflow for brief periods)	4	5	20	0	
Common flooding for long periods or standing water above the soil surface for short periods (1 to 4 weeks)	2	5	10	0	
Standing water above the soil surface most of the time	0	5	0	0	
2. Soil texture in upper 12 inches					
Sandy loam	5	5	25	0	
Sands (except loose sands) and loamy sands	4	5	20	0	
Sand (loose), clay, clay loam, mucky loam	2	5	10	0	
Muck or peat	0	5	0	0	
3. Wetness (Depth to water table)					
Below 30 inches	5	5	25	0	
**15 to 30 inches (except for loose sands)	4	5	20	0	
0 to 15 inches	2	5	10	0	

Passive Play Areas--These are areas used for outdoor recreation that are not subject to heavy foot traffic or the foot traffic is relegated to certain areas or paths. Soil properties that have the most significance on a soil's potential are flooding or standing water, soil texture in the upper foot of soil, wetness, and slope.

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

**Loose sands with a water table at depths of 15 to 30 inches are given the same points as soils with a water table below 20 inches.

H. Passive Play Areas Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
4. Slope					
0 to 8 percent	5	4	20	0	
Greater than 8 percent	0	5	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

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I. Excavated Ponds Aquifer Fed

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-9)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Depth to water table					
Less than 15 inches	5	9	45	0	
15 to 30 inches	4	5	20	0	
30 to 60 inches	1	5	5	0	
More than 60 inches	0	5	0	0	
2. Duration of water table					
Continuously above 15 inches	6	9	45	0	
6 to 12 months above 15 inches	5	8	40	0	
2 to 6 months above 15 inches	5	6	30	0	
1 to 2 months above 15 inches	4	5	20	0	
1 to 2 months above 30 inches	2	5	10	0	
0 months above 30 inches	0	5	0	0	
3. Permeability of ground water aquifer					
Moderate or faster	5	2	10	0	
Moderately slow or slower or ground water aquifer above 30 inches for 2 months or less	0	2	0	0	
4. Texture Muck					
Muck					10
Mucky peat					10

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

J. Lawn Grasses and Ornamental Plants

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Available water capacity in upper 80 inches					
More than 10 inches	5	5	25	0	
7 to 10 inches	4	5	20	0	
4 to 7 inches	3	5	15	0	
<4 inches	1	5	5	0	
2. Average organic matter content in the upper 12 inches					
More than 2.5 percent	5	5	25	0	
1.5 to 2.5 percent	4	5	20	0	
0.8 to 1.5 percent	2	5	10	0	
0.8 percent or less	1	5	5	0	
3. Wetness (Depth to seasonally high water table)					
More than 30 inches	5	4	20	0	
15 to 30 inches	3	5	15	0	
0 to 15 inches	2	5	10	0	
+24-0 inches (standing water above the surface for periods of 2 weeks or more and/or common flooding)	0	5	0	20	
4. USDA texture of surface layer					
Fine sand, mucky fine sand, mucky loam, sand, loamy fine sand	5	3	15	0	
Clay loam, muck, peat	0	3	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

J. Lawn Grasses and Ornamental Plants Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
5. Slope					
0 to 5 percent	5	3	15	0	
5 to 8 percent	2	5	10	0	
8 to 12 percent	1	5	5	0	
>12 percent	0	5	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

K. Improved Pastures

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Available water capacity in upper 80 inches					
More than 10 inches	5	5	25	0	
7 to 10 inches	4	5	20	0	
4 to 7 inches	3	5	15	0	
<4 inches	1	5	5	0	
2. Average organic matter content in the upper 12 inches					
More than 2.5 percent	5	5	25	0	
1.5 to 2.5 percent	4	5	20	0	
0.8 to 1.5 percent	2	5	10	0	
0.6 percent or less	1	5	5	0	
3. Wetness (Depth to seasonally high water table)					
15 to 30 inches	5	4	20	0	
0 to 15 inches	3	5	15	0	
More than 30 inches	2	5	10	0	
+24-0 inches (standing water above the surface for periods of 30 days or more and/or frequent or common flooding by stream overflow)	0	5	0	20	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

K. Improved Pastures Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
4. Natural fertility					
High (mollicols & histosols with pH>4.5)	5	4	20	0	
Moderate (all alfisols and histosols with pH<4.5)	3	5	15	0	
Low (all other soils except St. Lucie & Lakewood)	2	5	10	0	
Very low (St. Lucie & Lakewood)	1	5	5	0	
5. Slope					
0 to 8 percent	5	2	10	0	
8 to 15 percent	1	5	5	0	
>15 percent	0	5	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

L. Woodland

<u>Potential Productivity</u>	<u>Site Index</u>	<u>% Difficulty Factor</u>	<u>Total</u>
1. Very high	96+	0	
2. High	86-95	0	
3. Medium	76-85	0	
4. Low	66-75	0	
5. Very low	<66	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain those corrective measures once applied.

M. Citrus

** Soil Property

	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
1. Wetness (Depth to seasonally high water table)					
15 to 42 inches	5	5	25	10	
More than 42 inches	4	5	20	0	
0 to 15 inches	0	5	0	15	
2. Available water capacity in upper 80 inches					
17 to 10 inches	5	5	25	0	
4 to 7 inches	3	5	15	0	
<4 inches	1	5	5	0	
<5 inches	1	5	5	0	
3. Flooding or standing water					
None or rare	5	4	20	0	
Common (likely under normal conditions by stream overflow for brief periods)	2	5	10	10	
Common flooding for long periods or standing water above the soil surface for short periods (1 to 4 weeks)	1	5	5	15	
Standing water above the soil surface most of the time	0	5	0	20	
4. Natural fertility					
High (mollisols)	5	4	20	0	
Moderate (alfisols & humapuepts)	3	5	15	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

**Only the mineral soils are rated; the organic soils are considered unsuited for citrus due to subsidence, excessive wetness, and flooding.

M. Citrus Cont.

<u>**Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
4. Natural fertility Cont.					
Low (all other soils except St. Lucie, Lakewood, & Pomello)	2	5	10	0	
Very low (St. Lucie, Lakewood, & Pomello)	0	5	0	0	
Very low (St. Lucie, Lakewood, & Ecastia)	1	5	5	0	
5. Slope					
0 to 5 percent	5	2	10	0	
5 to 8 percent	1	5	5	0	
8 to 12 percent	0	1	0	0	
6. Bedrock					
None or >48" in depth <48" rippable or hard				0	15

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

**Only the mineral soils are rated; the organic soils are considered unsuited for citrus due to subsidence, excessive wetness, and flooding.

N. Specialized Row Crops

Soil Property	Positive Points (0-5)	Weighting Factor (1-5)	Product	% Difficulty Factor*	Total
1. Average organic matter content in the upper 12 inches					
More than 2.5 percent	5	5	25	0	
1.5 to 2.5 percent	4	5	20	0	
0.8 to 1.5 percent	2	5	10	0	
0.8 percent or less	1	5	5	0	
2. Wetness (Depth of seasonally high water table)					
0 to 15 inches	5	5	25	5	
15 to 30 inches	3	5	15	5	
More than 30 inches	0	5	0	0	
3. Flooding or standing water					
None or rare	3	5	15	0	
Common flooding (stream overflow)	0	4	0	30	
Standing water above the surface for periods of 30 days or more	0	4	0	20	
4. Natural fertility					
High (mollisols & histosols)	5	5	25	0	
Moderate (alfisols & humapuepts)	3	5	15	0	
Low (all other soils except St. Lucie, Lakewood, & Pomello)	1	5	5	0	
Very low (St. Lucie, Lakewood, & Pomello)	0	1	0	0	

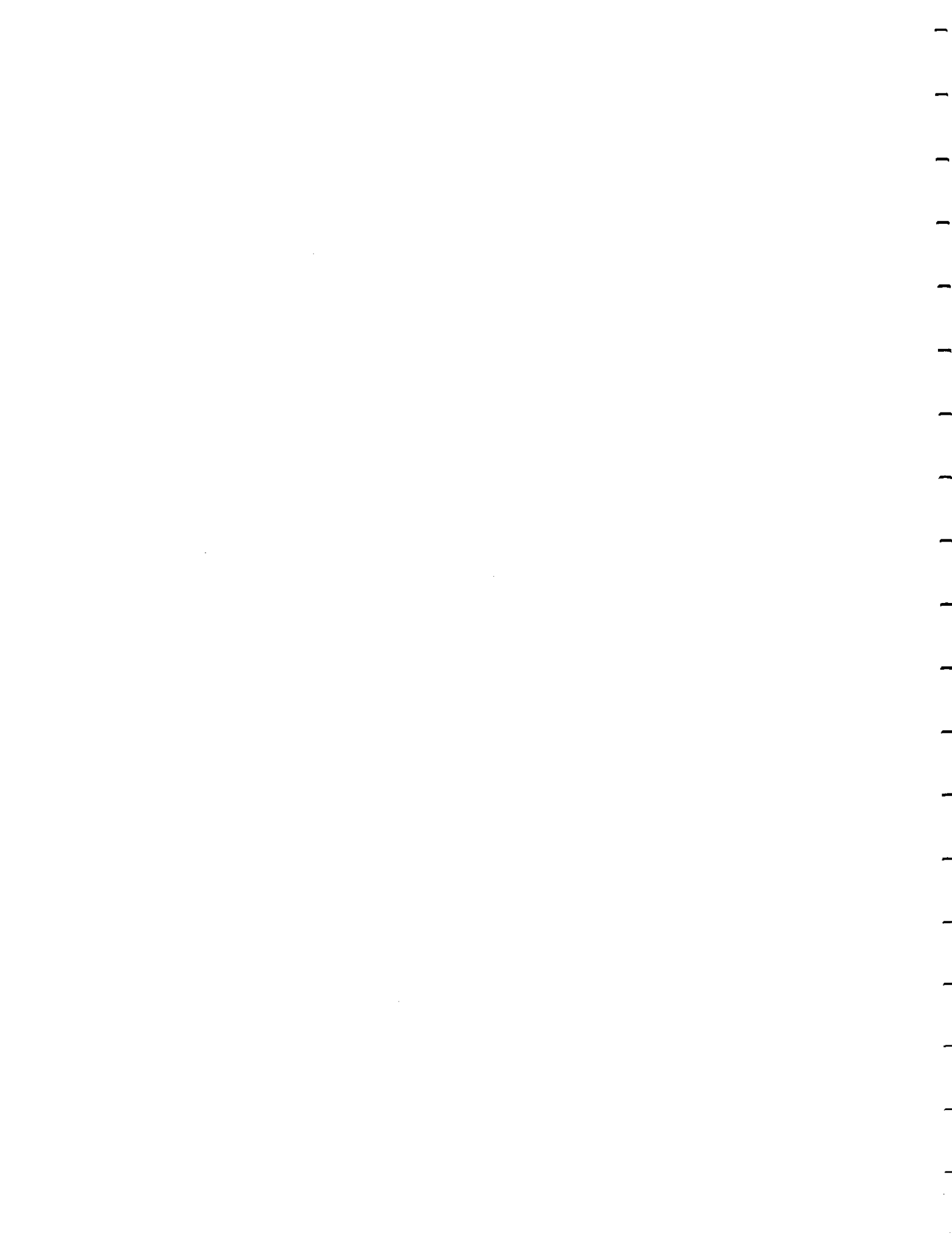
*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

N. Specialized Row Crops Cont.

<u>Soil Property</u>	<u>Positive Points (0-5)</u>	<u>Weighting Factor (1-5)</u>	<u>Product</u>	<u>% Difficulty Factor*</u>	<u>Total</u>
5. Slope					
0 to 5 percent	5	2	10	0	
5 to 8 percent	1	5	5	0	
8 to 12 percent	0	1	0	0	

*Percent degree of difficulty as measured in the difficulty to apply corrective measures to reach highest soil potential and to maintain these corrective measures once applied.

APPENDIX III
SOIL POTENTIALS:
FREQUENCY AND RANKINGS



SEPTIC TANKS		SANITARY LANDFILLS		DWELLINGS WITHOUT BASEMENTS		LOW COMMERCIAL BUILDINGS	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
4	100	1	80	1	100	1	87
19	100	2	65	4	100	11	87
39	100	19	65	11	100	15	87
42	100	4	50	15	100	17	87
62	100	39	50	17	100	19	87
11	95	42	50	19	100	37	87
17	95	62	50	37	100	63	87
37	95	5	40	39	100	4	81
63	95	43	40	42	100	62	81
1	91	11	35	62	100	13	79
5	91	17	35	63	100	57	79
43	86	23	30	2	89	12	76
15	85	31	30	5	89	22	76
2	82	38	30	43	85	39	76
12	71	49	30	12	83	42	76
13	71	73	30	13	83	20	70
57	71	15	25	22	83	26	70
20	65	22	25	57	83	52	70
26	65	37	25	20	75	2	65
29	65	63	25	23	75	5	65
32	65	12	15	26	75	23	65
45	65	13	15	29	75	31	65
52	65	57	15	31	75	32	65
55	65	20	5	32	75	36	65
22	62	26	5	36	75	45	65
23	56	29	5	45	75	46	65
31	56	32	5	46	75	49	65
36	56	36	5	49	75	60	65
46	56	45	5	52	75	61	65
60	56	46	5	60	75	73	65
61	56	52	5	61	75	75	65
69	56	55	5	73	75	29	62
73	56	60	5	75	75	69	62
75	56	61	5	69	72	43	60
49	40	69	5	55	64	55	59
38	37	75	5	67	60	7	30
7	35	10	-5	38	25	8	30
72	10	24	-5	7	20	21	30
8	5	28	-10	8	20	48	30
21	5	50	-25	21	20	72	30
24	5	74	-25	24	20	24	25
30	5	14	-30	30	20	33	25
33	5	30	-40	33	20	50	25
48	5	7	-50	48	20	74	25

*Soil No. corresponds to map symbol number, APPENDIX IV

SEPTIC TANKS		SANITARY LANDFILLS		DWELLINGS WITHOUT BASEMENTS		LOW COMMERCIAL BUILDINGS	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
14	1	8	-50	50	20	76	25
77	1	21	-50	72	20	30	22
59	-4	25	-50	74	20	77	20
74	-4	27	-50	76	20	14	16
76	-4	33	-50	77	20	59	16
10	-18	48	-50	59	11	38	15
50	-20	56	-50	14	-14	25	-5
27	-35	59	-50	56	-19	27	-5
56	-35	64	-50	64	-21	64	-6
65	-35	65	-50	10	-24	56	-9
25	-44	66	-50	25	-25	28	-15
64	-44	67	-50	27	-25	65	-15
66	-44	72	-50	28	-25	66	-15
28	-60	76	-50	65	-25	10	-19
67	-63	77	-50	66	-25	67	-35

*Soil No. corresponds to map symbol number, APPENDIX IV

LOCAL ROADS & STREETS		SHALLOW EXCAVATION		ACTIVE PLAY AREAS		PASSIVE PLAY AREAS	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
1	100	71	100	1	85	1	95
4	100	15	85	11	85	4	95
11	100	1	75	15	85	11	95
15	100	19	75	17	85	15	95
17	100	45	75	37	85	17	95
19	100	73	75	63	85	19	95
37	100	4	70	4	80	22	95
39	100	39	70	19	80	37	95
42	100	42	70	22	80	63	95
62	100	62	70	2	70	13	90
63	100	74	70	5	70	57	90
2	90	76	70	13	70	12	85
5	90	17	65	26	70	39	85
43	90	22	65	57	70	42	85
12	80	37	65	12	65	62	85
13	80	38	65	20	60	20	80
22	80	55	65	32	60	23	80
26	80	63	65	39	60	26	80
57	80	2	60	42	60	29	80
20	70	5	60	45	60	31	80
23	70	12	60	52	60	32	80
29	70	13	60	55	60	36	80
31	70	14	60	62	60	38	80
32	70	24	60	23	55	45	80
36	70	43	60	29	55	46	80
45	70	57	60	31	55	49	80
46	70	77	60	36	55	52	80
49	70	10	50	46	55	55	80
52	70	20	50	49	55	60	80
60	70	23	50	60	55	61	80
61	70	26	50	61	55	69	80
69	50	29	50	69	55	73	80
73	50	31	50	73	55	75	80
75	50	32	50	75	55	2	75
30	40	36	50	38	50	5	75
7	30	46	50	43	50	43	65
8	30	49	50	72	40	8	60
21	30	52	50	7	15	21	60
24	30	60	50	8	15	33	60
33	30	61	50	21	15	48	60
48	30	64	50	33	15	50	60
50	30	65	50	48	15	72	60
55	30	66	50	14	10	77	60
72	30	69	50	30	10	7	50

*Soil No. corresponds to map symbol number, APPENDIX IV

LOCAL ROADS & STREETS		SHALLOW EXCAVATION		ACTIVE PLAY AREAS		PASSIVE PLAY AREAS	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
74	10	75	50	50	10	10	50
76	10	8	45	74	10	24	50
77	10	21	45	76	10	30	50
38	5	30	45	77	10	74	50
14	-3	33	45	24	-5	76	50
25	-10	48	45	27	-10	14	40
27	-10	50	45	56	-10	28	40
56	-10	67	40	65	-10	25	30
59	-10	7	35	10	-15	27	30
64	-10	72	35	25	-15	56	30
65	-10	28	25	28	-15	59	30
66	-10	56	25	59	-15	64	30
10	-35	59	25	64	-15	65	30
28	-35	27	15	66	-15	66	30
67	-35	25	-40	67	-20	67	30

*Soil No. corresponds to map symbol number, APPENDIX IV

EXCAVATED PONDS AQUIFER FED		LAWN GRASSES & ORNAMENTAL PLANTS		IMPROVED PASTURES	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
7	100	23	80	69	80
24	100	55	80	23	75
26	100	69	80	55	75
29	100	75	80	75	75
30	100	19	75	36	70
48	100	36	75	20	65
50	100	15	70	22	65
59	100	17	70	38	65
60	100	22	70	46	65
61	100	13	65	7	60
69	100	20	65	13	60
72	100	31	65	19	60
73	100	32	65	25	60
74	100	38	65	26	60
76	100	49	65	27	60
77	100	52	65	31	60
8	95	60	65	32	60
20	95	61	65	49	60
21	95	73	65	52	60
31	95	1	60	56	60
32	95	7	60	60	60
33	95	11	60	61	60
45	95	26	60	65	60
46	95	37	60	66	60
49	95	45	60	73	60
52	95	46	60	15	55
55	95	63	60	17	55
75	95	4	55	45	55
14	90	12	55	29	50
25	90	39	55	57	50
27	90	42	55	64	50
56	90	48	55	67	50
64	90	57	55	11	45
65	90	62	55	12	45
66	90	2	50	48	45
67	90	29	50	1	40
10	85	76	50	4	40
23	85	5	45	10	40
36	85	25	45	14	40
38	85	27	45	37	40
28	80	43	45	39	40
13	70	56	45	63	40
57	60	65	45	76	40
12	50	66	45	2	35

*Soil No. corresponds to map symbol number, APPENDIX IV

EXCAVATED
PONDS
AQUIFER FED

LAWN GRASSES
& ORNAMENTAL
PLANTS

IMPROVED
PASTURES

<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
22	40	67	45	5	35
17	15	14	40	42	35
1	10	64	40	62	35
2	10	8	35	21	30
4	10	21	35	24	30
5	10	33	35	43	30
11	10	50	35	8	25
37	5	74	35	28	25
63	5	72	30	30	25
15	0	77	30	33	25
19	0	10	25	50	25
39	0	28	25	59	25
42	0	24	20	74	25
43	0	30	20	77	25
62	0	59	20	72	20

*Soil No. corresponds to map symbol number, APPENDIX IV

WOODLAND		CITRUS		SPECIALIZED ROW CROPS	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
38	V. High, 96-100	1	75	55	80
7	High, 86-95	17	75	69	80
10	High, 86-95	19	75	26	70
14	High, 86-95	13	70	36	70
64	High, 86-95	22	70	52	70
77	High, 86-95	2	65	75	70
1	Med., 76-85	15	65	38	65
2	Med., 76-85	37	65	46	65
11	Med., 76-85	63	65	7	60
15	Med., 76-85	4	60	23	60
20	Med., 76-85	12	60	25	60
23	Med., 76-85	39	60	27	60
26	Med., 76-85	42	60	29	60
31	Med., 76-85	57	60	31	60
45	Med., 76-85	5	55	32	60
48	Med., 76-85	11	55	49	60
49	Med., 76-85	43	55	56	60
55	Med., 76-85	69	55	64	60
59	Med., 76-85	60	50	65	60
60	Med., 76-85	61	50	66	60
61	Med., 76-85	62	50	20	55
63	Med., 76-85	73	50	45	55
73	Med., 76-85	75	50	60	55
12	Low, 66-75	26	45	61	55
13	Low, 66-75	38	45	73	55
17	Low, 66-75	46	45	22	50
19	Low, 66-75	55	45	48	50
22	Low, 66-75	20	40	11	45
32	Low, 66-75	23	40	13	45
37	Low, 66-75	31	40	15	45
46	Low, 66-75	32	40	57	45
50	Low, 66-75	36	40	12	40
52	Low, 66-75	45	40	1	35
57	Low, 66-75	49	40	17	35
66	Low, 66-75	10	30	19	35
72	Low, 66-75	52	30	37	35
75	Low, 66-75	7	20	63	35
4	V. Low, 0-65	14	20	76	35
5	V. Low, 0-65	25	20	4	30
8	V. Low, 0-65	27	20	10	30
21	V. Low, 0-65	29	20	14	30
24	V. Low, 0-65	56	20	39	30
25	V. Low, 0-65	64	20	42	30
27	V. Low, 0-65	65	20	67	30

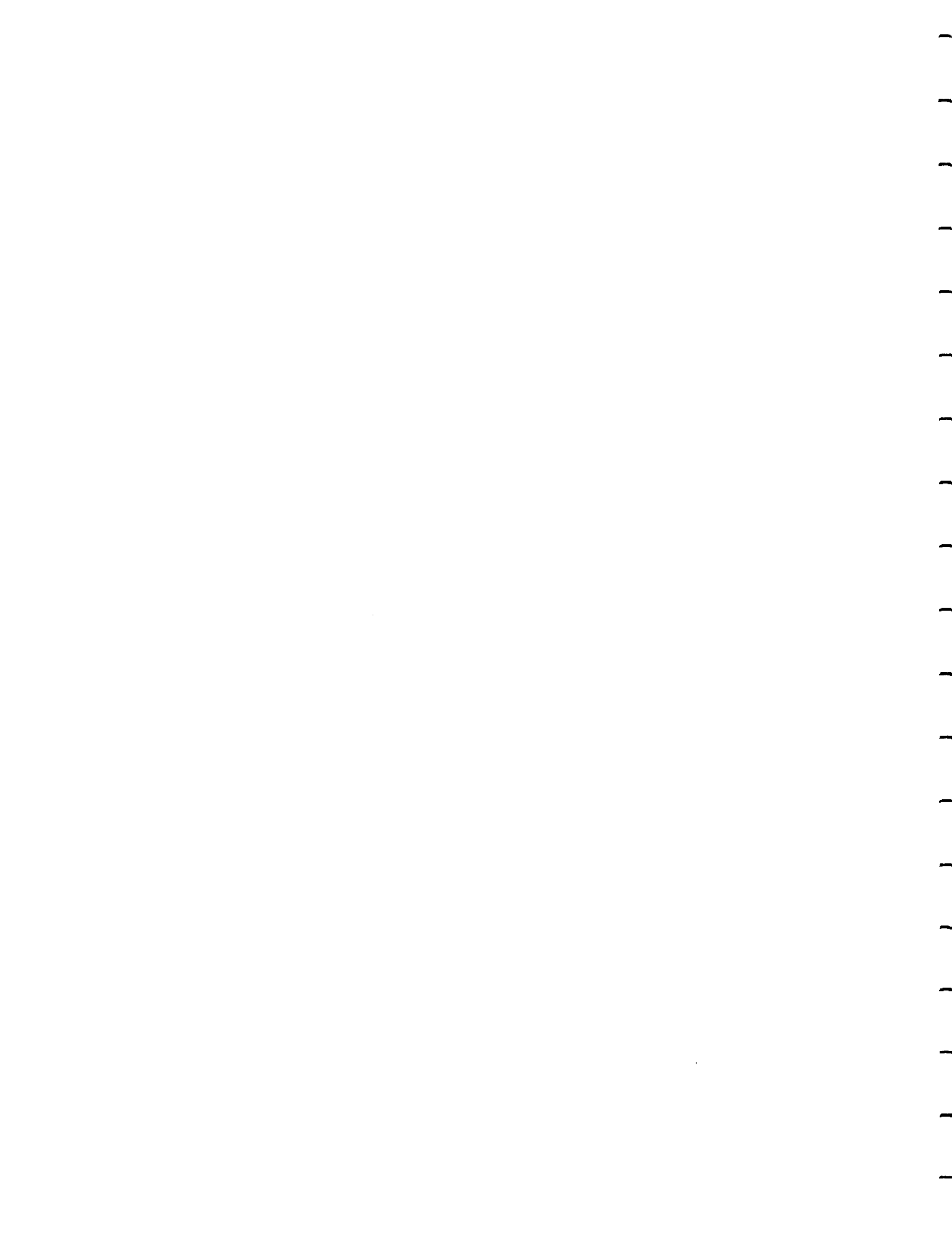
*Soil No. corresponds to map symbol number, APPENDIX IV

WOODLAND		CITRUS		SPECIALIZED ROW CROPS	
<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>	<u>*Soil No.</u>	<u>Ranking</u>
28	V. Low, 0-65	66	20	2	25
29	V. Low, 0-65	48	15	5	25
30	V. Low, 0-65	77	15	8	25
33	V. Low, 0-65	21	10	33	25
36	V. Low, 0-65	28	10	43	25
39	V. Low, 0-65	30	10	50	25
42	V. Low, 0-65	33	10	62	25
43	V. Low, 0-65	50	10	21	20
56	V. Low, 0-65	59	10	24	20
62	V. Low, 0-65	67	10	28	20
65	V. Low, 0-65	72	10	30	20
67	V. Low, 0-65	74	10	59	20
69	V. Low, 0-65	76	10	74	20
74	V. Low, 0-65	8	0	77	20
76	V. Low, 0-65	24	0	72	10

