FLORIDA STORMWATER ASSOCIATION

Leadership in Stormwater Management and Utilities

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December 1, 2022

Florida Department of Environmental Protection
ATTN: Borja Crane-Amores
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
*Submitted via email: Stormwater2020@floridadep.gov*

RE: Proposed Revisions Updating the Stormwater Design and Operation Regulations

Dear Mr. Crane-Amores:

The Florida Stormwater Association (FSA) appreciates the opportunity to submit comments to Department on Sections 2, 8, 9, and 12 of the proposed revisions to the Applicants Handbook. Please note we have added additional detail related to previous comments (Sections 2, 8, and 12) and have highlighted these for easy identification. We continue to include all comments to date to restate our support for those earlier comments.

FSA continues to support the work and recommendations of FDEP's Clean Waterways Act Stormwater Rulemaking Technical Advisory Committee (TAC) as contained in their Summary Report. The recommendations of the TAC came after many months of discussion and debate.

We strongly urge the Department to incorporate the recommendations of the TAC unless there are sound, scientific reasons to do otherwise. In cases where the TAC's recommendations are not incorporated into the drafts of the proposed rule revisions, we request the Department to provide the specific reasons for departing from the TAC's recommendations as contained in the Summary Report.

Attempts were initiated by FDEP to update stormwater design standards and criteria on a statewide basis 15 years ago but were abandoned in early 2010. We hope that the current effort is successful and is adopted in time for ratification by the Legislature during the 2023 Session.

As always, we stand ready to assist the Department in that effort in any way possible.

Sincerely,
FLORIDA STORMWATER ASSOCIATION, INC.

Danielle Hopkins

## 2.0 Definitions and Terms

(a) The definitions and terms below are used for purposes of Chapter 62-330, F.A.C., and this Volume I. **Section 2.1** of each District-specific Volume II contains additional definitions that apply to the design and performance standards and criteria for stormwater management systems, dams, impoundments, reservoirs, works, appurtenant works, and special basins as regulated in that District. Where a definition is in accordance with Florida Statutes, the statutory attribution is given as "[XX]."

1. through 8. No change.

9. "Aquitard" or "Confining Layer" means a layer of low permeability material, such as clay or rock, adjacent to an aquifer that functions to prevent the transmission of significant quantities of groundwater flow under normal hydraulic gradients.

~~9.~~10. "Artificial structure" means any object constructed or installed by man which has a water management effect, including, but without limitation thereof, dikes, levees, embankments, ditches, canals, conduits, channels, culverts, and pipes.

~~10.~~11. "Artificial waters," "artificial waterway," "artificially created waterway," or "artificial watercourse" means bodies of water that were totally excavated from uplands, do not overlap historic wetlands or other surface waters, and were not created as a part of a mitigation plan.

~~11.~~12. "As-Built drawings" or "record drawings" means plans certified by a registered professional that accurately represent the constructed condition of a project, including identifying any substantial deviations from the permitted design. See subparagraph 62-330.310(4)(a)1, F.A.C.

13. "Average annual nutrient load or loading" means the product of annual runoff volumes and event mean nutrient concentrations

14. "Best Management Practice (BMP) for sediment and erosion control" means a practice or combination of practices determined by the district, in cooperation with the department, based on research, field-testing, and expert review, to be the most effective and practicable, including economic and technological considerations, to prevent or reduce erosion processes and sediment transport downstream.

15. "Best Management Practice (BMP) for stormwater treatment" means a practice or combination of practices determined by the district, in cooperation with the department, based on research, field-testing, and expert review, to be the most effective and practicable, including economic and technological considerations, of improving water quality by reducing excess nutrients and other pollutant loads in water.

~~12.~~16. "Borrow pit" means a location where the soil or other natural deposits on or in the earth are removed from their location so as to make them suitable for use to build up land. No processing is involved, except for the use of a scalping screen to remove large rocks, wood, and other debris. The materials are used more for their bulk than their intrinsic qualities.

~~13.~~17. "Canal" means a man-made trench, the bottom of which is normally covered by water, with the upper edges of its two sides normally above water. [Section 403.803(2), F.S.]

~~14.~~18. "Canopy" means the plant stratum composed of all woody plants and palms with a trunk four inches or greater in diameter at breast height, except vines.

~~15.~~19. "Channel" means a trench, the bottom of which is normally covered entirely by water, with the upper edges of one or both of its sides normally below water. [Section 403.803(3), F.S.]

~~16.~~20. "Common plan of development or sale" or "larger plan of other commercial or residential development" means any activity that facilitates the advancement of land use (such as multiple residences, a residential subdivision, or phased site development) on the subject property, or that comprises a total land area divided into multiple lots, parcels, tracts, tiers, blocks, sites, or units, if such areas are under common ownership or control. This includes any activity on contiguous real property that comprises a total land area divided into parcels, tracts, tiers, blocks, sites, or units, and is served by a common road or road network or common stormwater management systems within that land area. Areas of land that are divided by public or private roads are considered contiguous if such areas are under common ownership or control.

~~17.~~21. "Completion of construction" means the time when all components of the project are installed and fully functional or when the infrastructure is used for its intended purpose, whichever occurs first. For a phased system, "completion of construction" means the time when all components for a phase of the project are installed and fully functional, or when the infrastructure for a phase is used for its intended purpose, whichever occurs first.

~~18.~~22. "Construction" means the creation, alteration, or abandonment of any project, including placement of fill, land clearing, earthwork, or the placement or removal of structures. Cutting of trees or removal of vegetation is not considered land clearing, except where it involves stump removal, root raking, or grubbing.

~~19.~~23. "Construction phase" means that period of time necessary to construct, alter, abandon, or remove a system in accordance with the terms and conditions of an individual permit.

24. "Control elevation" means the lowest elevation, which may be determined by the seasonal high water elevation -at which water can be released through a control device without draining ground water.

~~20.~~25. "Conversion," for purposes of wetland mitigation, means a man-made change to a wetland [as defined in Section 373.019(27), F.S.], or surface water by draining, filling, or other means which results in the permanent change of the wetland or surface water to an upland.

~~21.~~26. "Coral" means living stony coral and soft coral.

~~22.~~27. "Creation" means the establishment of new wetlands or surface waters by conversion of other land forms.

~~23.~~28. "Dam" means any artificial or natural barrier, with appurtenant works, raised to obstruct or impound, or which does obstruct or impound, any of the surface waters of the state [Section 373.403(1), F.S.]

29. "Detention" means the collection and temporary storage of stormwater with subsequent gradual release of the stormwater downstream.

30. "Detention with filtration" means the selective removal of pollutants from stormwater by the collection and temporary storage of stormwater and the subsequent gradual release of the stormwater downstream through an appropriately sized filter system.

~~24.~~31. "Department" means the Florida Department of Environmental Protection.

~~25.~~32. "Diameter at Breast Height (DBH)" means the diameter of a plant's trunk or main stem at a height of 4.5 feet above the ground.

~~26. "Direct discharge" means a discharge without prior opportunity for mixing and dilution sufficient to prevent a lowering of the existing ambient water quality.~~

~~27.~~33. "Direct Hydrologic Connection" means a surface water connection which occurs on an average of 30 or more consecutive days per year. In the absence of reliable hydrologic records, a continuum of naturally occurring wetlands may be used to establish a direct hydrologic connection.

34. "Directly connected impervious area," or "DCIA" means the area covered by a building, impermeable pavement, and/or other impervious surfaces, which drains directly into a conveyance system without first flowing across sufficient permeable vegetated land area, as referenced in section 9.X, to allow for infiltration of runoff.

~~28. "Discharge" means to allow or cause water to flow.~~

FSA recommends retaining this definition.

~~29.~~35. "District" means a water management district created pursuant to Section 373.069, F.S.

~~30.~~36. "Dock" means a fixed or floating structure extending from land out over water, including access walkways, terminal platforms, catwalks, mooring pilings, lifts, davits, and other associated water-dependent structures, used for mooring and accessing vessels.

~~31.~~37. "Drainage basin" means a subdivision of a watershed [Section 373.403(9), F.S.].

~~32.~~38. "Drainage ditch" or "irrigation ditch" means a man-made trench that is dug for the purpose of draining water from the land or for transporting water for use on the land and that is not built for navigational purposes. [Section 403.803(7), F.S.]

~~33.~~39. "Dredging" means excavation, by any means, in surface waters or wetlands, as delineated in Section 373.421(1), F.S. Dredging also means the excavation, or creation, of a water body which is, or is to be, connected to surface waters or wetlands, as delineated in Section 373.421(1), F.S., directly or via an excavated water body or series of water bodies [Section 373.403(13), F.S.]

~~34.~~40. "Ecological value" means the value of functions performed by uplands, wetlands and other surface waters to the abundance, diversity, and habitats of fish, wildlife, and listed species. These functions include, but are not limited to, providing cover and refuge; breeding, nesting, denning, and nursery areas; corridors for wildlife movement; food chain support; and natural water storage, natural flow attenuation, and water quality improvement, which enhances fish, wildlife and listed species utilization. [Section 373.403(18), F.S.]

~~35.~~41. "e-Permitting website" means the Agency's Internet address established to provide for submittal and viewing of applications and notices, responses to requests from the Agencies, reports, certifications, and other submittals.

~~36.~~42. "Embedded" means the placement of transmission or distribution lines, pipes or cables into the bottom of surface waters by minimal displacement of bottom material and without the creation of a trench, or trough, through the use of techniques such as plowing-in, weighing-in, or non-trenching jets.

~~37.~~43. "Endangered or threatened species" means those animal species that are identified as endangered or threatened by the US Fish and Wildlife Service, the National Marine Fisheries Service, or the Florida Fish and Wildlife Conservation Commission, as well as those plant species identified as endangered or threatened when such plants are located in a wetland or other surface water.

~~38.~~44. "Enhancement" means improving the ecological value of wetlands, other surface waters, or uplands in comparison to their current condition.

~~39.~~45. "Entrenchment" means the placement of transmission or distribution lines, pipes or cables into the bottoms of waters of the state by the creation of a defined trench, or trough, through the use of such devices as clamshells, dredges, trenching jets, or other devices that produce similar results.

~~40.~~46. "Estuary" means a semi-enclosed, naturally existing coastal body of water which has a free connection with the open sea and within which seawater is measurably diluted with fresh water derived from riverine systems. [Section 373.403(15), F.S.]

~~41.~~47. "Existing nesting or denning" refers to an upland site that is currently being used for nesting or denning, or is expected, based on reasonable scientific judgment, to be used for such purposes based on past nesting or denning at the site.

~~42.~~48. "Exotic species" means a plant species introduced to Florida, purposefully or accidentally, from a natural range outside of Florida, including naturalized exotic species (an exotic plant that sustains itself outside cultivation) and invasive exotic species (an exotic plant that not only has naturalized, but is expanding on its own in Florida native plant communities). Additional information on Florida's exotic plant species is available at: http://www.fleppc.org/.

~~43.~~49. "Farm pond" means a pond located on agricultural lands as defined in Section 193.461, F.S, used for agricultural activities as described in Section 403.927, F.S., and constructed, altered, maintained, and operated using the agricultural best management practices as provided in Section 403.927, F.S.

