

# **ARTICLE 5 - ENVIRONMENTAL PROTECTION**

## **CHAPTER 5-10**

### **ENVIRONMENTAL PROTECTION: INTENT**

#### **Sections:**

**5-10.1 Title and Purpose**  
**5-10.2 Organization**

Section 5-10.1 Title and Purpose. Article 5 of the Land Development Regulations is entitled Environmental Protection. The purpose of this article and the chapters within it is to protect the environmental quality of the Reedy Creek Improvement District.

Section 5-10.2 Organization. Article 5 consists of the following chapters:

- (a) 5-10 Environmental Protection: Intent
- (b) 5-20 Wetlands
- (c) 5-30 Stormwater Management
- (d) 5-40 Groundwater Protection
- (e) 5-50 Erosion Control
- (f) 5-60 Sanitary Sewer
- (g) 5-70 Solid Waste
- (h) 5-80 Soils and Minerals
- (i) 5-90 Flora and Fauna
- (j) 5-100 Archaeological and Historic Resources

## CHAPTER 5-20

### WETLANDS

#### Sections:

5-20.1	Purpose
5-20.2	Applicability
5-20.3	Exemptions
5-20.4	Wetland Classifications
5-20.5	General Provisions
5-20.6	Uses Allowed in Class II Wetland Areas
5-20.7	Maintenance and Repairs
5-20.8	Requirements for Wetland Buffers
5-20.9	Environmental Review
5-20.10	Evaluation and Approvals

**Section 5-20.1 Purpose.** The purpose of this chapter, Chapter 5-20, Wetlands, is to implement the environmental protection policies of the RCID Comprehensive Plan and protect those areas designated as wetlands in the Comprehensive Plan. This chapter implements Section 163.3202(2) F.S.

**Section 5-20.2 Applicability.** This chapter shall apply to all projects within the boundaries of the RCID unless exempted by Section 5-20.3. Figure 6-6 Wetlands in the Comprehensive Plan (Conservation Element), which is hereby adopted by reference, shows the general location of wetlands and should be consulted by persons contemplating activities in or near these areas before engaging in a regulated activity. The RCID shall accept the wetland line delineated in the SFWMD Conceptual Permit #48-00714-S.

#### Section 5-20.3 Exemptions.

- (a) Long Term Permits. In accordance with the permits listed below, known collectively as the Long Term Permits, certain wetlands within the RCID have been approved for impact and mitigation has been finalized. The issuing agency and permit number for the Long Term Permits are as follows:
- (1) South Florida Water Management District Permit #48-00714-S;
  - (2) Army Corps of Engineers Permit #199101901 (IP-GS); and
  - (3) Florida Game and Fresh Water Fish Commission Permit #OSC-4.
- (b) Existing Permits. All areas within the District identified for impact by the Long Term Permits or any state and federal permits existing at the time of implementation of the LDRs are exempt from the provisions of this chapter.

**Section 5-20.4 Wetland Classifications.** All wetlands within the District are classified as Class I Areas or Class II Areas as provided below.

- (a) Class I Areas.
- (1) Any functional wetland currently protected by a conservation easement within the RCID;

- (2) Any area included within the Wildlife Management/Conservation Area as defined by SFWMD; or
  - (3) Any wetland identified by the Florida Game & Fresh Water Fish Commission or U.S. Fish & Wildlife Service as providing critical and essential habitat for species on either the federal or state list of threatened or endangered species.
- (b) Class II Areas. All functional wetlands which do not meet the criteria as a Class I Area.

**Section 5-20.5 General Provisions.** The standards within this section shall apply to all wetland and wetland buffer areas within the RCID.

- (a) Class I. Encroachment into Class I Areas is prohibited.
- (b) Class II. Removal, encroachment, or alteration of Class II Areas shall be allowed only when deemed appropriate and necessary; when the type, extent, and location of an impact is minimized to the maximum extent feasible; when consistent with all policies related to wetlands that are included as part of Objective 3 of the Future Land Use Element of the Plan; and when all required state and federal permits are obtained.
- (c) Polluting Activities. Activities which cause pollution of wetlands, including but not limited to location of wastewater disposal systems in wet soils; irrigation with reuse water as set forth in Subsection (c) of Section 4-50.4; unauthorized application of pesticides, herbicides, fertilizers, and algaecides; disposal of solid waste and/or stormwater runoff at inappropriate sites; or the creation of unstabilized fills shall be prohibited.
- (d) Storing and Filtering Water. Although the use of wetlands for storing and filtering water is encouraged, existing hydroperiod of preserved wetlands shall be maintained at pre-development levels.
- (e) Stormwater Systems. Stormwater systems shall be designed so that no damage or adverse impact to a wetland and its function will occur.
- (f) Mitigation. Mitigation shall be required for unavoidable losses of Class II Areas. The mitigation shall be consistent with the Future Land Use Element in the Plan and may occur anywhere within the Reedy Creek Watershed, within or outside of the District, upon agreement with applicable state, regional, and federal agencies.
- (g) Prohibited Aquatic Plants. The planting of aquatic plant species listed in Chapter 16C-52.011, Florida Administrative Code, "Prohibited Aquatic Plants," shall be prohibited within wetlands and wetland buffers of the SFWMD, Army Corps of Engineers, and FDEP jurisdictional boundaries located within the Reedy Creek Improvement District.

**Section 5-20.6 Uses Allowed in Class II Wetland Areas.** The uses listed in this section shall be allowed within Class II wetland areas to the extent that they are not prohibited by any other ordinance or law; provided they do not require structures, grading, fill, draining, or dredging except as provided in Subsection (d) of this section and Section 5-20.7; provided no alternatives are feasible or practical; and provided the previous hydroperiod is maintained after the completion of construction.

- (a) Conservation Activities. Conservation or preservation of soil, water, vegetation, fish, and other wildlife;
- (b) Recreational Activities. Outdoor recreational activities, including fishing, birdwatching, hiking, boating, horseback riding, and canoeing;

- (c) Scientific Uses. Scientific research that does not alter the vegetation, animals, or wildlife habitats; and
- (d) Roadway and Utility Corridors. Roadways and utility corridors provided no other alternatives are feasible or practical and the pre-development hydroperiod is maintained after the completion of construction.

**Section 5-20.7 Maintenance and Repairs.** Filling, flooding, draining, dredging, ditching, or excavating may be allowed to the extent specifically provided in this section.

- (a) Class I and II Wetland Areas. Maintenance or repair of existing roads, structures, and facilities within Class I and II Wetland Areas, that are used to provide the public with essential services, including transportation, electric, gas, water, wastewater, telephone, and telecommunication, are allowed provided that:
  - (1) Such roads, structures, and facilities are not materially changed or enlarged;
  - (2) Written approval has been received from the Planning and Engineering Department; and
  - (3) The work is conducted using best management practices to ensure that flow, and chemical and biological characteristics of the wetland are not impaired and that any adverse effect on the aquatic environment will be minimized;
- (b) Class II Wetland Areas. Maintenance and repair of existing piers, walkways, observation decks, wildlife management shelters, boathouses, and other similar water-related structures within Class II Wetland Areas, are allowed provided that:
  - (1) The structures are built on pilings to allow unobstructed flow of water;
  - (2) The structures preserve the natural contour of the wetland, except as authorized by special permit; and
  - (3) All state and federal permits have been obtained.

**Section 5-20.8 Requirements for Wetland Buffers.** Wetland buffers shall be provided around the perimeter of all wetland areas to protect the water quality, water quantity, and wildlife habitat of wetlands and to prevent soil sedimentation.