*Soil No. corresponds to map symbol number, APPENDIX IV

APPENDIX IV

SOIL EQUIVALENTS AND MAP SYMBOLS
VOLUSIA COUNTY ADVANCED SOIL SURVEY VERSUS FINAL SOIL SURVEY



VOLUSIA COUNTY SOIL EQUIVALENTS

<u>ADVANCED SOIL SURVEY</u>		<u>FINAL SOIL SURVEY</u>		<u>Map</u>
<u>Symbol</u>	<u>Field Name</u>	<u>Approved Name</u>		<u>Symbol</u>
20	Apopka fine sand, 0 to 5 percent slopes) Apopka fine sand,) 0 to 5 percent slopes		1
30	Apopka Variant fine sand, 0 to 5 percent slopes))		
30C	Apopka Variant fine sand, 5 to 12 percent slopes	Apopka fine sand, 5 to 12 percent slopes		2
61	Aquodic Arents) Arents)		3
106	Sanitary landfill)		
45	Astatula fine sand, 0 to 8 percent slopes	Astatula fine sand, 0 to 8 percent slopes		4
45D	Astatula fine sand, 8 to 17 percent slopes	Astatula fine sand, 8 to 17 percent slopes		5
104	Astatula-Urban land complex, 0 to 8 percent slopes	Astatula-Urban land complex, 0 to 8 percent slopes		6
107	Astor fine sand	Astor fine sand		7
3	Basinger fine sand	Basinger fine sand, depressional		8
88	Beaches	Beaches		9
67	Bluff soils	Bluff sandy clay loam		10
90	Bulow sand, 0 to 5 percent slopes	Bulow sand, 0 to 5 percent slopes		11
95	Canaveral sand	Canaveral sand, 0 to 5 percent slopes		12
4	Cassia fine sand	Cassia fine sand		13
65	Chobee soils	Chobee fine sandy loam		14
84	Cocoa sand, 0 to 5 percent slopes	Cocoa sand, 0 to 5 percent slopes		15
105	Cocoa-Urban land complex, 0 to 5 percent slopes	Cocoa-Urban land complex, 0 to 5 percent slopes		16

ADVANCED SOIL SURVEYFINAL SOIL SURVEY

<u>Symbol</u>	<u>Field Name</u>	<u>Approved Name</u>	<u>Map Symbol</u>
9	Pomello fine sand, 0 to 5 percent slopes	Daytona sand, 0 to 5 percent slopes	17
102	Pomello-Urban land complex	Daytona-Urban land complex, 0 to 5 percent slopes	18
19	Pomello Variant fine sand	DeLand fine sand, 0 to 5 percent slopes	19
60	EauGallie fine sand	EauGallie fine sand	20
62	EauGallie fine sand, depressional	EauGallie fine sand, depressional	21
29	Electra fine sand, 0 to 5 percent slopes	Electra fine sand, 0 to 5 percent slopes	22
28	Oldsmar Variant fine sand	Farmton fine sand	23
66	Fluvaquent	Fluvaquents	24
39	Gator muck	Gator muck	25
76	Holopaw sand	Holopaw sand	26
34	Hontoon mucky peat	Hontoon mucky peat	27
91	Mangrove swamp	Hydraquents	28
5	Immokalee sand	Immokalee sand	29
23	Immokalee sand, depressional	Immokalee sand, depressional	30
47	Malabar fine sand	Malabar fine sand	31
15	Myakka fine sand	Myakka fine sand	32
55	Myakka fine sand, depressional	Myakka fine sand, depressional	33
43	Myakka-St. Johns complex	Myakka-St. Johns complex	34
71	Myakka-Urban land complex	Myakka-Urban land complex	35
101	Myakka Variant sand	Myakka Variant fine sand	36
21	Orsino fine sand, 0 to 5 percent slopes	Orsino fine sand, 0 to 5 percent slopes	37

ADVANCED SOIL SURVEYFINAL SOIL SURVEY

<u>Symbol</u>	<u>Field Name</u>	<u>Approved Name</u>	<u>Map Symbol</u>
68	Paisley fine sand	Paisley fine sand	38
100	Palm beach sand, 0 to 20 percent slopes	Palm Beach sand, 2 to 8 percent slopes	39
96	Palm Beach-Urban land-Paola complex, 0 to 20 percent slopes	Palm Beach-Urban land-Paola complex, 0 to 8 percent slopes	40
87	Palm Beach-Paola association, 0 to 20 percent slopes	Palm Beach-Paola association, 2 to 8 percent slopes	41
7	Paola fine sand, 0 to 8 percent slopes	Paola fine sand, 0 to 8 percent slopes	42
7D	Paola fine sand, 8 to 17 percent slopes	Paola fine sand, 8 to 17 percent slopes	43
81	Paola-Urban land complex, 0 to 8 percent slopes	Paola-Urban land complex, 0 to 8 percent slopes	44
8	Pineda fine sand	Pineda fine sand	45
52	Pinellas fine sand	Pinellas fine sand	46
BP	Borrow Pits	Pits	47
13	Placid fine sand	Placid fine sand, depressional	48
26	Pomona sand	Pomona fine sand	49
27	Pomona sand, depressional	Pomona fine sand, depressional	50
44	Pomona-St. Johns complex	Pomona-St. Johns complex	51
22	Pompano sand	Pompano fine sand	52
36	Pompano-Placid complex	Pompano-Placid complex	53
24	Quartzipsamments, 0 to 8 percent slopes	Quartzipsamments, gently sloping	54

ADVANCED SOIL SURVEYFINAL SOIL SURVEY

<u>Symbol</u>	<u>Field Name</u>	<u>Approved Name</u>	<u>Map Symbol</u>
35	Riviera fine sand	Riviera fine sand	55
18	Samsula muck	Samsula muck	56
10	Satellite sand	Satellite sand	57
72	Satellite-Urban land complex	Satellite-Urban land complex	58
57	Arenic Ochraquults	Scoggin sand	59
6	Smyrna fine sand	Smyrna fine sand	60
14	St. Johns sand	St. Johns fine sand	61
33	St. Lucie fine sand, 0 to 8 percent slopes	St. Lucie fine sand, 0 to 8 percent slopes	62
11	Tavares fine sand, 0 to 5 percent slopes	Tavares fine sand, 0 to 5 percent slopes	63
92	Tequesta soils	Tequesta muck	64
69	Terra Ceia muck	Terra Ceia muck	65
53	Tomoka muck	Tomoka muck	66
85	Hydraquents	Turnbull muck	67
98	Canaveral Variant sand	Turnbull Variant sand	68
93	Bradenton soils	Tuscawilla fine sand	69
103	Bradenton-Urban land complex	Tuscawilla-Urban land complex	70
46	Urban land	Urban land	71
73	Valkaria sand	Valkaria fine sand	72
41	Wabasso fine sand	Wabasso fine sand	73
40	Wabasso fine sand, depressional	Wabasso fine sand, depressional	74

ADVANCED SOIL SURVEYFINAL SOIL SURVEY

<u>Symbol</u>	<u>Field Name</u>	<u>Approved Name</u>	<u>Map Symbol</u>
12	Wauchula fine sand	Wauchula fine sand	75
75	Wauchula fine sand, depressional	Wauchula fine sand, depressional	76
63	Winder fine sand	Winder fine sand	77

SERIES ESTABLISHED

Bulow	Gator	Tomoka
Daytona	Scoggin	Hontoon
DeLand	Turnbull	Samsula
Farmton	Tuscawilla	

SERIES DROPPED

None

SERIES REVISED

None

Instructions for Map Compilation

The conventional and special symbols to be compiled on the survey sheet overlays for publication are shown on the modified SCS-SOILS-37A.

Areas identified on the field sheets with the symbol 106 will be compiled with the symbol 3 and, in addition, will be identified with the words "SANITARY LANDFILL". Please note that 720 acres were not mapped in the survey area due to denial of access by the landowner. In compilation, a limit of soil survey boundary will be placed around this area and identified with the words "AREA NOT MAPPED". The 720 acres will be shown at the bottom of the Acreage and Proportionate Extent of the Soils table following water.



APPENDIX V

SOIL PROPERTIES AND INTERPRETATION TABLES



SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 1 Apopka fine sand, 0 to 5 percent slopes

SOIL NAME: The Apopka Series consists of well drained, nearly level to steep soils that occur in Central Florida. In a representative profile the surface layer is very dark gray sand about 6 inches thick. The subsurface layer is between depths of 6 to 55 inches; it is yellowish brown sand in the upper 34 inches and light yellowish brown in the lower 15 inches. Below this to depths of 84 inches or more is red sandy clay loam. Slopes are dominantly 0 to 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-55 55-80	S, FS SL, SCL, SC	SP, SP-SM SM-SC, SC	A-3 A-2-4, A-2-6, A-4, A-6	0 0	100 98-100	100 95-100	85-100 60-95	3-10 20-40	- 20-40	NP 4-20		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-55 55-80	6.0-20 0.6-2.0	0.03-0.05 0.12-0.17	4.5-6.0 4.5-6.0	- -	Very Low Very Low	Low Moderate	High High	.17 .28	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6			-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	High (91)	0-5% Slope--Slight	None needed
SANITARY LANDFILL (TRENCH)	High (80)	Severe--Too sandy	Surface stabilization; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	Very High (87)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	High (75)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Moderate--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (10)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (40)	Low natural fertility; low organic matter; low available water holding capacity	Good management
WOODLAND	Medium (76-85)	Severe--seedling mortality moderate--equipment	Good management
CITRUS	High (75)	Low natural fertility; low organic matter; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (35)	Low natural fertility; low available water holding capacity; low organic matter	Good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 2 Apopka fine sand, 5 to 12 percent slopes

SOIL NAME: The Apopka Series consists of well drained, nearly level to steep soils that occur in Central Florida. In a representative profile the surface layer is very dark gray sand about 6 inches thick. The subsurface layer is between depths of 6 to 55 inches; it is yellowish brown sand in the upper 34 inches and light yellowish brown in the lower 15 inches. Below this to depths of 84 inches or more is red sandy clay loam. Slopes are dominantly 5 to 12 percent but range to 25.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-55 55-80	S, FS SL, SCL, SC	SP, SP-SM SM-SC, SC	A-3 A-2-4, A-2-6, A-4, A-6	0 0	100 98-100	100 95-100	85-100 60-95	3-10 20-40	- 20-40	NP 4-20		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-55 55-80	6.0-20 0.6-2.0	0.03-0.05 0.12-0.17	4.5-6.0 4.5-6.0	- -	Very Low Very Low	Low Moderate	High High	.17 .28	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6			-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking) *	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Medium (82)	5%-12% moderate--slope	Land smoothing; place on the contour
SANITARY LANDFILL (TRENCH)	Medium (65)	Severe--Too sandy	Land smoothing; surface stabilization; sealing or lining
DWELLINGS WITHOUT BASEMENTS	High (89)	Moderate--Slope	Land forming; design building to fit slope
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Slope	Land forming; design building to fit slope
LOCAL ROADS AND STREETS	High (90)	Moderate--Slope	Land forming
SHALLOW EXCAVATIONS	Medium (60)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	Medium (70)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Medium (75)	Moderate--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (10)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (50)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (35)	Low natural fertility; low organic matter; low available water holding capacity	Good management
WOODLAND	Medium (76-85)	Severe--Seedling mortality; moderate--Equipment	Good management
CITRUS	Medium (65)	Low natural fertility; low organic matter; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (25)	Low natural fertility; low organic matter; low available water holding capacity; slope	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 3 Arents

SOIL NAME: Arents are sandy soils that have been reworked or areas filled and shaped by earth moving equipment. They contain identifiable fragments of spodic horizons within a depth of 40 inches. Some areas have undisturbed spodic horizons within the soil surface but have more than 12 inches of fill material over the original soil surface. Slopes range from 0 to more than 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	S, FS	SP, SP-SM	A-3	0	100	100	85-95	2-12	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
	2.0-20	0.05-0.07	4.5-5.5	--	Low	High	High	-	-	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			1-2	Apparent	Jun-Oct	-	-	>60	-	-	-	B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Not Rated		
SANITARY LANDFILL (TRENCH)	Not Rated		
DWELLINGS WITHOUT BASEMENTS	Not Rated		
LOW COMMERCIAL BUILDINGS	Not Rated		
LOCAL ROADS AND STREETS	Not Rated		
SHALLOW EXCAVATIONS	Not Rated		
ACTIVE PLAY AREAS	Not Rated		
PASSIVE PLAY AREAS	Not Rated		
EXCAVATED PONDS AQUIFER FED	Not Rated		
LAWN GRASSES AND ORNAMENTAL PLANTS	Not Rated		
IMPROVED PASTURES	Not Rated		
WOODLAND	Not Rated		
CITRUS	Not Rated		
SPECIALIZED ROW CROPS	Not Rated		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 4 Astatula fine sand, 0 to 8 percent slopes

SOIL NAME: The Astatula Series consists of excessively drained, nearly level to steep soils that occur primarily in central and south Florida. Typically these soils have thin grayish brown surface layers underlain by layers of brownish yellow sand to depths of 86 inches or more. Slopes range from 0 to 8 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX		
					4	10	40	200				
0-86	S, FS	SP, SP-SM	A-3	0	100	100	75-99	1-7	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-86	> 20	0.02-0.05	4.5-6.5	-	Very Low	Low	High	.15	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very High (100)	Slight	None needed
SANITARY LANDFILL (TRENCH)	Low (50)	Severe--Seepage, Too sandy	Sealing or lining, surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	High (81)	Moderate--Slope	Design building to fit slope, land smoothing
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	High (70)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	High (80)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (10)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (40)	Low natural fertility; low organic matter; low available water holding capacity	Good management
WOODLAND	Very Low (0-65)	Severe--Equipment; Moderate--Seedling mortality	Good management
CITRUS	Medium (60)	Low natural fertility; low organic matter; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (30)	Low natural fertility; low organic matter; low available water holding capacity	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 5 Astatula fine sand, 8 to 17 percent slopes

SOIL NAME: The Astatula Series consists of excessively drained, nearly level to steep soils that occur primarily in central and south Florida. Typically these soils have thin grayish brown surface layers underlain by layers of brownish yellow sand to depths of 86 inches or more. Slopes range from 8 to 17 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-86	S, FS	SP, SP-SM	A-3	0	100	100	75-99	1-7	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-86	>20	0.02-0.05	4.5-6.5	-	Very Low	Low	High	.15	5	2

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	High (91)	Severe--Slope	Land smoothing; place on the contour
SANITARY LANDFILL (TRENCH)	Low (40)	Severe--Seepage; too sandy; slope	Sealing or lining; surface stabilization; Land smoothing
DWELLINGS WITHOUT BASEMENTS	High (89)	Severe--Slope	Design buildings to fit slope; land smoothing
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Slope	Design buildings to fit slope; land smoothing
LOCAL ROADS AND STREETS	High (90)	Severe--Slope	Land forming
SHALLOW EXCAVATIONS	Medium (60)	Severe--Cutbanks Cave-in; slope	Shoring; land forming
ACTIVE PLAY AREAS	Medium (70)	Severe--Too sandy; slope	Suitable topsoil and other amendments; land forming
PASSIVE PLAY AREAS	Medium (75)	Severe--Too sandy; slope	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (10)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (35)	Low natural fertility; low organic matter; low available water holding capacity	Good management
WOODLAND	Very Low (0-65)	Severe--Equipment; Moderate--Seedling mortality	Good management
CITRUS	Low (55)	Low natural fertility; low organic matter; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (25)	Low natural fertility; low organic matter; low available water holding capacity; slope	Generally not suited

* Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 6 Astatula-Urban land complex, 0 to 8 percent slopes.

SOIL NAME: The Astatula-Urban land complex is made up of tracts of nearly level to sloping Astatula soils that are being used for urban development. For estimated soil properties not shown see individual soils of the complex, i.e. map symbols 4 and 71.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED			AASHO		FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX
								4	10	40	200		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP			
						STEEL	CONCRETE	K	T				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 7 Astor fine sand

SOIL NAME: The Astor Series consists of very poorly drained soils that occur in low, nearly level areas, poorly defined drainageways, and flood plains in the lower coastal plain. A typical profile has a black to very dark grayish-brown sand surface layer, about 32 inches thick. Below this to depths of 80 inches is dark grayish-brown sand. Slopes range from 0 to 1 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS- TICITY INDEX		
					4	10	40	200				
0-55 55-82	FS S, FS	SP-SM, SM SP-SM, SM	A-3, A-2-4 A-3, A-2-4	0 0	100 100	100 100	85-100 85-100	5-15 5-15	- -	NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-55 55-82	6.0-20 6.0-20	0.15-0.20 0.05-0.10	6.1-8.4 6.1-8.4	- -	Very Low Very Low	High	Low	.17	5	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Common	V. Long	Jun-Jan	+2-0	Apparent	Jun-Jan	-		>60		-		D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (35)	Severe--Floods; wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods; seepage; wetness	Water control; control flood water; sealing and lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOW COMMERCIAL BUILDINGS	Very Low (30)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Floods; wetness	Water control; control flood water; fill area
SHALLOW EXCAVATIONS	Very Low (35)	Severe--Cutbanks Cave-in; wetness; floods	Shoring; water control; control flood water
ACTIVE PLAY AREAS	Very Low (15)	Severe--Too sandy; wetness; floods	Generally not suited
PASSIVE PLAY AREAS	Low (50)	Severe--Wetness; too sandy	Water control; construct aboveground walks; suitable topsoil and other amendments; control flood waters
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Wetness; floods	Water control; control flood waters
IMPROVED PASTURES	Medium (60)	Wetness; floods	Generally not suited
WOODLAND	High (86-95)	Severe--Seedling mortality; equipment	Water control; control flood waters
CITRUS	Very Low (20)	Wetness; floods	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness; floods	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 8 Basinger fine sand, depressional

SOIL NAME: The Basinger Series consists of poorly drained deep sandy soils that occur in broad sloughs, poorly defined drainageways and depressions. A representative profile has a thin very dark gray surface layer. Light gray fine sand subsurface layer, and brown and light brownish-gray subsoil between 18 and 36 inches. Light colored fine sand extends to below a depth of 60 inches. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-90	FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	<40	NP-3		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-90	>20	0.03-0.07	3.6-7.3	-	Very Low	High	Moderate	.10	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jun-Feb	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (5)	Severe wetness; ponds	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Seepage; wetness; ponds	Water control; sealing and lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Wetness; ponds	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (30)	Severe--Wetness; ponds	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Wetness; ponds	Water control; fill area
SHALLOW EXCAVATIONS	Low (45)	Severe--Wetness; ponds; cutbanks cave-in	Shoring; water control
ACTIVE PLAY AREAS	Very Low (15)	Severe--Wetness; too sandy	Water control; construct aboveground walks
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (35)	Severe--Wetness; ponds; too sandy	Water control; good management
IMPROVED PASTURES	Very Low (25)	Low organic matter; low natural fertility; wetness; low available water holding capacity	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Good management; water control
CITRUS	Very Low (0)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (25)	Wetness	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 9 Beaches

SOIL NAME: The Beaches are narrow sandy strips along the Atlantic Coast. They are overwashed with sea water at every high tide. They are comprised of fine to coarse sand with an admixture of shells and shell fragments. Slopes are 0 to 1 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	S	SP	A-3	0	100	100	100	1-3	NP	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	>20	.02-.05	6.6-7.8	-	Low	High	Low	0.15	1	1		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Frequent	Brief	Jan-Dec	+5			-		-		-	-	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Not Rated		
SANITARY LANDFILL (TRENCH)	Not Rated		
DWELLINGS WITHOUT BASEMENTS	Not Rated		
LOW COMMERCIAL BUILDINGS	Not Rated		
LOCAL ROADS AND STREETS	Not Rated		
SHALLOW EXCAVATIONS	Not Rated		
ACTIVE PLAY AREAS	Not Rated		
PASSIVE PLAY AREAS	Not Rated		
EXCAVATED PONDS AQUIFER FED	Not Rated		
LAWN GRASSES AND ORNAMENTAL PLANTS	Not Rated		
IMPROVED PASTURES	Not Rated		
WOODLAND	Not Rated		
CITRUS	Not Rated		
SPECIALIZED ROW CROPS	Not Rated		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 10 Bluff sandy clay loam

SOIL NAME: The Bluff Series consists of very poorly drained, nearly level soils that formed in alkaline loamy marine sediments. They are on broad low terraces primarily in the central peninsular part of Florida. Typically, these soils have black sandy clay loam surface layers and sandy clay loam subsoils that are very dark gray and dark gray in the upper part and gray in the lower part. Slopes are 1 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-5 5-68	SCL SCL, SC	SC SC, CL, CH	A-6, A-7 A-6, A-7	0 0	100 100	95-100 95-100	85-95 85-95	36-50 36-55	35-50 35-55	20-35 20-40		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-5 5-68	0.2-0.6 .06-0.2	0.18-0.20 0.12-0.17	5.6-7.3 6.1-8.4	- -	Moderate High	High	Low	.37 .37	4	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Common	Long	Jun-Nov	0-1	Apparent	Jul-Dec	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; floods	Water control; mounding; control flood waters
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Wetness; floods	Water control; control flood waters
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Wetness; floods; shrink-swell	Water control--increase structural strength in foundation; control flood waters
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Wetness; floods; shrink-swell	Water control; increase structural strength in foundation; control flood waters
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Wetness; shrink-swell	Water control; control flood waters; remove and replace with suitable material
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; floods	Water control; special equipment; control flood waters
ACTIVE PLAY AREAS	Very Low (0)	Severe--Wetness; floods	Water control; construct aboveground walks
PASSIVE PLAY AREAS	Low (50)	Severe--Wetness; floods	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Medium (85)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (25)	Severe--Wetness; floods	Water control; control flood waters
IMPROVED PASTURES	Very Low (40)	Wetness; floods	Water control; good management; control flood waters
WOODLAND	High (86-95)	Severe--Equipment; seedling mortality	Water control; control flood waters; good management
CITRUS	Very Low (30)	Wetness; floods	Generally not suited
SPECIALIZED ROW CROPS	Very Low (30)	Wetness; floods	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 11 Bulow sand, 0 to 5 percent slopes

SOIL NAME: The Bulow Series consists of well drained sandy soils underlain by differentially weathered coquina rock. They formed in sandy marine sediments on low ridges near the Atlantic Coast in Florida. In a representative profile, they have a thin gray surface layer and a white sandy subsurface layer over reddish-yellow sand that grades to yellowish-red sandy clay loam at a depth of about 45 inches. Coquina rock starts at a depth of about 50 inches. Slopes range from 0 to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
					4	10	40	200			
0-5	S, COS	SP	A-3	0	100	100	70-95	1-4	-	NP	
5-20	S, COS	SP	A-3	0	100	100	70-95	1-4	-	NP	
20-45	S, COS	SP	A-3	0	100	100	70-95	1-4	-	NP	
45-50	SL, SCL	SC, SM-SC	A-2-4, A-2-6	0	100	100	70-95	13-35	20-40	4-15	
50	WB										

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-5	6.0-20	0.05-0.07	5.1-7.3	-	Low	Low		.17	3	2
5-20	6.0-20	0.02-0.05	5.1-7.3	-	Low			.17		
20-45	6.0-20	0.02-0.05	6.1-7.3	-	Low			.17		
45-50	2.0-6.0	0.10-0.15	6.1-7.3	-	Low			.28		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		42-60	Rippable	-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	High (95)	Severe--Depth to rock	None needed **
SANITARY LANDFILL (TRENCH)	Very Low (35)	Severe--Depth to rock; seepage; too sandy	Blasting; sealing and lining
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	Very High (87)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	Very High (100)	Severe--Cutbanks Cave-in	Shorings
ACTIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (10)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (45)	Low organic matter; low natural fertility; low available water holding capacity	Good management
WOODLAND	Medium (76-85)	Moderate--Seedling mortality	Good management
CITRUS	Low (55)	Low organic matter; low natural fertility; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (45)	Low organic matter; low natural fertility; low available water holding capacity	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

**Rock depth may vary and present a problem.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 12 Canaveral sand, 0 to 5 percent slopes

SOIL NAME: The Canaveral Series consists of somewhat poorly and moderately well drained deep sandy soils mixed with shell fragments. They have a very dark grayish-brown sand surface and dark grayish-brown subsurface layers over pale brown and very pale brown layers that have few to many shell fragments and extend to depths of 80 inches or more. These soils occur in coastal areas and have slopes of 0 to 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX		
					4	10	40	200				
0-9 9-80	S FS, S, COS	SP SP	A-3 A-3	0 0	100 70-100	100 70-95	90-100 65-90	1-4 1-3	- -	NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-9 9-80	>20 >20	0.02-0.05 0.02-0.05	6.6-8.4 6.6-8.4	- -	Very Low Very Low	Moderate	Low	.15 .15	5 5	2 2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			1 0-3.0	Apparent	Jun-Nov	-		>60		-		C

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (71)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (15)	Severe--Seepage; wetness; too sandy	Water control; surface stabilization; sealing or lining
DWELLINGS WITHOUT BASEMENTS	High (83)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	High (76)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Medium (80)	Moderate--Wetness	Water control
SHALLOW EXCAVATIONS	Medium (60)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Medium (65)	Severe--Too sandy; wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (85)	Severe--Too sandy; wetness	Water control; suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (50)	Moderate--Deep to water	Sealing or lining; add water during dry periods
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (45)	Low available water holding capacity; low natural fertility; low organic matter; wetness	Water control; good management
WOODLAND	Low (66-75)	Severe-- Equipment; seedling mortality	Good management
CITRUS	Medium (60)	Low natural fertility; low available water holding capacity; wetness, low organic matter	Water control; bedding; good management
SPECIALIZED ROW CROPS	Very Low (40)	Wetness; low organic matter; low natural fertility; low available water holding capacity	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 13 Cassia fine sand

SOIL NAME: The Cassia Series consists of nearly level, somewhat poorly drained soils that occur on low ridges slightly higher than surrounding flatwood areas. Typically, they have sand surface and subsurface layers less than 30 inches thick over weakly cemented sandy layers about 12 inches thick. Below this to depths of 80 inches or more are layers of sand. Slopes range from 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-28 28-36 36-80	FS S, FS, LS S, FS	SP, SP-SM SP-SM, SM SP, SP-SM	A-3 A-3, A-2-4 A-3	0 0 0	100 100 100	100 100 100	90-100 90-100 90-100	2-7 5-20 2-10	- - -	NP NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-28 28-36 36-80	6.0-20 0.6-6.0 6.0-20	0.03-0.07 0.10-0.15 0.03-0.07	4.5-6.0 4.5-6.0 4.5-6.0	- - -	Low Low Low	Moderate	High	.15 .20 .15	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			1.5-3.5	Apparent	Jul-Jan	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (71)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (15)	Severe--Wetness; seepage; too sandy	Water control; surface stabilization; sealing; lining
DWELLINGS WITHOUT BASEMENTS	High (83)	Moderate--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	High (79)	Moderate--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Medium (80)	Moderate--Wetness	Water control
SHALLOW EXCAVATIONS	Medium (60)	Severe--Wetness; Cutbanks Cave-in	Shoring; water control
ACTIVE PLAY AREAS	Medium (70)	Severe--Too sandy; wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (90)	Severe--Too sandy	Water control; suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Low (70)	Moderate--Deep to water	Sealing or lining; add water during dry periods
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Too sandy	Good management
IMPROVED PASTURES	Medium (60)	Low available water holding capacity; low organic matter; low natural fertility	Good management
WOODLAND	Low (66-75)	Moderate--Equipment; Severe--Seedling mortality	Good management
CITRUS	Medium (70)	Low available water holding capacity; low natural fertility; wetness; low organic matter	Bedding; good management
SPECIALIZED ROW CROPS	Very Low (45)	Low organic matter; low natural fertility; low available water holding capacity	Good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 14 Chobee fine sandy loam