~~44.~~50. "Filling" means the deposition, by any means, of materials in wetlands or other surface waters, as delineated in Section 373.421(1), F.S. [Section 373.403(14), F.S.]

~~45.~~51. "Floodplain" means land area subject to inundation by flood waters from a river, watercourse, or lake. Floodplains are delineated according to their estimated frequency of flooding.

~~46.~~52. "Forested wetlands," for purposes of how this term is used in the exemptions and general permits in Chapter 62-330, F.A.C., means those wetlands where the canopy coverage by trees with a diameter at breast height of greater than 4 inches is greater than 10 percent, as well as those areas required to be planted with tree species to establish or reestablish forested wetlands pursuant to a permit issued, or enforcement action taken, under rules adopted under Part IV of Chapter 373, F.S., or Sections 403.91 through 403.929, F.S. (1984 Supp.), as amended, and those areas where the canopy has been temporarily removed but are expected to revegetate to a forested wetland if use of the area would remain unchanged.

~~47.~~53. "Governing Board" means the governing board of a water management district created under Section 373.069, F.S.

~~48.~~54. "Groundwater" means water beneath the surface of the ground, whether or not flowing through known and definite channels [Section 373.019(9), F.S.]

~~49.~~55. "Herbaceous wetlands," for purposes of how this term is used in the general permits in Chapter 62-330, F.A.C., means those wetlands dominated by non-woody vegetation that have less than a 10 percent canopy coverage of tree species with a diameter at breast height of greater than 4 inches, and/or subcanopy or woody shrub species with a diameter at breast height of one inch to four inches.

56. "Hydrologic Unit Code" or "HUC" means the hydrologic cataloging unit assigned to a geographic area representing a surface watershed drainage basin. A complete list of Hydrologic Unit codes, descriptions, names, and drainage areas, including subregions, can be found in the United States Geological Survey Water-Supply Paper 2294, entitled "Hydrologic Unit Maps". and the latest United States Geological Survey geographic information system HUC coverage.

~~50.~~57. "Hydroperiod" means the duration and range of elevation of inundation in a wetland.

~~51.~~58. "Impaired water" means a water body or water body segment that does not meet its applicable water quality standards as set forth in Chapters 62-302 and 62-4, F.A.C., as determined by the methodology in Part IV of Chapter 62-303, F.A.C., due in whole or in part to discharges of pollutants from point or nonpoint sources.

~~52.~~59. "Impervious" for purposes of applying permitting thresholds and exemption criteria, means surfaces that do not allow, or minimally allow, the penetration of water, including semi-impervious areas, but excluding wetlands or other surface waters. For other purposes, "impervious" means all artificial surfaces that that are not pervious. Included as examples are building roofs and normal concrete and asphalt pavements.

~~53.~~60. "Impoundment" means any lake, reservoir, pond, or other containment of surface water occupying a bed or depression in the earth's surface and having a discernible shoreline. [Sections 373.403(3) and 373.019(10), F.S.]

~~54.~~61. "Insect control impoundment dikes" means artificial structures, including earthen berms, constructed and used to impound waters for the purpose of insect control. [Section 403.803(10), F.S.]

~~55.~~62. "Isolated wetland" means any area that is determined to be a wetland in accordance with Chapter 62-340, F.A.C., but that does not have any connection to other wetlands or other

surface waters via wetlands or other surface waters as determined using Rule 62-340.600, F.A.C.

~~56.~~63. "Lagoon" means a naturally existing coastal zone depression which is below mean high water and which has permanent or ephemeral communications with the sea, but which is protected from the sea by some type of naturally existing barrier. [Section 373.403(16), F.S.]

~~57.~~64. "Listed Species" means those species that are endangered or threatened species (as defined in definition 2.0(a)43~~37~~, above), or species of special concern (as defined in definition 2.0(a)109~~95~~, below).

65. "Littoral zone" means that portion of stormwater management system that is designed to contain rooted emergent plants.

~~58.~~66. "Mail" shall mean when a document is properly addressed, stamped, and deposited in the United States mail, and the postmark date shall be the date of mailing. "Mail" also shall mean when the Agency electronically sends a document to the e-mail address provided to the Agency.

~~59.~~67. "Maintenance" or "Repair" means remedial work of a nature as may affect the safety of any dam, impoundment, reservoir, or appurtenant work or works, but excludes routine custodial maintenance. [Section 373.403(8), F.S.]

~~60.~~68. "Material," when used in the context of "filling," means matter of any kind, such as, sand, clay, silt, rock, dredged material, construction debris, solid waste, pilings or other structures, ash, and residue from industrial and domestic processes. The term does not include the temporary use and placement of lobster pots, crab traps, or similar devices or the placement of oyster cultch pursuant to Section 597.010, F.S.

~~61.~~69. "Mine" means an area of land that is related to the removal from its location of solid substances of commercial value found in natural deposits on or in the earth, so as to make the substances suitable for commercial, industrial, or construction use, but does not include excavation solely in aid of on-site farming or on-site construction, nor the process of prospecting. As used in Chapter 62-330, F.A.C., this does not include mining operations conducted in conjunction with land development that will result in residential, industrial, commercial, or land fill uses at the end of construction. Borrow pits that use extracted material in on-site locations are not mines. For the purposes of this definition, "on-site" means, "within the contiguous limits of an area of land under one ownership or control, and upon which agricultural or construction projects are taking place. Areas of land that are divided by public or private roads are considered contiguous if such areas are under one ownership or control."

~~62.~~70. "Mitigation" means an action or series of actions to offset the adverse impacts that would otherwise cause an activity regulated under Part IV of Chapter 373, F.S., to fail to meet the criteria set forth in Sections 10.1.1 through 10.2.8.2 of this Volume. Mitigation usually consists of restoration, enhancement, creation, preservation, or a combination thereof.

~~63.~~71. "Mitigation bank," "Mitigation bank permit," "Mitigation banker" or "banker," "Mitigation credit," and "Mitigation service area" shall have the same meanings as provided in Chapter 62-342, F.A.C.

~~64.~~72. "Natural systems" for the purpose of this rule means an ecological system supporting aquatic and wetland-dependent natural resources, including fish and aquatic and wetland-dependent wildlife habitat.

~~65.~~73. "Nuisance species" means any species of flora or fauna whose noxious characteristics or presence in sufficient number, biomass, or areal extent that prevents, or interferes with, uses or management of resources, and which are native or naturalized in the area where it occurs.

~~66.~~74. "Obstruction" means any fill, structure, work, appurtenant work, or system placed in waters, a floodway, or a work of the district which may impede the flow of water or otherwise result in increased water surface elevations.

~~67.~~75. "Offsite regional mitigation" means mitigation on land off of the site of an activity permitted under Part IV of Chapter 373, F.S., where an applicant proposes to mitigate the adverse impacts of only the applicant's specific activity as a requirement of the permit, which provides regional ecological value, and which is not a mitigation bank permitted under Section 373.4136, F.S. [Section 373.403(22), F.S.]

~~68.~~76. "Operate" or "operation" means to cause or to allow a project, or a completed independent phase thereof, to function.

~~69.~~77. "Ordinary high water line" or "OHWL," for the regulatory purposes of Chapter 62-330, F.A.C., means that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils.

~~70.~~78. "Other surface waters" means surface waters as described and delineated pursuant to Rule 62-340.600, F.A.C., as ratified by Section 373.4211, F.S., other than wetlands.

~~71.~~79. "Other watercourse" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted. [Section 373.019(14), F.S.]

80. "Permanent pool" means that portion of a wet detention pond that normally holds water between the normal water level and the top of the anoxic zone or pond bottom excluding any water volume claimed as wet detention treatment volume.

~~72.~~81. "Permit area" means the area where works occur as part of an activity requiring a permit under Part IV of Chapter 373, F.S., and any mitigation, buffer, and preservation areas, and all portions of the stormwater management system serving the project area.

~~73.~~82. "Pier" means a fixed or floating structure extending from land out over water, that is used primarily for fishing or swimming and not designed or used for mooring or accessing vessels.

~~74.~~83. "Pollution" is the presence in the outdoor atmosphere or waters of the state of any substances, contaminants, noise, or manmade or human-induced impairment of air or waters or alteration of the chemical, physical, biological, or radiological integrity of air or water in quantities or at levels which are or may be potentially harmful or injurious to human health or welfare, animal or plant life, or property or which unreasonably interfere with the enjoyment of life or property, including outdoor recreation unless authorized by applicable law. [Section 403.031(7), F.S.]

84. "Post-development condition" for nutrient loading determinations shall mean the average annual nutrient loading based on the proposed project area that would exist in accordance with the permitted project design.

85. "Predevelopment condition" for nutrient loading determinations shall mean the average annual nutrient loading based on the land use, land cover, and other site conditions that are legally in existence at the time of the application or at the time the TMDL was approved.

*FSA's above recommendation addresses a concern of when a TMDL becomes in effect or when the BMAP allocations are determined. How will this be addressed? In nutrient reductions, stakeholders have to meet the reductions with the landuse that was used to determine the pollutant. If the definition is kept as-is, a development that was completed after the BMAP would use its current landuse instead of the landuse of when the BMAP was created. It would be hard to meet reductions if not consistent with the BMAP.*

~~75.~~86. "Preservation" means the protection of wetlands, other surface waters or uplands from adverse impacts by placing a conservation easement as defined in and meeting the requirements of Section 704.06, F.S., over the property, or by donation of fee simple interest in the property to an entity having purposes as described in Section 704.06(3), F.S.

~~76.~~87. "Project" — see "system."

~~77.~~88. "Project area" means the area where works occur as part of an activity requiring a permit under part IV of Chapter 373, F.S., or Section 403.814, F.S.

~~78.~~89. "Prospecting" means activities considered normal and reasonably necessary to retrieve samples of subsurface geologic sediments for the specific purpose of locating, mapping, and determining the quality and quantity of sedimentary strata or natural deposits.

~~79.~~90. "Reclaimed water," except as specifically provided in Chapter 62-610, F.A.C., means water that has received at least secondary treatment and basic disinfection, and is reused after flowing out of a domestic wastewater treatment facility.

~~80.~~91. "Recreational path" means an improved lane, path, road, trail, or walkway, whether paved, cleared, or hardened with shell, clay, rock, or other materials, to provide a corridor for travel between destinations primarily by walking, biking, or use of non-internal combustion vehicles.

92. "Redevelopment" means the construction on sites having existing commercial, industrial, institutional, or residential land uses, excluding silviculture or agriculture, where all or part of the existing impervious surface is removed down to native soil and replaced with new impervious surface which has the same or lesser are as the existing impervious surface ~~will be replaced~~ with the same or lesser intense land use. ~~as part of the proposed activity and has not been previously permitted.~~

*FSA's above recommendation considers a scenario where a site was developed in 1990 and will be removed and new development replaces it. Shouldn't the new development be required to meet the new criteria? If our suggestion of "native soil" causes concern, please substitute something to indicate getting the site down to pre-1990 soil conditions using our context example above). Also, the proposed language references "previously permitted," if the Department keeps this language we ask that this be more specific. What kind of permit, permitted by who?*

~~81.~~93. "Regional stormwater management system" means a system designed, constructed, operated, and maintained to collect convey, store, absorb, inhibit, treat, use or reuse stormwater to prevent or reduce flooding, overdrainage, environmental degradation and water pollution or otherwise affect the quantity and quality of discharges from multiple parcels and projects within the drainage area served by the regional system, where the term "drainage area" refers to the land or development that is served by or contributes stormwater to the regional system.