- (a) Width of Buffer.
  - (1) The boundaries of the Water Management Conservation Area (WMCA) were established with the intent to include an undisturbed upland buffer from the wetland line delineated in the SFWMD Conceptual Permit #48-00714-S and a five hundred and fifty (550) foot wetland and upland buffer from the center of the Reedy Creek channel; therefore, no additional buffer is required from the WMCA limits.
  - (2) Buffers from all other Class I and Class II Areas shall remain in an undisturbed natural state and be a minimum width of fifteen (15) feet and an average of twenty-five (25) feet.
- (b) Activities. Activities permitted within the wetland buffers are boardwalks, nature trails and other types of passive recreation, provided they do not adversely affect the function of the buffer or the wetland. Stormwater ponds, vegetation clearing, dredging, and filling are presumed to be harmful to the functions of buffer areas and shall not be permitted.

**Section 5-20.9 Environmental Review.** An environmental review is required as set forth in this section.

- (a) Approval for Regulated Activities. No activity within a wetland buffer, as defined in Section 5-20.8(a)(2), or within a Class II Wetland Area may be conducted without first undergoing an Environmental Review.
- (b) Applications. The information to be submitted in an application is set forth in Chapter 6-30.2(a), (b), (c). Within thirty (30) calendar days after the filing of any application, the Planning and Engineering Department shall review such application to determine its completeness and shall notify the applicant in writing if the application is incomplete or if additional data are required. If the Planning and Engineering Department does not request additional data within that period, the application shall be deemed complete.

**5-20.10 Evaluation and Approvals.** The District Administrator shall approve applications only if the applicant has demonstrated that the project meets the requirements of this section.

- (a) Findings. The District Administrator shall find that the project complies with the provisions of other sections of this chapter and all policies related to wetlands that are included as part of Objective 3 of the Future Land Use Element of the Comprehensive Plan.
- (b) Conditions of Approval. The District Administrator may attach such conditions to the approval as deemed necessary to carry out the purposes of this chapter.

## CHAPTER 5-30

### STORMWATER MANAGEMENT

#### Sections:

5-30.1	Purpose
5-30.2	Approval Process
5-30.3	Drainage Improvements
5-30.4	Master Drainage Plans
5-30.5	Construction Plans and Supplemental Information
5-30.6	Impervious Surfaces
5-30.7	Pollution Abatement
5-30.8	Protection from Flooding
5-30.9	Development Within Floodplain Areas
5-30.10	Disposition of Stormwater Runoff
5-30.11	Design Storm
5-30.12	Computation Methods
5-30.13	Dry Ponds
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5-30.15	Discharge Structures
5-30.16	Open Drainage Ways
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5-30.18	Maintenance of Water Table
5-30.19	Roadways: Swales
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5-30.21	Secondary Drainage: Design Discharges
5-30.22	Secondary Drainage: Pipe Requirements
5-30.23	Secondary Drainage: Tailwater and Hydraulic Grade Computations

**Section 5-30.1 Purpose.** The purpose of this chapter, Chapter 5-30, Stormwater Management, is to provide the basis for a stormwater management program in order to achieve pollution abatement and protection from flooding. This chapter facilitates this purpose by identifying the procedures and information used by the RCID for reviewing and ensuring the compatibility of RCID criteria with other governmental agencies having jurisdiction, thereby promoting intergovernmental coordination and expediting acquisition of permits from these agencies.

**Section 5-30.2 Approval Process.** The process for approval for each development project that involves any disturbance of soil shall be as set forth in this section. The requirements of this chapter are in addition to the development review process as set forth in Chapter 6-20, provided however, that the two processes may occur simultaneously. Master drainage plans and construction plans shall not be approved unless they comply with the provisions of this chapter. The provisions of this chapter shall be administered by the RCID Department of Planning and Engineering. No applications to SFWMD shall be made unless authorized by the Department of Planning and Engineering.

- (a) **Master Drainage Plan.** The applicant shall submit a Master Drainage Plan for each project for review and approval by the RCID in accordance with Section 5-30.4.
- (b) **Construction Plans.** After approval of the Master Drainage Plan, or concurrent with its submittal, the applicant shall submit construction plans of the drainage facilities and other supplemental information for review and approval by the RCID in accordance with Section 5-30.5.

- (c) SFWMD Approval. After approval of the construction plans, the RCID shall forward the Master Drainage Plan, construction plans, and other information required by Section 5-30.5 to the South Florida Water Management District (SFWMD) for its approval to construct. A copy of the approval shall be sent to the applicant.
- (d) Commencement of Construction. The applicant may not commence construction until approved by the RCID. Such approval cannot occur until all applicable state and federal permits have been issued.
- (e) As-Built Plans. Upon completion of each construction phase, the applicant shall submit a certificate of completion and as-built plans of the drainage facilities, signed and sealed by a professional engineer registered in the State of Florida.
- (f) Compliance Review. The RCID shall inspect the project and review the as-built plans to determine if the built project is in substantial compliance with the construction plans. If a determination is made that the project is in substantial compliance, a copy of the as-built plans and a certificate of completion shall be sent to the SFWMD.
- (g) Certificate of Occupancy. A certificate of occupancy shall not be issued until the RCID Department of Planning and Engineering determines that the project is in substantial compliance with the stormwater construction plans.

**Section 5-30.3 Drainage Improvements.** Drainage for projects within the District shall comply with one of the three requirements of this section. The provisions of this section are in addition to those in Chapter 3-30, Infrastructure Standards.

- (a) Pre-Development Discharge Flow Rates. Post-development drainage peak flow rates shall be equal to or less than pre-development peak flow rates;
- b) Schedule of Improvements. Post-development drainage peak flow rates shall be managed by improvements provided by the RCID, consistent with the schedule of improvements in the Capital Improvements Element of the Comprehensive Plan; or
- (c) Applicant Funded. Post-development drainage peak flow rates shall be managed by improvements that are funded by the development applicant.

**Section 5-30.4 Master Drainage Plans.** Master drainage plans for a project shall comply with the provisions of this section.

- (a) Format. Material required by this section shall be submitted in a hard copy and in an electronic format acceptable to the RCID.
- (b) Map Information. The Master Plan shall include the following:
  - (1) It shall show existing and proposed ground contours, locations of roads, parking areas, and building footprints along with their proposed finished floor elevations;
  - (2) It shall outline drainage basin boundaries, showing direction of flow and taking into account any off-site runoff being routed through or around the project in its undeveloped condition;
  - (3) It shall indicate size, location, control elevation, and general configuration of all primary drainage facilities required to route, collect, treat, and dispose of stormwater runoff, generated by or passing through the development; and

- (4) It shall include the location of on-site water bodies and wetlands with details of size and vegetative cover. The normal water elevation, side slopes, and depths of water bodies shall be shown. For wetlands, the general surface elevation and the wet season water elevation shall be shown.
- (c) Narrative. A brief narrative shall describe the proposed project including its size, percent pervious versus impervious land usage, total wetlands within site boundaries, and a breakdown of wetland acreage preserved, by type, and acreage removed, by type. All acreage calculations shall be based on SFWMD jurisdictional lines. All areas to be used solely for water management purposes shall be noted, and the legal method to be utilized to ensure that these areas remain devoted to this use shall be described. A proposed start up and completion date for the project also shall be included.
- (d) Complete Plan. The information in Subsection (b) and (c) of this section, along with supporting engineering calculations and geotechnical data, shall comprise the Master Drainage Plan.

**Section 5-30.5 Construction Plans and Supplemental Information.** Construction plans shall comply with the provisions of this section.