SOIL NAME: The Chobee Series consists of very poorly drained soils that occur in small to large depressions, low nearly level areas or river flood plains. A representative profile has a black fine sandy loam surface layer about 7 inches thick and black to dark gray sandy clay loam subsoil that contains calcium carbonate nodules. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-6	FSL	SM, SM-SC	A-2-4	0	100	100	85-99	12-25	<40	NP-10	
6-54	SCL	SC	A-2-6, A-2-7, A-6, A-7	0	100	100	85-99	25-45	35-45	20-25	
54-64	LS, LFS, FSL	SM, SM-SC	A-2-4	0	100	100	80-99	12-25	<40	NP-10	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-6	2.0-6.0	0.10-0.15	6.1-7.3	-	Low	Moderate	Low	.24	5	3
6-54	0.6-2.0	0.12-0.17	7.4-8.4	-	Moderate			.32		
54-64	6.0-20	0.06-0.10	7.4-8.4	-	Low			.20		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Frequent	V. Long	Jun-Feb	0-1.0	Apparent	Jun-Feb	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (1)	Severe--Wetness; floods	Water control; mounding; control flood waters
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods; wetness	Water control; control flood waters
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Floods; wetness	Water control; control flood waters, fill area
LOW COMMERCIAL BUILDINGS	Very Low (16)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Floods; wetness	Water control; control flood waters
SHALLOW EXCAVATIONS	Medium (60)	Severe--Floods; wetness	Water control; control flood waters
ACTIVE PLAY AREAS	Very Low (10)	Severe--Floods; wetness	Generally not suited
PASSIVE PLAY AREAS	Very Low (40)	Severe--Wetness	Water control; construct aboveground walk
EXCAVATED PONDS AQUIFER FED	High (90)	Moderate--Slow refill	No practical practices available
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (40)	Severe--Floods; wetness	Water control; control flood waters
IMPROVED PASTURES	Very Low (40)	Wetness; floods	Control flood waters; water control; good management
WOODLAND	High (86-95)	Severe--Equipment; Moderate--Seedling mortality	Good management; water control; control flood waters
CITRUS	Very Low (20)	Wetness; floods	Generally not suited
SPECIALIZED ROW CROPS	Very Low (30)	Wetness; floods	Control flood waters; good management; water control

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 15 Cocoa sand, 0 to 5 percent slopes

SOIL NAME: The Cocoa Series consists of nearly level to sloping, well drained sandy soils. They have a dark brown surface layer about 6 inches thick and a strong brown subsurface layer to a depth of 20 inches. Between a depth of 20 and 30 inches it is yellowish-red and red. A red loamy sand subsoil occurs at a depth of 32 inches and is underlain by limestone at 38 inches. These soils occur on discontinuous narrow ridges near the coast. Slopes range from 0 to 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX		
					4	10	40	200				
0-26 26-30 30	S S, LS, LFS WB	SP, SP-SM, SM SP-SM, SM	A-3, A-2-4 A-2-4	0 0	100 100	100 100	70-90 80-90	4-15 10-25	<40 <40	NP-10 NP-10		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-26 26-30 30	6.0-20 6.0-20	0.02-0.05 0.05-0.10	5.6-7.8 5.6-7.8	- -	Very Low Very Low	Low Low	Low Low	.17 .17	3 3	2 2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		20-40	Hard	-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking) *	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Medium (85)	Severe--Depth to rock	Blasting
SANITARY LANDFILL (TRENCH)	Very Low (25)	Severe--Depth to rock; seepage; too sandy	Blasting; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Moderate--Depth to rock	Blasting
LOW COMMERCIAL BUILDINGS	Very High (87)	Moderate--Depth to rock	Blasting
LOCAL ROADS AND STREETS	Very High (100)	Moderate--Depth to rock	Blasting
SHALLOW EXCAVATIONS	High (85)	Severe--Depth to rock	Blasting
ACTIVE PLAY AREAS	High (85)	Moderate--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Moderate--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (0)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (70)	Moderate--Too sandy	Good management
IMPROVED PASTURES	Low (55)	Low available water holding capacity; low organic matter; low natural fertility	Good management
WOODLAND	Medium (76-85)	Moderate--Equipment; Moderate--Seedling mortality	Good management
CITRUS	Medium (65)	Low available water holding capacity; low organic matter; low natural fertility	Good management
SPECIALIZED ROW CROPS	Very Low (45)	Low organic matter; low available water holding capacity; low natural fertility	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 16 Cocoa-Urban land complex, 0 to 5 percent slopes

SOIL NAME: The Cocoa-Urban land complex is made up of long narrow sand ridges of nearly level to gently sloping Cocoa soils that are being used for urban development. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 15 and 71.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 17 Daytona sand, 0 to 5 percent slopes

SOIL NAME: The Daytona Series consists of moderately well drained sandy soils on low sandhills on the lower coastal plain. A representative profile has a gray fine sand surface layer, about 5 inches thick, and white subsurface, about 31 inches thick. Between a depth of 36 and 47 inches is dark brown to yellowish-brown sand. Below 47 inches is brownish-gray fine sand. These soils formed in marine or eolian sands. Slopes are 0 to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-36	S	SP, SP-SM	A-3	0	100	100	70-95	2-10	-	NP	
36-47	S, FS, COS	SP-SM	A-3, A-2-4	0	100	100	70-95	5-12	-	NP	
47-80	S, FS, COS	SP, SP-SM	A-3	0	100	100	70-95	4-10	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-36	>20	0.02-0.05	3.6-6.0	-	Very Low	Moderate	High	.17	5	1
36-47	2.0-6.0	0.10-0.15	3.6-6.0	-	Very Low			.20		
47-80	>20	0.02-0.05	3.6-6.0	-	Very Low			.17		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			3.5-5.0	Apparent	Jul-Nov	-		>60		-		B

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	High (95)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (35)	Severe--Seepage; wetness; too sandy	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	Very High (87)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	Medium (65)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (15)	Moderate--Deep to water	Sealing or lining; add water during dry periods
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (70)	Severe--Too sandy	Good management
IMPROVED PASTURES	Low (55)	Low organic matter; low natural fertility; low available water holding capacity	Good management
WOODLAND	Low (66-75)	Moderate--Equipment; Severe--Seedling mortality	Good management
CITRUS	High (75)	Low available water holding capacity; low natural fertility; low organic matter	Bedding; good management
SPECIALIZED ROW CROPS	Very Low (35)	Low natural fertility; low available water holding capacity; low organic matter	Good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 18 Daytona-Urban land complex, 0 to 5 percent slopes

SOIL NAME: The Daytona-Urban land complex is made up of tracts of nearly level to gently sloping Daytona soils that are being used for urban development. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 17 and 71.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 19 DeLand fine sand, 0 to 5 percent slopes

SOIL NAME: The DeLand Series consists of well drained sandy soils that formed in sandy sediments of marine or folian origin. They occur on low sand hills of the lower coastal plain in central peninsular Florida. In a representative profile, they have a thin dark gray surface layer and thick grayish subsurface layers that extend to depths of 55 inches. Below this are layers of dark brown and black fine sand. Slopes range from 0 to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS- TICITY INDEX	
					4	10	40	200			
0-4	FS	SP, SP-SM	A-3	0	100	100	80-99	2-7	-	NP	
4-55	S, FS	SP, SP-SM	A-3	0	100	100	80-99	2-7	-	NP	
55-67	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	80-99	5-15	-	NP	
67-94	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	80-99	5-20	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-4	>20	0.02-0.05	4.5-6.5	-	Low	Low	High	.15	5	2
4-55	>20	0.02-0.05	4.5-6.5	-	Low			.20		
55-67	2.0-6.0	0.10-0.15	4.5-6.0	-	Low			.20		
67-94	0.6-2.0	0.10-0.15	3.6-5.5	-	Low			.20		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very High (100)	Slight	None needed
SANITARY LANDFILL (TRENCH)	Medium (65)	Severe--Seepage; Too sandy	Sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	Very High (87)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	High (75)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	High (80)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (0)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (75)	Severe--Too sandy	Good management
IMPROVED PASTURES	Medium (60)	Low available water holding capacity; low natural fertility; low organic matter	Good management
WOODLAND	Low (66-75)	Moderate--Equipment; Moderate--Seedling mortality	Good management
CITRUS	High (75)	Low natural fertility; low organic matter; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (35)	Low available water holding capacity; low organic matter; low natural fertility	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 20 EauGallie fine sand

SOIL NAME: The EauGallie Series consists of nearly level, poorly-drained soils that occur on low ridges and in depressions in flatwoods areas. A representative profile has black and very dark gray fine sand and surface layers, about 7 inches thick. They overlie gray fine sand subsurface layers that extend to below a depth of 30 inches. Black and dark reddish-brown, weakly-cemented, fine sand layers occur next. Below a depth of 40 inches are gray and grayish-brown loamy layers. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-21	FS	SP, SP-SM	A-3	0	100	100	80-98	2-5	-	NP	
21-35	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	80-98	5-20	-	NP	
35-52	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	80-98	2-12	-	NP	
52-61	SL, FSL, SCL	SM, SM-SC, SC	A-2-4, A-2-6	0	100	100	80-98	20-35	<40	NP-20	
61-65	S, LS, LFS	SP-SM, SM	A-3, A-2-4	0	100	100	80-98	5-25	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-21	6.0-20	0.02-0.05	4.5-5.5		Low	High	Moderate	.17	5	2
21-35	0.6-6.0	0.05-0.10	5.1-6.5		Low	High	Moderate	.20		
35-52	6.0-20	0.02-0.05	5.6-7.8		Low	High	Moderate	.17		
52-61	0.6-6.0	0.10-0.15	5.6-7.8		Low	High	Moderate	.32		
61-65	2.0-6.0	0.05-0.10	5.6-7.8		Low	High	Moderate	.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Feb	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Wetness; seepage	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (70)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness	Water control; good management
IMPROVED PASTURES	Medium (65)	Wetness; low organic matter; low natural fertility	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Seedling mortality; equipment	Good management; water control
CITRUS	Very Low (40)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Low (55)	Wetness; low organic matter; low natural fertility	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 21 EauGallie fine sand, depression¹

SOIL NAME: The EauGallie Fine Sand Depressional Series consists of nearly level, poorly-drained soils that occur on low ridges and in depressions in flatwoods areas. A representative profile has black and very dark gray fine sand surface layers about 7 inches thick. They overlie gray fine sand subsurface layers that extend to below a depth of 30 inches. Black and dark reddish-brown weakly-cemented, fine sand layers occur next. Below a depth of 40 inches are gray and grayish-brown loamy layers. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-23	FS	SP, SP-SM	A-3	0	100	100	80-98	2-5	-	NP	
23-35	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	80-98	5-20	-	NP	
35-43	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	80-98	2-12	-	NP	
43-67	SL, FSL, SCL	SM, SM-SC, SC	A-2-4, A-2-6	0	100	100	80-98	20-35	<40	NP-20	
67-84	S, LS, LFS	SP-SM, SM	A-3, A-2-4	0	100	100	80-98	5-25	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-23	6.0-20	0.02-0.05	4.5-5.5		Low	High	Moderate	.17	5	2
23-35	0.6-6.0	0.05-0.10	5.1-6.5		Low	High	Moderate	.20		
35-43	6.0-20	0.02-0.05	5.6-7.8		Low	High	Moderate	.17		
43-67	0.6-6.0	0.10-0.15	5.6-7.8		Low	High	Moderate	.32		
61-84	2.0-6.0	0.05-0.10	5.6-7.8		Low	High	Moderate	.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+1-1.0	Apparent	Jun-Sep	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (5)	Severe--Wetness; ponds	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Ponds; wetness; seepage	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Ponds; wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (30)	Severe--Ponds; wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Ponds; wetness	Water control
SHALLOW EXCAVATIONS	Low (45)	Severe--Wetness; ponds; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Very Low (15)	Severe--Wetness; ponds	Water control; construct aboveground walks
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; ponds	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (35)	Severe--Wetness; ponds	Good management; water control
IMPROVED PASTURES	Very Low (30)	Low organic matter; low natural fertility; wetness	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Good management; water control
CITRUS	Very Low (10)	Severe--Wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Low organic matter; low natural fertility; wetness	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 22 Electra fine sand, 0 to 5 percent slopes

SOIL NAME: The Electra Series consists of somewhat poorly drained, nearly level soils that occur on slight ridges in the flatwoods areas of the lower coastal plain of Florida. Typically, these soils have a thin gray surface horizon and light gray or white subsurface layer to a depth of 47 inches, black or dark reddish-brown weakly cemented layers between depths of 47 to 60 inches, and below this to 80 inches or deeper grayish mottled loamy subsoil layers. Slopes are 0 to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-35	FS	SP, SP-SM	A-3	0	100	95-100	75-99	3-10	-	NP	
35-52	S, FS	SP, SP-SM	A-3	0	100	95-100	75-99	3-10	-	NP	
52-57	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	80-99	8-15	-	NP	
57-70	S, FS	SP-SM	A-3, A-2-4	0	100	100	80-99	5-12	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-35	6.0-20	0.05-0.10	3.6-5.5	-	Very Low	Low	High	.15	5	2
35-52	6.0-20	0.02-0.07	3.6-5.5	-	Very Low			.15		
52-57	0.6-2.0	0.10-0.15	3.6-5.5	-	Very Low			.20		
57-70	6.0-20	0.07-0.10	3.6-5.5	-				.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			2.0-3.5	Apparent	Jul-Oct	-		>60		-		C

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (62)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (25)	Severe--Wetness; too sandy; seepage	Water control, surface stabilization, sealing or lining
DWELLINGS WITHOUT BASEMENTS	High (83)	Slight	None needed
LOW COMMERCIAL BUILDINGS	High (76)	Slight	None needed
LOCAL ROADS AND STREETS	Medium (80)	Moderate--Wetness	Water control
SHALLOW EXCAVATIONS	Medium (65)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	High (80)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (40)	Moderate--Deep to water	Sealing or lining; add water during dry period
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (70)	Severe--Too sandy	Good management
IMPROVED PASTURES	Medium (65)	Low available water holding capacity; low organic matter; low natural fertility	Good management
WOODLAND	Low (66-75)	Moderate--Equipment; Severe--Seedling mortality	Good management
CITRUS	Medium (70)	Low natural fertility; low organic matter; low available water holding capacity	Good management; bedding
SPECIALIZED ROW CROPS	Low (50)	Low organic matter; low natural fertility; low available water holding capacity	Good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 23 Farmton fine sand

SOIL NAME: The Farmton Series are nearly level, poorly drained soils that occur in flatwoods in central and southern Florida. These soils formed in sandy and loamy marine sediments. Typically, they have sandy surface and subsurface layers more than 30 inches thick, over black to dark reddish-brown noncemented sandy layers. Below these are grayish-brown loamy layers. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-7	FS	SP, SP-SM	A-3	0	100	100	80-99	2-7	-	NP	
7-34	FS, S	SP, SP-SM	A-3	0	100	100	80-99	2-7	-	NP	
34-50	FS, S	SP-SM, SM	A-3, A-2-4	0	100	100	80-99	5-15	-	NP	
50-80	FSL, SL, SCL	SM, SM-SC, SC	A-2-4	0	100	100	80-99	15-35	<35	NP-10	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-7	6.0-20	0.08-0.12	3.6-5.5	-	Low	High	High	.20	5	2
7-34	6.0-20	0.02-0.07	3.6-5.5	-	Low			.20		
34-50	0.6-2.0	0.10-0.15	3.6-5.5	-	Low			.20		
50-80	0.6-2.0	0.12-0.17	3.6-5.5	-	Low			.24		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Oct	-		>60		-		D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (30)	Severe--Seepage; wetness; too sandy	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Low (55)	Severe--Too sandy; wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Too sandy; wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Medium (85)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	High (80)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	High (75)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment	Good management
CITRUS	Very Low (40)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness; low organic matter; low natural fertility	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 24 Fluvaquents

SOIL NAME: The Typical Fluvaquents Series are nearly level, poorly drained soils subject to flooding. They formed in stratified alluvium on stream floodplains in the low coastal plain. A typical profile consists of thin layers of sandy, loamy, and clayey materials that are mottled and streaked with brown, yellow, and gray mottles. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	SR, S, SCL	SM-SC, SM, SC	A-2-4	0	100	100	80-90	15-35	<30	NP-10		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	2.0-6.0	0.05-0.15	5.1-6.5	-	Low	High	Moderate	.24	5	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Common	Long	Jun-Oct	+1-1.0	Apparent	Jun-Nov	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (5)	Severe--Floods; wetness	Water control; mounding; control flood waters
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods; wetness	Water control; control flood waters
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOW COMMERCIAL BUILDINGS	Very Low (25)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Floods; wetness	Water control; control flood waters
SHALLOW EXCAVATIONS	Medium (60)	Severe--Floods; wetness	Water control; control flood waters
ACTIVE PLAY AREAS	Very Low (0)	Severe--Floods; wetness	Generally not suited
PASSIVE PLAY AREAS	Low (50)	Severe--Floods; wetness	Water control; control flood waters; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (20)	Severe--Floods; wetness	Water control; control flood waters
IMPROVED PASTURES	Very Low (30)	Floods; wetness	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Water control; flood control; good management
CITRUS	Very Low (0)	Floods; wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Floods; wetness	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 25 Gator muck

SOIL NAME: The Gator Series are nearly level, very poorly drained, moderately deep muck soils that occur in swampy areas and wet flood plains in the low coastal plains. They formed in hydrophytic plant remains. Typically, they have black muck, about 34 inches thick, over very dark gray sandy clay loam, about 11 inches thick. Between depths of 46 to 52 inches is dark grayish-brown stratified loamy fine sand, fine sandy loam, and fine sand. Below this to depths of 58 inches is light gray fine sand. Slopes are less than 1 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-34	Muck	PT	A-8	0	100	100	85-99	20-40	20-40	4-15	
34-46	SCL, SL, FSL	SC, SM-SC	A-2, A-4, A-6	0	100	100	80-99	13-20	-	NP	
46-52	SR-LFS-FSL	SM	A-2-4	0	100	100	80-99	5-12	-	NP	
52-58	FS, S	SP-SM	A-3, A-2-4	0	100	100	80-99	5-12	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-34	6.0-20	0.30-0.40	4.5-6.0	>16	Low	High	High	-	-	-
34-46	0.6-2.0	0.10-0.15	6.1-8.4	2-8	Low			.32		
46-52	0.6-2.0	0.10-0.15	6.1-8.4	2-4	Low			.24		
52-58	6.0-20	0.03-0.05	6.1-8.4	2-4	Low			.15		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Frequent	V. Long	Jun-Apr	+1-0	Apparent	Jun-Mar	-		>60		2-6	20-28	D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Floods; wetness	Control flood waters; water control; mounding; remove and replace with suitable material
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods, wetness; excess humus	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Floods; wetness; low strength	Control flood waters; water control; remove and replace with suitable material; increase structure strength in foundation
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Floods; wetness; low strength	Control flood waters; water control; remove and replace with suitable material; increase structure strength in foundation
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Low strength; wetness; floods	Control flood waters; water control; remove and replace with suitable material
SHALLOW EXCAVATIONS	Very Low (40)	Severe--Cutbanks Cave-in; excess humus; wetness	Shoring; control flood waters; special equipment
ACTIVE PLAY AREAS	Very Low (0)	Severe--Excess humus; wetness; floods	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Wetness; excess humus	Construct aboveground walks; control flood waters; water control
EXCAVATED PONDS AQUIFER FED	High (90)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Wetness; floods; excess humus	Control flood waters; water control
IMPROVED PASTURES	Medium (60)	Wetness; floods	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Water control; flood control; good management
CITRUS	Very Low (20)	Wetness; floods	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness; floods	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 26 Holopaw sand

SOIL NAME: The Holopaw Series consists of poorly drained nearly level soils in south and central Florida. In a representative profile the surface layer is very dark gray and dark gray sand about 7 inches thick. The subsurface extends to depths of 45 inches. It is grayish-brown sand in the upper 11 inches, coarsely mottled gray and grayish-brown sand in the next 10 inches, and gray sand in the next 10 inches. The subsoil is between depths of 45 to 62 inches and is gray sandy loam underlain by gray loamy sand. Slopes range from 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX		
					4	10	40	200				
0-55 55-63 63-70	S SL, SCL LS	SP, SP-SM SM, SM-SC SM	A-3 A-2-4 A-2-4	0 0 0	100 100 100	95-100 95-100 95-100	70-95 70-99 70-99	2-10 15-30 13-20	- <25 -	NP NP-7 NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-55 55-63 63-70	6.0-20 2.0-6.0 6.0-20	0.03-0.07 0.10-0.15 0.05-0.10	5.1-7.3 6.1-8.4 6.6-8.4	- - -	Very Low Low Very Low	High	Moderate	0.15 0.20 0.17	5	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1	Apparent	Jun-Nov	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Wetness; seepage	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (70)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Medium (80)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Medium (70)	Severe--Wetness; too sandy	Water control, Suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness; low organic matter; low natural fertility	Water control; good management
WOODLAND	Medium (76-85)	Severe--Seedling mortality; Moderate--Equipment	Water control; good management
CITRUS	Very Low (45)	Wetness; low organic matter; low natural fertility	Generally not suited
SPECIALIZED ROW CROPS	High (70)	Wetness; low organic matter; low natural fertility	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 27 Hontoon mucky peat

SOIL NAME: The Hontoon Series consists of nearly level very poorly drained organic soils. They occur in fresh water swamps and marshes. In a representative profile the surface layer is dark reddish-brown partially decomposed organic matter. The subsurface layers are black and dark reddish-brown well decomposed organic matter about 55 inches thick. The substratum is black mucky sand to below a depth of 65 inches. These soils formed in hydrophytic plant remains. Slope gradients are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-60 60-65	Muck MK-S, S	PT SP, SP-SM	A-3	0 0	100	100	80-95	2-8	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-60 60-65	6.0-20 6.0-20	0.20-0.25 0.15-0.20	4.5-5.5 4.5-5.5	- -	Low Low	High	High	- -	- -	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jan-Dec	-		>60		4-8	>52	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds	Generally not suited
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Wetness; excess humus; ponds	General not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Excess humus; low strength; ponds	Remove and replace with suitable material; water control
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Excess humus; ponds; low strength	Remove and replace with suitable material; water control
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Excess humus; low strength; ponds	Remove and replace with suitable material; water control
SHALLOW EXCAVATIONS	Very Low (15)	Severe--Excess humus; wetness; ponds	Special Equipment; water control; shoring
ACTIVE PLAY AREAS	Very Low (0)	Severe--Excess humus; ponds	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Excess humus; ponds	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	High (90)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Ponds; excess humus	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness; excess humus	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (20)	Wetness; excess humus	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness; excess humus	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 28 Hydraquents

SOIL NAME: The Hydraquents Series consist of silty, clayey, or loamy tidal deposits in mangrove islands or swamps in tidal basins and estuaries along the Atlantic Coast. Soils in the mangrove swamps typically vary within short distances. Texture of the soil layers is clayey, silty or loamy with few pockets of sandy material. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	SIC, C	MH, CH	A-7	0	100	100	90-100	70-95	41-70	15-40		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	<0.06	0.15-0.20	7.9-8.4	-	High	High	Low	.37	5	4		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Frequent	V. Long	Jan-Dec	+2-1.0	Apparent	Jan-Dec	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking) *	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Floods; wetness	Control flood waters; water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods; wetness	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Floods; wetness	Control flood waters; water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Floods; wetness	Control flood waters; water control; fill area
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Floods; wetness	Control flood waters; water control
SHALLOW EXCAVATIONS	Very Low (25)	Severe--Floods; wetness	Special equipment; control flood waters; water control
ACTIVE PLAY AREAS	Very Low (0)	Severe--Wetness; floods	Generally not suited
PASSIVE PLAY AREAS	Very Low (40)	Severe--Wetness; floods	Control flood waters; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Low (80)	Slight	Special equipment
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (25)	Severe--Floods	Control flood waters; water control
IMPROVED PASTURES	Very Low (25)	Floods; wetness	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Seedling mortality; equipment	Generally not suited
CITRUS	Very Low (10)	Floods; wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Floods; wetness	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 29 Immokalee sand

SOIL NAME: The Immokalee Series consists of poorly drained sandy soils with a weakly cemented BH horizon below a depth of 30 inches. They occur on the lower Atlantic and Gulf coastal flatwoods and formed in sandy marine sediments. In a representative profile the surface layer is very dark gray fine sand 6 inches thick. Next is 6 inches of light gray fine sand and then 23 inches of white fine sand. Between 35 and 54 inches is weakly cemented black and dark reddish-brown fine sand. Brown fine sand extends to below 80 inches. Slope gradients are 0 to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
					4	10	40	200			
0-10	S	SP, SP-SM	A-3	0	100	100	70-100	2-10	-	NP	
10-34	FS, S	SP, SP-SM	A-3	0	100	100	70-100	2-10	-	NP	
34-43	FS, S	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	5-21	-	NP	
43-85	FS, S	SP, SP-SM	A-3	0	100	100	70-100	2-10	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-10	6.0-20	0.05-0.08	4.5-6.0	-	Low	High	High	.15	5	2
10-34	6.0-20	0.02-0.05	4.5-6.0	-	Low			.15		
34-43	0.6-2.0	0.10-0.15	4.5-6.0	-	Low			.20		
43-85	6.0-20	0.02-0.05	4.5-6.0	-	Low			.15		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Feb	-		>60		-		A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Seepage; too sandy; wetness	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Low (62)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Shorings; water control
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (50)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	Low (50)	Low available water holding capacity; low natural fertility; low organic matter content; wetness	Water control; good management
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Good management; water control
CITRUS	Very Low (20)	Low natural fertility; wetness; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Low organic matter; low natural fertility; wetness	Good management; water control