FSA Comment: Is a regional stormwater management system the same as a "regional stormwater management facility" which is referred to in Section 12.6(d)? If so, consistent terminology should be used; if not, a specific definition should be added to Section 2.

~~82.~~94. "Regional watershed" means a watershed as delineated in Rule 62-342.200, F.A.C.

~~83.~~95. "Residential Canal System" means those canals whose uplands are occupied predominantly by residential single-family or multi-family dwelling units.

~~84.~~96. "Registered Professional" means a professional registered or licensed by and in the State of Florida and practicing under Chapter 471, 472, 481, or 492, F.S.

~~85.~~97. "Remove" or "removal" means cessation of use and maintenance of a project, or part of a project, accompanied by elimination of all or part of the project.

~~86.~~98. "Reservoir" means any artificial or natural holding area that contains or will contain the water impounded by a dam. [Section 373.403(4), F.S.]

~~87.~~99. "Restoration" means converting back to a historic condition those wetlands, surface waters, or uplands that currently exist as a land form that differs from the historic condition. For phosphate mining and reclamation, "restoration" shall mean the recontouring and revegetation of the lands in a manner, consistent with the criteria and standards of Part II of Chapter 378, F.S., which will maintain or improve the water quality and functions of the biological systems present at the site prior to mining.

~~88.~~100. "Retention" means a system designed to prevent the discharge of a given volume of stormwater runoff into surface waters in the state by complete on-site storage. Examples are systems such as excavated or natural depression storage areas, pervious pavement with subgrade, or above ground storage areas.

~~89.~~101. "Reuse" means the deliberate application of reclaimed water, in compliance with Department and District rules, for a beneficial purpose.

~~90.~~102. "Riprap" means a sloping retaining structure or stabilization made to reduce the force of waves and to protect the shore from erosion, and consists of unconsolidated boulders, rocks, or clean concrete rubble with no exposed reinforcing rods or similar protrusions, and having a size large enough to be stable under normal hydrologic, tidal, and wave conditions unless a different specific size is specified by rule or permit.

~~91.~~103. "Routine custodial maintenance" means those activities described in **section 3.1.1** of this Volume.

104. "Seasonal high ground water table" (SHGWT) means the highest average elevation of the zone of saturated soil during the wettest season of a typical years during periods of ~~level of the saturated zone in the soil in a year with~~ normal rainfall.

~~92.~~105. "Seasonal High Water Level (SHWL)" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

~~93.~~106."Seawall" means a man-made wall or encroachment, except riprap, which is made to break the force of waves and to protect the shore from erosion. [Section 373.403(17), F.S.]

~~94.~~107."Semi-impervious" means land surfaces that partially restrict the penetration of water; such as porous concrete and asphalt pavements, gravel, limerock, and certain compacted soils.

108. "Soil Survey" means a document prepared by the U.S. Natural Resources Conservation Service that provides soil maps and interpretations useful for guiding decisions about soil selection, use, and management

~~95.~~109. "Species of special concern" means those species identified as such by the Florida Fish and Wildlife Conservation Commission.

~~96.~~110. "State-owned submerged lands" means those lands defined as "sovereignty submerged lands" in Rule 18-21.003, F.A.C., which are: "those lands including but not limited to, tidal lands, islands, sand bars, shallow banks, and lands waterward of the ordinary or mean high water line, beneath navigable fresh water or beneath tidally-influenced waters, to which the State of Florida acquired title on March 3, 1845, by virtue of statehood, and which have not been heretofore conveyed or alienated. For the purposes of [Chapter 18-21] sovereignty submerged lands shall include all submerged lands title to which is held by the Board."

~~97.~~111. "State water quality standards" means water quality standards adopted pursuant to Chapter 403, F.S. [Section 373.403(11), F.S.], including standards composed of designated most beneficial uses (classification of waters), the numerical and narrative criteria applied to the specific water use or classification, the Florida anti-degradation policy (Rules 62-4.242 and 62-302.300, F.A.C.), and the moderating provisions contained in Chapters 62-4, 62-302, 62-520, and 62-550, F.A.C.

~~98.~~112. "Stormwater" means the flow of water that results from, and that occurs immediately following, a rainfall event.

~~99.~~113. "Stormwater management system" means a surface water management system that is designed and constructed or implemented to control discharges which are necessitated by rainfall events, incorporating methods to collect, convey, store, absorb, inhibit, treat, use, or ~~reuse~~ harvest water to prevent or reduce flooding, over drainage, environmental degradation, and water pollution or otherwise affect the quantity and quality of discharges from the system. [Sections 373.403(10) and 403.031(16), F.S.]

~~100.~~114. "Stormwater harvesting" means capturing stormwater for irrigation or other beneficial use.

~~101.~~115. "Stormwater Retrofit" means a project that adds treatment, attenuation, or flood control to an existing stormwater management system or systems but does not serve new development or redevelopment.

116. "Stormwater treatment system" means a type of stormwater management system specifically designed, constructed, or implemented to reduce the discharge of pollutants in stormwater by incorporating methods to collect, convey, store, absorb, treat, use, or harvest stormwater

~~102.~~117. "Stormwater utility" means the entity through which funding for a stormwater management program is obtained by assessing the cost of the program to the beneficiaries based on their relative contribution to its need. It is operated as a typical utility that bills services regularly, similar to water and wastewater services.

~~103.~~118. "Stream" means any river, creek, slough, or natural watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

The fact that some part of the bed or channel shall have been dredged or improved does not prevent the watercourse from being a stream. [Section 373.019(20), F.S.]

~~104.~~119.“Structure” means anything constructed, installed, or portable, the use of which requires a location on a parcel of land. It includes a movable structure while it is located on the land which can be used for housing, business, commercial, agricultural, or office purposes either temporarily or permanently.

~~105.~~120.Submerged grassbeds” means any native, herbaceous, submerged vascular plant community that is growing on the bottoms of surface waters waterward of the mean high water line or ordinary high water line.

~~106.~~121. “Surface water” means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth’s surface. [Section 373.019(21), F.S.]

~~107.~~122. “Swale” means a man-made trench that:

(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than three feet horizontal to one foot vertical;

(b) Contains contiguous areas of standing or flowing water only following a rainfall event;

(c) Is planted with or has stabilized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and

(d) Is designed to take into account the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge. [Section 403.803(14), F.S.]

~~Note: when a swale is used for stormwater treatment, it must meet the standards and criteria in Volume II.~~

~~108.~~123. “System” or “surface water management system” means a stormwater management system, dam, impoundment, reservoir, appurtenant work, or works, or any combination thereof, including areas of dredging or filling, as those terms are defined in Sections 373.403(13) and (14), F.S. For purposes of Chapter 62-330, F.A.C., and this Handbook, the term “project” generally will be used in lieu of the term “system.”

~~109.~~124. “Total land area” means land holdings under common ownership that are contiguous, or land holdings that are served by common surface water management facilities.

~~110.~~125. “Total maximum daily load,” or TMDL, means the sum of the individual wasteload allocations for point sources and the load allocations for nonpoint sources and natural background as defined and applied in Chapter 62-303, F.A.C.

~~111.~~126. “Traversing work” means any artificial structure or construction that is placed in or across a stream or other watercourse, or an impoundment.

~~112.~~127. “Uplands” means areas that are not wetlands or other surface waters, as delineated pursuant to Rules 62-340.100 through 62-340.550, F.A.C., as ratified by Section 373.4211, F.S.

~~113.~~128. "Vertical seawall" is a seawall the waterward face of which is at a slope steeper than 75 degrees to the horizontal. A seawall with sloping riprap covering the waterward face to the mean high water line shall not be considered a vertical seawall.

~~114.~~129. "Vessel," is synonymous with "boat" as referenced in s. 1(b), Art. VII of the State Constitution, and includes every description of watercraft, barge, and airboat, other than a seaplane on the water, used or capable of being used as a means of transportation on water. [Section 327.02(43), F.S.]

~~115.~~130. "Water" or "waters in the state" means any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state. [Section 373.019(22), F.S.]

~~116.~~131. "Waters of the state" shall be as defined in Section 403.031(13), F.S.

~~117.~~132. Watershed" means the land area that contributes to the flow of water into a receiving body of water. [Sections 373.403(12) and 403.031(18), F.S.]

~~118.~~133. "Water Management District" or "District" means a Water Management District created pursuant to Section 373.069, F.S.

~~119.~~134. "Water quality standards" or "State water quality standards" means those standards set forth in Chapters 62-4, 62-302, 62-520, and 62-550, F.A.C., including the antidegradation provisions of paragraphs 62-4.242(1)(a) and (b), F.A.C., subsections 62-4.242(2) and (3), F.A.C., and Rule 62-302.300, F.A.C.

~~120.~~135. "Wet detention" means the collection and temporary storage of stormwater in a permanently wet impoundment in such a manner as to provide for treatment through physical, chemical, and biological processes with subsequent gradual release of the stormwater.

~~121.~~136. "Wetlands," means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto. [Section 373.019(27), F.S.] The landward extent of wetlands is delineated pursuant to Rules 62-340.100 through 62-340.550, F.A.C., as ratified by Section 373.4211, F.S.

~~122.~~137. "Wetland Normal Pool Elevation" means the elevation of sustained water levels in a wetland during the wet season under normal conditions, as reflected by biological indicators. Normal pool elevation is lower than the SHWL.

~~123.~~138. "Work of the District" means those projects and works, including, but not limited to, structures, impoundments, wells, streams, and other watercourses, together with the appurtenant facilities

and accompanying lands, which have been officially adopted by the Governing Board of the District as "Works of the District." [Section 373.019(28), F.S.]

~~124.~~139. "Works" means all artificial structures, including, but not limited to, ditches, canals, conduits, channels, culverts, pipes, and other construction that connects to, draws water from, drains water into, or is placed in or across the waters in the state [Section 373.403(5), F.S.] and includes all types of dredging and filling to create, remove, or locate structures in, on, or over wetlands or other surface waters.

~~125.~~140. "Zone of discharge" means a volume underlying or surrounding the site and extending to the base of a specifically designated aquifer or aquifers, within which an opportunity for the treatment, mixture or dispersion of wastes into receiving ground water is afforded. ~~Generally, stormwater treatment systems have a zone of discharge 100 feet from the system boundary or to the project's property boundary, whichever is less.~~

(b) Definitions and terms that are not defined above shall be given their ordinary and customary meaning or usage of the trade or will be defined using published, generally accepted dictionaries, together with any rules and statutes of the Agencies that have additional authority over the regulated activities.