- (a) Professional Engineer. Construction plans shall be signed and sealed by a professional engineer with a current license to practice in the State of Florida.
- (b) Contents. Construction plans shall include the following:
  - (1) Boundary map of project using the National Geodetic Vertical Datum and the WDW grid;
  - (2) Final phased development boundaries with limits of construction for each phase clearly defined;
  - (3) Incorporation of features proposed in the Master Drainage Plan;
  - (4) All secondary drainage facility designs and engineering calculations;
  - (5) Location of all on-site utilities and off-site points of connection;
  - (6) All elements of the final and construction site grading plan; and
  - (7) An Erosion Control Plan, consistent with the provisions of Chapter 5-50.
- (c) Conceptual Permit. Documents submitted pursuant to this section should be consistent with RCID Conceptual Permit #48-00714-S.
- (d) Supplemental Information. In addition to construction plans, the applicant shall provide the RCID with information sufficient to obtain permission to construct from the SFWMD. This information shall include the following:
  - (1) Design storms used including depth, duration, and distribution;
  - (2) Off-site inflows;
  - (3) Stage-storage computations for the project and stage-discharge computations for the outfall structure(s);
  - (4) Acreages and percentages of property in the following format:

	<b>EXISTING (acres)</b>	<b>PROPOSED (acres)</b>
Total Area	_____	_____
WTRM	_____	_____
Impervious	_____	_____
Building	_____	_____
Pavement	_____	_____
Pervious	_____	_____
Wetland	_____	_____

- (5) Runoff routing calculations showing discharges, elevations, and volumes retained and/or detained during applicable storm events;
- (6) Draw-down calculations for detention;
- (7) Calculations required for determination of minimum building floor and road elevations; and
- (8) Calculations which demonstrate compensation for flood plain encroachment, if applicable.

**Section 5-30.6 Impervious Surfaces.** A Master Drainage Plan or construction plan shall not be approved unless the total amount of impervious surface remaining within the applicable sub-basins is equal to or less than the amount of impervious surface designated in the most recent annual update of the Master Drainage Study of RCID Stormwater Improvement Facilities, unless the future development provides on-site attenuation of increased peak flow resulting from the increased impervious surface, or otherwise approved by the RCID.

**Section 5-30.7 Pollution Abatement.**

- (a) Criteria. Pollution Abatement shall be provided in accordance with the RCID Conceptual Permit and at a minimum according to one of the following criteria:
  - (1) Detention volume shall be provided for the first one (1) inch of runoff times the development acreage, or two and one-half (2 1/2) inches times the development site acreage multiplied by the percentage of imperviousness, whichever is greater;
  - (2) Retention volume shall be provided equal to fifty (50) percent of the amounts computed in Subsection (a)(1) of this section.
- b) Industrial Projects. Industrial projects shall provide at least one-half (1/2) inch of pretreatment prior to discharging into a stormwater detention system.
- (c) Landscape Maintenance. The quality of Florida's surface waters is affected by stormwater runoff, and improper landscape maintenance contributes to nonpoint source pollution that can affect surface water quality. Use of various best management practices in landscape maintenance can reduce pollution of the RCID water bodies.
  - (1) Landscape irrigation shall comply with Section 4-50.4; and

- (2) Horticulture practices shall comply with all Ordinances/Resolutions within the RCID which Ordinances/Resolutions may be amended from time to time.

#### **Section 5-30.8 Protection from Flooding.**

- (a) Design. Protection from flooding shall be accomplished by a design that will provide for:
  - (1) Collector roadway and local roadway areas to be flood-free during a storm with a ten (10) year return frequency and duration of seventy two (72) hours;
  - (2) Arterial roadway areas to be flood-free during a storm with a fifty (50) year return frequency and duration of seventy two (72) hours; and
  - (3) Habitable structures to be flood-free and commercial and industrial structures to be either flood-free or flood-proofed during a storm of one hundred (100) year return frequency and duration of seventy two (72) hours.
- (b) Discharge Attenuation. In some cases, due to capacity limitations of the primary stormwater conveyance system, the RCID may impose requirements for attenuation of post development peak rate of discharge from the site.

#### **Section 5-30.9 Development Within Floodplain Areas.**

- (a) Floodplains. All development within floodplain areas, as determined by the RCID, shall comply with the following requirements:
  - (1) Set minimum finished floor elevations at least one (1.0) foot above the one hundred (100) year flood. In areas where the one hundred (100) year flood elevation has not yet been established, the applicant shall establish to the satisfaction of the RCID, the elevation of the one hundred (100) year flood.
  - (2) For commercial or industrial developments, flood proofing may be substituted in lieu of elevating the finished floor above the one hundred (100) year flood level.
  - (3) Provide compensating storage for all flood water displaced by development below the elevation of the base one hundred (100) year flood.
  - (4) The applicant shall submit to the RCID calculations demonstrating a floodplain compensation ratio of one to one (1:1) for any fill placed within the floodplain boundaries. The floodplain compensation area must be located within the same drainage sub-basin where the encroachment is proposed unless significant natural areas will be disturbed by the floodplain compensation, in which case compensating storage may be provided elsewhere with RCID approval. The compensating area must also be contiguous and hydraulically connected to the floodplain such that no rise in the one hundred (100) year flood waters may occur.
- (b) Riverine Flood Hazard. All developments within the riverine flood hazard areas shall be designed to maintain the flood carrying capacity of the floodplain such that the upstream and downstream base flood elevations are not increased.

**Section 5-30.10 Disposition of Stormwater Runoff.** The disposition of stormwater runoff shall comply with the provisions of this section.

- (a) Treatment. Developments shall be required to treat the required volume of runoff for pollution abatement purposes in accordance with Section 5-30.7.
- (b) Draw-down. Bleed down mechanisms for stormwater management facilities shall normally be sized based upon a maximum design discharge of one half (1/2) inch of the pollution abatement volume within twenty four (24) hours.
- (c) Floating Materials. Special engineering features to minimize the transport of floating debris, oil, and grease shall be incorporated upstream of the outlet control structures. The design of such structures shall have adequate provisions to minimize erosion and facilitate maintenance of the structures and detention areas.
- (d) Maintenance Access. When the off-site discharge from a development is into any man-made facility for which the RCID does not own, either an easement, right-of-way, or other legal access shall be provided by the applicant, prior to final development approval, to allow RCID access for maintenance.

**Section 5-30.11 Design Storm.**

- (a) Design Events. The design events shall be as follows:

Facility	Design Storm
Collector & Local Roads	10-year, 72-hour
Arterial Roads, Bridges	50-year, 72-hour
Building Finished Elevation	100-year, 72-hour

- (b) Rainfall Distribution. The total rainfall and daily distribution for the design events in Subsection (a) of this section shall be as follows:

Design Storm	Day	Incremental Rainfall (inches)	Cumulative Rainfall (inches)
10-year, 72-hour	1	1.10	1.10
	2	1.59	2.69
	3	7.50	10.19
50-year, 72-hour	1	1.39	1.39
	2	2.02	3.41
	3	9.50	12.91
100-year, 72 hour	1	1.54	1.54
	2	2.23	3.77
	3	10.50	14.27

- (c) Rainfall Distribution. The distribution curve of the above rainfall events is included in the SFWMD Manual, Volume IV.

**Section 5-30.12 Computation Methods.** Current techniques shall be used to establish runoff volume and peak rate of discharge. In order to provide for a reasonable measure of consistency, the methods of computation described below are encouraged.