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 30 Immokalee sand, depressional

SOIL NAME: The Immokalee Depressional Series consists of poorly drained sandy soils with a weakly cemented BH horizon below a depth of 30 inches. They occur on the lower Atlantic and Gulf coastal flatwoods and formed in sandy marine sediments. In a representative profile the surface layer is very dark gray fine sand 6 inches thick. Next is 6 inches of light gray fine sand and then 23 inches of white fine sand. Between 35 and 54 inches is weakly cemented black and dark reddish-brown fine sand. Brown fine sand extends to below 80 inches. Slope gradients are 0 to 5 percent.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX
					4	10	40	200		
0-8	S	SP, SP-SM	A-3	0						
10-36	FS, S	SP, SP-SM	A-3	0	100	100	70-100	2-10	-	NP
36-50	FS, S	SP-SM, SM	A-3, A-2-4	0	100	100	70-100	2-10	-	NP
50-80	FS, S	SP, SP-SM	A-3	0	100	100	70-100	5-21	-	NP
				0	100	100	70-100	2-10	-	NP

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-8	6.0-20	0.05-0.08	4.5-6.0	-	Low	High	High	.15	5	2
10-36	6.0-20	0.02-0.05	4.5-6.0	-	Low			.15		
36-50	0.6-2.0	0.10-0.15	4.5-6.0	-	Low			.20		
50-80	6.0-20	0.02-0.05	4.5-6.0	-	Low			.15		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2.0-1.0	Apparent	Jun-Sep	0-10		>60		-		A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking) *	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (5)	Severe--Ponds; wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Ponds; seepage; wetness	Water control; sealing and lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Ponds; wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (22)	Severe--Ponds; wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (40)	Severe--Wetness; ponds	Water control
SHALLOW EXCAVATIONS	Low (45)	Severe--Cutbanks Cave-in; wetness; ponds	Shoring; water control
ACTIVE PLAY AREAS	Very Low (10)	Severe--Wetness; too sandy; ponds	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	Low (50)	Severe--Wetness; too sandy; ponds	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (20)	Severe--Wetness; too sandy; ponds	Good management; water control
IMPROVED PASTURES	Very Low (25)	Wetness; low natural fertility; low available water holding capacity; low organic matter	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (10)	Wetness; low natural fertility	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Wetness; low natural fertility; low organic matter; low available water holding capacity	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 31 Malabar fine sand

SOIL NAME: The Malabar Series consists of nearly level, poorly drained soils that occur in broad, poorly defined sloughs, depressions, and low broad flats in the flatwoods. In a representative profile the surface layer is dark grayish-brown and about 5 inches thick. The soil is sand to depths of about 45 inches. Between depths of 14 to 35 inches sand grains are coated with iron. The subsoil is between depths of 45 to 61 inches and is gray; the upper 9 inches is sandy clay loam and the lower 7 inches is sandy loam. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-15	FS	SP, SP-SM	A-3	0	100	100	80-90	2-10	-	NP		
15-32	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	80-90	3-12	-	NP		
32-42	S, FS	SP, SP-SM	A-3	0	100	100	80-90	2-10	-	NP		
42-80	SCL, FSL, SL	SC, SM-SC	A-2, A-4, A-6	0	100	100	80-90	22-40	20-40	4-15		

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-15	6.0-20	0.03-0.08	5.6-8.4	-	Low	High	Low	.20	5	-
15-32	6.0-20	0.05-0.10	5.6-8.4	-	Low			.20		
32-42	6.0-20	0.02-0.05	5.6-8.4	-	Low			.20		
42-80	0.6-2.0	0.10-0.15	5.6-8.4	-	Low			.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Sep	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (30)	Severe--Wetness; seepage; too sandy	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Water Control; shoring
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment; Severe--Seedling mortality	Good management; water control
CITRUS	Very Low (40)	Wetness; low organic matter; low natural fertility	Generally not suited
SPLCIALIZED ROW CROPS	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 32 Myakka fine sand

SOIL NAME: The Myakka Series consists of poorly drained sandy soils that have a weakly cemented BH horizon within 30 inches of the surface. They are on Lower Atlantic and Gulf coastal flatwoods and formed in sandy marine sediments. In a representative profile the surface layer is black sand about 6 inches thick. Below this is 14 inches of white sand. Between 20 and 56 inches is black weakly cemented sand that becomes reddish-brown and dark brown and friable with depth. Below 56 inches is dark grayish-brown sand to a depth more than 80 inches. Slopes range from 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-27	FS	SP, AP-SM	A-3	0	100	100	85-100	2-10	-	NP		
27-43	S, FS, LFS	SM, SP-SM	A-3, A-2-4	0	100	100	85-100	5-20	-	NP		
43-78	S, FS	SP, SP-SM	A-3	0	100	100	85-100	2-8	-	NP		

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-27	6.0-20	0.02-0.05	3.6-6.5	-	Low	High	High	.20	5	2
27-43	0.6-6.0	0.10-0.15	3.6-6.5	-	Low			.20		
43-78	6.0-20	0.02-0.05	3.6-6.5	-	Low			.17		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Feb	-		>60		-		A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Too sandy; wetness	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Low (66-75)	Severe--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (40)	Wetness; low organic matter; low natural fertility	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 33 Myakka fine sand, depressional

SOIL NAME: The Myakka Depressional Series consists of poorly drained sandy soils that have a weakly cemented BH horizon within 30 inches of the surface. They are on Tower Atlantic and Gulf coastal flatwoods and formed in sandy marine sediments. In a representative profile the surface layer is black sand about 6 inches thick. Below this is 14 inches of white sand. Between 20 and 56 inches is black weakly cemented sand that becomes reddish-brown and dark brown and friable with depth. Below 56 inches is dark grayish-brown sand to a depth more than 80 inches. Slopes range from 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-25 25-39 39-80	FS S, FS, LFS S, FS	SP, SP-SM SM, SP-SM SP, SP-SM	A-3 A-3, A-2-4 A-3	0 0 0	100 100 100	100 100 100	85-100 85-100 85-100	2-10 5-20 2-8	- - -	NP NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-25 25-39 39-80	6.0-20 0.6-6.0 6.0-20	0.02-0.05 0.10-0.15 0.02-0.05	3.6-6.5 3.6-6.5 3.6-6.5	- - -	Low Low Low	High	High	.20 .20 .17	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAV		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jun-Sep	-		>60		-		A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (5)	Severe--Wetness; ponds	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Too sandy; wetness; ponds	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (25)	Severe--Wetness; ponds	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Wetness; ponds	Water control
SHALLOW EXCAVATIONS	Low (45)	Severe--Wetness; ponds; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Very Low (15)	Severe--Wetness; ponds; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; ponds; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (35)	Severe--Wetness; ponds; too sandy	Water control; good management
IMPROVED PASTURES	Very Low (25)	Wetness; low organic matter; low natural fertility	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (10)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Very Low (25)	Wetness; low natural fertility; low organic matter	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 34 Myakka-St. Johns complex

SOIL NAME: The Myakka-St. Johns complex consists of nearly level, poorly drained Myakka and St. Johns soils that are so intermixed that they could not be separated. These soils occur in low areas and in depressions in the flatwoods. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 32 and 61.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX			
					4	10	40	200					
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP			
						STEEL	CONCRETE	K	T				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 35 Myakka-Urban land complex

SOIL NAME: The Myakka-Urban land complex consists of nearly level Myakka soils that are being used for urban development. For estimated soil properties not shown see individual soils of this complex, i.e. maps symbols 32 and 71.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 36 Myakka Variant fine sand

SOIL NAME: The Myakka Variant Series consists of nearly level, poorly drained sandy soils that occur in hammocks near the Atlantic coast in Volusia County. Typically the surface layer is dark gray sand about 7 inches thick and the subsurface light gray sand about 21 inches thick. The subsoil is between depths of 28 to 45 inches; the upper 12 inches is black sand with many sand grains coated with colloidal organic matter and the lower 5 inches dark brown sand. Below this are layers of shell and sand. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-7	FS	SP, SP-SM	A-3	0	100	100	85-100	2-10	-	NP	
7-28	S, FS	SP, SP-SM	A-3	0	100	100	85-100	2-10	-	NP	
28-40	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-15	-	NP	
40-45	S, FS	SP-SM	A-3, A-2-4	0	100	100	85-100	5-12	-	NP	
45-80	S, FS	GP-GM, SP-SM	A-1-b, A-3, A-1-A	0	40-80	30-70	20-60	5-10	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-7	6.0-20	0.05-0.10	4.5-6.0	-	Low	High	High	.20	5	2
7-28	6.0-20	0.02-0.05	4.5-6.0	-	Low			.20		
28-40	0.6-2.0	0.10-0.15	4.5-6.0	-	Low			.20		
40-45	2.0-6.0	0.05-0.10	6.1-7.3	-	Low			.17		
45-80	6.0-20	0.02-0.05	6.6-8.4	-	Low			.17		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1	Apparent	Jul-Oct	-		>60		-		D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Too sandy; wetness; seepage	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Medium (85)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (75)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	High (70)	Wetness; low natural fertility; low organic matter	Good management; water control
WOODLAND	Very Low (0-65)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (40)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	High (70)	Low organic matter; low natural fertility; wetness	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 37 Orsino fine sand, 0 to 5 percent slopes

SOIL NAME: The Orsino Series consists of deep, moderately well-drained sandy soils on nearly level to gently sloping, low, flat ridges. They have formed in sandy marine or aeolian sediments. In a representative profile, the surface layer is dark gray or gray fine sand, about 7 inches thick. The subsurface layer is light gray fine sand, about 15 inches thick. Beneath the subsurface layer, to a depth of 80 inches or more, is yellowish-brown or brownish-yellow sand. Slope gradients range from 0 to 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-30 30-80	S, FS S, FS	SP SP, SP-SM	A-3 A-3	0 0	100 100	100 100	85-95 85-95	1-3 2-7	- -	NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-30 30-80	>20 >20	0.02-0.08 0.02-0.08	4.5-6.0 4.5-6.0	- -	Very Low Very Low	Low	Moderate	.17 .17	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			3.5-5.0	Apparent	Jun-Dec	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	High (95)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (25)	Severe--Too sandy; seepage; wetness	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	Very High (87)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	Medium (65)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (5)	Moderate--Deep to water	Sealing or lining; add water during dry periods
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (40)	Low organic matter; low natural fertility; low available water holding capacity	Good management
WOODLAND	Low (66-75)	Moderate--Equipment; Severe--Seedling mortality	Good management
CITRUS	Medium (65)	Low available water holding capacity; low organic matter; low natural fertility	Bedding; good management
SPECIALIZED ROW CROPS	Very Low (35)	Low organic matter; low natural fertility; low available water holding capacity	Good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 38 Paisley fine sand

SOIL NAME: The Paisley Series consists of poorly drained, nearly level soils that occur in low broad coastal plain areas primarily in the central part of Florida. Typically, these soils have very dark gray surface horizons about 5 inches thick. Dark gray or gray clayey subsoils mottled with shades of yellow or brown to depths of 69 inches. Below this is mottled gray and yellowish-brown clayey material. Slopes are less than 1 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-13 13-70	FS SC, C	SP-SM CH, CL	A-3, A-2-4 A-7	0 0	100 95-100	100 90-100	80-99 75-95	5-12 51-70	- 41-51	NP 25-35		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-13 13-70	6.0-20 0.06-0.2	0.05-0.08 0.15-0.18	4.5-6.5 5.6-8.4	- -	Low High	High	Moderate	.24 .32	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Rare			0-1.0	Apparent	Jun-Nov	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (37)	Severe--Percolate slowly; wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (30)	Severe--Wetness; clayey	Water control
DWELLINGS WITHOUT BASEMENTS	Very Low (25)	Severe--Wetness; shrink-swell	Water control; remove and replace with suitable material; increase structural strength in foundations
LOW COMMERCIAL BUILDINGS	Very Low (15)	Severe--Wetness; shrink-swell	Water control; remove and replace with suitable material; increase structural strength in foundations
LOCAL ROADS AND STREETS	Very Low (5)	Severe--Wetness; shrink-swell; low strength	Water control; remove and replace with suitable material
SHALLOW EXCAVATIONS	Medium (65)	Severe--Clayey; wetness	Water control; special equipment
ACTIVE PLAY AREAS	Low (50)	Severe--Too sandy; wetness	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Too sandy; wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Medium (85)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Too sandy; wetness	Good management; water control
IMPROVED PASTURES	Medium (65)	Wetness; low organic matter; low natural fertility	Water control; good management
WOODLAND	Very High (96-100)	Severe--Seedling mortality; equipment	Good management; water control
CITRUS	Very Low (45)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Medium (65)	Low organic matter; low natural fertility; wetness	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 39 Palm Beach sand, 2 to 8 percent slopes

SOIL NAME: The Palm Beach Series consists of nearly level to sloping, well to excessively drained soils on long narrow ridges parallel to the coast. They formed in thick beds of mixed sand and shell marine deposits. In a representative profile the surface layer is dark grayish-brown sand and shell fragments about 6 inches thick. Below this are layers of grayish-brown and reddish-yellow sand and shell fragments that extend to depths of 80 inches or more. Slopes are dominantly 2 to 8 percent but range to 17 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX		
					4	10	40	200				
0-80	S	SP, SW	A-3	0	100	75-95	15-90	1-5	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	>20	0.02-0.05	7.4-8.4	-	Low	Low	Low	.15	5	1		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very High (100)	Slight	None Needed
SANITARY LANDFILL (TRENCH)	Low (50)	Severe--Seepage	Sealing or lining
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	High (76)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	High (70)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (0)	Severe--No water	No practical practices available
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Too sandy; salt spray	Good management; salt tolerant plants
IMPROVED PASTURES	Very Low (40)	Low natural fertility; low organic matter; salt spray	Generally not suited
WOODLAND	Very Low (0-65)	Salt Spray	Generally not suited
CITRUS	Medium (60)	Low natural fertility; low organic matter; salt spray	Generally not suited
SPECIALIZED ROW CROPS	Very Low (30)	Low organic matter; low natural fertility; salt spray	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 40 Palm Beach-Urban land-Paola complex, 0 to 8 percent slopes

SOIL NAME: The Palm Beach-Urban land-Paola complex consists of Pam Beach and Paola soils and areas of these soils that are being altered for buildings or covered by streets and buildings. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 39, 42, and 71.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 41 Palm Beach-Paola association, 0 to 8 percent slopes

SOIL NAME: The Palm Beach-Paola association is made up of well to excessively drained sandy soils on sand dunes bordering the beaches along the Atlantic Ocean. For estimated soil properties not shown see individual soils of this association, i.e. map symbols 39 and 42.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX			
					4	10	40	200					
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP			
						STEEL	CONCRETE	K	T				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 42 Paola fine sand, 0 to 8 percent slopes

SOIL NAME: The Paola Series consists of excessively drained deep sandy soils that occur on nearly level to moderately steep uplands. In a representative profile the surface layer is dark gray sand 3 inches thick. The subsurface layer is light gray sand 22 inches thick. It is underlain by yellowish-brown and light yellowish-brown sand to 80 inches or more deep. They are formed in thick deposits of marine sand. Slope gradients are dominantly 0 to 8 percent but range from 0 to 20 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-26 26-85	FS S, FS	SP SP	A-3 A-3	0 0	100 100	100 100	85-100 85-100	1-2 1-4	- -	NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-26 26-85	>20 >20	0.02-0.05 0.02-0.05	4.5-5.0 4.5-5.0	- -	Very Low Very Low	Low	High	.15 .15	5	1		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very High (100)	Slight	None needed
SANITARY LANDFILL (TRENCH)	Low (50)	Severe--Seepage; too sandy	Sealing; lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	High (76)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	High (70)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (0)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (35)	Low available water holding capacity; low natural fertility; low organic matter	Good management
WOODLAND	Very Low (0-65)	Severe--Seedling mortality; Moderate--Equipment	Good management
CITRUS	Medium (60)	Low organic matter; low natural fertility; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (30)	Low organic matter; low natural fertility; low available water holding capacity	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 43 Paola fine sand, 8 to 17 percent slopes

SOIL NAME: The Paola Series consists of excessively drained deep sandy soils that occur on nearly level to moderately steep uplands. In a representative profile the surface layer is dark gray sand 3 inches thick. The subsurface layer is light gray sand 22 inches thick. It is underlain by yellowish-brown and light yellowish-brown sand to 80 inches or more deep. They formed in thick deposits of marine sand. Slope gradients are dominantly 8 to 17 percent but range from 0 to 20 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-30 30-80	FS S, FS	SP SP	A-3 A-3	0 0	100 100	100 100	85-100 80-100	1-2 1-4	- -	NP NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-30 30-80	>20 >20	0.02-0.05 0.02-0.05	4.5-5.0 4.5-5.0		Very Low Very Low	Low	High	.15 .15	5	1

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			>6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Medium (86)	Moderate--Slope	Land smoothing; place on the contour
SANITARY LANDFILL (TRENCH)	Low (40)	Severe--Seepage; too sandy	Sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	High (85)	Moderate--Slope	Design buildings to fit slope; land smoothing
LOW COMMERCIAL BUILDINGS	Low (60)	Severe--Slope	Design buildings to fit slope; land smoothing
LOCAL ROADS AND STREETS	High (90)	Moderate--Slope	Land forming
SHALLOW EXCAVATIONS	Medium (60)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	Low (50)	Severe--Slope, too sandy; soil blowing	Suitable topsoil and other amendments; land forming
PASSIVE PLAY AREAS	Medium (65)	Severe--Slope, too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (0)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (30)	Low organic matter; low natural fertility; low available water holding capacity	Good management
WOODLAND	Very Low (0-65)	Severe--Seedling mortality; Moderate--Equipment	Good management
CITRUS	Low (55)	Low organic matter; low natural fertility; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (25)	Low organic matter; low natural fertility; low available water holding capacity	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 44 Paola-Urban land complex, 0 to 8 percent slopes

SOIL NAME: The Paola-Urban land complex consists of nearly level to sloping Paola soils that are being used for urban development. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 42 and 71.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Not Rated		
SANITARY LANDFILL (TRENCH)	Not Rated		
DWELLINGS WITHOUT BASEMENTS	Not Rated		
LOW COMMERCIAL BUILDINGS	Not Rated		
LOCAL ROADS AND STREETS	Not Rated		
SHALLOW EXCAVATIONS	Not Rated		
ACTIVE PLAY AREAS	Not Rated		
PASSIVE PLAY AREAS	Not Rated		
EXCAVATED PONDS AQUIFER FED	Not Rated		
LAWN GRASSES AND ORNAMENTAL PLANTS	Not Rated		
IMPROVED PASTURES	Not Rated		
WOODLAND	Not Rated		
CITRUS	Not Rated		
SPECIALIZED ROW CROPS	Not Rated		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 45 Pineda fine sand

SOIL NAME: The Pineda Series consists of poorly drained nearly level soils on the lower coastal plains. In a representative profile, the surface layer is black or dark gray sand. The subsurface layer is brownish or yellowish sand over grayish sandy clay loam or sandy loam subsoil. They formed in thick beds of marine sandy and loamy sediments. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-40 40-96	FS SL, FSL, SCL	SP, SP-SM SC, SM-SC	A-3 A-2-4, A-2-6	0 0	100 100	100 100	80-95 80-95	2-5 15-35	- 20-30	NP 4-12		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-40 40-96	6.0-20 2.0-6.0	0.02-0.05 0.10-0.15	5.6-7.3 6.6-8.4	- -	Low Low	High	Low	.17 .24	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Rare			0-1.0	Apparent	Jun-Nov	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Seepage; wetness; too sandy	Water control; sealing; lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	High (75)	Severe--Cutbanks Cave-in; wetness	Water control; shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Wetness; too sandy	Good management; water control
IMPROVED PASTURES	Low (55)	Wetness; low organic matter; low natural fertility	Water control; good management
WOODLAND	Medium (76-85)	Severe--Seedling mortality; Moderate--Equipment	Water control; good management
CITRUS	Very Low (40)	Wetness; low natural fertility; low organic matter	Generally suited
SPECIALIZED ROW CROPS	Low (55)	Low natural fertility; wetness; low organic matter	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 46 Pinellas fine sand

SOIL NAME: The Pinellas Series consists of nearly level, poorly drained soils that occur in areas bordering sloughs and depressions. A representative profile has a black fine sand surface layer about 3 inches thick and a gray or pale brown subsurface layer part of which is calcareous. The grayish subsoil begins between a depth of 20 and 40 inches below the surface. Below about 54 inches is variable colored shell mixed with sand or sand. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-19	FS	SP SP-SM SM, SM-SC, SC SP	A-3	0	100	100	90-100	2-5	<40	NP		
19-29	S, FS		A-3, A-2-4	0	100	100	90-100	5-12	<40	NP		
29-45	FSL, SCL		A-2-4	0	100	100	90-100	12-35	20-30	5-13		
45-60	S		A-3	0-5	80-100	75-100	60-95	2-5	<40	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-19	6.0-20	0.02-0.05	5.6-7.8	-	Low	High	Low	.17	5	2		
19-29	6.0-20	0.10-0.15	6.6-7.8	-	Low			.17				
29-45	0.6-2.0	0.10-0.15	6.6-8.4	-	Low			.24				
45-60	6.0-20	0.02-0.05	7.9-8.4	-	Low			.17				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Nov	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Wetness; seepage, too sandy	Water control; sealing or lining, surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Wetness	Water control; good management
IMPROVED PASTURES	Medium (65)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Low (66-75)	Moderate--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (45)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Medium (65)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 48 Placid fine sand, depressional

SOIL NAME: The Placid Series consists of very poorly drained nearly level soils in central and south Florida. In a representative profile, the surface layer is fine sand about 20 inches thick. It is black in the upper 10 inches and very dark gray in the lower 10 inches. Between depths of 20 to 30 inches is gray fine sand. The next layer is grayish-brown fine sand about 18 inches thick. Below this to depths of 80 inches or more is dark grayish-brown fine sand. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-15 17-75	FS FS, S, LFS	SP, SP-SM, SM SP, SP-SM, SM	A-3, A-2-4 A-3, A-2-4	0 0	100 100	100 100	90-100 90-100	1-20 1-20	- -	NP NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-15 15-75	6.0-20 6.0-20	0.15-0.20 0.05-0.08	3.6-5.5 3.6-6.5	- -	Very Low Very Low	High	High	.17 .17	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jun-Mar	-		>60		-		A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (5)	Severe--Wetness; ponds	Water control; mounding; control
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Wetness; ponds; seepage; too sandy	Water control; sealing; lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Wetness; ponds	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (30)	Severe--Wetness; ponds	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Wetness; ponds	Water control
SHALLOW EXCAVATIONS	Low (45)	Severe--Wetness; Cutbanks Cave-in; ponds	Water control; shoring
ACTIVE PLAY AREAS	Very Low (15)	Severe--Wetness; ponds; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; ponds; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Wetness; ponds; too sandy	Water control; good management
IMPROVED PASTURES	Very Low (45)	Wetness; low natural fertility; low organic matter	Generally not suited
WOODLAND	Medium (76-85)	Severe--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (15)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Low (50)	Wetness; low natural fertility; low organic matter	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 49 Pomona fine sand

SOIL NAME: The Pomona Series consists of poorly drained, nearly level soils of the flatwoods in the hyperthermic region of the coastal plains. Typically, these soils have a very dark gray sand surface horizon underlain to a depth of about 26 inches by layers of gray or light gray sand. Below this to 36 inches are layers of very dark gray sand that are weakly cemented, and between depths of 36 to 51 inches are layers of brownish sand. Below 51 inches to 72 inches or deeper are layers of gray sandy clay loam or light sandy clay. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
					4	10	40	200			
0-5	FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	-	NP	
5-18	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	-	NP	
18-45	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-15	-	NP	
45-50	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	-	NP	
50-60	SCL, SL, SC	SC, SM-SC	A-2, A-4, A-6	0	100	95-100	85-100	25-50	25-40	4-16	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-5	6.0-20	0.05-0.10	3.6-5.5	-	Low	High	High	.20	5	2
5-18	6.0-20	0.03-0.08	3.6-5.5	-	Low			.20		
18-45	0.6-2.0	0.10-0.15	3.6-5.5	-	Low			.20		
45-50	6.0-20	0.03-0.08	3.6-5.5	-	Low			.20		
50-60	0.2-0.6	0.13-0.17	3.6-5.5	-	Low			.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jul-Sep	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (40)	Severe--Wetness; percolates slowly	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (30)	Severe--Wetness; too sandy	Water control; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness; too sandy	Good management; water control
IMPROVED PASTURES	Medium (60)	Wetness; low organic matter; low natural fertility	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (40)	Low natural fertility; wetness; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Low natural fertility; wetness; low organic matter	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 50 Pomona fine sand, depressional

SOIL NAME: The Pomona Depressional Series consists of poorly drained, nearly level soils of the flatwoods in the hyperthermic region of the coastal plains. Typically, these soils have a very dark gray sand surface horizon underlain to a depth of about 26 inches by layers of gray or light gray sand. Below this to 36 inches are layers of very dark gray sand that are weakly cemented and between depths of 36 to 51 inches are layers of brownish sand. Below 51 inches to 72 inches or deeper are layers of gray sandy clay loam or light sandy clay. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-7	FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	-	NP		
7-14	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	-	NP		
14-33	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-15	-	NP		
33-53	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	85-100	2-12	-	NP		
53-70	SCL, SL, SC	SC, SM-SC	A-2, A-4, A-6	0	100	95-100	85-100	25-50	-	NP 4-16		

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-7	6.0-20	0.05-0.10	3.6-5.5	-	Low	High	High	.20	5	2
7-14	6.0-20	0.03-0.08	3.6-5.5	-	Low			.20		
14-33	0.6-2.0	0.10-0.15	3.6-5.5	-	Low			.20		
33-53	6.0-20	0.03-0.08	3.6-5.5	-	Low			.20		
53-70	0.2-0.6	0.13-0.17	3.6-5.5	-	Low			.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jul-Sep	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Ponds; wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--ponds; wetness; too sandy	Water control; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Ponds; wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (25)	Severe--Ponds; wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Wetness; ponds	Water control
SHALLOW EXCAVATIONS	Low (45)	Severe--Cutbanks Cave-in; wetness; ponds	Shoring; water control
ACTIVE PLAY AREAS	Very Low (10)	Severe--Wetness; ponds; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; ponds; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (35)	Severe--Wetness; ponds; too sandy	Good management; water control
IMPROVED PASTURES	Very Low (25)	Wetness; low natural fertility; low organic matter	Generally not suited
WOODLAND	Low (66-75)	Severe--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (10)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Very Low (25)	Wetness; low natural fertility; low organic matter	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 51 Pomona-St. Johns complex