**AH Vol 1 Section 8 Second Draft**
**FSA Comments (previous + added clarification)**
**12-1-22**

## PART II -- CRITERIA FOR EVALUATION

### 8.0 Criteria for Evaluation

### 8.1 Purpose

The criteria explained in this part are those that have been adopted by the Agency in evaluating applications for individual and conceptual approval permits, with the exception of those individual permits described in Rule 62-330.054(4), F.A.C. The staff recommendation to approve any ~~individual or conceptual approval~~ permit application will be based upon a determination of whether reasonable assurance has been provided that the activity meets the criteria for evaluation, and whether the applicable permit fee has been submitted. In addition, the staff recommendation to resolve any violation under Chapter 62-330, F.A.C., also will be based upon a determination of whether reasonable assurance has been provided that the activity meets the criteria for evaluation in this part.

General permits are pre-issued, and already contain the limitations and criteria that must be met to qualify to use the specific general permit. Upon receipt of a notice to use a general permit, the Agency's review is limited to determining whether the notice complies with the terms and conditions of the pre-issued permit, in accordance with Chapter 62-330, F.A.C., and whether the applicable permit fee has been submitted. General permits shall meet the water quality treatment requirements for restoration plans that provide reduction allocations.

### 8.2 Criteria for Evaluation

**8.2.1** To obtain an individual or conceptual approval permit, an applicant must provide ~~give~~ reasonable assurance in accordance with Rule 62-330.060, F.A.C., and reasonable assurance that the following ~~major~~ standards contained in Sections 373.042, .413, .414, .416, .426, .429, .4595, F.S., are met:

(a) through (d) No change

**8.2.2 No change.**

**8.2.3 Activities Discharging into Waters That Do Not Meet Standards**

In instances where an applicant is unable to meet water quality standards because existing ambient water quality does not meet standards, and the activity will cause or contribute to this existing condition, mitigation for water quality impacts can consist of water quality enhancement or treatment that achieves a net improvement. In these cases, the applicant must propose and agree to implement mitigation measures that will cause net improvement of the water quality in the receiving waters for those contributed parameters that do not meet water quality standards. The applicant shall demonstrate such a net improvement whereby the pollutant loads discharged from the post-development condition for the proposed project shall be demonstrated to be less than those discharged based on the project's pre-development condition. Such demonstration shall be provided for any stormwater project within a HUC 12 subregion or subwatershed containing an impaired water, as defined and determined by rule 62-303 F.A.C., and located upstream of that impaired waterbody. For waters with a total nitrogen or total phosphorus nutrient impairment, the applicant must demonstrate such a net improvement of the water quality in the receiving waters in accordance with section 8.3.

## 8.3 Stormwater Quality Nutrient Permitting Requirements

### 8.3.1 Required Modeling or Calculation of Performance Standards

Each applicant shall demonstrate, through modeling or calculations, that their proposed system is designed to discharge to the required treatment level based on the Performance Standards described in sections 8.3.2 through 8.3.4 below.

### 8.3.2 Minimum Performance Standards for all sites

Except as provided below, all stormwater treatment systems shall provide a level of treatment sufficient to accomplish the greater of the following nutrient load reduction criteria:

(a) an 80 percent reduction of the average annual loading of total phosphorus (TP) and total nitrogen (TN) from the post-development project land use; or

(b) a reduction such that the post-development condition average annual loading of nutrients does not exceed the predevelopment condition nutrient loading.

### 8.3.3 Minimum Performance Standards for Outstanding Florida Waters (OFWs)

Stormwater treatment systems located within a HUC 12 subwatershed containing an OFW and upstream of the OFW, shall provide a level of treatment sufficient to accomplish the greater of the following nutrient load reduction criteria:

(a) a 95 percent reduction of the average annual loading of total phosphorus (TP) and total nitrogen (TN) from the post-development project land use; or

(b) a reduction such that the post-development condition average annual loading of nutrients does not exceed the predevelopment condition nutrient loading.

### 8.3.4 Minimum Performance Standards for Impaired Waters

1. Stormwater treatment systems located within a HUC 12 subwatershed which contains an impaired waterbody, as defined and determined by rule 62-303 F.A.C., or a watershed delineated in a BMAP or RAP for a waterbody and used to determine loading to the impaired waterbody, and located upstream of that impaired waterbody, shall provide a level of treatment sufficient to accomplish the greater of the following:
   ~~1.~~ an 80 percent reduction of average annual loading of total phosphorus (TP) and total nitrogen (TN) from the post-development project land use; or
   ~~2.~~ a net improvement for the pollutant(s) that do not meet state water quality standards such that the post development condition average annual loading of those pollutants not meeting water quality standards are less than that of the predevelopment condition; ~~and~~

~~3.~~2. For stormwater treatment systems that are also located within a HUC 12 subwatershed where a Total Maximum Daily Load (TMDL) or a Reasonable Assurance Plan (RAP) has been adopted and located upstream of that TMDL or RAP, shall provide the level of treatment sufficient to accomplish the percent reduction where specified in the load allocation of an adopted TMDL or RAP for the pollutant(s) not meeting water quality standards.

Load reductions for nutrients shall not be required to result in loads that are less than those demonstrated for ~~undeveloped or~~ natural conditions for the project area.

*New FSA Comment: After speaking with DEP staff, we understand the need to keep "and" vs. "or" in the above but continue to request text additions included. Please note that watersheds developed by FDEP during TMDL development for surface waterbodies may include HUCs that are tributaries of the impaired water. Limiting the applicability of this section to the HUC containing the impaired water and excluding the tributary HUCs seems inconsistent with restoration goals.*

*Additionally, under the current rule text, new development in areas outside of the HUC containing the impaired water would be required to meet the requirements of 8.3.2. The intention of the current language in 8.3.2 appears*

*to be to prevent future growth in nutrient loads. However, if this language is changed before rule adoption to allow for future nutrient load growth, then these future nutrient sources would become the responsibility of the local government when load reduction allocations are made during the BMAP process, unless 8.3.4 was also revised.*

### 8.3.5 Alternative Performance Standards for Redevelopment

Stormwater treatment systems serving redevelopment activities shall meet the appropriate minimum level of treatment set forth above in 8.3.2 - 8.3.4. However, an applicant may request approval by the Agency of a lower level of treatment if the redevelopment project is under three (3) ~~five~~ acres and does not fall within an area described in section 8.3.4 above. The minimum level of treatment allowable for these sites shall be as follows:

(a) an 80 percent reduction of the post-development average annual loading of TP and a ~~45~~ 55 percent reduction of the post-development average annual loading of TN from the project area; or

(b) for stormwater systems located within a HUC 12 **s**ubwatershed containing an OFW, a 95 percent reduction of the post-development average annual loading of total phosphorus (TP) and a ~~50~~ 80 percent reduction of the post-development average annual loading of total nitrogen (TN) from the project area.

*FSA's above recommendation of 3 acres vs. 5 acres is based on our experience that 5 acres is a very large redevelopment and not typical of urban communities where redevelopment involves properties of 3 acres or less. At DEP's request FSA surveyed Florida municipalities on average redevelopment project sizes. The responses received indicated 3 acres as a typical redevelopment project size.*

*FSA's above recommendation of 55% and 80% are based on the TAC's Report on performance standards requiring load reductions of 80% of TN and 95% reduction if TP in Outstanding Florida Waters, and a minimum of 55% reduction in TN and 80% reduction of TP in waters that are not impaired. The listed percentages cause concern because these nitrogen reductions are below what was recommended in 2010. Further, with so many of Florida's coastal waters and springs impaired for nitrogen, nitrogen reductions should at a minimum be what was recommended by the TAC.*

### 8.3.6 Exemption from Minimum Performance Standards for Redevelopment

Redevelopment sites that are under two acres that do not directly or indirectly discharge or affect a nutrient impaired water may qualify for an exemption as described in section 3.2.7 of this handbook. An exemption will require the redevelopment site to promote infiltration. This exemption only applies to redevelopment sites that result in reduced impervious surface or reduced pollutant loading on a case-by-case basis. Requests to qualify for this exemption will require technical analysis and supporting information that demonstrate that performance standards cannot be met and shall be submitted in writing to the applicable Agency, and such activities shall not commence without a written determination from the Agency confirming qualification for the exemption.

FSA Comment: The wording of the subsection remains too general. More detail and specificity need to be added so it is clearly understood how it will operate.

What happened to 8.1 Table?

*FSA's above recommendations are to show that the exemption contemplated needs much more detail as to how it will operate. In general, it should be clearly stated that this option is not available when the project discharges into watersheds of an impaired water.*

## 8.4 Additional Criteria

**8.4.1 ~~8.2.4~~ No change.**

**8.4.2 ~~8.2.4~~ No change.**

**8.4.3~~8.2.4~~ No change.**
**8.4.4 ~~8.2.4~~ No change.**

**8.4.5 Oil and Grease Control**

Discharge structures from areas with greater than 50 percent impervious and semi-impervious area or from systems that receive runoff from directly connected impervious that are subject to vehicular traffic shall include a baffle, skimmer, grease trap or other mechanism suitable for preventing oil and grease from leaving the stormwater treatment system in concentrations that would cause a violation of applicable water quality standards for ground or surface waters of the state. Designs must ensure sufficient clearance between the skimmer and concrete structure or pond bottom to ensure that the hydraulic capacity of the structure is not affected.

**8.4.6 Hazardous or Toxic Substances**

Systems serving a land use or activity that produces or stores hazardous or toxic substances shall be designed to prevent exposure of such materials to rainfall and runoff to ensure that contact stormwater does not become contaminated by such materials. Stormwater treatment systems shall not result in violations of water quality standards for ground or surface waters of the state.

**8.5 ~~8.3~~ State Water Quality Standards**

**8.5.1 ~~8.3.1~~ No change.**

**8.5.2 ~~8.3.2~~ Additional Permitting Requirements to Protect Ground Water**

State water quality standards for ground water are set forth in Chapter 62-520, F.A.C. In addition to the minimum criteria, Class G-I and G-II ground water must meet primary and secondary drinking water quality standards for public water systems established pursuant to the Florida Safe Drinking Water Act, which are listed in Rules 62-550.310 and 62-550.320, F.A.C.

Only the minimum criteria for ground water under rule 62-520.400, F.A.C., shall apply within an applicable zone of discharge, as determined by rule 62-520, F.A.C.

Pursuant to rule 62-555.312, F.A.C., stormwater retention and detention systems are classified as moderate sanitary hazards with respect to public and private drinking water wells. Stormwater treatment facilities shall not be sited or constructed within the setback distances for existing water supply wells as specified in accordance with rule 62-532, F.A.C.

To ensure protection of ground water quality, all stormwater treatment systems shall be designed and constructed to:

1. Ensure adequate treatment of stormwater so that a stormwater management system shall not result in a violation of ground water standards, outside an applicable Zone of Discharge, as determined in accordance with rule 62-520, F.A.C.; and

2. Avoid breaching an aquitard that would result in direct mixing of untreated water between surface water and an underground source of drinking water. Where an aquitard is not present, the depth of the stormwater treatment system shall be limited to prevent any excavation within three (3) feet of an underlying limestone formation which is part of a underground source of drinking water, as defined in rule 62-528, F.A.C.