- (a) Primary Basins or Sub-Basins. Computations for primary basins or sub-basins shall comply with the following provisions:
  - (1) Hydrographs should be developed using the modified Santa Barbara Urban hydrograph method for pre-and post-development conditions; and
  - (2) Time of Concentration (Tc) values may be obtained from the Federal Highway Administration Kinematic Wave Formula (in the RCID Stormwater Manual) for sheet flow or overland flow, and the Manning Equation of concentrated flows (i.e., gutter flow, ditch flow, pipe flow, etc.).
- (b) Secondary Basins. Computations for secondary basins shall comply with the following provisions:
  - (1) The rational method shall be used to generate the instantaneous peak rate of discharge for both the developed and undeveloped sub-basins within a project area; and
  - (2) The time of concentration shall dictate the rainfall intensity. The Florida Department of Transportation Rainfall Intensity-Duration Curves for Zone 7 shall be used to determine the intensities.
- (c) Soil Storage. Soil storage utilized during the design event may be evaluated based on either of the following methods, provided however, that in no case shall soil storage during the design event be accumulated for depths to seasonal high water table greater than six (6) feet below ground level:
  - (1) The Soil Conservation Service method of utilizing the Orange County and Osceola County Soil Mapping; or
  - (2) The SFWMD.

**Section 5-30.13 Dry Ponds.** Dry ponds shall comply with the provisions of this section.

- (a) Draw-down. Bleed down mechanisms for stormwater management facilities shall be sized based upon a maximum design discharge of one half (1/2) inch of pollution abatement volume within twenty four (24) hours.
- (b) Pond Bottom. The pond bottom shall be at a minimum of one (1) foot above the existing wet season groundwater level, unless otherwise approved by the RCID.
- (c) Side Slopes. Side slopes shall be a minimum of 3:1 (horizontal: vertical) and must be stabilized in accordance with Subsection (c) of Section 5-50.8. The pond bottom shall not be sodded.
- (d) Freeboard. One (1) foot of freeboard shall be required above the design high water level of the appropriate design event as specified in Subsection (a) of Section 5-30.11.
- (e) Maintenance Berm. An unobstructed maintenance berm, a minimum of fifteen (15) feet in width, shall be required along the pond perimeter.
- (f) Exfiltration System. Exfiltration systems must conform with the following:
  - (1) Pipe diameter – twelve (12) inches minimum;
  - (2) Trench width – three (3) feet minimum;

- (3) Rock in trench must be enclosed in filter material, at least on the top and sides; and
- (4) Maintenance sumps in inlets.

**Section 5-30.14 Wet Ponds.** Wet ponds shall comply with the provisions of this section:

- (a) Side Slopes. For the purposes of public safety and maintenance, all wet ponds shall have side slopes no steeper than 4:1 (horizontal: vertical) out to a depth of two (2) feet below the normal water level. Should site limitations dictate steeper side slopes, the perimeter of the pond may be fenced to prohibit all public access. Side slopes shall be stabilized in accordance with Subsection (c) of Section 5-50.8.
- (b) Control Water Elevation. The draw down bleeder shall be set no lower than the existing wet season groundwater level.
- (c) Littoral Zones. To promote nutrient uptake and enhance water quality, littoral zones shall be established along a minimum of twenty (20) percent of the pond perimeter. This zone shall be planted from two (2) feet below to one (1) foot above the normal water level.
- (d) Freeboard. One (1) foot of freeboard shall be required above the design high water level of the appropriate design event as specified in Subsection (a) of Section 5-30.11.
- (e) Areas Adjacent to Ponds. Areas adjacent to ponds shall be graded to preclude the entrance of stormwater except at planned locations.
- (f) Maintenance Berm. An unobstructed maintenance berm, a minimum of fifteen (15) feet in width, shall be required along the pond perimeter.

**Section 5-30.15 Discharge Structures.** Discharge structures shall comply with the provisions of this section.

- (a) General Requirements. All design discharges shall be made through structural discharge facilities or properly compacted and stabilized earth berms.
- (b) Discharge Levels. Discharge structures shall be fixed so that discharge cannot be made below the control elevation.
- (c) Grating. Discharge structures shall include gratings for safety and maintenance purposes.
- (d) Baffles and Skimmers. Discharge structures from areas with greater than fifty (50) percent impervious area or from systems with inlets in paved areas shall include both a baffle and a skimmer. The skimmer is to limit oil and grease discharging from retention/detention areas. The baffle is to encourage discharge from the center of the water column, rather than the top or bottom.
- (e) Direct Discharges. Direct discharges shall normally be allowed to discharge directly into receiving waters, which by virtue of their large capacity, are easily able to absorb concentrated discharges. Such receiving waters may include existing storm water system and man-made ditches, canals, and lakes. The final determination shall be at the discretion of the RCID.
- (f) Indirect Discharges. Discharge structures shall be required to discharge to overflow and spreader swales where the receiving water or its adjacent supporting ecosystem may be

degraded by a direct discharge. Such receiving waters may include natural streams, hardwood wetlands, marshes, and land naturally receiving overland sheetflow. The final determination shall be at the discretion of the RCID.

- (g) Pumped Discharges. Pumped discharges shall not be allowed.

**Section 5-30.16 Open Drainage Ways.** Open drainage ways shall comply with the provisions of this section.

- (a) Side Slopes. Drainage ways with standing water (canals) must meet the same side slope and freeboard requirements as wet ponds as set forth in Section 5-30.14. Dry drainage ways (conveyance swales) shall meet the requirements as set forth in Section 5-30.13.
- (b) Stabilization/Erosion Protection. Stabilization/erosion protection must be provided within conveyance swales (also see Subsection (c) of Section 5-50.8).
- (c) Maintenance. Outfall ditches and canals shall have sufficient right-of-way for the facility plus an unobstructed maintenance berm of at least fifteen (15) feet width on a minimum of one side. If the bottom width of the drainage way is greater than fifteen (15) feet, an unobstructed maintenance berm of at least fifteen (15) feet in width shall be required on both sides.

**Section 5-30.17 Control Devices.** Control devices and bleed-down mechanisms shall comply with the provisions of this section.

- (a) Size of Gravity Devices. Gravity control devices shall be sized based on a design discharge of one half (1/2) inch of the detention volume in the first day. The devices shall incorporate dimensions no smaller than six (6) square inches of cross sectional area, two (2) inches minimum dimension, and twenty (20) degrees for "V" notches.
- (b) Configuration of Gravity Devices. Gravity control devices shall be of a "V" or circular shaped configuration to increase detention time during minor events.

**Section 5-30.18 Maintenance of Water Table.** Drainage systems shall be designed to maintain water table elevations at their pre-development levels.

**Section 5-30.19 Roadways: Swales.** Swale drainage shall be permitted only when the wet season water table is a minimum of one (1) foot below the invert of the swale.

**Section 5-30.20 Roadways: Curbs, Gutters, and Inlets.** Curbs, gutters, and inlets for roads shall comply with the provisions of this section.

- (a) Roadway Design Standards. All roadway drainage not considered suitable for swale and/or ditch type drainage shall be designed in accordance with FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways and Design Standards for Design, Construction, Maintenance and Utility Operations on the State Highway System.
- (b) Inlet Locations and Standards.
  - (1) All inlets at low points (sumps) shall be designed to intercept one hundred (100) percent of the design flow, precluding spread of water onto the traveled lanes. Inlet and pavement hydraulic calculations shall be required to demonstrate that a rainfall intensity of four (4) inches per hour does not result in spread/encroachment of drainage into a travel lane.

- (2) On arterial roadways, in order to prevent siltation and to provide for a safety factor against clogging of a single inlet in a sump location, multiple inlets shall be constructed at all sump locations. Three (3) inlets shall be constructed at each sump location, one (1) at the low point and one (1) on each side at a point 0.2 feet higher than the low point, unless otherwise approved by the RCID.
- (3) Inlets must be provided at the terminal point of shoulder gutters and shall be designed to intercept one hundred (100) percent of the flow resulting from the ten (10) year design storm. No spread resulting from a rainfall intensity of four (4) inches per hour is allowed to encroach on the travel lanes, and the spread resulting from a ten (10) year design storm shall not exceed one (1) foot beyond the outside edge of the gutter.
- (c) Shoulder Gutter Standards. Shoulder gutters may be used as part of the stormwater conveyance system of a rural section roadway. Shoulder gutters shall be used on fill slopes and at bridge ends to protect the slopes from erosion.