SOIL NAME: The Pomona-St. Johns complex consists of poorly drained, nearly level Pompano soils of the flatwoods in the hyperthermic region of the coastal plains intermingled with the nearly level poorly drained St. Johns soils of the broad, low flatwood areas and depressions of the coastal plain. The soils are so intermingled that they cannot be separated. For estimated soil properties not shown in individual soils of this complex see individual soils of the complex, i.e. map symbols 49 and 61.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 52 Pompano fine sand

SOIL NAME: The Pompano Series consists of poorly drained nearly level soils in south and central Florida. In a representative profile, the surface layer is dark gray fine sand in the upper 5 inches and grayish-brown fine sand in the next 9 inches. Between depths of 16 to 30 inches is very pale brown fine sand. Below this to depths of 75 inches or more is fine sand. Slopes range from 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	FS	SP, SP-SM	A-3, A-2-4	0	100	100	75-100	1-12	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	>20	0.02-0.05	4.5-7.8	-	Very Low	High	Moderate	.17	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Nov			>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Wetness; seepage; too sandy	Water control; sealing and lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (70)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Shoring; water control
ACTIVE PLAY AREAS	Low (60)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness	Good management; water control
IMPROVED PASTURES	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Low (66-75)	Severe--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (30)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	High (70)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 53 Pompano-Placid complex

SOIL NAME: The Pompano-Placid complex consists of nearly level, poorly drained Pompano and very poorly drained Placid soils that are so intermixed that they cannot be separated. For estimated soil properties not shown see individual soils of this complex, i.e., map symbols 48 and 52.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED		AASHO		FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
							4	10	40	200			
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP			
						STEEL	CONCRETE	K	T				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS			
SANITARY LANDFILL (TRENCH)			
DWELLINGS WITHOUT BASEMENTS			
LOW COMMERCIAL BUILDINGS			
LOCAL ROADS AND STREETS			
SHALLOW EXCAVATIONS			
ACTIVE PLAY AREAS			
PASSIVE PLAY AREAS			
EXCAVATED PONDS AQUIFER FED			
LAWN GRASSES AND ORNAMENTAL PLANTS			
IMPROVED PASTURES			
WOODLAND			
CITRUS			
SPECIALIZED ROW CROPS			

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 54 Quartzipsamments, gently sloping

SOIL NAME: The Quartzipsamments Series consists of sandy soils that lack identifiable soils layers or fragments of identifiable layers because of reworking and shaping by earth moving equipment, usually for urban developments. Some areas were high ridges that have been excavated to lower elevations while other areas were low and have been filled with sandy soil material to above natural ground level. Slopes range from 0 to 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	On-site investi-gation required		
SANITARY LANDFILL (TRENCH)	On-site investi-gation required		
DWELLINGS WITHOUT BASEMENTS	On-site investi-gation required		
LOW COMMERCIAL BUILDINGS	On-site investi-gation required		
LOCAL ROADS AND STREETS	On-site investi-gation required		
SHALLOW EXCAVATIONS	On-site investi-gation required		
ACTIVE PLAY AREAS	On-site investi-gation required		
PASSIVE PLAY AREAS	On-site investi-gation required		
EXCAVATED PONDS AQUIFER FED	On-site investi-gation required		
LAWN GRASSES AND ORNAMENTAL PLANTS	On-site investi-gation required		
IMPROVED PASTURES	On-site investi-gation required		
WOODLAND	On-site investi-gation required		
CITRUS	On-site investi-gation required		
SPECIALIZED ROW CROPS	On-site investi-gation required		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 55 Riviera fine sand

SOIL NAME: The Riviera Series consists of nearly level, poorly drained soils that occur on broad low flats and depressed areas in the lower coastal plain. In a representative profile the surface layer is dark grayish-brown sand about 6 inches thick. The subsurface layer is white sand about 22 inches thick and it extends into the underlying grayish-brown sandy clay loam subsoil. They formed in unconsolidated marine sands and loams. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-25	FS	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	4-12	-	NP	
25-38	SL, SCL	SM, SM-SC, SC	A-2-4	0	100	100	80-100	15-35	<35	NP-15	
38-43	SL, SCL	SM-SC, SC	A-2-4, A-2-6	0	100	100	80-100	20-35	20-40	4-20	
43-64	S, FS, LS	SP, SP-SM	A-3, A-1, A-2-4	0	60-80	50-75	40-70	3-10	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-25	6.0-20	0.05-0.08	4.5-6.5	-	Low	High	High	.17	4	2
25-38	6.0-20.0	0.10-0.14	6.1-8.4	-	Low			.28		
38-43	2.0-6.0	0.12-0.15	6.1-8.4	-	Low			.28		
43-64	6.0-20.0	0.05-0.08	7.9-8.4	-	Low			.15		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Dec	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (65)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Seepage; wetness; too sandy	Water control; sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Low (64)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Low (59)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Medium (65)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	High (80)	Severe--Wetness; too sandy	Good management; water control
IMPROVED PASTURES	High (75)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (45)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	High (80)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 56 Samsula muck

SOIL NAME: The Samsula Series consists of nearly level very poorly drained organic soils. They occur in fresh water swamps and marshes. In a representative profile, the surface 9 inches is black muck. The subsurface layer is dark reddish-brown muck to a depth of 36 inches. Next is 10 inches of dark grayish-brown sand and then gray sand to below a depth of 55 inches. These soils formed in hydrophytic plant remains. Slope gradients are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-36 36-60	MUCK S, FS, LS	PT SP-SM, SM, SP	A-3, A-2-4	0	100	100	80-100	2-20	<40	NP-10		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-36 36-60	6.0-20 6.0-20	0.20-0.25 0.02-0.05	4.5-5.5 3.6-5.5	- -	Low Low	High	High	- -	- -	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jan-Dec	-		>60		16-20	30-36	A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds; excess humus	Water control; mounding; remove and replace with suitable material
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--ponds; seepage; excess humus	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Wetness; low strength; ponds	Water control; remove and replace with suitable material; increase structural strength in foundations
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Wetness; low strength; ponds	Remove and replace with suitable material; water control; increase structural strength in foundations
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Low strength; wetness; ponds	Remove and replace with suitable material; water control
SHALLOW EXCAVATIONS	Very Low (25)	Severe--Cutbanks Cave-in; wetness; ponds	Shoring; water control; special equipment
ACTIVE PLAY AREAS	Very Low (0)	Severe--Wetness; excess humus; ponds	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Wetness; excess humus; ponds	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	High (90)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Excess humus; ponds; too sandy	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (20)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 57 Satellite sand

SOIL NAME: The Satellite Series consists of nearly level, somewhat poorly drained soils that occur in south and central Florida. In a representative profile the surface layer is dark gray sand about 6 inches thick. Below this to depths of 80 inches is gray, light brownish-gray, grayish brown, and dark grayish-brown sand. These soils occur on nearly level low ridges on higher elevations in the flatwoods. They formed in thick beds of marine sand. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	S	SP	A-3	0	100	100	60-95	1-4	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	>20	0.02-0.05	4.5-7.8	-	Very Low	Low	Moderate	.15	5	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			1.0-3.5	Apparent	Jun-Nov	-		>60		-		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (71)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (15)	Severe--Wetness; seepage; too sandy	Water control; surface stabilization; sealing or lining
DWELLINGS WITHOUT BASEMENTS	High (83)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	High (79)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Medium (80)	Moderate--Wetness	Water control
SHALLOW EXCAVATIONS	Medium (60)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Medium (70)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (90)	Severe; too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Low (60)	Moderate--Deep to water	Sealing or lining; add water during dry periods
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Too sandy	Good management
IMPROVED PASTURES	Low (50)	Low natural fertility; wetness; low organic matter	Water control; good management
WOODLAND	Low (66-75)	Severe--Seedling mortality; Moderate--Equipment	Good management; water control
CITRUS	Medium (60)	Low natural fertility; wetness; low organic matter	Bedding; water control; good management
SPECIALIZED ROW CROPS	Very Low (45)	Low natural fertility; low organic matter	Good management

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 58 Satellite-Urban land complex

SOIL NAME: The Satellite-Urban land complex consists of nearly level Satellite soils that are being used for urban development. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 57 and 71.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX			
					4	10	40	200					
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP			
						STEEL	CONCRETE	K	T				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Not rated		
SANITARY LANDFILL (TRENCH)	Not rated		
DWELLINGS WITHOUT BASEMENTS	Not rated		
LOW COMMERCIAL BUILDINGS	Not rated		
LOCAL ROADS AND STREETS	Not rated		
SHALLOW EXCAVATIONS	Not rated		
ACTIVE PLAY AREAS	Not rated		
PASSIVE PLAY AREAS	Not rated		
EXCAVATED PONDS AQUIFER FED	Not rated		
LAWN GRASSES AND ORNAMENTAL PLANTS	Not rated		
IMPROVED PASTURES	Not rated		
WOODLAND	Not rated		
CITRUS	Not rated		
SPECIALIZED ROW CROPS	Not rated		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 59 Scoggin sand

SOIL NAME: The Scoggin Series consists of nearly level, very poorly drained soils in swamps and low places bordering swamps. They formed in thick sandy and loamy marine sediments. Typically, the organic portion of the surface layer is dark reddish-brown muck about 4 inches thick, and the mineral portion is black sand about 7 inches thick. The subsurface layer is between depths of 7 to 36 inches; the upper 10 inches is dark gray sand and the lower 10 inches is gray sand. The subsoil is dark gray sandy clay loam about 13 inches thick. Slopes are 0 to 1 percent.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX
					4	10	40	200		
4-0	Muck	PT	A-8	0						
0-7	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	85-100	5-20	-	NP
7-36	S, FS	SP, SP-SM	A-3, A-2-4	0	100	100	90-100	3-12	-	NP
36-49	FSL, SCL	SC, SM-SC	A-2-4-, A-2-6	0	100	100	90-100	20-35	20-40	4-15
49-54	FSL, LFS, FS	SM, SM-SC	A-2-4	0	100	100	90-100	15-25	<28	NP-7

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
4-0	6.0-20	0.20-0.25	4.5-5.5	-		High	High	.20	5	
0-7	6.0-20	0.10-0.15	3.6-6.5	-	Low			.20		
7-36	6.0-20	0.02-0.05	3.6-6.5	-	Low			.20		
36-49	0.6-2.0	0.10-0.15	4.5-5.5	-	Low			.24		
49-54	2.0-6.0	0.05-0.10	4.5-5.5	-	Low			.20		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDIENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+1-1.0	Apparent	Jun-Feb	-		>60		-		D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Seepage; wetness; ponds	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (11)	Severe--Wetness; ponds	Water control; remove and replace with suitable material
LOW COMMERCIAL BUILDINGS	Very Low (16)	Severe--Wetness; ponds	Water control; remove and replace with suitable material
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Wetness; ponds	Remove and replace with suitable material; water control
SHALLOW EXCAVATIONS	Very Low (25)	Severe--Cutbanks Cave-in; wetness; ponds	Shoring; water control
ACTIVE PLAY AREAS	Very Low (0)	Severe--Wetness	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (20)	Severe--Wetness; ponds	Water control; good management
IMPROVED PASTURES	Very Low (25)	Wetness	Generally not suited
WOODLAND	Medium (76-85)	Moderate--Seedling mortality; equipment	Water control; good management
CITRUS	Very Low (10)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Wetness	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 60 Smyrna fine sand

SOIL NAME: The Smyrna Series consists of nearly level poorly drained sandy soils that occur on broad low flatwoods ridges. A representative profile has a black and very dark gray sand surface and gray sand subsurface. Below this is a black, weakly cemented sand subsoil which extends to about 36 inches. The combined thickness of the surface and subsoil is less than 40 inches. Below the subsoil is sand that extends to below 80 inches. Slope gradients are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-17	FS	SP, SP-SM	A-3	0	100	100	80-100	2-10	-	NP	
17-27	S, FS	SM, SP-SM	A-3, A-2-4	0	100	100	80-100	5-20	-	NP	
27-80	S, FS	SP, SP-SM	A-3	0	100	100	80-100	2-10	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-17	6.0-20	0.03-0.07	3.6-7.3	-	Low	High	High	.20	5	2
17-27	0.6-6.0	0.10-0.15	3.6-7.3	-	Low			.20		
27-80	6.0-20	0.03-0.07	4.5-5.5	-	Low			.17		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jul-Oct	-		>60		-		A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking) *	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Wetness; seepage	Water control; sealing and lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Shoring; water control
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness	Good management; water control
IMPROVED PASTURES	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (50)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Low (55)	Wetness; low organic matter; low natural fertility	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 61 St. Johns fine sand

SOIL NAME: The St. Johns Series consists of nearly level, poorly drained soils in broad, low flatwood areas and depressions of the coastal plain. In a representative profile the surface layer is sand; the upper 10 inches is black and the lower 4 inches is very dark gray. The subsurface is light gray sand about 8 inches thick. Between depths of 22 to 42 inches is a weakly cemented sandy layer; it is black in the upper 12 inches and dark reddish-brown in the lower 8 inches. The next 14 inches is dark brown sand. Below this to depths of 72 inches is pale brown sand. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
					4	10	40	200			
0-10	FS	SP, SP-SM	A-3	0	100	100	75-95	3-10	-	NP	
10-26	S, FS	SP, SP-SM	A-3	0	100	100	85-95	3-10	-	NP	
26-43	S, FS	SP-SM, SP	A-3, A-2-4	0	100	100	85-95	5-20	-	NP	
43-60	S, FS	SP, SP-SM	A-3	0	100	100	80-90	2-10	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-10	6.0-20	0.10-0.15	4.5-5.5	-	Low	High	High	.20	5	-
10-26	6.0-20	0.03-0.08	4.5-5.5	-	Low			.20		
26-43	0.6-2.0	0.10-0.15	4.5-5.5	-	Low			.20		
43-60	6.0-20	0.03-0.08	4.5-5.5	-	Low			.15		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Apr	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Seepage; wetness	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Low (70)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Cutbanks Cave-in; wetness	Water control; shoring
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness	Good management; water control
IMPROVED PASTURES	Medium (60)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (50)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	Low (55)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 62 St. Lucie fine sand, 0 to 8 percent slopes

SOIL NAME: The St. Lucie Series consists of excessively drained deep sandy soils. They occur on nearly level to strongly sloping dune-like ridges. In a representative profile the surface layer is gray sand about 3 inches thick. Next is 57 inches of light gray sand and then white sand to depths greater than 80 inches. These soils formed in marine or eolian sand. Slope gradients are dominantly 0 to 8 percent but range from 0 to 20 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	FS	SP	A-3	0	100	100	86-99	1-4	-	NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-80	>20	0.02-0.05	3.6-7.3	-	Very Low	Low	High	.15	5	1		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			> 6.0			-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very High (100)	Slight	None needed
SANITARY LANDFILL (TRENCH)	Low (50)	Severe--Seepage; too sandy	Sealing or lining; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	High (81)	Moderate--Slope	Design building to fit slope; land smoothing
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	High (70)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	Low (60)	Severe--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (85)	Severe--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (0)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (55)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (35)	Low organic matter; low natural fertility; low available water holding capacity	Good management
WOODLAND	Very Low (0-65)	Severe--Equipment; Moderate--Seedling mortality	Good management
CITRUS	Very Low (50)	Low organic matter; low natural fertility; low available water holding capacity	Good management
SPECIALIZED ROW CROPS	Very Low (25)	Low organic matter; low natural fertility; low available water holding capacity	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 63 Tavares fine sand, 0 to 5 percent slopes

SOIL NAME: The Tavares Series consists of moderately well-drained, nearly level to sloping soils that occur primarily in Central and South Florida. Typically these soils have very dark grayish-brown surface layers about 7 inches thick underlain by layers of very pale brown and light yellowish-brown sand to depths of about 61 inches and white sand between depths of 61 to 99 inches. Slopes range from 0 to 5 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-80	FS	SP, SP-SM	A-3	0	100	95-100	85-100	2-8	-	NP		

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-80	>20	0.02-0.05	4.5-6.0	-	Very Low	Low	High	17	5	2

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			3.5-6.0	Apparent	Jun-Dec	-		>60		-		A

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	High (95)	Moderate--Wetness	None generally needed
SANITARY LANDFILL (TRENCH)	Very Low (25)	Severe--Seepage; wetness; too sandy	Sealing or lining; water control; surface stabilization
DWELLINGS WITHOUT BASEMENTS	Very High (100)	Slight	None needed
LOW COMMERCIAL BUILDINGS	Very High (87)	Slight	None needed
LOCAL ROADS AND STREETS	Very High (100)	Slight	None needed
SHALLOW EXCAVATIONS	Medium (65)	Severe--Cutbanks Cave-in	Shoring
ACTIVE PLAY AREAS	High (85)	Moderate--Too sandy	Suitable topsoil and other amendments
PASSIVE PLAY AREAS	Very High (95)	Moderate--Too sandy	Suitable topsoil and other amendments
EXCAVATED PONDS AQUIFER FED	Very Low (5)	Severe--No water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (60)	Severe--Too sandy	Good management
IMPROVED PASTURES	Very Low (40)	Low natural fertility; low organic matter; low available water holding capacity	Good management
WOODLAND	Medium (76-85)	Moderate--Seedling mortality; equipment	Good management
CITRUS	Medium (65)	Low available water holding capacity; low natural fertility; low organic matter	Good management
SPECIALIZED ROW CROPS	Very Low (35)	Low organic matter; low natural fertility; low available water holding capacity	Good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 64 Tequesta muck

SOIL NAME: The Tequesta Series consists of very poorly drained soils that occur on broad low flats, fresh water swamps and marshes. A representative profile has a muck surface layer about 12 inches thick. It is underlain by about 32 inches of dark gray and dark grayish-brown sand. Next is 28 inches of sandy loam underlain by mixed sand and shell fragments. These soils formed in sandy and loamy marine sediments. Slope gradients are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
12-0 0-25 25-31 31-70	Muck S, FS SL, SCL S, LS	PT SP, SP-SM SM, SM-SC, SC SP, SP-SM	A-3, A-2-4 A-2-4 A-3, A-2-4	0 0 0 0	100 100 60-100	100 100 50-100	80-100 80-100 40-80	2-12 15-35 3-20	- - <40 -	NP NP-40 NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
12-0 0-25 25-31 31-70	6.0-20 6.0-20 0.6-6.0 6.0-20	0.20-0.25 0.05-0.10 0.10-0.15 0.02-0.05	5.1-7.3 5.1-7.3 6.1-8.4 6.1-8.4	- - - -	Very Low Low Low Low	High	Low	- - .32 .20	- - - -	2		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Marsh	Jan-Dec	-		>60		3-6	8-12	B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds	Mounding; water control; remove and replace with suitable material
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Wetness; ponds; excess humus	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Ponding; wetness; excess humus	Water control; remove and replace with suitable material; increase structural strength in foundations
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Ponding; excess humus	Water control; remove and replace with suitable material; increase structural strength in foundations
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Ponds; wetness; excess humus	Remove and replace with suitable material; water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; ponds	Water control; special equipment
ACTIVE PLAY AREAS	Very Low (0)	Severe--Wetness; ponds	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Wetness; ponds	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	High (90)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (40)	Severe--Wetness; ponds	Water control; good management
IMPROVED PASTURES	Low (50)	Wetness	Generally not suited
WOODLAND	High (86-95)	Severe--Equipment; Moderate--Seedling mortality	Water control; good management
CITRUS	Very Low (20)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 65 Terra Ceia muck

SOIL NAME: The Terra Ceia Series consists of very poorly drained nearly level soils in south and central Florida. In a representative profile the surface layer is black muck about 8 inches thick. Below this is dark reddish-brown muck that extends to below a depth of 65 inches. Slopes are less than 1 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-64	Muck	PT										

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-64	6.0-20	0.30-0.50	5.6-8.4	-	Low	Moderate	Moderate	-	-	2

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+1-1.0	Marsh	Jun-Apr	-		>60		4-8	50-60	A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds	Generally not suited
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Ponds; excess humus; seepage	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Ponds; low strength; excess humus	Water control; remove and replace with suitable material; increase structural strength in foundations
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Ponds; low strength; excess humus	Remove and replace with suitable material; water control; increase structural strength in foundations
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Ponds; low strength; excess humus	Remove and replace with suitable material; water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; excess humus; ponds	Water control; special equipment
ACTIVE PLAY AREAS	Very Low (0)	Severe--Excess humus; wetness; ponds	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Excess humus; wetness; ponds	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	High (90)	Slight	Special equipment
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Wetness; excess humus; ponds	Good management; water control
IMPROVED PASTURES	Medium (60)	Wetness	Water control; good management
WOODLAND	Very Low (0-65)	Wetness	Generally not suited
CITRUS	Very Low (20)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 66 Tomoka muck

SOIL NAME: The Tomoka Series consists of very poorly drained, nearly level soils that occur in south and central Florida. In a representative profile, the soil is muck to a depth of 27 inches. The upper 5 inches is very dark brown. The next 8 inches are dark reddish-brown, and between depths of 13 to 27 inches it is black. Below this is a layer of very dark gray sand about 4 inches thick, then a layer of gray sand about 4 inches thick. Between depths of between 35 and 46 inches is dark gray sandy clay loam underlain by gray sandy loam. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-34 34-39 39-60	Muck S, FS, LS SCL, SL, FSL	PT SP-SM, SM SM, SM-SC, SC	A-3, A-2-4 A-2, A-4, A-6	0 0 0	100 100	100 100	80-95 80-95	5-15 25-40	- <35	NP NP NP-15		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
0-34 34-39 39-60	6.0-20 6.0-20 0.6-6.0	0.30-0.50 0.05-0.10 0.10-0.15	3.6-4.4 3.6-4.4 3.6-4.4	- - -	Very Low Very Low Low	High	High	- - -	- - -	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+1-0	Marsh	Jun-Apr	-		>60		-	24	A/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds	Water control; mounding; remove and replace with suitable material
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Wetness; seepage; ponds	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Ponds; excess humus; low strength	Water control; remove and replace with suitable material; increase structural strength in foundations
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Ponds; low strength; excess humus	Water control; remove and replace with suitable material; increase structural strength in foundations
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Excess humus; low strength; ponds	Water control; remove and replace with suitable material
SHALLOW EXCAVATIONS	Low (50)	Severe--Excess humus; Cutbanks Cave-in; ponds	Water control; shoring; special equipment
ACTIVE PLAY AREAS	Very Low (0)	Severe--Wetness; excess humus	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Wetness; excess humus	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	High (90)	Slight	Special equipment
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Wetness; excess humus; ponds	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness	Generally not suited
WOODLAND	Low (66-75)	Wetness	Generally not suited
CITRUS	Very Low (20)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Medium (60)	Wetness	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 67 Turnbull muck

SOIL NAME: The Turnbull Series consists of very poorly drained, frequently flooded soils that formed from halophytic plant remains overlying clayey and loamy sediments in estuaries. A typical profile has about 14 inches of muck over clay that is about 36 inches thick. Below this is sandy and shelly materials. Slopes are less than 1 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
14-0 0-36 36-80	Muck C LFS, FS	PT CH SP-SM, SM	A-8 A-7 A-2-4, A-3	0 0 0	- 100 95-100	- 100 90-100	- 90-100 75-90	- 75-95 5-20	- 70-95 -	- 45-60 NP		
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
14-0 0-36 36-80	6.0-20 <0.06 6.0-20	0.25-0.35 0.15-0.20 0.05-0.10	6.1-7.8 6.1-8.4 6.1-8.4	>16 >16 >16	Low High Low	High	High	-	-	-		
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Frequent	V. Long	Jan-Dec	+2-1.0	Apparent	Jan-Dec	-		>60		12-14	14-24	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Floods; wetness	Water control; mounding; remove and replace with suitable material; control flood waters
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods; wetness; too clayey	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (0)	Severe--Floods; wetness; shrink-swell	Water control; remove and replace with suitable material; control flood waters; increase structural strength in foundations
LOW COMMERCIAL BUILDINGS	Very Low (0)	Severe--Floods; wetness; shrink-swell	Water control; remove and replace with suitable material; control flood waters; increase structural strength in foundations
LOCAL ROADS AND STREETS	Very Low (0)	Severe--Shrink-swell; wetness; floods	Water control; remove and replace with suitable material; control flood waters
SHALLOW EXCAVATIONS	Very Low (40)	Severe--Clayey; wetness; floods	Water control; special equipment; control flood waters
ACTIVE PLAY AREAS	Very Low (0)	Severe--Floods; wetness; excess humus	Generally not suited
PASSIVE PLAY AREAS	Very Low (30)	Severe--Floods; wetness; excess humus	Control flood waters; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	High (90)	Severe--Salty water	Generally not suited
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (45)	Severe--Wetness; floods; excess humus	Water control; control flood waters; good management
IMPROVED PASTURES	Low (50)	Wetness; floods	Generally not suited
WOODLAND	Very Low (0-65)	Wetness; floods	Generally not suited
CITRUS	Very Low (10)	Wetness; floods	Generally not suited
SPECIALIZED ROW CROPS	Very Low (30)	Wetness; floods	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 68 Turnbull Variant, sand

SOIL NAME: The Turnbull Variant Series consists of mixed sandy and shelly materials dredged from the Intracoastal Waterway and placed in narrow strips bordering the waterway. The underlying materials consist of organic layers and layers of clayey and sandy estuarine deposits. It is mostly in tidal marsh areas associated with the Intracoastal Waterway. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
0-50	S	SP	A-3	0	80-95	70-90	51-65	1-4	-	NP		
50-55	Muck	PT	A-8	0	-	-	-	-	-	-		
55-60	C	CH, MH	A-7	0	100	100	85-100	51-95	55-90	20-55		

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-50	6.0-20	0.01-0.04	6.6-8.4	<2	Low	High	High	0.17	5	2
50-55	0.6-2.0	0.20-0.25	5.6-7.3	>16	Low			0.17		
55-60	0.06-0.2	0.10-0.15	6.6-8.4	>16	High			0.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None	-	-	1.0-3.0	Apparent	Jan-Dec	-	-	>60	-	-	-	C

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	On-site evaluation needed		
SANITARY LANDFILL (TRENCH)	On-site evaluation needed		
DWELLINGS WITHOUT BASEMENTS	On-site evaluation needed		
LOW COMMERCIAL BUILDINGS	On-site evaluation needed		
LOCAL ROADS AND STREETS	On-site evaluation needed		
SHALLOW EXCAVATIONS	On-site evaluation needed		
ACTIVE PLAY AREAS	On-site evaluation needed		
PASSIVE PLAY AREAS	On-site evaluation needed		
EXCAVATED PONDS AQUIFER FED	On-site evaluation needed		
LAWN GRASSES AND ORNAMENTAL PLANTS	On-site evaluation needed		
IMPROVED PASTURES	On-site evaluation needed		
WOODLAND	On-site evaluation needed		
CITRUS	On-site evaluation needed		
SPECIALIZED ROW CROPS	On-site evaluation needed		

*Any selected land use requires an on-site investigation.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 69 Tuscowilla fine sand

SOIL NAME: The Tuscowilla Series consists of nearly level, poorly drained soils that are in hammocks in coastal areas in the low coastal plain. Typically, the surface layer is dark gray sand, about 3 inches thick. The subsurface layer is fine sand and the subsoil is very dark gray fine sandy loam in the upper 3 inches, light gray sandy clay loam between depths of 13 to 32 inches with accumulations of calcium carbonate, and very pale brown fine sandy loam in the lower 8 inches, underlain by layers of fine sand. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-10	FS	SP-SM	A-3, A-2-4	0	85-100	85-100	75-90	5-12	-	NP	
10-40	SCL, FSL	SC	A-2, A-4, A-6	0-15	85-100	85-100	80-95	25-40	-	NP	
40-62	FS, S, LFS	SP-SM, SM	A-3, A-2-4	0	100	100	80-100	5-15	-	NP	
62-80	FS, S, LFS	SP-SM, SM	A-3, A-2-4	0	85-100	80-95	75-95	5-15	-	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-10	6.0-20	0.05-0.10	5.6-8.4	-	Low	High	Low	.20	5	-
10-40	0.6-2.0	0.08-0.12	6.6-8.4	-	Low			.24		
40-62	6.0-20	0.03-0.08	7.4-8.4	-	Low			.20		
62-80	6.0-20	0.03-0.08	7.4-8.4	-	Low			.20		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jul-Sep	-		>60		-		D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Mounding; water control
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Seepage; wetness	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Medium (72)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Low (62)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (50)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	High (80)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	High (80)	Wetness	Water control; good management
WOODLAND	Very Low (0-65)	Moderate--Equipment	Water control; good management
CITRUS	Low (55)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	High (80)	Wetness	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 70 Tusawilla-Urban land complex

SOIL NAME: The Tusawilla-Urban land complex is made up of broad areas of the Tusawilla soils that are being used for urban development. For estimated soil properties not shown see individual soils of this complex, i.e. map symbols 69 and 71.