**8.5.3 ~~8.3.3~~ No change.**

**AH Vol 1 Section 9**
**FSA Comments**
**12-1-22**

## 9.0 Stormwater Quality Treatment Requirements

## 9.1 Calculating Required Nutrient Load Reduction

Applicants are required to provide nutrient load reduction calculations in their application. To calculate the required stormwater nutrient load reduction for a project, the applicant shall:

- Determine whether the site falls within the same HUC 12 or watershed delineated in a BMAP or RAP and used to determine loading to an impaired water, as, and is upstream of, or contributes to, an OFW or impaired water, and select the corresponding performance standard from Section 8.3 of this volume. HUC 12s are incorporated by reference in Appendix X.
- Determine the pre-development average annual average mass loading of the project site for both total nitrogen (TN) and total phosphorus (TP) through modeling or as described in section 9.2.
- Calculate the project site's post-development annual average mass loading without treatment for both TN and TP through modeling or as described in section 9.2.
- Determine the percent TN and TP reduction needed as defined within section 8.3 and 9.3 of this volume. ~~to meet a reduction such that the post-development condition average annual loading of nutrients does not exceed the predevelopment condition nutrient loading as described in section 9.3. Compare the result to the percent reduction required in the applicable paragraph(s) of section 8.3 of this volume.~~ The greater percent load reduction will be the requirement for the project.
- Determine which BMPs will be used to meet the required TN and TP load reductions. Information on how to calculate nutrient load reduction for BMP Treatment Train is found in Section 9.5 of this volume.

FSA Comment: Suggested text in first bullet matches FSA's suggestion to minimum performance standards for impaired waters (Section 8.3.4.2)

## 9.2 Calculating Nutrient Loading

### 9.2.1 Calculating Predevelopment and Post development Hydrology

The applicant shall determine the pre-development and post development characteristics of the project site. If the project site encompasses multiple drainage basins or catchments, determine ~~this~~the pre-and--post development characteristics for each at the project site. For the purposes of this analysis, estimates of annual runoff volumes shall be performed using the method described herein or another methodology based on modeling. If modeling is used to determine hydrology, at a minimum the applicant shall submit the program used, inputs, and outputs. The methodology to determine the hydrology of the site by hand is outlined in paragraphs a. through f. below.

a. The Handbook's methodology provides tabular solutions to a series of calculations for determining annual runoff volumes for each of the state's designated meteorological zones as indicated in Figure 9.1. Table 9.3 lists the counties included in each meteorological zone. Use this table to determine the project's meteorological zone first and then continue to the determination of mean annual run off associated with the project location.

b. The percent of Directly Connected Impervious Area (DCIA) should be calculated for each land use type in the project area. DCIA consists of those impervious areas that are directly connected to the stormwater conveyance system. Impervious areas also are considered to be DCIA if stormwater from the area occurs as concentrated shallow flow over a short pervious area such as grass or a swale. Non-directly connected impervious (Non-DCIA) areas include all pervious areas and portions of impervious areas that flow over at least 10 feet of pervious areas with HSG A or B soils and over at least 20 feet of pervious area for other soil types.

c. Appendix Y provides a summary of calculated mean annual runoff coefficients ("ROC value") as a function of curve number and DCIA for each of the five designated meteorological zones. The values summarized in Appendix Y reflect the average long-term ROC values for each of the five designated zones over a wide range of DCIA and curve number combinations. Determine the ROC value for each land use category in a catchment for the project area. Linear interpolation can be used to estimate annual runoff coefficients for combinations of DCIA and curve numbers that fall between the values in the Table. For "naturally occurring" undeveloped conditions, it should be assumed that the percent DCIA is equal to 0.0.

d. This method should be used for each catchment area on the site to provide the most accurate runoff volume.

e. To calculate hydrology and pollutant loading from a catchment area in the proposed project site, applicants can develop a table similar to Table 9.1 to summarize land use information.

Table 9.1 Example Land Use Categories Matrix to Calculate Loadings

| Pre-development | Total watershed area | Non-DCIA CN | DCIA percentage | Calculated ROC Value |
|---|---|---|---|---|
| Low Density Residential | | | | |
| Single Family | | | | |
| Multi-Family | | | | |
| Low Intensity Commercial | | | | |
| High Intensity Commercial | | | | |
| Light Industrial | | | | |
| Highway | | | | |
| Natural Vegetated Community | | | | |

| Post-development | Total watershed area | Non-DCIA CN | DCIA percentage | Calculated C |
|---|---|---|---|---|
| Low Density Residential | | | | |
| Single Family | | | | |

| | | | | |
|---|---|---|---|---|
| Multi-Family | | | | |
| Low Intensity Commercial | | | | |
| High Intensity Commercial | | | | |
| Light Industrial | | | | |
| Highway | | | | |
| Natural Vegetated Community | | | | |

f. Determine the Annual Runoff Volume. The information contained in Table 9.1 and Appendix Y is used to estimate the Annual Runoff Volume for a given catchment area under either predevelopment or post-development conditions. The Average Annual Rainfall should be obtained using the method described in section 9.4. To calculate the Annual Runoff Volume for the site; the area of the site, average annual rainfall, and the appropriate ROC value are multiplied. This is shown in equation 9-1:

Equation 9-1

$$Annual\ Runoff\ Volume\ (ac-ft.)\ = Area\ (acres)\ x\ Average\ Annual\ Rainfall\ (inches)\ x\ ROC\ Value\ x\ (1ft/12in)$$

### 9.2.2 Calculation of Predevelopment and Post Development Stormwater Nutrient Loading

a. To calculate the predevelopment and post development annual mass loadings of TN and TP , multiply the predevelopment annual runoff volume (derived in Section 9.2.1) by the land use specific runoff characterization data (event mean concentrations or EMCs) for TN and TP. EMC Values are listed in Table 9.2 for different types of land use categories. These land use categories are described in Appendix Z. EMC values for the natural land uses must consider vegetation cover, soils, and topography and must match or be representative of the latest assigned Florida Land Use and Cover Classification System (FLUCCS) code. Applicants must use the most up-to-date verified EMC values available for their project region. Applicants also must comply with the applicable special basin or geographic area criteria in chapter 62-330.301(1)(k), F.A.C. including any EMC values specified in the applicable Applicant's Handbook Volume II;

FSA comment: A "match" isn't always going to occur.

Table 9.2 Standardized Statewide Stormwater Nutrient EMC Values

| Land Use Category | Total N (mg/l) | Total P (mg/l) |
|---|---|---|
| Low Density Residential | 1.65 | 0.270 |
| Single Family | 2.07 | 0.327 |
| Multi-Family | 2.32 | 0.520 |
| Low Intensity Commercial | 1.13 | 0.188 |
| High Intensity Commercial | 2.40 | 0.345 |
| Light Industrial | 1.20 | 0.260 |
| Highway | 1.52 | 0.200 |
| General Natural | 1.22 | 0.213 |

| | | |
|---|---|---|
| General Agricultural | 2.29 | 0.381 |
| Pasture | 3.03 | 0.593 |
| Citrus | 2.11 | 0.180 |
| Row Crops | 2.50 | 0.577 |

FSA Comment: Regarding table above, these values may be different for those areas that have a BMAP/TMDL/RAP/PIP. It should be clear that this table includes values as a "backstop" if the applicant does not propose alternate values.

Also, the "General Natural" EMCs in the table above seem very high, especially compared to the developed land uses EMCs. Looking at Harvey Harper's studies, General Natural EMC values are higher than study findings indicate. We can provide these reports if needed. It seems like the General Natural EMCs in the rule are going to result in more nutrient loading than would actually be occurring.

b. At the time of the application, an applicant may propose to use TN and TP EMC values accepted by the Agency which denote EMC values derived from regional or local government studies ~~or those adopted by local ordinance~~. Any project specific study conducted by an applicant must be submitted with the permit application for the Agency records. If EMC values from a project specific study are to be used, data collected must follow quality assurance provisions outlined in chapter 62-160, F.A.C., and include:

- Data collected at a ~~wide range~~ representative variety of rainfall depths;
- Minimum of 7~~-10~~ rainfall events;
- Minimum of ~~two years~~ one year of data with seasonal variation;
- Use of autosamplers to allow for runoff to be sampled from a minimum of 6 hours or the duration of the ~~throughout entire~~ rainfall event;
- Volume or time weighted composite samples ~~averaging~~;
- Sampling occurring ~~at~~near point of discharge and ~~just~~ upstream of any stormwater treatment on site;
- Minimum of three or more sites with this land use category depending on the variability of the land use category; and
- Sample locations must be representative of site conditions.
- ~~Data collected for all land use EMCs for the region.~~

FSA Comment: Section b suggestion is to allow the use of standardized EMCs (table 9.2), regional studies, and local government EMCs as accepted by DEP. If an applicant would like to use "project specific" EMCs they must follow QA 62-160 and the listed guidelines.

Also in third bullet above, consider reducing data requirement to one year. Many of our MS4 partners have good data without two years of study duration. The other conditions listed including requiring a minimum of 7-10 events, and requiring 3+ sites with the land use category should address concerns of significant meteorological differences.

Additionally, the contributing area to the sample site should represent a single land use type, and the results of the study should be reasonably consistent with other similar scientific studies and watershed plans. Depending on the site size, multiple sample locations may be required for

individual land use types. ~~If this study is intended to be used for more than one site area, then this study will only be applicable for the region specified by the study area, not to exceed a HUC 8 area.~~

c. Determine the average annual mass loading. The average annual mass loading calculation is provided in Equation 9-2 below.

Equation 9-2

$$Annual\ Average\ Mass\ Loading\ =\ Annual\ Runoff\ Volume\ x\ EMC$$

The components of Equation 9-2 are expressed in different units and require some conversion factors, as provided below.

$$Annual\ Mass\ Loading\ (lb./year)$$
$$=\ Annual\ Runoff\ Volume\ (ac-ft./year)\ *\ 43{,}560\ ft2$$
$$/ac\ *\ 7.48\ gal/ft3\ x\ 3.785\ liter/gal\ *\ EMC\ (mg/l)\ *\ 1\ lb./453{,}592\ mg$$

## 9.3 Determination of required treatment efficiency

Predevelopment and post development loadings are calculated, and subsequently compared, based on the average annual loading of TN and TP discharged. Equation 9-3 calculates the treatment efficiency needed so that the post development average annual loading of nutrients equals the predevelopment nutrient loading:

Equation 9-3: Percent reduction calculation

$$\left(1-\left(\frac{Predevelopment\ loading}{Post\ development\ Loading\ before\ treatment)}\right)\right)\times 100$$

Compare the result from equation 9-3 to the percent reduction required in the applicable paragraph of section 8.3. The greater load reduction (the more protective) will be the requirement for the project. Once the load reduction has been determined, use Equation 9-4 to find the required treated loading rate for TN and TP for the project.