**Section 5-30.21 Secondary Drainage: Design Discharges.** The storm sewer system design shall be based upon a ten (10) year frequency event. The system shall be designed to handle the flows from the contributory area within the proposed development.

**Section 5-30.22 Secondary Drainage: Pipe Requirements.** Pipe requirements for secondary drainage shall comply with the provisions of this section.

- (a) Material. All storm-sewer piping shall be RCP.
- (b) Sizes. The minimum size of pipe used for public storm sewer systems shall be fifteen (15) inches diameter, or equivalent elliptical. Designs shall be based upon six (6) inch increments in size above eighteen (18) inches, or elliptical equivalents.
- (c) Velocities. All storm sewers shall be designed and constructed to produce a minimum velocity of two and one-half (2.5) feet per second when flowing full. No sewer system or portion thereof shall be designed to produce velocities in excess of twenty (20) feet per second for reinforced concrete pipe or ten (10) feet per second for metal pipe. Outlet ends shall have sufficient erosion protection and/or energy dissipaters when velocities exceed five (5) feet per second.
- (d) Construction. All pipes shall terminate with a mitered end section or headwall unless termination is within a wet pond and completely below the seasonal low water table elevation.
- (e) Maximum Runs. The following maximum runs of pipe shall be used when spacing access structures of any type:

Pipe Size	Maximum
15 inches	200 feet
18 inches	300 feet
24 to 36 inches	400 feet
42 inches and larger	500 feet

**Section 5-30.23 Secondary Drainage: Tailwater and Hydraulic Grade Computations.** Tailwater and hydraulic grade computations shall comply with the provisions of this section.

- (a) Tailwaters. All storm sewer systems shall be designed to reflect the tailwater of the receiving facility. Where a pond is the receiving facility, the design tailwater level can be estimated from the information generated by routing through the pond the hydrograph resulting from a ten (10) year frequency storm of seventy two (72) hour duration. Then the design tailwater level can be assumed to be the ten (10) year pond level.
- (b) Hydraulic Gradient. The hydraulic gradient line for the storm sewer system shall be computed by taking into consideration the design tailwater on the system; the energy losses associated with entrance into and exit from the system; friction through the system; and turbulence in the individual manholes, catch basins, and junctions within the system.
- (c) Losses. Energy losses associated with the turbulence in the individual manholes may be significant for a pressure or surcharged storm sewer system and shall be accounted for in establishing a reasonable hydraulic gradient line.

## CHAPTER 5-40

### GROUNDWATER PROTECTION

#### Sections:

5-40.1	Purpose
5-40.2	Protection of Recharge Areas
5-40.3	Wellhead Protection
5-40.4	Sludge Disposal
5-40.5	Hazardous Waste Holding

**Section 5-40.1 Purpose.** The purpose of this chapter, Chapter 5-40, Groundwater Protection, is to control development in designated recharge areas and in the cones of influence for potable water wellfields. This chapter implements Section 163.3202(2)(c) F.S.

#### **Section 5-40.2 Protection of Recharge Areas.**

- (a) Analysis Required. All projects on project sites larger than five (5) acres shall require an analysis of the recharge potential of the site.
- (b) Prohibited Uses. The following uses shall be prohibited in those portions of the project site that are within a designated prime recharge area:
  - (1) septic tanks;
  - (2) landfills;
  - (3) facilities for the bulk storage, handling, or processing of materials on the Florida Substance List;
  - (4) wastewater treatment plants; and
  - (5) other wastewater disposal systems.
- (c) Development Guidelines. The following guidelines shall apply in those portions of the project site are within a designated prime recharge area:
  - (1) clustering of development shall be encouraged; and
  - (2) pervious surfaces shall be used whenever feasible.

#### **Section 5-40.3 Wellhead Protection.**

- (a) Restrictions Within 200 Feet. All new development other than water pumping facilities, small structures, roads, and parking shall be prohibited within two hundred (200) feet of a potable water well. Small structures may be allowed only if they are less than 1,500 square feet, connected to a sanitary sewer, and are not used for storage except for incidental storage approved by the District Administrator. Roads and parking may be allowed only if they have an impervious surface, are more than fifty (50) feet from the well, and the drainage outflow occurs at least three hundred (300) feet from the well.
- (b) Restrictions Within 300 Feet. Wet retention/detention areas shall be prohibited within three hundred (300) feet of each potable water well.

- (c) Restrictions Within 400 Feet. The following new development shall be prohibited within four hundred (400) feet of each potable water well:
- (1) Landfills;
  - (2) Bulk storage of materials on the Florida Substance List;
  - (3) Any activities that require the storage, use, or handling of agricultural chemicals or hazardous wastes;
  - (4) Wastewater treatment plants and facilities, including the disposition of sludge; and
  - (5) Septic tanks.

**Section 5-40.4 Sludge Disposal.** No composting or landspreading of sludge shall be allowed until the applicant or operator can demonstrate that this activity will cause no measurable impact on surface or groundwater quality.

**Section 5-40.5 Hazardous Materials Holding.** No holding of hazardous materials shall be allowed until the applicant or operator can demonstrate that this activity will cause no measurable impact on surface or groundwater quality.

- (a) Restrictions within the 100-year Flood Plain. The storage/holding of hazardous materials is prohibited within the 100-year flood plain as defined by the RCID Master Drainage Study.
- (b) Restrictions within 200 Feet of Wetlands. The storage/holding of hazardous materials is prohibited within two hundred (200) feet of a Class I or Class II wetland.

## CHAPTER 5-50

### EROSION CONTROL

#### Sections:

5-50.1	Purpose
5-50.2	Compliance
5-50.3	Discharges
5-50.4	Adverse Impacts
5-50.5	Responsibilities
5-50.6	Erosion Control Plan
5-50.7	RCID Approvals
5-50.8	Requirements
5-50.9	General Provisions
5-50.10	Best Practices
5-50.11	Dewatering
5-50.12	Certificate of Occupancy

**Section 5-50.1 Purpose.** The purpose of this chapter, Chapter 5-50, Erosion Control, is to minimize sediment deposition into the air and/or water and to ensure compliance with erosion control laws and regulations. This will be implemented through planning and engineering reviews, pre-construction meetings, site inspections, and environmental monitoring in order to protect environmental resources while allowing responsible development. Problems caused by erosion include adverse impacts to the environment, lowered aesthetic values, regulatory agency penalties, and increased maintenance costs.

**Section 5-50.2 Compliance.** Erosion control measures are to be designed so that local, state and federal water quality standards are achieved prior to discharge from a site. Best management practices are to be incorporated during construction in accordance with F.A.C. Chapter 17-25.025(7) and other applicable statutes or codes.

**Section 5-50.3 Discharges.** All surface water discharge from the site, including dewatering discharge, shall meet state water quality standards unless temporarily exempted by specific permit conditions. Water discharges from the site shall at all times meet the minimum standard of less than 29 NTUs above background. In critical areas, additional turbidity monitoring will be required and a reduction in turbidity levels below the value stated above may be required.

**Section 5-50.4 Adverse Impacts.** All erosion, sedimentation, and turbidity measures must perform in a manner so as to minimize any adverse impact of the activities on fish, wildlife, natural environmental values, and water quality.