ESTIMATED SOIL PROPERTIES												
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX		
					4	10	40	200				
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP		
						STEEL	CONCRETE	K	T			
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Not Rated		
SANITARY LANDFILL (TRENCH)	Not Rated		
DWELLINGS WITHOUT BASEMENTS	Not Rated		
LOW COMMERCIAL BUILDINGS	Not Rated		
LOCAL ROADS AND STREETS	Not Rated		
SHALLOW EXCAVATIONS	Not Rated		
ACTIVE PLAY AREAS	Not Rated		
PASSIVE PLAY AREAS	Not Rated		
EXCAVATED PONDS AQUIFER FED	Not Rated		
LAWN GRASSES AND ORNAMENTAL PLANTS	Not Rated		
IMPROVED PASTURES	Not Rated		
WOODLAND	Not Rated		
CITRUS	Not Rated		
SPECIALIZED ROW CROPS	Not Rated		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 71 Urban Land

SOIL NAME: Urban Land consists of areas that are 85 percent or more covered by streets, parking lots, buildings, and other structures of urban areas. These areas occur in densely populated areas such as shopping malls, drive-in theatres, industrial parks, portions of airports and other similar areas. The few small areas that are not covered with buildings or pavement are in lawns, vacant lots, or playgrounds.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX			
					4	10	40	200					
DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP			
						STEEL	CONCRETE	K	T				
FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP	
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)		

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Not Rated		
SANITARY LANDFILL (TRENCH)	Not Rated		
DWELLINGS WITHOUT BASEMENTS	Not Rated		
LOW COMMERCIAL BUILDINGS	Not Rated		
LOCAL ROADS AND STREETS	Not Rated		
SHALLOW EXCAVATIONS	Not Rated		
ACTIVE PLAY AREAS	Not Rated		
PASSIVE PLAY AREAS	Not Rated		
EXCAVATED PONDS AQUIFER FED	Not Rated		
LAWN GRASSES AND ORNAMENTAL PLANTS	Not Rated		
IMPROVED PASTURES	Not Rated		
WOODLAND	Not Rated		
CITRUS	Not Rated		
SPECIALIZED ROW CROPS	Not Rated		

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 72 Valkaria fine sand

SOIL NAME: The Valkaria Series consists of nearly level, poorly drained soils that occur in depressions, poorly defined sloughs and low areas adjoining swamps in the lower coastal plains. In a representative profile, the surface layer is sand about 9 inches thick; the upper 5 inches is black and the lower 4 inches is dark grayish-brown. The subsurface layer is light gray sand about 6 inches thick. Between depths of 15 to 41 inches are layers of brownish or yellowish sand. Below this to depths of 80 inches is gray sand. Slopes are 0 to 2 percent.

ESTIMATED SOIL PROPERTIES

DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX
					4	10	40	200		
0-10	FS	SP, SP-SM	A-3	0	100	75-100	75-98	2-10	-	NP
10-35	S, FS	SP, SP-SM	A-3	0	100	75-100	75-98	2-10	-	NP
35-48	S, FS	SP, SP-SM	A-3	0	100	75-100	75-98	3-10	-	NP
48-75	S, FS	SP, SP-SM	A-3	0	100	75-100	75-98	2-10	-	NP

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-10	6.0-20	0.05-0.10	5.1-7.3	-	Low	High	Moderate	.15	5	-
10-35	6.0-20	0.03-0.08	5.1-7.3	-	Low			.15		
35-48	6.0-20	0.05-0.10	5.1-8.4	-	Low			.15		
48-75	6.0-20	0.03-0.08	5.1-8.4	-	Low			.15		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
Common	V. Long	Jun-Sep	0-1:0	Apparent	Jun-Sep	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (10)	Severe--Wetness; floods	Water control; mounding; control flood water
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Wetness; seepage; floods	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Wetness; floods	Water control; control flood water; fill area
LOW COMMERCIAL BUILDINGS	Very Low (30)	Severe--Wetness; floods	Water control; control flood water; fill area
LOCAL ROADS AND STREETS	Very Low (30)	Severe--Wetness; floods	Water control; control flood water
SHALLOW EXCAVATIONS	Very Low (35)	Severe--Wetness; floods	Water control; control flood water
ACTIVE PLAY AREAS	Very Low (40)	Severe--Wetness; floods	Generally not suited
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; floods	Water control; control flood water; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (30)	Severe--Wetness; ponds	Control flood water; good management; water control
IMPROVED PASTURES	Very Low (20)	Wetness; low organic matter; low natural fertility; flooding	Water control; good management; control flood water
WOODLAND	Low (66-75)	Severe--Equipment; Moderate--Seedling mortality	Control flood water; water control; good management
CITRUS	Very Low (10)	Wetness; floods; low organic matter; low natural fertility	Generally not suited
SPECIALIZED ROW CROPS	Very Low (10)	Wetness; floods; low organic matter; low natural fertility	Control flood water; water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 73 Wabasso fine sand

SOIL NAME: The Wabasso Series consists of nearly level, poorly drained soils that occur in the coastal plain flatwoods. Typically these soils have sandy surface and subsurface layers 12 to 30 inches thick that overlie a dark colored sandy subsoil. A sandy loam or sandy clay loam layer occurs beneath the sand subsoil and begins within a depth of 40 inches below the soil surface. These soils have developed in sandy and loamy marine sediments. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-24	FS	SP, SP-SM SP-SM, SM SP, SP-SM SC, SM-SC	A-3	0	100	100	95-100	2-10	-	NP	
24-35	S, FS		A-3, A-2-4	0	100	100	95-100	5-20	-	NP	
35-39	S, FS		A-3	0	100	100	95-100	2-10	-	NP	
39-80	SL, FSL, SCL		A-2-4, A-2-6	0	100	100	95-100	20-35	20-30	5-13	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-24	6.0-20	0.02-0.05	4.5-6.5	-	Low Low Low Low	Moderate	High	.20 .20 .20 .24	5	2
24-35	0.6-2.0	0.10-0.15	4.5-7.3	-						
35-39	6.0-20	0.02-0.05	5.6-7.8	-						
39-80	0.6-2.0	0.10-0.15	5.6-7.8	-						

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Oct	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking) *	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (30)	Severe--Seepage; too sandy; wetness	Water control; sealing and lining, surface stabilization
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (50)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	High (75)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Medium (65)	Severe--Wetness	Water control; good management
IMPROVED PASTURES	Medium (60)	Wetness; low organic matter; low natural fertility	Water control; good management
WOODLAND	Medium (76-85)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (50)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Low (55)	Wetness; low organic matter; low natural fertility	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 74 Wabasso fine sand, depressiona1

SOIL NAME: The Wabasso Depressional Series consists of nearly level, poorly drained soils that occur in the coastal plain flatwoods. Typically these soils have sandy surface and subsurface layers 12 to 30 inches thick that overlie a dark colored sandy subsoil. A sandy loam or sandy clay loam layer occurs beneath the sand subsoil and begins within a depth of 40 inches below the soil surface. These soils have developed in sandy and loamy marine sediments. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-24	FS	SP, SP-SM	A-3	0	100	100	95-100	2-10	-	NP	
24-35	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	95-100	5-20	-	NP	
35-39	S, FS	SP, SP-SM	A-3	0	100	100	95-100	2-10	-	NP	
39-80	SL, FSL, SCL	SC, SM-SC	A-2-4, A-2-6	0	100	100	95-100	20-35	20-30	5-13	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-24	6.0-20	0.02-0.05	4.5-6.5	-	Low	Moderate	High	.20	5	2
24-35	0.6-2.0	0.10-0.15	4.5-7.3	-	Low			.20		
35-39	6.0-20	0.02-0.05	5.1-8.4	-	Low			.20		
39-80	6.6-2.0	0.10-0.15	5.1-8.4	-	Low			.24		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+2-1.0	Apparent	Jun-Oct	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Wetness; ponds	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Too sandy; wetness; ponds	Water control; surface stabilization; seeding or lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Wetness; ponds	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (25)	Severe--Wetness; ponds	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (10)	Severe--Wetness; ponds	Water control
SHALLOW EXCAVATIONS	High (70)	Severe--Cutbanks Cave-in; wetness; ponds	Water control; shoring
ACTIVE PLAY AREAS	Very Low (10)	Severe--Wetness; too sandy	Generally not suited
PASSIVE PLAY AREAS	Low (50)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (35)	Severe--Wetness; ponds	Good management; water control
IMPROVED PASTURES	Very Low (25)	Wetness	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; Severe--Seedling mortality	Water control; good management
CITRUS	Very Low (10)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Wetness	Generally not suited

*Individual scores may have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 75 Wauchula fine sand

SOIL NAME: The Wauchula Series consists of nearly level poorly drained soils that occur on low ridges and in depressions in flatwoods areas. A representative profile has black and very dark gray fine sand surface layers about 7 inches thick that overlie gray fine sand subsurface layers. Black and dark reddish-brown weakly cemented fine sand layers are next and are within depths of 30 inches. Gray fine sandy loam and sandy clay loam layers are within depths of 40 inches. Slopes are dominantly 0 to 2 percent but range to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLASTICITY INDEX	
					4	10	40	200			
0-7	FS	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	-	NP	
7-20	S, FS	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	-	NP	
20-29	S, FS, LFS	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	8-25	-	NP	
29-34	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-20	-	NP	
34-80	SL, FSL, SCL	SM, SM-SC, SC	A-2-4, A-2-6, A-4, A-6	0	100	92-100	90-100	25-50	<40	NP-20	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSION		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-7	6.0-20	0.08-0.15	3.6-5.5	<2	Low	High	High	.20	5	2
7-20	6.0-20	0.02-0.05	3.6-5.5	<2	Low			.20		
20-29	0.6-6.0	0.15-0.25	3.6-5.5	<2	Low			.20		
29-34	6.0-20	0.08-0.10	4.5-5.5	<2	Low			.20		
34-80	0.6-6.0	0.11-0.17	4.5-5.5	<2	Low			.37		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			0-1.0	Apparent	Jun-Feb	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Low (56)	Severe--Wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (5)	Severe--Wetness; seepage	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Medium (75)	Severe--Wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Medium (65)	Severe--Wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (50)	Severe--Wetness	Water control
SHALLOW EXCAVATIONS	Low (50)	Severe--Wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Low (55)	Severe--Wetness; too sandy	Water control; suitable topsoil and other amendments
PASSIVE PLAY AREAS	High (80)	Severe--Wetness; too sandy	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (95)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	High (80)	Severe--Wetness; too sandy	Water control; good management
IMPROVED PASTURES	High (75)	Wetness; low natural fertility; low organic matter	Water control; good management
WOODLAND	Low (66-75)	Moderate--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (50)	Wetness; low natural fertility; low organic matter	Generally not suited
SPECIALIZED ROW CROPS	High (70)	Wetness; low natural fertility; low organic matter	Water control; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 76 Wauchula fine sand, depressiona1

SOIL NAME: The Wauchula Depressional Series consists of nearly level poorly drained soils that occur on low ridges and in depressions in flatwoods areas. A representative profile has black and very dark gray fine sand surface layers about 7 inches thick that overlie gray fine sand subsurface layers. Black and dark reddish-brown weakly cemented fine sand layers are next and are within depths of 30 inches. Gray fine sandy loam and sandy clay loam layers are within depths of 40 inches. Slopes are dominantly 0 to 2 percent but range to 5 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-7	FS	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	-	NP	
7-22	S, FS	SP-SM	A-3, A-2-4	0	100	100	90-100	5-12	-	NP	
22-31	S, FS, LFS	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	8-25	-	NP	
31-37	S, FS	SP-SM, SM	A-3, A-2-4	0	100	100	90-100	5-20	-	NP	
37-60	SL, FSL, SCL	SM, SM-SC, SC	A-2-4, A-2-6, A-4, A-6	0	100	92-100	90-100	25-50	<40	NP-20	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-7	6.0-20	0.08-0.15	3.6-5.5	<2	Low	High	High	.20	5	2
7-22	6.0-20	0.02-0.05	3.6-5.5	<2	Low			.20		
22-31	0.6-6.0	0.15-0.25	3.6-5.5	<2	Low			.20		
31-37	6.0-20	0.08-0.10	4.5-5.5	<2	Low			.20		
37-60	0.6-6.0	0.11-0.17	4.5-5.5	<2	Low			.37		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
FREQUENCY	DURATION	MONTHS	DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
None			+1-1.0	Apparent	Jun-Sept	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (0)	Severe--Ponds; wetness	Water control; mounding
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Ponds; wetness; seepage	Water control; sealing or lining
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Ponds; wetness	Water control; fill area
LOW COMMERCIAL BUILDINGS	Very Low (25)	Severe--Ponds; wetness	Water control; fill area
LOCAL ROADS AND STREETS	Very Low (10)	Severe--Ponds; wetness	Water control
SHALLOW EXCAVATIONS	High (70)	Severe--Ponds; wetness; Cutbanks Cave-in	Water control; shoring
ACTIVE PLAY AREAS	Very Low (10)	Severe--Ponds; wetness	Generally not suited
PASSIVE PLAY AREAS	Low (50)	Severe--Ponds; wetness	Water control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Low (50)	Wetness	Good management; water control
IMPROVED PASTURES	Very Low (40)	Wetness	Generally not suited
WOODLAND	Very Low (0-65)	Severe--Equipment; seedling mortality	Water control; good management
CITRUS	Very Low (10)	Wetness	Generally not suited
SPECIALIZED ROW CROPS	Very Low (35)	Wetness	Generally not suited

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

SOIL PROPERTIES AND INTERPRETATIONS

MAP SYMBOL: 77 Winder fine sand

SOIL NAME: The Winder Series consists of nearly level poorly drained soils that occur on broad low flats and depressed areas in the lower coastal plain. In a representative profile the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer is dark gray loam sand about 7 inches thick and it tongues into the underlying gray sandy clay loam subsoil. They formed in loamy marine sediments over marl. Slopes are less than 2 percent.

ESTIMATED SOIL PROPERTIES											
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHO	FRACT >3 IN (PCT)	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.				LIQUID LIMIT	PLAS-TICITY INDEX	
					4	10	40	200			
0-12	FS	SP, SP-SM	A-3, A-2-4	0	100	100	80-100	2-12	-	NP	
12-35	SCL	SM-SC, SC	A-2-4, A-2-6	0	100	100	80-100	18-35	20-40	NP-26	
35-53	SL, SCL	SM, SM-SC, SC	A-2-4	0	60-80	50-75	40-70	15-35	<35	NP-20	
53-80	S, FS, LS	SP, SP-SM, SM	A-3, A-2-4	0	60-80	50-75	40-70	3-20	<35	NP	

DEPTH (IN.)	PERMEABILITY (IN/HR)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (pH)	SALINITY (MMHOS/CM)	SHRINK-SWELL POTENTIAL	CORROSIVITY		EROSION		WIND EROD. GROUP
						STEEL	CONCRETE	K	T	
0-12	6.0-20	0.03-.08	5.6-7.8	-	Low	High	Low	.20	5	2
12-35	0.6-2.0	.10-.15	6.6-8.4	-	Low			.32		
35-53	0.6-6.0	.06-.12	7.4-8.4	-	Low			.32		
53-80	6.0-20	.03-.06	7.4-8.4	-	Low			.32		

FLOODING			HIGH WATER TABLE			CEMENTED PAN		BEDROCK		SUBSIDENCE		HYD GRP
			DEPTH (FT)	KIND	MONTHS	DEPTH (IN)	HARDNESS	DEPTH (IN)	HARDNESS	INIT. (IN)	TOTAL (IN)	
FREQUENCY	DURATION	MONTHS										
Frequent	Long	Jul-Oct	0-1.0	Apparent	Jun-Dec	-		>60		-		B/D

INTERPRETATIONS

POTENTIAL, LIMITATIONS, AND NECESSARY MEASURES TO REACH POTENTIAL FOR SELECTED USES OF SOILS

LAND USE	POTENTIAL (Ranking)*	LIMITATIONS	NECESSARY MEASURES TO REACH POTENTIAL
SEPTIC TANK ABSORPTION FIELDS	Very Low (1)	Severe--Floods; wetness	Water control; mounding; control flood waters
SANITARY LANDFILL (TRENCH)	Very Low (0)	Severe--Floods; wetness	Generally not suited
DWELLINGS WITHOUT BASEMENTS	Very Low (20)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOW COMMERCIAL BUILDINGS	Very Low (20)	Severe--Floods; wetness	Water control; control flood waters; fill area
LOCAL ROADS AND STREETS	Very Low (10)	Severe--Floods; wetness	Water control; control flood waters
SHALLOW EXCAVATIONS	Medium (60)	Severe--Wetness; floods	Water control; control flood waters
ACTIVE PLAY AREAS	Very Low (10)	Severe--Floods; wetness	Generally not suited
PASSIVE PLAY AREAS	Medium (60)	Severe--Wetness; floods	Flood control; construct aboveground walks
EXCAVATED PONDS AQUIFER FED	Very High (100)	Slight	None needed
LAWN GRASSES AND ORNAMENTAL PLANTS	Very Low (30)	Severe--Floods; wetness	Good management; control flood waters; water control
IMPROVED PASTURES	Very Low (25)	Floods; wetness; low organic matter; low natural fertility	Water control; control flood waters; good management
WOODLAND	High (86-95)	Moderate--Seedling mortality; equipment	Water control; control flood waters; good management
CITRUS	Very Low (15)	Wetness; floods	Generally not suited
SPECIALIZED ROW CROPS	Very Low (20)	Wetness; low organic matter; floods; low natural fertility	Water control; control flood waters; good management

*Individual scores have been rated less than zero on the rating score sheets, but for purposes of continuity they have been rated here as a minimum score of zero.

APPENDIX VI
NATURAL AND VEGETATIVE
COMMUNITIES FOR VOLUSIA COUNTY



ECOLOGICAL PLANT COMMUNITY

NO. 1 - NORTH FLORIDA COASTAL STRAND

OCCURRENCE

This ecological community occurs along the Atlantic Ocean north of Indian River County. Individual communities are generally large in size, being narrow and long, parallel to the coastal beaches. Small, isolated communities can also be found along some bays or sounds. This community generally encompasses the area affected by salt spray from the ocean, and salt water bays.

DESCRIPTION

This community occurs on nearly level to strongly sloping land. It is easily identified by its location adjacent to the Atlantic Ocean and by plants that are adapted to or influenced by the salty environment. Small areas of Upland Hardwood Hammock may occur on the more inland parts of this community.

1. Soil

The soils are nearly level to strongly sloping, deep, mostly well to excessively drained with some moderately well drained or somewhat poorly drained. They are coarse textured throughout. Representative soils include: Canaveral and Palm Beach.

2. Vegetation

The natural vegetation of this community is low growing grasses, vines, and herbaceous plants with few trees or large shrubs. These trees and shrubs often occur in stunted form due to the action of the wind. The natural forces of wind, salt and blowing sand make plant establishment difficult on the foredunes. Plants which do establish here are well adapted to disturbance and are pioneer species. The backdunes will often have vegetation similar to the Sand Pine Scrub ecological community. Plants which characterize this community are:

TREES - Cabbage palm, Sabal palmetto; Sand live oak, Quercus virginiana var. maritima.

SHRUBS - Seashore elder, Iva imbricata; Saw palmetto, Serenoa repens; Spanish bayonet, Yucca aloifolia; Yaupon holly, Ilex vomitoria.

HERBACEOUS PLANTS AND VINES - Beach morning-glory, Ipomoea stolonifera; Blanket flower, Gaillardia pulchella; Railroad vine, Ipomoea pes-caprae; Largeleaf pennywort, Hydrocotyle bonariensis; Sea purslane, Sesuvium portulacastrum.

GRASSES AND GRASSLIKE PLANTS - Bitter panicum, Panicum amarum; Gulf bluestem, Andropogon maritimus; Saltmeadow cordgrass, Spartina patens; Sandbur, Cenchrus spp.; Sea oats, Uniola paniculata; Sea-dune panicum, Panicum amarulum.

3. Animals

A variety of shorebirds, terns, and gulls can be found on or near the beach. This community provides a good food source as well as nesting sites. Small mammals can also be found on the coastal dunes and larger mammals behind the foredunes.

The most common birds are American kestrel, gulls, pelicans, shorebirds, terns, and other predatory birds. Bobcats, foxes, mice, raccoons, skunks, and similar mammals also inhabit the community. Crustaceans such as crabs are numerous near the shorelines. This area also serves as nesting grounds for sea turtles.

INTERPRETATIONS

1. Environmental Value as a Natural System

The coastal strand is highly endangered. Areas privately owned but undeveloped are in demand for residences, hotels, and motels. This urban development can have serious effects on the community.

Coastal strands are important in regulating wave action along the coast. This action tends to break away part of one beach and build up another. Unplanned structures and development which alter this process accelerates beach and coastal dune erosion.

Clearing and leveling of dunes for development also cause erosion through removal of native vegetation which helps hold the dune together, and by removal of sand from the offshore transport system.

Recreational use and wildlife values on the coastal strand are important. Recreation is much in demand in these areas but can cause damage due to trampling and destroying vegetation. When these plants die, their extensive root systems are no longer available to hold the soil together and build the dune. Occasional use may also degrade this fragile community.

This community is not generally used for agriculture or woodland.

2. Endangered and Threatened Plants and Animals

The following endangered or threatened wildlife species may be found in or around this community:

BIRDS - American oystercatcher, Haematopus palliatus; Brown pelican, Pelecanus occidentalis carolinensis; Cuban snowy plover, Charadrius alexandrinus tenuirostris; Florida scrub jay, Aphelocoma coerulescens coerulescens; Least tern, Sterna albifrons antillarum; Little kestrel, Falco sparverius paulus; Roseate spoonbill, Ajaia ajaja.

MAMMALS- Pallid beach mouse (Atlantic coast), Peromyscus polionotus decoloratus.

REPTILES-Atlantic loggerhead turtle, Caretta caretta caretta; Atlantic green turtle (Atlantic coast) Chelonia mydas mydas; Atlantic ridley turtle, Lepidochelys kempii; Gopher tortoise, Gopherus polyphemus; Leatherback turtle, Dermodochelys coriacea.

3. Rangeland

For interpretations refer to the Soil Conservation Service.

4. Wildlifeland

Well suited for a variety of shorebirds, gulls and terns. The native grasses and legumes provide good food sources and nesting sites. The area is important as a nesting ground for sea turtles. It is suited for mammals such as mice, raccoons, bobcats, foxes, and skunks. Many songbirds also inhabit the area.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 2 - SAND PINE SCRUB

OCCURRENCE

The Sand Pine Scrub ecological community occurs throughout Florida. It is most commonly found just inland from the coast and in the central portion of the state near Ocala. Individual communities are generally small in size, i.e., several hundred acres. It typically has a few smaller communities of wetland types interspersed throughout.

DESCRIPTION

This community occurs on nearly level to strongly sloping land. Water movement is rapid through the soil. It is easily identified by the even-aged stands of sand pine.

1. Soil

The soils are nearly level to strongly sloping, deep, acid, well to excessively drained and coarse textured throughout. Representative soils include: Astatula, Paola, St. Lucie, and Cassia.

2. Vegetation

The natural vegetation of this community is typically even-aged sand pine trees with a dense understory of oaks, saw palmetto, and other shrubs. Ground cover under the trees and shrubs is scattered and large areas of light colored sand are noticeable. In some cases, the sand pine are scattered with oaks being the dominant vegetation. Plants which characterize this community are:

TREES - Chapman oak, Quercus chapmanii; Myrtle oak, Quercus myrtifolia; Sand live oak, Quercus geminata; Sand pine, Pinus clausa; Turkey oak, Quercus laevis.

SHRUBS - Gopher apple, Chrysobalanus oblongifolius; Rosemary, Ceratiola crociodes; Runner oak, Quercus pumila; Saw palmetto, Serenoa repens.

HERBACEOUS PLANTS AND VINES - Common prickly pear, Opuntia drummondii; Grassleaf goldaster, Heterotheca graminifolia; Reindeer moss, Pilophoron rangiferina; Greenbriar, Smilax spp.

GRASSES AND GRASSLIKE PLANTS - Bluestem species, Andropogon spp.; Indiangrass, Sorghastrum nutans.