Equation 9-4: Post development maximum load to meet % treatment required

$$=(1-Load\ Reduction)Post\ development\ Loading\ Before\ Treatment$$

Another method to determine the loading rate required for the project is to use the percent reduction required in Section 8.3 of this volume in Equation 9-4 then compare the result to the predevelopment loading. If the resultant loading of Equation 9-4 is less than that of the predevelopment loading, then the percent reduction required in the applicable paragraph of section 8.3 must be used in the stormwater design. If the resultant loading is greater than that of the predevelopment loading, than the applicant must treat the site to a level that would result in a post development loading equal to or less than that of the predevelopment loading.

FSA Comments: Regarding Equation 9-4, for a BMAP, the loading should be the pre-development load minus the required percent reduction times the pre-development load. Our understanding is that the reductions are based on pre-development not the post-development for a BMAP/TMDL/RAP/PIP.

## 9.4 Rainfall data

Calculations for the annual average mass loading will use the average annual rainfall data determined by National Centers for Environmental Information for the site area. Figure 9.2 displays an isopleth of the average annual rainfall data. This data can be further regionalized by going to https://ncei-normals-mapper.rcc-acis.org/. This rainfall data has been averaged from the last 30 years of rainfall data and is updated every 10 years.

FSA Comment: We're not familiar with this source of rainfall data. With some quick testing there are gaps in rainfall coverage, what should be used in those instances? Also there are no tables so we'd be relying on colors to make a determination. We suggest that NOAA Atlas 14 be utilizes as they have a rainfall table. https://hdsc.nws.noaa.gov/hdsc/pfds/pfds_maps.html

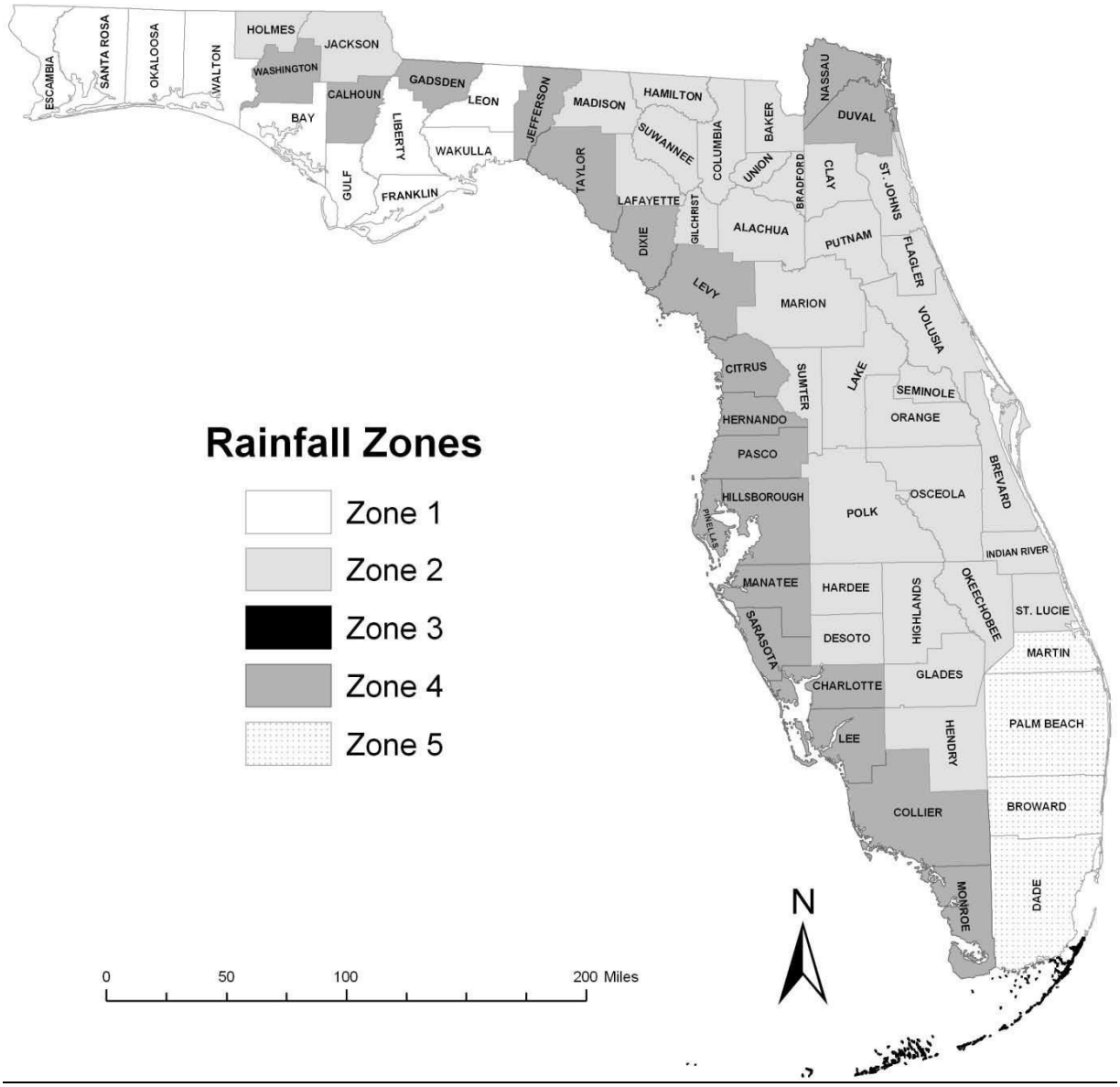


Figure 9.1 Designated Meteorological Regions (Zones) in Florida

Table 9.3 Counties Included in the Designated Meteorological Zones

| ZONE 1 | ZONE 2 | ZONE 3 | ZONE 4 | ZONE 5 |
|---|---|---|---|---|
| Bay | Alachua | Monroe County - Florida Keys from Key Largo to Key West | Charlotte | Broward |
| Escambia | Baker | | Citrus | Miami-Dade |
| Franklin | Bradford | | Collier | Martin |
| Gulf | Brevard | | Dixie | Palm Beach |
| Leon | Calhoun | | Duval | |
| Liberty | Clay | | Hernando | |
| Okaloosa | Columbia | | Hillsborough | |
| Santa Rosa | Desoto | | Jefferson | |
| Wakulla | Flagler | | Lee | |
| Walton | Gadsden | | Levy | |
| | Gilchrist | | Manatee | |
| | Glades | | Mainland Monroe | |
| | Hamilton | | Nassau | |
| | Hardee | | Pasco | |
| | Hendry | | Pinellas | |
| | Highlands | | Sarasota | |
| | Holmes | | Taylor | |
| | Indian River | | Washington | |
| | Jackson | | | |
| | Lafayette | | | |
| | Lake | | | |
| | Madison | | | |
| | Marion | | | |
| | Okeechobee | | | |
| | Orange | | | |
| | Osceola | | | |
| | Polk | | | |
| | Putnam | | | |
| | Seminole | | | |
| | St. Johns | | | |
| | St. Lucie | | | |
| | Sumter | | | |
| | Union | | | |
| | Volusia | | | |

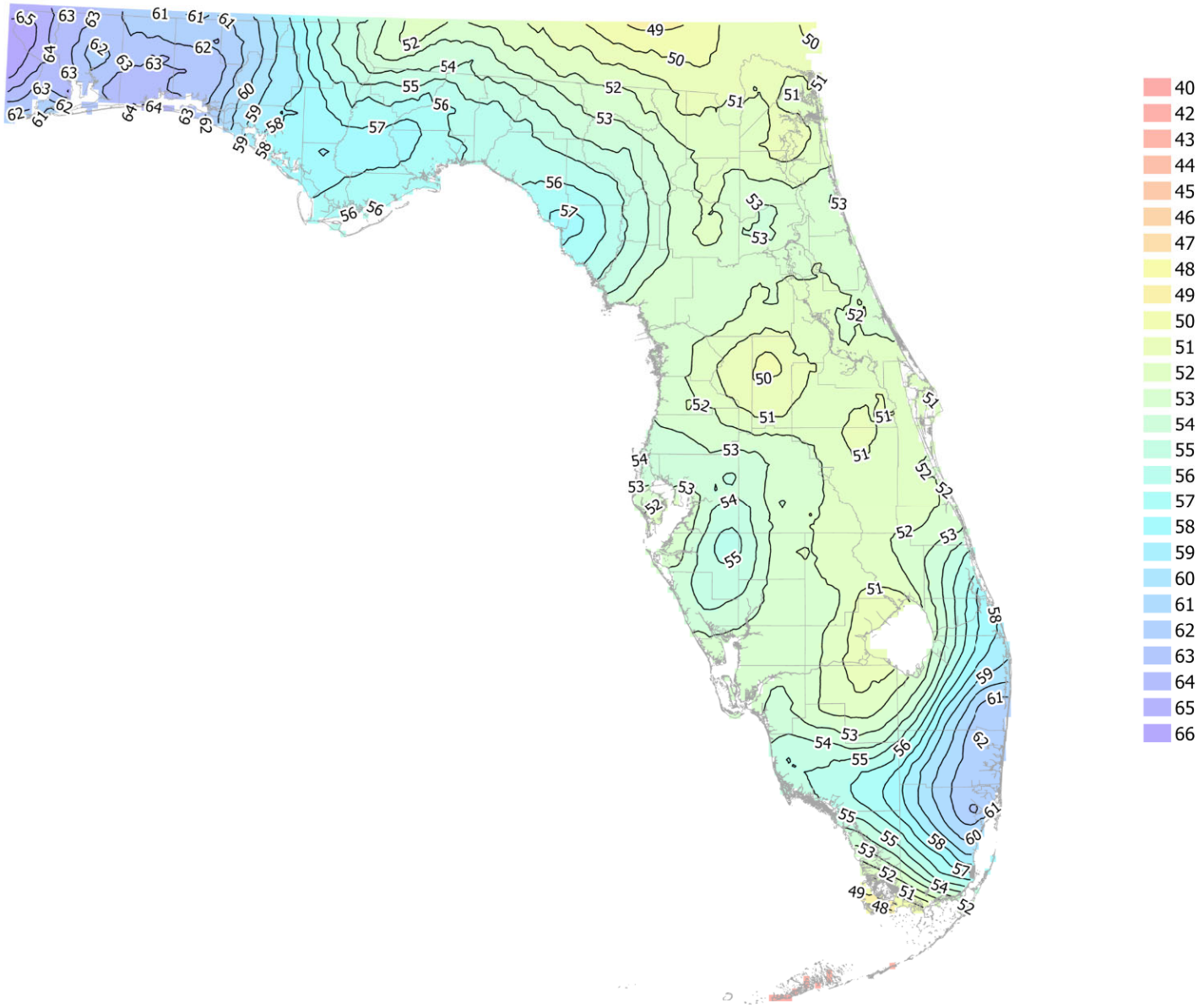


Figure 9.2 Rainfall Isopleth Map for Florida

## 9.5 Best Management Practices (BMPs) for Stormwater Treatment

Once the pre-development and post-development loadings have been calculated and the required percent reduction of TN and TP have been established, the stormwater treatment system can be designed. Stormwater treatment can be achieved in a variety of ways. Best management Practices (BMPs) are an effective tool for achieving the treatment efficiencies required by Section 8. The applicant must show that the stormwater treatment system complies with the hydraulic and hydrologic general design requirements in the applicable AH Volume II. If the applicant chooses to use a BMP that is not listed in the applicable AH Volume II, section 9.5.2 below describes the requirements for alternative designs.