**Section 5-50.5 Responsibilities.** It is the responsibility of the landowner or its designee to ensure that all discharges leaving the site meet all local, state, and federal discharge standards. The landowner or its designee shall be responsible for all sediment leaving the project boundary.

**Section 5-50.6 Erosion Control Plan.** Erosion Control Plans shall be submitted and used as provided in this section:

- (a) **Contents.** Prior to any construction activities, the applicant for all projects within the RCID drainage basin must submit an Erosion Control Plan for review to RCID Planning and Engineering. The plan must detail the following:
  - (1) Project description, location, and limits of construction;

- (2) Proximity to wetlands, lakes, streams and canals and/or other environmentally sensitive areas;
  - (3) Wetland impacts (if any);
  - (4) Proposed stormwater drainage system and receiving waters;
  - (5) Soil types;
  - (6) Sequence of construction;
  - (7) Construction entrance(s);
  - (8) Soil stockpile (if any);
  - (9) Fill material (if any);
  - (10) Erosion control devices;
  - (11) Maintenance schedule;
  - (12) Dewatering plan; and
  - (13) Temporary and permanent soil stabilization plan.
- (b) Minimum Standards. The measures set forth in the Erosion Control Plan are intended as the minimum standards. Any erosion control measure beyond that specified in the Plan, that is required to comply with local, state, and federal law, shall be implemented.
  - (c) RCID Approval. Written approval of the Erosion Control Plan must be received from RCID before proceeding with project construction. Approval of the proposed plan by RCID does not relieve the landowner or its designee from meeting all local, state, and federal discharge standards.
  - (d) Alternatives. In the event that erosion prevention and control devices shown in the Erosion Control Plan prove not to be effective, alternate methods for maintaining state water quality standards for discharge from the construction site will be required. All alternate erosion prevention and control devices must be reviewed by RCID designated compliance personnel prior to placement.

**Section 5-50.7 RCID Approvals.** All erosion prevention and control measures must be inspected and approved by RCID designated compliance personnel prior to any construction activities. Removal of these same erosion controls and prevention measures may be done only after authorization is obtained from RCID designated compliance personnel. Any deviation from this procedure may result in an immediate requirement for work stoppage.

**Section 5-50.8 Requirements.** The following provisions shall apply:

- (a) Ditch Blocks and Dams. In order to comply with the Federal National Pollutant Discharge Elimination System (NPDES) permit issued to the District in 1998 for the operation of the Master Drainage System, also known as the Municipal Separate Stormwater System (MS4), RCID does not allow earthen ditch blocks or dams or other erodible material to be placed in live streams, canals, or active water bodies. Ditch blocks or dams must be composed of non-erodible materials. Materials commonly approved by RCID are sheet piling, portable cofferdams, inflatable water structures, and other comparable devices.

- (b) Hay Bales. Hay bales are not allowed as a perimeter erosion control device within the District.
- (c) Stabilization.
  - (1) Side slopes of water bodies without an active discharge structure shall be stabilized within forty-eight (48) hours after completing the final grade. Stabilization may consist of sodding (Bahia), hydro-seeding, ground cover with stabilization matting or fabric, or other measure as approved by RCID.
  - (2) Side slopes of flowing water bodies shall be provided with temporary seeding or equivalent soil protection for all areas that have been cleared but do not have ongoing construction. Within forty-eight (48) hours after completing final grading, side slopes shall be stabilized. Stabilization may consist of sodding (Bahia), hydro-seeding, ground cover with stabilization matting or fabric, or other measure as approved by RCID.
- (d) Site Stabilization. During site construction, the landowner or its designee, shall provide temporary seeding and mulching or equivalent soil protection for all areas that have been cleared but do not have ongoing construction. This soil protection must occur within seven (7) calendar days during the wet season (April to September) and fourteen (14) calendar days during the dry season (October to March).
- (e) Daily Activities. Daily inspections shall be made by the landowner or its designee to determine the effectiveness of sediment and erosion control efforts. Any necessary remedies shall be performed without delay. All sediment, erosion, and turbidity control measures shall be in working condition at the end of each workday.

**Section 5-50.9 General Provisions.** The following provisions are to be adhered to unless exempted in writing by RCID Planning and Engineering as part of the approval of the Erosion Control Plan.

- (a) Timing of Measures. Erosion and sediment control measures are to be placed prior to, or as the first step in, construction.
- (b) Sediment Control. Sediment control practices are to be applied as a perimeter defense against any transport of silt and/or turbid water off site. Erosion and sediment control using silt fences is one of the most widely used Best Management Practices during project construction. The silt fence decreases velocity of sheet flows and low-to-moderate-level channel flows. When properly installed around the perimeter, this device can effectively intercept and detain small amounts of sediment from disturbed areas during construction operations in order to prevent sediment from leaving the site.
- (c) Double Rows. A double row of trenched-in silt fence or other perimeter erosion and/or turbidity containment measure is required along natural areas within the District because these areas are of critical concern. The double rows of silt fence should be separated by at least three (3) feet to allow room for maintenance and reduce damage to the outer row during mishaps. Exceptions to the double rows may be requested from the RCID when work is in a non-critical area such as uplands or existing grassed open spaces. In these areas a single row of trenched-in silt fence may be allowed with written approval from RCID Planning and Engineering.
- (d) Installation of Fences. It is imperative that silt fences be properly installed in order to avoid compliance violations and costly delays. Proper installation consists of the following:
  - (1) Trenching-in the fabric edge four (4) inches wide by four (4) inches deep;

- (2) Installing the stakes on the downstream side of anticipated water flow;
  - (3) Attaching two (2) silt fence sections so as to become one continuous seal of fabric by rolling and wrapping;
  - (4) Driving all posts 10-12 inches into the ground and pulling tight on each section; and
  - (5) Backfilling and compacting trench fill over ground flap.
- (e) Location of Silt Fences. Silt fences shall be placed within project limits.
  - (f) Stormwater Ponds. The stormwater pond(s) shall be constructed to final elevations with all slopes stabilized and sodded immediately after the silt fence has been installed and inspected and prior to any other construction activities on the site.
  - (g) Duration for Screens and Barriers. Silt screens and turbidity barriers shall remain in place and in good condition at all locations shown in plans and as required until the construction is completed and soils are stabilized and vegetation has been established.
  - (h) Protection of Fences. Whenever practical, the landowner or its designee shall avoid creating acres of long, flat, compacted surface upgradient of silt fences. When this situation cannot be avoided, the landowner or its designee shall construct windrows or the equivalent to reduce runoff velocity in order to protect the silt fence.
  - (i) Project Materials. Materials from work on the project shall be contained and not allowed to collect in any off-perimeter areas or in waterways. These areas include both natural and man-made open ditches, streams, storm drains, lakes, ponds and wetlands.
  - (j) Inlet Protection Devices. All sediment shall be prevented from entering any stormwater drainage system through the use of inlet protection devices (i.e., sandbags, gravel and screening, boards, drainfield pipe or other protective devices).
  - (k) Materials on Roadways. All mud, dirt or other materials tracked or spilled onto existing state, county, city, or other public or private roads and facilities from a construction site shall be promptly removed by the landowner or its designee. Sediment shall not be washed or swept into any existing stormwater inlet(s).
  - (l) Permanent Measures. Permanent soil erosion control measures for all slopes, channels, ditches or any disturbed land areas shall be completed immediately after final grading. When it is not possible to permanently protect a disturbed area immediately after grading operations, temporary erosion control measures shall be installed. All temporary protection shall be maintained until permanent measures are in place and established. Temporary erosion control may consist of, but is not limited to, grass, sod, mulch, sandbags, piping, slope drains, settlement basins, artificial coverings, berms, hay bales, straw, and dust control.
  - (m) Quality of Fill. The landowner or its designee shall use clean fill, free of silt and muck, whenever possible in the project. In critical areas, such as sand beaches, testing of the material by the landowner or its designee shall be required, and test results must be submitted to RCID prior to material placement.
  - (n) Severe Rain Events. It is the responsibility of the landowner or its designee to develop contingency plans for dealing with all weather conditions, including the severe rain events

(more than two (2) inches in four (4) hours) which may occur repeatedly during the summer months.