3. Animals

Animals found in this community are adapted to high temperatures and droughty conditions. The wildlife food production is low. Dense vegetation provides good escape cover and deer utilize this community frequently. The various species of oaks provide good food when they are fruiting. Gopher apple is also a good wildlife food plant.

Typical animals of the sand scrub are: deer, gopher tortoise, gopher frog, scrub lizard, sand skink, black racer, Florida mouse, towhee, Great crested flycatcher, and scrub jay.

INTERPRETATIONS

1. Environmental Value as a Natural System

The sand pine scrub is a fire-based community. Understory vegetation is dense and fuel supplies build up in the trees due to a minimum of leaf fall. The thick understory creates a pathway to the tree crowns when fire occurs. Fire normally occurs every 20-40 years. Sand pines have a low resistance to fire and the high density, even-aged stands make fire devastating. Cones of the sand pine require the heat of a fire to open and release seeds. This method of regeneration helps to form even-aged stands. Without occasional fire this community would become a type of upland hammock community.

The sand pine scrub is a valuable ecological community. The coarse textured, excessively and well drained soils make the community important in aquifer recharge. It is a unique ecosystem which gives it an important scientific value. Heat and drought stress response by plants and animals are often studied on these sites.

Uncontrolled fire and damage to vegetation by excessive foot or vehicle travel are adverse effects on the community. Sand scrubs are good producers of sand pine and some areas are utilized for commercial woodland. Intensive management for pulp production will not cause undue damage to the community if proper woodland practices are used.

Native forage production is low and the community has limited use for rangeland. Adverse soils conditions also limit its use for farming. This community has fair to good wildlife values, especially with proper management. It is especially important as an escape area and for wildlife cover.

Areas of sand pine scrub communities are rapidly declining. Favorable conditions for residential use and proximity to the coast make them prime sites for real estate development.

2. Endangered and Threatened Plants and Animals

The following endangered or threatened plants may occur in this community:

SHRUBS - Highland's scrub hypericum, Hypericum comulicola; Scrub-plum, Prunus geniculata.

HERBACEOUS PLANTS AND VINES - Large-leaved jointweed, Polygonella macrophylla; Lewton's polygala, Polygala lewtonii.

The following threatened wildlife species may be found in or around this community:

BIRDS - Scrub jay, Aphelocoma coerulescens coerulescens.

MAMMALS- Florida mouse, Peromyscus floridanus.

REPTILES - Blue-tailed mole skink, Eumeces egregius lividus; Gopher tortoise, Gopherus polyphemus; Gopher frog, Rana areolata aesopus; Short-tailed snake, Stilosoma extenuatum.

3. Rangeland

For interpretations refer to the Soil Conservation Service.

4. Wildlifeland

Suited for deer and turkey, especially for use as escape cover. Many songbirds inhabit this area including warblers, towhees, crested flycatchers, and quail. Several varieties of native legumes furnish food (seeds) for bird life. Timber harvest and other disturbances increase wildlife food value by increasing the amount and types of herbaceous plants and by sprout production

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO.3 - LONGLEAF PINE-TURKEY OAK HILLS

OCCURRENCE

This community occurs throughout Florida. Individual communities vary widely in size and a limited number of other communities may occur within it.

DESCRIPTION

This community occurs on rolling land with nearly level to strong slopes. Water movement is rapid through the soil. It is easily identified by the land form and dominant vegetation of longleaf pine and turkey oak.

1. Soil

The soils are nearly level to strongly sloping, acid, moderately well to excessively drained, deep and mostly coarse textured throughout or mostly coarsely textured in the upper part and moderately fine textured or moderately coarse textured in the lower part. Representative soils are: Tavares and DeLand.

2. Vegetation

There are several variations of this community. Mature, natural stands which have not been logged have scattered longleaf pine as an overstory. Areas in which pines have been removed are predominantly oaks. Herbaceous plants are scattered and numerous bare areas are usually found. Plants which characterize this community are:

TREES - Longleaf pine, Pinus palustris; Turkey oak, Quercus laevis.

SHRUBS - Gopher apple, Chrysobalanus oblongifolius; Pawpaw, Asimina reticulata; Runner oak, Quercus pumila.

HERBACEOUS PLANTS AND VINES - Grassleaf goldaster, Heterothera graminifolia; Partridgepea, Cassia fasciculata; Tick trefoil, Desmodium strictum.

GRASSES AND GRASSLIKE PLANTS - Bluestems, Andropogon spp.;
Pineland threeawn, Aristida stricta; Pinewood
dropseed, Sporobolus junceus.

3. Animals

Animals utilizing this community are adapted to stress conditions of high temperature and drought. Many of the animals are burrowers. This helps to prevent water loss and provides protection against high temperatures. The most common animals of this community are: indigo snake, gopher tortoise, fence post lizard, ground dove, bobwhite quail, rufous-sided towhees, fox squirrel, white tail deer, and pocket gopher.

INTERPRETATIONS

1. Environmental Value as a Natural System

The longleaf pine-turkey oak community is a fairly open forest community influenced by fire, heat and drought. The most important influence is fire which typically occurs frequently. The natural vegetation is adapted to withstand the effects of occasional fire. Grasses cover large areas and provide fuel for the fire and prevent competing hardwoods from regenerating. Longleaf pine cannot tolerate hardwood competition and, with fire, this species remains dominant. The community can be changed to an upland hammock type by elimination of fires. Water moves rapidly through most of the soils to the aquifer with little runoff and minimal evaporation. This is important for aquifer recharge.

Longleaf pine-turkey oak hills are used to some extent for timber production.

Native forage production is low and the community has limited value as rangeland. Improved practices for rangeland have little effect on the community.

This community has value for wildlife if proper management techniques are used. Bobwhite quail utilize the areas for food and cover and make the hunting aspects especially important. In central Florida most of this community has been planted to citrus. Soil conditions are very favorable for urban development. The community is decreasing rapidly in size because of the demand for urban and agricultural uses.

2. Endangered and Threatened Plants and Animals

The following endangered or threatened plants may occur in this community:

SHRUBS - Highlands scrub hypericum, Hypericum cumulicola.

The following threatened wildlife species may be found in or around this community:

BIRDS - Little kestrel, Falco sparverius paulus; Red-cocaded woodpecker, Dendrocopos borealis.

MAMMALS - Florida panther, Felis concolor coryi; Florida weasel, Mustela frenata peninsula; Sherman's fox squirrel, Sciurus niger shermani.

REPTILES - Blue-tailed mole skink, Eumeces egregius lividus; Gopher frog, Rana arolata aesopus; Gopher tortoise, Gopherus polyphemus; Indigo snake, Drymarchon corais couperi; Short-tailed snake, Stilosoma extenuatum.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

Suited for deer and turkey, especially for use as escape cover. Many songbirds inhabit this area including warblers, towhees, crested flycatchers, and quail. Several varieties of native legumes furnish food (seeds) for bird life. Timber harvest and other disturbances increase wildlife food value by increasing the amount and types of herbaceous plants and by sprout production.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 4 - SOUTH FLORIDA FLATWOODS

OCCURRENCE

This community is found throughout south and central Florida. The northern limit of its occurrence is approximately on a line from Levy County on the west to St. Johns County on the east. This community covers more land area than any other in south Florida. Individual communities may comprise several thousand acres and are typically interspersed with smaller communities of other types, especially wetlands.

DESCRIPTIONS

South Florida Flatwoods ecological community occurs on nearly level land. Water movement is very gradual to the natural drainageways, swamps, ponds and marshes associated with this community. During the rainy season, usually June-September, this community may have water on or near the soil surface.

1. Soil

The soils are usually nearly level, poorly to somewhat poorly drained, deep, and coarse textured throughout or coarse textured in the upper part and moderately coarse textured or moderately fine textured in the lower part. Representative soils include: Immokalee, Myakka, Pomona, Smyrna and Wauchula.

2. Vegetation

The landscape position of this community affects plant-water relationships and causes slight differences in plant composition from wetter to drier areas. Although these differences are recognized, they are not significant enough to delineate as separate communities.

The natural vegetation of this community is typically scattered pine trees with an understory of saw palmetto and grasses. Plants which characterize this community are:

TREES - Longleaf pine, Pinus palustris; Slash pine, Pinus elliottii and Pinus elliotti var. densa.

SHRUBS - Dwarf huckleberry, Gaylussacia dumosa; Fetterbush Lyonia lucida; Gallberry, Ilex glabra; Saw palmetto, Serenoa repens; Tarflower, Befaria racemosa; Shining sumac, Rhus copallina; Partridge pea, Cassia fasciculata; Runner oak, Quercus laevis; Wamyrrtle, Myrica cerifera.

HERBACEOUS PLANTS AND VINES - Creeping beggarweed, Desmodium canum; Deer tongue, Trilisa odoratissima; Dog fennel, Eupatorium capillifolium; Gayfeather, Liatris gracilis; Grassleaf goldaster, Heterotheca graminifolia; Milk pea, Galactia regularis; Greenbriar, Smilax spp.

GRASSES AND GRASSLIKE PLANTS - Chalky bluestem, Andropogon capillipes; Creeping bluestem, Andropogon stolonifer; Lopsided indiagrass, Sorghastrum secundum; Pineland threeawn (wiregrass), Aristida stricta; and Sedges, Cyperus spp.

3. Animals

The South Florida Flatwoods is host to a diverse and numerous wildlife population. Many larger animals are found in areas where the flatwoods join other communities. These ecotones provide nesting sites, den sites, food and cover.

Typical animals of the flatwoods are deer, bobcat, raccoons, gray fox, fox squirrels, cottontail rabbits, cotton rats, Eastern diamondback rattlesnakes, pygmy rattlesnakes, opossums, skunks, bobwhite quail, meadow larks, redbellied woodpeckers, and pileated woodpeckers. Introduced feral hogs have long inhabited much of the community.

INTERPRETATIONS

1. Environmental Value as a Natural System

Fire and water are the major stress conditions of this community. Fire is important in control of hardwoods and natural regeneration of pine. Removal of fire will cause a successional move to a hardwood community, the kind of which depends on soil drainage.

Flatwoods are good cellulose producers and the original areas of predominantly longleaf pine have been logged. Areas in the northern part of the community are used for timber production. Intensive management for pulp production can cause major changes in the vegetation. Without proper consideration this results in a low diversity of plants and an adverse change in some wildlife populations.

Native forage production is good with proper management. Use for rangeland has only a slight effect on the community if properly managed. Chopping and similar range practices result in more grasses and fewer shrubs. With sufficient cover left, the resulting increase in diversity usually leads to an increase in types and amount of wildlife.

This community has good wildlife values, especially with proper management. It is especially important as a wildlife buffer zone between urban areas occurring on better drained sites.

Water control practices and improved management techniques have facilitated the use of flatwoods for improved pasture, vegetables, citrus, and urban development. This is especially true in south Florida near the coast.

2. Endangered and Threatened Plants and Animals

The following endangered and threatened plants are not common in this community, but may occur in some instances:

FERNS - Chain fern, Woodwardia virginica.

The following endangered and threatened wildlife species may be found in or around this community:

BIRDS - Florida grasshopper sparrow, Ammodramus savannarum floridanus; Little kestrel, Falco sparverius paulus; Osprey, Pandion haliaetus carolinensis; Red-cockaded woodpecker, Dendrodopos borealis; and Southern bald eagle, Haliaeetus leucocephalus leucocephalus.

MAMMALS - Florida panther, Felis concolor coryi; Mangrove fox squirrel, Sciurus niger avicennia; Sherman's fox squirrel, Sciurus niger shermani.

REPTILES - Indigo snake, Drymarchon corais couperi.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

South Florida Flatwoods is well suited for deer, quail, and turkey. It is fair for squirrels and well suited for many songbirds, particularly warblers. It is also well suited for bobcat, skunks, opossums, and raccoons. It is poorly suited for dove.

5. Woodland

For interpretations contact the Soil Conservation Service
and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY
NO. 5 - CABBAGE PALM FLATWOODS

OCCURRENCE

This community occurs throughout south Florida and, to a limited extent, in central Florida. The northern limit of its occurrence is approximately on a line from Levy County on the west to St. Johns County on the east. Small isolated areas are found north of this line. Locally, it most often occurs adjacent to coastal areas, major drainageways, and lakes. Individual communities are typically interspersed with smaller communities of wetland types.

DESCRIPTION

Cabbage Palm Flatwoods ecological community occurs on nearly level land. Water movement is very gradual to and through the natural drainageways, swamps, ponds, and marshes associated with the community. During the rainy season, usually June through September, the water table is on or near the soil surface.

1. Soil

Numerous soil types occur within this community. The soils are most often nearly level, poorly to somewhat poorly drained, shallow to deep, and coarse textured to fine textured in the subsoil. Some parts of the subsoil is calcareous, or it is neutral to moderately alkaline. The surface and subsurface layers are coarse textured. Representative soils include: Riviera, Malabar, Winder and Bradenton.

2. Vegetation

Slight differences in plant composition occur depending upon water relationships. The slightly wetter sites contain a higher percentage of grasses and herbaceous plants. Although these differences are recognized, they are not significant enough to delineate as separate communities.

The natural vegetation of this community is typically scattered pine and cabbage palm with an understory of

palmetto and grasses. There is considerable uniformity and openness. It is similar to the South Florida Flatwoods community except for a higher percentage of herbaceous plants and the presence of cabbage palms. The plants which characterize this community are:

TREES - Cabbage palm, Sabal palmetto; Slash pine, Pinus elliotii.

SHRUBS - Fetterbush, Lyonia lucida; Palmetto, Serenoa repens; Tarflower, Befaria racemosa; Wax myrtle, Myrica cerifera.

HERBACEOUS PLANTS AND VINES - Caesar bur, Urena lobata; Deer tongue, Trilisa odoratissima; Creeping beggarweed, Desmodium canum; Gay feather, Liatris gracillis; Grassleaf goldaster, Heterotheca graninifolia; Milk pea, Galactia regularis.

GRASSES AND GRASSLIKE PLANTS - Chalky bluestem, Andropogon capillipes; Creeping bluestem, Andropogon stolonifer; Panicums, Panicum spp., Pineland threeawn, Aristida stricta; Lopsided indiagrass, Sorghastrum secundum; Sedges, Cyperus spp.; Switchgrass, Panicum virgatum.

3. Animals

The Cabbage Palm Flatwoods are habitat for a diverse and numerous wildlife population. Larger animals are found where the flatwoods join other communities, especially the wetlands. Typical animals are deer, red-shouldered hawks, cottontail rabbits, opossums, raccoons, pygmy rattlesnakes, black racers, cotton mice, cotton rats, diamond-back rattlesnakes, coral snakes, bobcats, bobwhite quail, and striped skunks.

INTERPRETATIONS

1. Environmental Value as a Natural System

Fire and water are the major stresses of this community. Fire is important in control of hardwoods. Removal of fire will cause a successional move to hardwoods. The kind of hardwoods will depend on soil conditions such as drainage. Flatwoods are good cellulose producers and nearly all of the original areas of pine have been harvested. Areas in the northern locations are used primarily for timber production. Intensive management for pulp production normally causes major changes in vegetation. The result is a low diversity of plants and a reduction in number and kinds of wildlife.

Native forage production is very good with good management. Proper rangeland use has only a slight effect on this community. Application of range practices will increase the grasses and reduce the shrubs. This brings about an increase in types and amount of wildlife.

This community has very good wildlife values that can be enhanced with proper management. It is especially important as a buffer zone for wildlife between urban areas occurring on better drained sites and the natural drainageways. Water control practices and improved management techniques have facilitated the use of Cabbage Palm Flatwoods for extensive agricultural and urban land uses.

2. Endangered and Threatened Plants and Animals

The following endangered or threatened plants are not common in this community but may occur in some instances:

HERBACEOUS PLANTS AND VINES - Chain fern, Woodwardia virginica.

The following threatened wildlife species may be found in or around this community:

BIRDS - Little kestrel, Falco sparverius paulus; Osprey, Pandion haliaetus carolinensis; Southern bald eagle, Haliaeetus leucocephalus leucocephalus.

MAMMALS - Florida panther, Felis concolor coryi; Mangrove fox squirrel, Sciurus niger avicennia.

REPTILES - Eastern indigo snake, Drymarchon corais couperi.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

Cabbage Palm Flatwoods offer good food and cover to many species of wildlife. Food value is mostly palm fruit, pine mast, and acorns from associated oaks. Legumes and grasses furnish good food sources to quail and small birds. Habitat is well suited for deer and turkey and offers refuges to migrating birds during winter months.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 6 - UPLAND HARDWOOD HAMMOCKS

OCCURRENCE

This community is generally considered to be the climax vegetation of ecological succession in the Southern Coastal Plains. A climax community is one that perpetuates its kind in equilibrium with the environment without influence of man. Varying in size from a few acres to several hundred, this community occurs commonly in north central Florida and sparingly in north and west Florida.

DESCRIPTIONS

Moderately moist regimes without excessive water or drought conditions characterize this community. Topographically, it occurs on rolling terrain at mid-elevations. It can be readily identified by the occurrence of thick stands of shade tolerant hardwoods and few pines. There is usually more organic material and litter present than on drier sites.

1. Soils

The representative soil is Cocoa Sand. The soil is usually nearly level to rolling, moderately well to well drained, and deep. It is coarse-textured throughout with moderately coarse-textured to moderately fine-textured subsoils.

2. Vegetation

This community is considered to be in a climax state of vegetation when only a few pine occur with hardwoods dominating. Under climax conditions, understory vegetation may be quite sparse. Characteristic vegetation includes:

TREES - Magnolia grandiflora; Laurel oak, Quercus Laurifolia;
Live oak, Quercus virginiana; Pignut hickory, Carya glabra;
Black cherry, Prunus serotina; Southern red oak, Quercus falcata; American holly, Ilex opaca; American beech, Flowering dogwood, Cornus florida; Eastern hophornbean; Ostrya virginiana;
American hornbean, Carpinus caroliniana

SHRUBS - Sparkle berry, Vaccinium arboreum; American beautyberry, Callicarpa americana; Water viburnum, Viburnum obovatum;
Strawberry bush, Euonymus americanus; Wild azalea, Rhodendron viscosum

HERBACEOUS PLANTS AND VINES - Virginia creeper, Quinquefolia; Poison ivy, Rhus radicans; Carolina jessamine, Gelsemium sempervirens; Greenbriar, Smilax spp.; Wild grape, Vitis spp.; Violet, Viola spp.; Partridge berry, Mitchella repense; Cinnamon fern, Osmunda cinnamomea

GRASSES AND GRASSLIKE PLANTS - Panicum, Panicum spp.

3. Animals

The more common wildlife species found are woodpeckers, owls, woodcock, wrens, wild turkey, raccoon, opossum, flying squirrel, gray squirrel, fox squirrel, gray fox, bobcat, white-tailed deer, and black bear.

INTERPRETATIONS

1. Environmental value as a Natural System

Upland hardwood hammocks occur on some of the better soils for a variety of uses and may undergo considerable stress and change. From a purely aesthetical standpoint the interior of this community, if not recently disturbed, usually is inspiring. Large hardwoods exhibit an interesting diversity in growth forms while in the moist drainageways, true mosses, several species of ferns and violets exhibit the fragile side of nature. Many aspects related to environmental awareness such as the function of a macro-organism in decay and nutrient-cycling may be viewed in this community.

Upland hardwood hammocks are valuable for watershed protection hardwood products and are prized areas for residential development.

2. Threatened or Endangered Plants and Animals

Auricled spleenwort, Asplenium auritum; Dwarf spleenwort, Asplenium pumilum; Sinkhole fern, Blechnum occidentale L.; Halberd-Leaved yellow violet, Viola hastata (in west Florida)

Threatened or endangered animals include:

Florida panther, Felis concolor coryi; Black bear, Ursus americana floridanus

3. Range

For interpretations refer to the Soil Conservation Service.

4. Wildlife

Hardwood mast (acorns, nuts, fruits, buds, and berries) makes upland hardwood hammocks good habitate for deer, turkey, squirrel, black bear, and many songbirds. Maturing hardwoods and snags provide good nesting sites for squirrel, owls, and most woodpeckers. Habitat is good for raccoons and opossums; poor for bobwhite quail and dove; fair for reptiles and poor for most amphibians.

5. Woodland

For interpretations contact the Soil Conservation Service and/or
The Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 7 - WETLAND HARDWOOD HAMMOCKS

OCCURRENCE

This ecological community is scattered east and west of the Central Florida Ridge, extending northwesterly into the Panhandle.

DESCRIPTION

This community is a wetland forest with an evergreen oak appearance on poorly drained soils, soils subject to constant seepage; or soils with high water tables. Red cedar and cabbage palm are abundant. Topography is low and nearly level. These hammocks are not flooded for as long a period of time as are associated swamp hardwoods. The swamp hardwood community is found within depressional areas of the wetland hardwood hammock. Wetland hardwood hammock may be distinguished from bottomland hardwoods by the type of flooding. If the inundating water derives from river overflow, it is a bottomland hardwood; if inundated by local rainfall, it is wetland hardwood hammock.

1. Soils

Soils associated with this community are somewhat poorly drained and poorly drained and have loamy subsoils and sandy surfaces. Many of these soils have very thick sandy surface and subsurface layers. Representative soils include Riviera, Malabar and Winder.

2. Vegetation

This community supports a luxurious growth of vegetation with a diversity of species. Although supporting plants found in both drier and wetter sites, this community has definite flora characteristics. Plants which characterize this community are:

TREES - Southern sweetbay, Magnolia virginiana; Loblolly bay, Gordonia lasianthus; Sweetgum, Liquidambar styraciflua; Water oak, Quercus nigra; Red maple, Acer rubrum; Florida elm, Ulmus floridana; Red bay, Persea borbonia; Laurel oak, Quercus laurifolia; Live oak, Quercus virginiana; Southern magnolia, Magnolia grandiflora; Cabbage palm, Sabal palmetto; Haw - Craetaegus spp.

SHRUBS - Titi, Cyrilla racemiflora;
Witchhazel, Hamamelis macrophylla; Waxmyrtle, Myrica
cerifera; Common buttonbush, Cephalanthus occidentalis

HERBACEOUS PLANTS AND VINES - Greenbriar, Smilax spp.; Carolina
jessamine, Gelsemium sempervirens; Crossvine, Bignonia
capreolata; Wild grape, Vitis spp. Poison ivy, Rhus Radicans;
Virginia creeper, Parthenocissus quinquefolia; Royal fern,
Osmunda regalis; Cinnamon fern, Osmunda cinnamomea; Chain
fern, Woodwardia virginica; Spanish mosses, Tillandsia
usneoides; Partridge berry, Mitchella repense; Lizard's
tail, Saururus cernuus

GRASSES AND GRASSLIKE PLANTS - Longleaf uniola, Chasmanthium
sessiliflorum

Plants that may occur in this community are found in the table
following the ecological community writeups.

3. Animals

Wildlife species include turkey, owls, woodpeckers, Mississippi
kite, Red-shouldered hawk, numerous songbirds, deer, wild hogs,
raccoons, opossums, skunk, bobcat, mink, and otter.

INTERPRETATIONS

1. Environmental values

Wet hardwood hammocks are high in recreational value for hunting,
camping, and general outing aesthetical benefits. Although water-
shed protection is a value served by the community, the wet soils
and generally flat topography make these uses minimal. Water quality
and quantity control is one of the most important benefits provided.

2. Endangered and Threatened Animals

Threatened or endangered animals may include:

BIRDS - Ivory-billed woodpecker, Campelius principalis; Southern
bald eagle, Haliaeetus leucocephalus

MAMMALS - Black bear, Ursus Americanus; Florida panther, Felis
concolor coryi

3. Rangeland

For interpretations refer to the Soil Conservation Service.

4. Wildlifeland

Wet hammocks are one of the most productive and diverse wildlife habitats. This community is good habitat for wild hogs, deer, turkey, black bear, grey squirrel, woodpeckers, owls, and fur-bearers. It is poor for quail and dove and fair for many songbirds. It is good for reptiles and amphibians, being moist most of the year.

5. Woodland

For interpretations contact The Soil Conservation Service and/or The Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 8 - CABBAGE PALM HAMMOCKS

OCCURRENCE

Cabbage Palm Hammocks occur predominantly in south Florida. Communities are usually one to several acres and rarely extensive in size.

DESCRIPTION

This community is easily identified by the occurrence of thick stands of cabbage palm with a few scattered oak. It occurs on slightly elevated areas within the Slough and South Florida Flatwoods Communities.

1. Soils

Soils are on low-lying poorly drained ridges or flats and consist of Winder and Tuscawilla. Most of the soils are coarse textured and calcareous in nature.

2. Vegetation

Tree species consist predominantly of cabbage palms. Plants that characterize this community are:

TREES - Cabbage palm, Sabal palmetto; Laurel oak, Quercus laurifolia; Live oak, Quercus virginiana; Water oak, Quercus nigra.

SHRUBS - American beautyberry, Callicarpa americana; Saw palmetto, Serenoa repens; Wax myrtle, Myrica cerifera.

GRASSES - Chalky bluestem, Andropogon capillipes; Creeping bluestem, Andropogon stolonifer; Hairy panicum, Panicum rhizomatum; Low panicums, Panicum spp.; Pineland thereawn, Aristida stricta.

3. Animals

Wildlife species include deer, turkey, wild hogs, armadillo, raccoons, opossums, skunk, bobcat, grey squirrel, owls, woodpeckers, red-shouldered hawk and numerous songbirds and snakes.

INTERPRETATIONS

1. Environmental Value as a Natural System

Prominent in the landscape of south Florida, cabbage palm hammocks lend a certain natural amenity not found elsewhere in the state. They offer resting cover for both migratory and resident wildlife and serve as refuges during wet conditions.

ECOLOGICAL PLANT COMMUNITY

NO. 9 - OAK HAMMOCKS

OCCURRENCE

Oak hammocks occur through central Florida extending south to the Everglades and west to about Tallahassee.

DESCRIPTION

This community is readily identified by the dense canopy of predominantly live oak trees on nearly level to rolling topography. The understory is usually sparse.

1. Soils

Soils are somewhat poorly to poorly drained. Some have limestone rocks occurring on or near the surface. Representative soils include: Myakka Variant, Paisley, Tuscawill, and Winder

2. Vegetative

Tree species consist of mostly live oaks associated with other oaks and pine. There are few understory plants. Plants that characterize this community are:

TREES - Cabbage palm, Sabal palmetto; Laurel oak, Quercus laurifolia; Live oak, Quercus virginiana; Slash pine, Pinus elliotii; Water oak, Quercus nigra

SHRUBS- American beautyberry, Callicarpa americana; Palmetto, Serenoa repens; Wax myrtle, Myrica cerifera

VINES - Greenbriar, Smilax spp.; Poison ivy, Rhus radicans.