If the post development maximum load for TN and TP are met with a single BMP, the applicant shall complete the design of the stormwater treatment system. If the maximum load is not met, the applicant shall either modify the selected BMP or incorporate additional BMPs to achieve the required TN or TP load reductions.

### 9.5.1 Treatment Train Nutrient Reduction

BMPs can be implemented in combination or in conjunction with one another in a series called a "BMP Treatment Train." If used, BMP Treatment Train efficiencies must account for the reduced loading transferred to subsequent downstream treatment devices. As stormwater pollutant concentrations are reduced in each BMP in the treatment train, the ability of a BMP Treatment Train to further reduce stormwater pollutant concentrations and loads is diminished. This is shown in Equation 9-5. This equation assumes each BMP acts independently of upstream BMPs and that upstream BMPs do not impact performance of downstream BMPs. If the BMP acts in combination with the upstream BMP, the designer will consider the use of another methodology to determine the resultant efficiency of the BMP Treatment Train.

Equation 9-5: Overall Treatment Train Efficiency for systems in series

$$Overall\ Treatment\ Train\ Efficiency = Eff1 + [(1 - Eff1)x\ Eff2] + [(1 - (Eff1 + Eff2))\ x\ Eff3\ ]$$

Eff1 = efficiency of initial treatment system
Eff2 = efficiency of second treatment system
Eff3 = efficiency of third treatment system

### 9.5.2 Alternative Designs

An applicant can propose alternative BMPs not listed in the AH Volume II Handbooks. These will be considered by the Agency as alternative designs and evaluated based on engineering plans, quality assurance plans, representative monitoring data in Florida, and test results for the specific site conditions of the project. Applicants must provide reasonable assurance that their proposed alternative designs provide the level of treatment that they claim and that will achieve the required performance standards in this Volume, either by the alternative design by themself or in conjunction with other BMPs. In determining whether the alternative design provides this reasonable assurance, the Agency will consider:

(a) Whether the alternative BMP has been appropriately tested and reviewed by scientific methods to substantiate its treatment efficiency claim; and

(b) Whether acceptable provisions have been made to ensure that the system will be effectively operated and maintained, as described in section 12 of this volume.

### 9.5.3 Green Stormwater Infrastructure and Low Impact Design

The Agencies encourage the use of Low Impact Design (LID) approaches, such as Green Stormwater Infrastructure (GSI), which can be used to supplement or replace traditional stormwater infrastructure for managing the impacts of rain and stormwater runoff. GSI and LID mimic pre-development conditions ~~reduce pollution and treat stormwater~~ by detaining or retaining rainfall near its source ~~instead of directing it to a centralized pond or treatment system.~~ When applied early in the design process, low impact design techniques can reduce stormwater runoff volume and pollutants generated from project sites. Thus, the use of GSI and LID may reduce traditional stormwater treatment BMP size requirements. GSI and LID, depending on the technology, can also treat stormwater in a manner similar to a traditional BMP by treating TN and TP. Typical GSI and LID features are described in the Applicant's Handbook Volume IIs and BMP library.

FSA Comment: Note that LID and GSI do not have to retain water.

## 9.6 Off-site Stormwater

The volume of runoff to be treated from a site shall be determined by the minimum level of treatment set forth in Section 8 of this Volume; the type of treatment system (e.g., retention, wet detention, etc.); and the meteorological region (rainfall zone) where the project is proposed. If stormwater runoff from off-site areas is allowed to co-mingle with on-site runoff, then the effects of runoff from these off-site areas must be addressed in the load reduction calculations for the project site, unless the project is exempt from this provision under section 373.413(6), F.S.

## 9.7 Compensating Stormwater Treatment

Two methods have been developed to compensate for the lack of treatment for a portion of a project. The first method is to treat the runoff that is captured to a greater extent than required by rule (i.e., "overtreatment"). The second method is to provide treatment for an off-site area which currently is not being treated (i.e., "off-site compensation"). Each method is designed to furnish the same level of treatment as if the runoff from the entire project site was captured and treated in accordance with the provisions of this Volume.

Either of these methods will only be allowed as a last resort, and the applicant is strongly encouraged to schedule a pre-application conference with Agency staff to discuss the project if these alternatives are being considered. Other rule criteria, such as peak discharge attenuation, will still have to be met if the applicant utilizes these methods. Each alternative is described in more detail in the following sections.

### 9.7.1 Overtreatment

Overtreatment means to treat the runoff from the project area that flows to a treatment system to a higher level than the rule requires to make up for the lack of treatment for a portion of the project area. The average treatment efficiency of the treated and untreated areas must meet the pollutant removal goals of Section 8 outlined in this Volume. To meet these goals, the area not being treated generally must be small (less than 10% of total site area or less than one acre for pervious area or half an acre for semi- impervious/impervious area, whichever is less) in relation to the

area which is captured and treated. Agency staff can aid in determining the proper level of overtreatment for a particular situation.

### 9.7.2 Off-site Compensation

Off-site Compensating Stormwater Treatment may be used when on-site treatment is not sufficient to meet the required performance standards. Off-site compensating stormwater treatment used to meet the requirements of Section 8 is ineligible ~~to also be used~~ for any water quality credit in the trading provisions/programs in Chapter 62-306, F.A.C.

The following criteria must be met when using off-site treatment, unless off-site treatment is explicitly allowed by section 311.106, F.S.:

(a) The proposed off-site area must be owned by the permittee and located within a HUC-12 subwatershed and BMAP/Restoration Area, if one exists, containing the proposed project. The proposed off-site area must be upstream of the proposed project and hydraulically connected to the same ~~water~~ waterbody ~~of concern~~ as the proposed project, unless otherwise noted by the special basin criteria;

(b) The proposed off-site area must be a developed site with the potential for BMPs to be retrofitted or further incorporated into the site. An applicant should not propose to treat runoff from an undeveloped location.

~~(b)~~(c) The applicant shall use modeling techniques to provide reasonable assurance that the off-site treatment system provides an equivalent amount of pollutant reductions at the point of discharge for the project as if all of the treatment was performed on-site;

~~(c)~~(d) The modeling must provide reasonable assurance that there will not be localized adverse impacts to the receiving waterbody or in downstream waters, which may require the application of adjustments based on location and,

~~(d)~~(e) Easement(s) shall be granted to the operation and maintenance entity, as required in Section 12.4 of this volume, for the area being used for off-site treatment to allow for perpetual operation and maintenance access of the off-site treatment area.

### 9.7.3 Reserved - Water Quality Enhancement Areas Credit Trading

## Appendix Y
## Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number

### ZONE 1
### Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number

| NDCIA CN | Percent DCIA | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| 30 | 0.006 | 0.048 | 0.090 | 0.132 | 0.175 | 0.217 | 0.259 | 0.301 | 0.343 | 0.386 | 0.428 | 0.470 | 0.512 | 0.554 | 0.596 | 0.639 | 0.681 | 0.723 | 0.765 | 0.807 | 0.849 |
| 35 | 0.009 | 0.051 | 0.093 | 0.135 | 0.177 | 0.219 | 0.261 | 0.303 | 0.345 | 0.387 | 0.429 | 0.471 | 0.513 | 0.555 | 0.597 | 0.639 | 0.681 | 0.723 | 0.765 | 0.807 | 0.849 |
| 40 | 0.014 | 0.056 | 0.098 | 0.139 | 0.181 | 0.223 | 0.265 | 0.307 | 0.348 | 0.390 | 0.432 | 0.474 | 0.515 | 0.557 | 0.599 | 0.641 | 0.682 | 0.724 | 0.766 | 0.808 | 0.849 |
| 45 | 0.020 | 0.062 | 0.103 | 0.145 | 0.186 | 0.228 | 0.269 | 0.311 | 0.352 | 0.394 | 0.435 | 0.476 | 0.518 | 0.559 | 0.601 | 0.642 | 0.684 | 0.725 | 0.767 | 0.808 | 0.849 |
| 50 | 0.029 | 0.070 | 0.111 | 0.152 | 0.193 | 0.234 | 0.275 | 0.316 | 0.357 | 0.398 | 0.439 | 0.480 | 0.521 | 0.562 | 0.603 | 0.644 | 0.685 | 0.726 | 0.767 | 0.808 | 0.849 |
| 55 | 0.039 | 0.079 | 0.120 | 0.161 | 0.201 | 0.242 | 0.282 | 0.323 | 0.363 | 0.404 | 0.444 | 0.485 | 0.525 | 0.566 | 0.606 | 0.647 | 0.687 | 0.728 | 0.768 | 0.809 | 0.849 |
| 60 | 0.052 | 0.092 | 0.132 | 0.172 | 0.212 | 0.252 | 0.291 | 0.331 | 0.371 | 0.411 | 0.451 | 0.491 | 0.531 | 0.570 | 0.610 | 0.650 | 0.690 | 0.730 | 0.770 | 0.810 | 0.849 |
| 65 | 0.069 | 0.108 | 0.147 | 0.186 | 0.225 | 0.264 | 0.303 | 0.342 | 0.381 | 0.420 | 0.459 | 0.498 | 0.537 | 0.576 | 0.615 | 0.654 | 0.693 | 0.732 | 0.771 | 0.810 | 0.849 |
| 70 | 0.092 | 0.130 | 0.167 | 0.205 | 0.243 | 0.281 | 0.319 | 0.357 | 0.395 | 0.433 | 0.471 | 0.508 | 0.546 | 0.584 | 0.622 | 0.660 | 0.698 | 0.736 | 0.774 | 0.812 | 0.849 |
| 75 | 0.121 | 0.158 | 0.194 | 0.230 | 0.267 | 0.303 | 0.340 | 0.376 | 0.412 | 0.449 | 0.485 | 0.522 | 0.558 | 0.595 | 0.631 | 0.667 | 0.704 | 0.740 | 0.777 | 0.813 | 0.849 |
| 80 | 0.162 | 0.196 | 0.230 | 0.265 | 0.299 | 0.334 | 0.368 | 0.402 | 0.437 | 0.471 | 0.506 | 0.540 | 0.574 | 0.609 | 0.643 | 0.678 | 0.712 | 0.746 | 0.781 | 0.815 | 0.849 |
| 85 | 0.220 | 0.252 | 0.283 | 0.315 | 0.346 | 0.378 | 0.409 | 0.441 | 0.472 | 0.503 | 0.535 | 0.566 | 0.598 | 0.629 | 0.661 | 0.692 | 0.724 | 0.755 | 0.787 | 0.818 | 0.849 |
| 90 | 0.312 | 0.339 | 0.366 | 0.393 | 0.419 | 0.446 | 0.473 | 0.500 | 0.527 | 0.554 | 0.581 | 0.608 | 0.634 | 0.661 | 0.688 | 0.715 | 0.742 | 0.769 | 0.796 | 0.823 | 0.849 |
| 95 | 0.478 | 0.496 | 0.515 | 0.533 | 0.552 | 0.571 | 0.589 | 0.608 | 0.626 | 0.645 | 0.664 | 0.682 | 0.701 | 0.719 | 0.738 | 0.757 | 0.775 | 0.794 | 0.812 | 0.831 | 0.849 |
| 98 | 0.656 | 0.666 | 0.676 | 0.685 | 0.695 | 0.705 | 0.714 | 0.724 | 0.734 | 0.743 | 0.753 | 0.763 | 0.772 | 0.782 | 0.792 | 0.801 | 0.811 | 0.821 | 0.830 | 0.840 | 0.849 |