- (o) Muck and Clay. Soils containing muck and/or clay are difficult to deal with and will often require the use of chemical treatment in order to meet acceptable discharge standards.

**Section 5-50.10 Best Practices.** RCID may elect to restrict or prohibit certain erosion control Best Management Practices due to poor performance or because the device(s) may increase environmental degradation. It is the responsibility of the landowner or its designee to inquire about these restrictions.

**Section 5-50.11 Dewatering.** Dewatering activities shall comply with the provisions of this section.

- (a) Schedule. The landowner or its designee shall prepare a schedule of dewatering for storm drainage items. The schedule will consist of estimates of points of discharge, discharge flows, site map, and dates and durations for all storm drainage items that will require dewatering. The schedule will include retention basins, weir structures, storm sewer, and other storm system components. This schedule shall be submitted to RCID Planning & Engineering for permitting of the dewatering operations prior to pumping activities. Preparation of all such permits is the responsibility of the landowner or its designee.
- (b) Discharges. Rapid discharge of large volumes of groundwater into existing surface waters can cause fishkills, algal blooms and other water quality problems due to a lack of dissolved oxygen, excessive nutrients, and/or an imbalance with respect to pH. The direct discharge of groundwater into an active surface water system (i.e., stormwater pond, canal, lake, etc.) will be reviewed on a case-by-case basis. Discharge will be allowed into a pond or impoundment not actively connected (under construction); prior to connection to the surface water system testing may be required. Dewatering activities may discharge clean water (less than 29 NTU above background) in a sheet flow over rooted vegetation.
- (c) Pumping Systems. Use of a floating intake is required on all surface-impoundment pumping systems. Fuel containment must be provided for each pump in the event of a leak or spill. This may be provided via an earthen berm covered with plastic or a double-walled factory containment system. The containment volume must be greater than fuel capacity.
- (d) Pumping Reports. Pumping reports documenting time, duration, accumulated volume, location, and type of pump used must be sent to RCID Planning & Engineering weekly. Reports are due each Monday for the previous week. Failure to properly maintain reports will result in shutdown of all pumping activities for that project.

**Section 5-50.12 Certificate of Occupancy.** The Planning and Engineering Department will recommend issuance of a certificate of occupancy pursuant to this section.

- (a) Inspection. An inspection by RCID of the stormwater system associated with all new construction is required prior to issuance of a certificate of occupancy.
- (b) Submitted Items. Prior to the inspection the applicant must provide two (2) copies of the project's stormwater system As-builts and two (2) copies of the SFWMD Construction Completion/Construction Certification forms. All copies must be signed and sealed by an engineer licensed to work within the State of Florida. The signatures and seals cannot be photocopies. No recommendation for issuance of a Certificate of Occupancy will be given until receipt of these items.

## CHAPTER 5-60

### SANITARY SEWER

#### Sections:

5-60.1	Purpose
5-60.2	General Requirements
5-60.3	Wastewater Collection Systems
5-60.4	Independent Package Plants and Septic Tanks

**Section 5-60.1 Purpose.** The purpose of this chapter, Chapter 5-60, Sanitary Sewer, is to specify the requirements for sanitary sewer and wastewater disposal throughout the District.

**Section 5-60.2 General Requirements.** The following general requirements for sanitary sewer and wastewater disposal shall apply to all development projects unless otherwise specified in this chapter. This chapter implements Section 163.3202(2)(g) F.S.

- (a) Compliance with Federal and State Law. Sanitary sewer and wastewater services shall comply with federal and state regulations. The Planning and Engineering Department shall ensure compliance with these standards.
  - (1) Sanitary sewer service shall comply with the Florida legislation entitled Sewage Disposal Facilities: Advanced and Secondary Waste Treatment (Chapter 403.086), that implements the Federal Water Pollution Control Act (PL 92-500) at the state level.
  - (2) Sanitary sewer services shall comply with state legislation (Chapter 17-6, Florida Administrative Code) and adopted regulations of FDEP.
  - (3) Coordination of wetlands, basins, refuse disposal, and a groundwater monitoring program shall be developed before rapid infiltration basins become operational in accordance with Chapter 17-4, Florida Administrative Code.
- (b) Hookup to Centralized System. All new development shall be linked to the central wastewater treatment system, except as provided in Section 5-60.4.

**Section 5-60.3 Wastewater Collection Systems.** Wastewater collection systems shall comply with the provisions of this section.

- (a) General. Every development within the District shall provide a local wastewater collection system that shall be connected to the District's main wastewater collection, treatment and re-use system, except as provided in Section 5-60.4.
- (b) Line Sizes. The local wastewater collection system shall be of sufficient size and design to receive and carry all wastewater from all buildings and structures within the development to the District's main system. The minimum gravity sanitary sewer size shall be eight (8) inches in diameter for main lines and four (4) inches for lateral lines.
- (c) Other Provisions. The local wastewater collection system shall be constructed and maintained in conformity with all applicable statutes, ordinances, and regulations of the District.

- (d) Camping Facilities. Every camping facility within the District shall connect to the central system or provide for an independent wastewater collection system. Where individual wastewater collection connections to vehicle spaces are not provided, there shall be a central collection station for servicing vehicles with self-contained wastewater systems. Such station or stations shall have wastewater connections at the rate of one (1) for each two hundred (200) spaces or fractional part thereof.

**Section 5-60.4 Independent Package Plants and Septic Tanks.** New independent package plants and individual septic tank systems shall not be permitted unless accompanied by a detailed plan that ensures that the project will be connected to the central system five (5) years after the final development order.

- (a) **Septic Tank Applications.** Septic tanks shall be allowed only for the following applications:

(1) A residential development that meets the following criteria:

- (i) average maximum gross density of one (1) unit per acre within the developable portion of the site;
- (ii) the central sewer system is not available; and
- (iii) soils are demonstrably suitable for septic tank use.

(2) Free-standing recreational or service buildings that meet the following criteria:

- (i) located more than one-fourth (1/4) mile from a developed area;
- (ii) the average daily wastewater flow does not exceed one thousand (1,000) gpd;
- (iii) the central sewer system is not available; and
- (iv) soils are demonstrably suitable for septic tank use.

(3) Temporary trailers used in conjunction with construction compounds, which meet the following criteria:

- (i) the central sewer system is not available; and
- (ii) soils are demonstrably suitable for septic tank use.

- (b) Standards.

(1) All septic tanks shall comply with requirements of the County H.R.S. Department of the county in which the septic tank is located.

(2) Septic tank and drainfield installations shall comply with the adopted rules of the Florida Department of Health, Division of Environmental Health (Rule No 64E-6).

## CHAPTER 5-70

### SOLID WASTE

#### Sections:

<b>5-70.1</b>	<b>Purpose</b>
<b>5-70.2</b>	<b>General Requirements</b>
<b>5-70.3</b>	<b>Hazardous Waste</b>

**Section 5-70.1 Purpose.** The purpose of this chapter, Chapter 5-70, Solid Waste, is to specify the requirements for solid waste disposal throughout the District. This chapter implements Section 163.3202(2)(g) F.S.