GRASSES - Sedges, Cyperus spp.; Low paspalum, Paspalum spp.; Low panicum, Panicum spp.; Hairy panicum, Panicum rhizomatum; Longleaf uniola, Chasmoanthium sessiliflorum; Bluestems, Andropogon spp.; Indian grass, Sorghastrum nutans

HERBACEOUS PLANTS - Resurrection fern, Polypodium polypodioides; Spanish moss, Dendropogon usneoides; Strap-leaved bromeliad, Guzmania monostachia; Wild pine, Tillandsia utriculata

3. Animals

The most common animals of this community are: deer, squirrels, bobcat, foxes, skunks, racoons, oppossums, rabbits, armadillos, turkey, woodpeckers, owls, songbirds.

INTERPRETATIONS

1. Environmental Value as a Natural System

Oak hammocks add considerably to the quality of the landscape. Spreading, stately oaks in many hammocks offer desirable surroundings for homesites and were used extensively for this purpose by many early settlers. They are also important wildlife areas. This community offers both food and cover to various species. Many areas have been cleared or altered extensively for both urban and agricultural uses, predominantly improved pasture.

2. Endangered and Threatened Plants and Animals

Endangered and threatened plants are:

Auricled spleenwort, Asplenium auritum; Dwarf spleenwort, Asplenium pumilum; Sink-hole fern, Blechnum occidentale

Endangered and threatened animals are:

MAMMALS - Florida panther, Felis concolor coryi

REPTILES- Short-tailed snake, Stilosoma extenuatum
Gopher tortoise, Gopherus polyphemus

3. RANGELAND

For interpretations refer to The Soil Conservation Service

4. Wildlifeland

Hardwood mast (acorns, nuts, fruits, buds and berries) make oak hammocks good habitat for deer, turkey, squirrel, black bear, and many songbirds. Maturing hardwoods and snags provide good nesting sites for squirrel, owls, and most woodpeckers. Habitat is good for raccoons and oppossums; poor for bobwhite quail and dove; fair for reptiles and poor for most amphibians.

5. Woodland

For interpretations contact The Soil Conservation Service and/or
The Florida Division of Forestry.



ECOLOGICAL PLANT COMMUNITY

NO. 10 - CYPRESS SWAMP

OCCURRENCE

The Cypress Swamp Community occurs along rivers, lake margins, slough and strands or interspersed throughout other communities such as flatwoods and slough. It occurs throughout Florida, but is the predominant swamp type in the area from Flagler County south through Polk County and in southwest Florida.

DESCRIPTION

This community is poorly drained and water is at or above ground level a good portion of the year. Bald cypress is the dominant tree and is often the only plant which occurs in significant numbers. Cypress swamps growing on sand, rock and shallow mucky pond areas are not as productive as those found on alluvial floodplain soils. As the soil depth in muck ponds increases, so does the growth rate of cypress. The submerged or saturated condition of the soil and general absence of fire help reduce competition and keep the community from a successional change to a swamp hardwood (Bayhead) community.

Fire is a stress factor, primarily on the drier areas, but water is important in all areas. Water enters the swamp directly from rainfall or runoff. The water level is highest in summer and peak productivity occurs in early spring. Stagnant water will result in slower tree growth especially if it occurs during the growing season.

Natural regeneration of cypress requires fluctuation of the water. Water must be available to germinate the seeds. When the seedling starts to grow its top must be maintained above water.

1. Soils

Soils commonly associated with this community are poorly and very poorly drained soils with various textures that have a thick, dark top soil or a thin layer of muck. Representative soils include: Bluff, Astor, Hontoon and Terra Ceia.

2. Vegetation

Bald cypress, along lakes and stream margins, is dominant and often is the only plant found in large numbers. Pond-cypress occurs in cypress heads or domes which are usually found in flatwoods and prairies. The diversity of trees is low in the cypress heads but increases in the strands and stream margins. Plants which characterize this community are:

TREES - Bald cypress, Taxodium distichum; Blackgum, Nyssa sylvatica; Loblolly bay, Gordonia lasianthus; Pond cypress, Taxodium ascendens; Pond pine, Pinus serotina; Red maple, Acer rubrum; Willow, Salix spp.; Sweet Bay, Magnolia virginiana; Water tupelo, Nyssa aquatica; Swamp tupelo, Nyssa sylvatica.

SHRUBS - Common buttonbush, Cephalanthus occidentalis; Carolina ash, Fraxinus caroliniana.

VINES - Bamboobriar, Smilax laurifolia; Cat greenbriar, Smilax glauca; Red bamboo, Smilax walteri.

HERBACEOUS - Narrowleaf sawgrass, Cladium mariscoides; Maidencane, Panicum hemitomon.

3. Animals

Wildlife species include: deer, black bear, mink, raccoon, herons, egrets, wood stork, pileated woodpecker, barrel owl, anhinga, limpkin, purple gallinule, wood duck, prothonotary warbler, alligator, and a variety of water snakes, turtles, frogs and salamanders.

INTERPRETATIONS

1. Environmental Value as a Natural System

Cypress swamps are an extremely valuable resource. They can be used for environmental educational study, scientific research, and recreation. They have a high value for use as wildlife habitat. This community has a low diversity of plant species due to the fluctuating water levels and low nutrient availability. Both drastic changes in the water level and a stabilized water level may change the plant community. Often this will occur when man builds dams, dikes or drainage channels. Flooding of a cypress swamp during the dry season will prevent the cypress trees from reproducing. The cypress swamp is not a prime area for residential development.

When ditched and drained, these areas may be used for pine production although they are not as productive as the surrounding pine lands.

Cypress swamps provide water storage areas by holding excess water and slowly releasing it into the water table.

Water quality is enhanced by the community which functions like a waste treatment plant by absorbing nutrients from the water.

2. Endangered and Threatened Plants and Animals

The following plants of this community are considered threatened or endangered:

TREES - Myrtle-leaf holly, Ilex myrtifolia.

HERBACEOUS - Bird's nest spleenwort, Asplenium serratum;
Fuzzy-wuzzy air plant, Tillandsia pruinosa;
Giant water-dropwort, Oxypolis greenmanii;
Hidden orchid, Maxillaria crassifolia.

The following threatened wildlife species may be found in or around this community:

BIRDS - Southern bald eagle, Haliaeetus leucocephalus leucocephalus; Wood stork, Mycteria americana;
Osprey, Pandion haliaetus carolinensis.

3. Rangeland

For interpretations refer to the Soil Conservation Service.

4. Wildlifeland

This community is very important for wildlife refuge areas and as a turkey roosting area. It is well suited for waterfowl and wading birds. Aquatic animals may be found in large numbers.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 11 - SALT MARSH

OCCURRENCE

Salt Marshes occur along the Atlantic coast and inland along tidal rivers.

DESCRIPTION

This community appears as an open expanse of grasses, sedges, and rushes. Usually there is a matrix of interconnected shallow natural channels that aid tidal influx.

1. Soils

Soils commonly associated with this community are level, very poorly drained, muck or sandy clay loams underlain by loamy sand or organic soils underlain by clay or sand. Some are clayey throughout. Many of the soils have a high sulfur content. Many of them are soft and will not support the weight of a man or large animal. Tidal action causes saturation of the soil with salt water and inundation to a depth of a few inches. Representative soils are: Hydraquents and Turnbull.

2. Vegetation

Vegetation often occurs in zones within the salt marsh complex as a result of water levels from tidal action and salinity concentrations in water and soils.

Some species have a wide tolerance range and may be found throughout the grass marsh. Plants in this group are needlegrass rush and seashore saltgrass. Smooth cordgrass is more indicative of low marsh while the high marsh supports salt myrtle, saltmeadow cordgrass, marshelder, saltwort and sea oxeye. Along the North Atlantic Coast, smooth cordgrass is usually dominant. Additional plants that occur in the salt marsh community are:

SHRUBS - Christmas berry, Lycium carolinianum.

HERBACEOUS PLANTS AND VINES - Sea blite, Suaeda linearis;
Seaside goldenrod, Solidago sempervirens; Sea
purslane, Sesuvium portulacastrum; Leather fern,
Acrostichum aureum.

GRASSES AND GRASSLIKE PLANTS - Big cordgrass, Spartina
cynosuroides; Saltmeadow cordgrass, Spartina
patens; Smooth cordgrass, Spartina alterniflora;
Needlegrass rush, Juncus roemerianus; Salt joint-
grass, Paspalum vaginatum; Common reed,
Phragmites communis; Olney bulrush, Scripus
robustus; Seashore saltgrass, Distichlis spicata;
Jamaica sawgrass, Cladium mariscoides; Switch-
grass, Penieum virgatum.

3. Animals

The salt marshes support a variety of wildlife. Raccoons, deer, otter, rails, coots, egrets, gulls, terns, seaside sparrows, brown pelicans, and many forms of waterfowl are dependent upon this community for habitat. The diamond-back terrapin, alligator, and salt marsh snake are among the reptiles found here.

INTERPRETATIONS

1. Environmental Value as a Natural System

The functions of salt marshes are probably the most important and least understood and recognized of all ecological communities. On low energy coastlines and estuaries, the marsh functions as a transition zone from terrestrial to oceanic life.

Nutrients, sediments and detritus from upland systems are redistributed by tidal action, making the marsh one of the most productive natural ecological systems. The area serves as a habitat for the early life stages of numerous ocean species as they feed on countless invertebrate organisms. Many wildlife forms overlap normal ranges at least seasonally to become harvesters, and in many cases part of, the natural food chain.

Salt marshes perform an important function in the stabilization and protection of shorelines, especially during storm tides.

2. Endangered and Threatened Plants and Animals

There are no known endangered or threatened plants that would occur in this community.

The following threatened wildlife species may be found in or around this community:

BIRDS - Brown pelican, Pelecanus occidentalis carolinensis; Osprey, Pandion haliaetus carolinensis; American oystercatcher; Haematopus palliatus; Roseate tern, Sterna dougallii; Least tern, Sterna albifrons antillarum; Wood stork, Mycteria americana; Great white heron, Ardea herodias occidentalis; Southern bald eagle; Haliaeetus leucocephalus leucocephalus.

MAMMALS - Manatee, Trichechus manatus.

REPTILES - Gulf saltmarsh snake, Natrix fasciata clarki; Atlantic green turtle, Chelonia mydas mydas.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

Salt marshes are good habitat for a variety of wildlife. The habitat type is usually maintained by natural forces and influences such as tidal action and periodic hurricanes. Storms usually cause the creation of "open" water in salt and brackish marshes and also may change salinities. The resulting effect is that plant succession is set back and more favorable habitat may be created for waterfowl, fur bearers and some other forms of wildlife such as wading birds. Artificially created dikes to control salinity are used in managing marsh plants for wildlife. Prescribed burning is also a technique used in marsh management.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 12 - MANGROVE SWAMP

OCCURRENCE

Mangrove Swamps occur primarily along saltwater shorelines in south Florida from Levy and Volusia Counties southward. Coastlines that host this community normally have mild wave action in the form of backbays and estuary fringes.

DESCRIPTION

Mangroves appear as a medium-height (10-20 feet) thicket of fleshy-leaved woody plants in coastal areas. In most areas of its range, the red mangrove, Rhizophora mangle, is the most seaward emergent plant. Prop-roots are characteristic of this plant while the black and white species send up modified vertical roots to facilitate in respiration.

1. Soils

Representative soils include: Basinger Variant and Turnbull Variant.

2. Vegetation

The most frequent species found in this community are the three mangroves: red, black, and white. However, depending on elevation and resulting tidal influx, considerable variation occurs in the composition of these three species as well as associated species.

Plants which characterize this community are:

TREES - Red mangrove, Rhizophora mangle; Black mangrove, Avicennia nitida; White mangrove, Laguncularia racemosa; Pond apple, Annona glabra; Buttonwood, Conocarpus erecta.

SHRUBS - Brazilian pepper (exotic), Schinus terebinthifolius; Coin vine, Dalbergia ecastophyllum.

HERBACEOUS PLANTS - Leather fern, Acrostichum aureum; Sea oxeye, Borrchia arborescens; Perennial glasswort, Salicornia virginica; Sea purslane, Sesuvium portulacastrum.

3. Animals

Animals inhabiting mangrove communities include: American alligator, Mangrove cuckoo, Roseate spoonbill, Osprey, Wood stork, Southern bald eagle, Great white heron, Crocodile, Everglades mink, Brown pelican, Wood ibis, Little blue heron, Little green heron, Louisiana heron, Rat snake, Raccoon.

INTERPRETATIONS

1. Environmental Value as a Natural System

The mangrove community is especially important to shoreline protection and stabilization. There is some evidence that mangroves serve a function in land-building by trapping sediments. Definitely, this community acts as a buffer of wind and waves during storm tides.

Probably the most important function of this ecosystem is that of changing a detrital base that accumulates underneath into estuarine production and higher marine life.

The attraction of water to man has caused many mangrove swamps to be lost or altered by dredge and filling for development. Adjacent perturbations may also cause changes in water flow patterns and affect the plant composition of this community.

2. Endangered and Threatened Plants and Animals

The following endangered or threatened animals may occur in this community:

BIRDS - Southern bald eagle, Haliaeetus leucocephalus leucocephalus; Peregrine Falcon, Falco peregrinus; Woodstork, Mycteria americana; Brown pelican, Pelecanus occidentalis carolinensis; White crowned pigeon, Columba leucocephala; Magnificent Frigate bird, Fregata magnificens rothschild; Great white heron, Andrea herodias occidentalis; Osprey, Pandion haliaetus carolinensis.

REPTILES - Florida ribbon snake, Thamnophis sauritus sackeni.

3. Rangeland

For interpretations refer to the Soil Conservation Service.

4. Wildlifeland

Wildlife is best served by assuring that the mangrove community is not destroyed. Mangrove plants themselves seem to be quite hardy appearing as specially adapted pioneer plants in a tenacious, but yet fragile ecosystem. The mangroves are especially valuable as nesting sites for many birds.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO.13 - SWAMP HARDWOODS

OCCURRENCE

The Swamp Hardwood community occurs throughout Florida except for the extreme southeast portion of the state. This community is found bordering rivers and in basins which are either submerged or saturated part of the year.

DESCRIPTION

The vegetation is primarily deciduous trees. Periodic flooding is characteristic of the community. This community does not include cypress swamps or bottomland hardwood areas. These are in separate ecological communities.

1. Soils

Soils associated with this community are very poorly drained, dark colored and have coarse to medium textured surface underlain by finer textured material or are organic. Representative soils include: Bluff.

2. Vegetation

Swamp hardwood forests are characterized by hardwoods, a high percentage of which are deciduous. The species composition is largely determined by the kind of soils that occur. Plants that characterize this community are:

TREES - Bald cypress, Taxodium distichum, Blackgum, Nyssa sylvatica; Cabbage palm, Sabal palmetto; Red maple, Acer rubrum; Sweetgum, Liquidambar styraciflus; Tupelo, Nyssa aquatica; Water hickory, Carya aquatica; Water oak, Quercus nigra; American elm, Ulmus americana.

SHRUBS - Buttonbush, Cephalanthus occidentalis; Carolina ash, Fraxinus caroliniana; Dahoon holly, Ilex cassine; Elderberry, Sambucus canadensis.

3. Animals

Wildlife species include: Bobcat, mink, racoon, deer, gray squirrel, otter, black bear, turkey, Pileated woodpecker, hawks, barred owl, horned owl, wood duck, various songbirds, turtles, and various snakes.

INTERPRETATIONS

1. Environmental Value as a Natural System

Periodic flooding is essential to maintain this ecosystem and is the dominant factor for operation and providing needed nutrients. If the system is drained or flooded for an extended length of time, a new community will result.

This community is of great value for maintaining good water quality and quantity and for wildlife and wilderness values. Water plays an important part in this community. If the water cycle is maintained, the community will tolerate disturbance, but if the water table is lowered or periodic water is not available, the system will change. The community is highly endangered due to its sensitivity to changes in the water cycle. Practices such as improper channelization, drainage and impoundment are especially damaging to this community. Swamp hardwood forests are natural storage areas for floodwater. They slow the flow of water, improve water quality and gradually feed water to the rivers. These areas also act as screens for inorganic waste and reduce pollution levels. Oxygen diffusion is great in the swamp forest because of the large air-to-water surface area. The slow movement of the rivers and obstructions also help with the diffusion. Downstream systems, including estuaries, receive energy through detritus from this system.

The swamp forest is not a prime area for residential development. Development would destroy the wildlife values of this community. Wildlife often use swamp forests for travel lanes between developed areas.

2. Endangered and Threatened Plants and Animals

The following threatened or endangered wildlife species may be found in or around this community:

BIRDS - Bachman's warbler, Vermivora bachmanii; Southern bald eagle, Haliaeetus leucocephalus leucocephalus; Osprey, Pandion haliaetus carolinensis.

MAMMALS - Black bear, Ursus americanus floridanus; Florida panther, Felis concolor coryi.

REPTILES - American alligator, Alligator mississippiensis.

3. Rangeland

For interpretations refer to the Soil Conservation Service.

4. Wildlifeland

This community hosts a large variety of wildlife. It is well suited for waterfowl and water-adapted reptiles and mammals. Animals found in this community must withstand the flooding which occurs periodically.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY
NO. 14 - PITCHER PLANT BOGS

OCCURRENCE

Pitcher Plant Bogs occur primarily in north Florida. Individual communities vary in size but are usually no more than 100 acres.

DESCRIPTION

This community appears as an open expanse of grasses, sedges, and pitcher plants with scattered, stunted pine and cypress. At times, the bogs are flamboyant with wild flowers. There is a predominance of insect-eating plants, dominated by pitcher plants. The erect "trumpets" of these spectacular plants protrude through the grasses and sedges. The community occupies generally flat areas or seepage hillsides. Water frequently stands on the surface.

1. Soils

Soils commonly associated with the community are nearly level to sloping, poorly or very poorly drained, and developed from sandy or sandy and loamy materials. Representative soils are: Bluff, Astor, Hontoon.

2. Vegetation

The natural vegetation of this community is low-growing grasses and herbaceous plants with scattered trees or shrubs. There is a predominance of pitcher plants. Plants which characterize this community are:

TREES - Pond pine, Pinus scrotina; Silky bay, Persea humilis.

SHRUBS - St. Johns wort, Hypericum fasciculatum.

HERBACEOUS PLANTS AND VINES - Hooded pitcher plant, Sarracenia minor; Red-flowered pitcher plant, Sarracenia rubra; Rush featherling, Pleca tenuifolia; White-top pitcher plant, Sarracenia leucophylla; Verbesina, Verbesina warei.

GRASSES AND GRASSLIKE PLANTS - Sedge, Cyperus spp.; Panicgrass, Panicum verrucosum; Pineland threeawn, Aristida stricta; Beak rushes, Rychospora spp.

3. Animals

This community is characterized by a low diversity of wild life. The fauna is not well known but is largely burrowing, such as crayfish, earthworms, and salamanders. Herb bogs are excellent areas for obtaining earthworms. Deer, raccoon, and armadillo commonly range across these areas. The more common birds include meadowlarks and the little kestrel.

INTERPRETATIONS

1. Environmental Value as a Natural System

Pitcher plant bogs are maintained by very high water tables and frequent fire. Fire is necessary to prevent invasion by shrubs and succession to shrub bogs.

This wetland is unique in the predominance of insect-eating plants. It is a valuable water storage area. In addition, this wetland has high esthetic, educational, and scientific values.

They are rapidly being destroyed by drainage and for the planting of pine or improved pasture. Elimination of fire will destroy this rare ecosystem.

2. Endangered and Threatened Plants and Animals

The following endangered and threatened animals may be found in or around this community:

Little kestrel, Falco sparverius paulus.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

This community is one of the less productive for wildlife, probably due to the low diversity of plant species and growth forms, which limits food and cover. It provides fair habitat for white-tailed deer and bobwhite quail.

It is also suited for raccoons, armadillos, and open grass-country birds.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 15 - FRESHWATER MARSH & PONDS

OCCURRENCE

This community occurs throughout Florida. Individual communities vary widely in size. The largest communities, several thousand acres in size, generally occur in southeast Florida.

DESCRIPTION

This community appears as an open expanse of grasses, sedges, and rushes, and other herbaceous plants in an area where the soil is usually saturated or covered with surface water for two or more months during the year.

1. Soils

Soils commonly associated with this community are nearly level and very poorly drained with coarse textured or organic surfaces underlain by clay or sand. Representative soils are: Basinger, Pompano, Samsula, Tequesta, Terra Ceia, Tomoka and Valkaria.

2. Vegetation

Within Florida, 9 different types of freshwater marshes have been described. Any one marsh may be composed of sections of different major types. There is also intergrading of these types. The types are:

Flag marshes dominated by pickerelweed, Sawgrass marshes, Arrowhead marshes, Fire flag and other non-grass herbs marsh, Cattail marsh, Spike-rush marsh, Bulrush marsh, Maidencane marsh, and Sawgrass marsh.

Plants that characterize this community are:

GRASS - Jamaica sawgrass, Cladium mariscoides; Maiden-cane, Panicum hemitomon.

HERBACEOUS - Arrowhead, Sagittaria spp.; Blue flag, Iris savannarum; Common cattail, Typha latifolia; Pickerelweed, Pontederia cordata; slender spike-rush, Eleocharis acicularis; Softstem bulrush, Scirpus validus; Fire flag, Thalia geniculata.

3. Animals

The freshwater marshes and ponds provide excellent habitats for many wildlife species. Numerous birds and waterfowl use this community for wintering or as a year-round habitat. Animals that commonly occur in this community are: Herons, egrets, bitterns, ibis, sandhill cranes, rails, limpkins, gallinules, snipe, killdeer, Florida duck, red-winged blackbirds, caracara, marsh hawk, red-shouldered hawk, swallow-tailed kite, amphiumus, dwarf salamander, sirens, frogs, cricket frogs, bullfrog, leopard frog, turtles (mud turtle, red-bellied turtle, chicken turtle), snakes (horn, water, swamp, brown, cottonmouth, ribbon), alligator, otter, mink, raccoon, marsh rabbit, white-tailed deer, Florida water rat.

INTERPRETATIONS

1. Environmental Value as a Natural System

The freshwater marshes and ponds serve as a filter system for rivers and lakes. This protects the rivers and lakes from eutrophication and provides the marsh with nutrients that are used in the vegetative growth. Marshes will retain water during drought and large marshes also help slow down water flows at flood times.

Fire and water level fluctuation are the major factors affecting these wetland areas. Variations in the water pattern on the marsh will change the diversity and productivity. Marsh-prairie systems will eventually move to a woody community with exclusion of the first or permanent water level changes.

Recreational use of this community may cause much disturbance. In fact, recreational vehicles when used a great deal, will change the plant community found in the area.

The freshwater marsh community is highly endangered. Many have been destroyed or at least degraded. Drainage of this community has caused most of this damage.

2. Endangered and Threatened Plants and Animals

Threatened or endangered animals include:

BIRDS - Florida sandhill crane, Grus canadensis pratensis; Woodstork, Mycteria americana; Cape Sable seaside sparrow, Ammospiza maritima mirabilis; Great white heron, Ardea herodias occidentalis; Roseate spoonbill, Ajaia ajaia.

REPTILES - American alligator, Alligator mississippiensis.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

This community provides excellent habitat for many wetland wildlife species. It includes several endangered species. Many birds and waterfowl use this community year-round and/or for wintering.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

ECOLOGICAL PLANT COMMUNITY

NO. 16 - SLOUGH

OCCURRENCE

This community occurs throughout central and south Florida, but especially in the later. Individual communities vary widely in size. Most serve as drainageways for water during periods of heavy and prolonged rainfall.

DESCRIPTION

This community appears as an open expanse of grasses, sedges, and rushes in an area where the soil is saturated during the rainy season. Most sloughs are relatively long and narrow and slightly lower in elevation than the surrounding flatwoods or hammocks.

1. Soils

Soils commonly associated with this community are nearly level and poorly drained with coarse textured surfaces underlain by clay or sand.

Representative soils are: Astor, Basinger, Chobee, Pineda, Placid, Pompano, Scoggin, and Valkaria.

2. Vegetation

Grasses are the most common plants found in sloughs. Sedges and rushes also occur along with scattered shrubs in some locations. Plants that characterize this community are:

SHRUBS - St. Johns wort, Hypericum fasciculatum; St. Peters wort, Ascyrum spp.

HERBACEOUS - Pickerelweed, Pontederia cordata.

GRASSES - Blue maidencane, Amphicarpum muhlenbergianum; Chalky bluestem, Andropogon capillipes; Florida threeawn, Artistida rhizomophora; sand cordgrass, Spartina bakeri; Pineland threeawn, Aristida stricta; Low panicums, Panicum spp.

SEDGES - Beak rushes, Rhychospora spp.

3. Animals

Sloughs are host to a diverse wildlife population. Many larger animals occur where sloughs join flatwoods and hammocks. Typical animals of the sloughs are: Deer, bobcat, raccoon, gray fox, marsh rabbit, cotton rat, opossum, frogs, Eastern diamondback rattlesnake, pigmy rattlesnake, water snakes, cottonmouth moccasin, ringneck snake, meadowlark, bobwhite quail, egrets, herons, cranes, ibis, red-shouldered hawks and snipe.

INTERPRETATIONS

1. Environmental Value as a Natural System

Sloughs serve as natural drainageways during high water periods. As such, they have great value in improving water quality by natural processes. They also retain water, help slow down water flows, and thereby increase water quantity.

Fire and artificial water level fluctuations are the major factors affecting these areas. Variations in the natural sequence of either event will change the slough's diversity and productivity. With the exclusion of fire or permanent water level changes, the plant succession will be to a woody community.

Native forage production is good with proper management. Use for rangeland has only a slight effect on the community if properly managed. The community has good wildlife values, especially with proper management. Water control practices have facilitated the use of sloughs for improved pasture, vegetables, and citrus.

2. Endangered and Threatened Plants and Animals

Threatened or endangered plants include:

Giant water-dropwort, Oxypolis greenmanii.

Threatened or endangered animals include:

Florida sandhill crane, Grus canadensis matensis.

3. Rangeland

For interpretations contact the Soil Conservation Service.

4. Wildlifeland

This community is productive as food for bobwhite quail, deer, and wading birds. Its low vegetative growth provides poor cover for most wildlife species, but this is often offset by the "edge effect" of this community when it is located within flatwoods.

5. Woodland

For interpretations contact the Soil Conservation Service and/or the Florida Division of Forestry.

APPENDIX VI BIBLIOGRAPHY

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