**Section 5-70.2 General Requirements.** The following general requirements for solid waste shall apply to all development projects unless otherwise specified in this chapter. The Planning and Engineering Department shall ensure compliance with applicable state and federal standards.

- (a) Florida Resource Recovery and Management Act. Solid waste service shall comply with the RCID Solid Waste Management Plan required by the Florida Resource Recovery and Management Act (Florida Statutes, Chapter 403.706).
- (b) FDEP Regulations. Solid waste handling and disposal shall comply with adopted regulations of FDEP (Florida Administrative Code, Chapter 62-701).
- (c) Solid Waste Management and Reduction Act. All new development that employs or houses more than ten (10) people shall be required to set aside areas for source separation of solid waste as required by the Florida Solid Waste Management and Reduction Act.
- (d) Compacting and Collection Sites. All development projects shall provide adequate space, as determined by the RCID, for solid waste compacting and collection equipment and for the collection of recyclable material.
- (e) Collection Services. All development projects shall be required to use the solid waste collection system operated by the RCID.
- (f) Disposal Sites. No solid waste disposal sites shall be located within the District except for those sites operated by the RCID.

#### **Section 5-70.3 Hazardous Materials**

(a) Holding Restrictions. The holding of hazardous materials shall be prohibited within a 100-year flood plain, within two hundred (200) feet of a wetland designated pursuant to Chapter 373 or Chapter 403 of the Florida Statutes or Chapter 404 of the Federal Water Pollution Control Act, and within four-hundred (400) feet of a potable water well.

(b) Regulatory Compliance. Hazardous materials management shall comply with the Florida Resource Recovery and Management Act (Florida Statutes, Chapter 403.706) and the RCID Hazardous Waste Management Program.

## CHAPTER 5-80

### SOILS AND MINERALS

#### Sections:

5-80.1	Purpose
5-80.2	Geotechnical Studies
5-80.3	Waterways
5-80.4	Construction Sites
5-80.5	Mineral Extraction

**Section 5-80.1 Purpose.** The purpose of this chapter, Chapter 5-80, Soils and Minerals, is to protect soil and mineral resources. This chapter implements Section 163.3202(2) F.S.

**Section 5-80.2 Geotechnical Studies.** A geotechnical study shall be prepared by a licensed geotechnical engineer for development proposals on sites containing one (1) or more of the listed soils or soils identified as moderate to severe in the soil survey of the county in which the project is located.

**Section 5-80.3 Waterways.** Soil erosion along the banks of all canals and lakes shall be controlled by retaining and protecting natural vegetation, by planting vegetation that acts to hold the soil in place, or by adding materials for the purpose of side-slope stabilization. Additional measures may be required to meet state turbidity standards, as found in Chapter 17-3, F.A.C., if the vegetative cover is not adequate to control erosion.

#### **Section 5-80.4 Construction Sites.**

- (a) **Turbidity of Water.** Runoff shall be controlled from construction sites in compliance with Section 5-30.5 to minimize soil erosion and ensure that the turbidity of the receiving water body does not exceed state standards as found in Chapter 17-3, F.A.C. and Federal NPDES guidelines.
- (b) **Control Measures.** All construction sites and discharges from project sites shall comply with Section 5-30.5 contained herein, Federal NPDES guidelines and Chapter 17.3, F.A.C.
- (c) **Mitigation Measures.** If any part of the project is not in compliance with the turbidity standards as determined by the RCID, construction shall cease on those parts of the project causing the noncompliance.

**Section 5-80.5 Mineral Extraction.** Mineral extraction shall be prohibited in areas designated on the Comprehensive Plan Future Land Use Map as Conservation or Public Facilities. Exceptions for Public Facilities shall be made on a temporary basis during construction or landscaping.

**CHAPTER 5-90**  
**FLORA AND FAUNA**

**Sections:**

<b>5-90.1</b>	<b>Purpose</b>
<b>5-90.2</b>	<b>General Requirements</b>
<b>5-90.3</b>	<b>Gopher Tortoise Management Program</b>
<b>5-90.4</b>	<b>Scrub Jay Habitat Protection Program</b>
<b>5-90.5</b>	<b>Bald Eagle Management Zones</b>

**Section 5-90.1 Purpose.** The purpose of this chapter, Chapter 5-90, Flora and Fauna, is to specify the requirements for protection of natural vegetative communities and species that are endangered, threatened, or of special state concern. This chapter implements Section 163.3202(2) F.S.

**Section 5-90.2 General Requirements.** State and federal standards and regulations regarding development in wetlands, and the habitat of species that are endangered, threatened, or of special state concern shall be followed within the District boundaries. The following requirements shall apply to all development unless otherwise specified in this chapter.

- (a) Compliance with Laws. The requirements of the following laws shall be adhered to and enforced by the District in its review of development proposals:
  - (1) The Bald Eagle Protection Act (16 USC 668-668d) and (50 CRFR 22);
  - (2) Section 9 of the Endangered Species Act of 1973 (16 USC 1531);
  - (3) The Migratory Bird Treaty Act (16 USC 703-711); and
  - (4) Florida Endangered and Threatened Species Act of 1977 (Section 372.072, F.S).
- (b) Protection of Natural Areas. Development in the areas designated as Conservation shall be prohibited. In areas designated as Resource Management/Recreation, removal, encroachment or alteration will be allowed only when deemed appropriate and necessary.
- (c) Protected Plant Species. Unavoidable impacts to the threatened plants shown in Table 6-4 of the RCID Comprehensive Plan shall be minimized.
- (d) Wetland Jurisdictional Areas. Development shall minimize any impacts on wetland jurisdictional areas and shall comply with all policies related to wetlands that are included as part of Objective 3 of the Future Land Use Element of the Comprehensive Plan.

**Section 5-90.3 Gopher Tortoise Management Program.** Gopher Tortoise Management is addressed by Florida Game and Fresh Water Fish Commission Permit OSC#4. Relocation of the species to sites designated for Conservation, Resource Management/Recreation, or Public Facility uses is encouraged in the event gopher tortoises are discovered on future development sites.

**Section 5-90.4 Scrub Jay Habitat Protection Program.** In the event that significant populations of the Florida Scrub Jay are determined to be present on proposed development sites, the District shall require compliance with Florida Game and Freshwater Fish Commission mitigation requirements if impacts to a Scrub Jay nest are deemed unavoidable.

## CHAPTER 5-100

### ARCHAEOLOGICAL AND HISTORIC RESOURCES

#### Sections:

<b>5-100.1</b>	<b>Purpose</b>
<b>5-100.2</b>	<b>Survey</b>
<b>5-100.3</b>	<b>Mitigation</b>
<b>5-100.4</b>	<b>State Archaeological Sites</b>

**Section 5-100.1 Purpose.** The purpose of this chapter, Chapter 5-100, Archaeological and Historic Resources, is to specify the requirements for any development in an area encompassing a historically or archaeologically significant site. This chapter implements Section 163.3202(2) F.S.

**Section 5-100.2 Survey.** An archaeological or historical survey shall be required for any development in an area that encompasses a historically or archaeological significant site as identified in the Comprehensive Plan.

**Section 5-100.3 Mitigation.** If the project will cause damage to a unique historical or archaeological resource, the applicant shall avoid the site or incorporate the site into interpretative areas, passive recreation sites, or open space, if feasible. If this is not feasible, the applicant may be required to delay construction for up to one hundred and twenty (120) days in order that the site may be excavated, inventoried, and/or cataloged under the supervision of a licensed archeologist.

**Section 5-100.4 State Archaeological Sites.** A permit or letter to proceed from the Division of Historical Resources shall be required before disturbing any state archaeological landmark or state archaeological landmark zone designated pursuant to Section 267.11 Florida Statutes.