**ZONE 2**
**Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number**

| NDCIA CN | Percent DCIA | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| 30 | 0.002 | 0.043 | 0.083 | 0.123 | 0.164 | 0.204 | 0.244 | 0.285 | 0.325 | 0.366 | 0.406 | 0.446 | 0.487 | 0.527 | 0.567 | 0.608 | 0.648 | 0.688 | 0.729 | 0.769 | 0.809 |
| 35 | 0.004 | 0.044 | 0.085 | 0.125 | 0.165 | 0.205 | 0.246 | 0.286 | 0.326 | 0.366 | 0.407 | 0.447 | 0.487 | 0.528 | 0.568 | 0.608 | 0.648 | 0.689 | 0.729 | 0.769 | 0.809 |
| 40 | 0.007 | 0.047 | 0.087 | 0.127 | 0.167 | 0.207 | 0.248 | 0.288 | 0.328 | 0.368 | 0.408 | 0.448 | 0.488 | 0.528 | 0.569 | 0.609 | 0.649 | 0.689 | 0.729 | 0.769 | 0.809 |
| 45 | 0.010 | 0.050 | 0.090 | 0.130 | 0.170 | 0.210 | 0.250 | 0.290 | 0.330 | 0.370 | 0.410 | 0.450 | 0.490 | 0.530 | 0.570 | 0.610 | 0.650 | 0.690 | 0.729 | 0.769 | 0.809 |
| 50 | 0.015 | 0.055 | 0.095 | 0.134 | 0.174 | 0.214 | 0.254 | 0.293 | 0.333 | 0.373 | 0.412 | 0.452 | 0.492 | 0.531 | 0.571 | 0.611 | 0.651 | 0.690 | 0.730 | 0.770 | 0.809 |
| 55 | 0.022 | 0.061 | 0.101 | 0.140 | 0.179 | 0.219 | 0.258 | 0.298 | 0.337 | 0.376 | 0.416 | 0.455 | 0.494 | 0.534 | 0.573 | 0.613 | 0.652 | 0.691 | 0.731 | 0.770 | 0.809 |
| 60 | 0.030 | 0.069 | 0.108 | 0.147 | 0.186 | 0.225 | 0.264 | 0.303 | 0.342 | 0.381 | 0.420 | 0.459 | 0.498 | 0.537 | 0.576 | 0.615 | 0.654 | 0.693 | 0.731 | 0.770 | 0.809 |
| 65 | 0.042 | 0.080 | 0.119 | 0.157 | 0.195 | 0.234 | 0.272 | 0.311 | 0.349 | 0.387 | 0.426 | 0.464 | 0.502 | 0.541 | 0.579 | 0.618 | 0.656 | 0.694 | 0.733 | 0.771 | 0.809 |
| 70 | 0.057 | 0.095 | 0.133 | 0.170 | 0.208 | 0.245 | 0.283 | 0.321 | 0.358 | 0.396 | 0.433 | 0.471 | 0.509 | 0.546 | 0.584 | 0.621 | 0.659 | 0.697 | 0.734 | 0.772 | 0.809 |
| 75 | 0.079 | 0.116 | 0.152 | 0.189 | 0.225 | 0.262 | 0.298 | 0.335 | 0.371 | 0.408 | 0.444 | 0.481 | 0.517 | 0.554 | 0.590 | 0.627 | 0.663 | 0.700 | 0.736 | 0.773 | 0.809 |
| 80 | 0.111 | 0.146 | 0.181 | 0.216 | 0.251 | 0.285 | 0.320 | 0.355 | 0.390 | 0.425 | 0.460 | 0.495 | 0.530 | 0.565 | 0.600 | 0.635 | 0.670 | 0.705 | 0.740 | 0.774 | 0.809 |
| 85 | 0.160 | 0.192 | 0.225 | 0.257 | 0.290 | 0.322 | 0.355 | 0.387 | 0.420 | 0.452 | 0.485 | 0.517 | 0.550 | 0.582 | 0.614 | 0.647 | 0.679 | 0.712 | 0.744 | 0.777 | 0.809 |
| 90 | 0.242 | 0.270 | 0.299 | 0.327 | 0.355 | 0.384 | 0.412 | 0.440 | 0.469 | 0.497 | 0.526 | 0.554 | 0.582 | 0.611 | 0.639 | 0.667 | 0.696 | 0.724 | 0.753 | 0.781 | 0.809 |
| 95 | 0.404 | 0.424 | 0.444 | 0.464 | 0.485 | 0.505 | 0.525 | 0.546 | 0.566 | 0.586 | 0.606 | 0.627 | 0.647 | 0.667 | 0.688 | 0.708 | 0.728 | 0.749 | 0.769 | 0.789 | 0.809 |
| 98 | 0.595 | 0.605 | 0.616 | 0.627 | 0.638 | 0.648 | 0.659 | 0.670 | 0.680 | 0.691 | 0.702 | 0.713 | 0.723 | 0.734 | 0.745 | 0.756 | 0.766 | 0.777 | 0.788 | 0.799 | 0.809 |

**ZONE 3**

**Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number**

| NDCIA CN | Percent DCIA | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| 30 | 0.008 | 0.047 | 0.087 | 0.126 | 0.165 | 0.205 | 0.244 | 0.283 | 0.323 | 0.362 | 0.401 | 0.441 | 0.480 | 0.519 | 0.559 | 0.598 | 0.637 | 0.677 | 0.716 | 0.756 | 0.795 |
| 35 | 0.012 | 0.051 | 0.090 | 0.129 | 0.168 | 0.207 | 0.247 | 0.286 | 0.325 | 0.364 | 0.403 | 0.442 | 0.482 | 0.521 | 0.560 | 0.599 | 0.638 | 0.677 | 0.717 | 0.756 | 0.795 |
| 40 | 0.016 | 0.055 | 0.094 | 0.133 | 0.172 | 0.211 | 0.250 | 0.289 | 0.328 | 0.367 | 0.406 | 0.445 | 0.483 | 0.522 | 0.561 | 0.600 | 0.639 | 0.678 | 0.717 | 0.756 | 0.795 |
| 45 | 0.022 | 0.061 | 0.099 | 0.138 | 0.177 | 0.215 | 0.254 | 0.292 | 0.331 | 0.370 | 0.408 | 0.447 | 0.486 | 0.524 | 0.563 | 0.602 | 0.640 | 0.679 | 0.718 | 0.756 | 0.795 |
| 50 | 0.029 | 0.067 | 0.105 | 0.144 | 0.182 | 0.220 | 0.259 | 0.297 | 0.335 | 0.374 | 0.412 | 0.450 | 0.488 | 0.527 | 0.565 | 0.603 | 0.642 | 0.680 | 0.718 | 0.757 | 0.795 |
| 55 | 0.037 | 0.075 | 0.113 | 0.151 | 0.189 | 0.227 | 0.265 | 0.302 | 0.340 | 0.378 | 0.416 | 0.454 | 0.492 | 0.530 | 0.568 | 0.605 | 0.643 | 0.681 | 0.719 | 0.757 | 0.795 |
| 60 | 0.048 | 0.085 | 0.123 | 0.160 | 0.197 | 0.235 | 0.272 | 0.309 | 0.347 | 0.384 | 0.421 | 0.459 | 0.496 | 0.533 | 0.571 | 0.608 | 0.645 | 0.683 | 0.720 | 0.758 | 0.795 |
| 65 | 0.061 | 0.098 | 0.134 | 0.171 | 0.208 | 0.244 | 0.281 | 0.318 | 0.355 | 0.391 | 0.428 | 0.465 | 0.501 | 0.538 | 0.575 | 0.611 | 0.648 | 0.685 | 0.721 | 0.758 | 0.795 |
| 70 | 0.078 | 0.114 | 0.149 | 0.185 | 0.221 | 0.257 | 0.293 | 0.329 | 0.365 | 0.400 | 0.436 | 0.472 | 0.508 | 0.544 | 0.580 | 0.616 | 0.651 | 0.687 | 0.723 | 0.759 | 0.795 |
| 75 | 0.100 | 0.135 | 0.170 | 0.204 | 0.239 | 0.274 | 0.308 | 0.343 | 0.378 | 0.413 | 0.447 | 0.482 | 0.517 | 0.552 | 0.586 | 0.621 | 0.656 | 0.691 | 0.725 | 0.760 | 0.795 |
| 80 | 0.131 | 0.164 | 0.197 | 0.231 | 0.264 | 0.297 | 0.330 | 0.363 | 0.397 | 0.430 | 0.463 | 0.496 | 0.529 | 0.562 | 0.596 | 0.629 | 0.662 | 0.695 | 0.728 | 0.762 | 0.795 |
| 85 | 0.177 | 0.208 | 0.239 | 0.269 | 0.300 | 0.331 | 0.362 | 0.393 | 0.424 | 0.455 | 0.486 | 0.517 | 0.548 | 0.579 | 0.609 | 0.640 | 0.671 | 0.702 | 0.733 | 0.764 | 0.795 |
| 90 | 0.252 | 0.279 | 0.306 | 0.333 | 0.360 | 0.388 | 0.415 | 0.442 | 0.469 | 0.496 | 0.523 | 0.550 | 0.578 | 0.605 | 0.632 | 0.659 | 0.686 | 0.713 | 0.741 | 0.768 | 0.795 |
| 95 | 0.399 | 0.419 | 0.439 | 0.458 | 0.478 | 0.498 | 0.518 | 0.538 | 0.557 | 0.577 | 0.597 | 0.617 | 0.637 | 0.656 | 0.676 | 0.696 | 0.716 | 0.735 | 0.755 | 0.775 | 0.795 |
| 98 | 0.578 | 0.589 | 0.600 | 0.611 | 0.622 | 0.633 | 0.643 | 0.654 | 0.665 | 0.676 | 0.687 | 0.697 | 0.708 | 0.719 | 0.730 | 0.741 | 0.752 | 0.762 | 0.773 | 0.784 | 0.795 |

**ZONE 4**
**Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number**

| NDCIA CN | Percent DCIA | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| 30 | 0.004 | 0.045 | 0.086 | 0.127 | 0.168 | 0.209 | 0.250 | 0.291 | 0.332 | 0.373 | 0.414 | 0.455 | 0.496 | 0.536 | 0.577 | 0.618 | 0.659 | 0.700 | 0.741 | 0.782 | 0.823 |
| 35 | 0.007 | 0.048 | 0.089 | 0.129 | 0.170 | 0.211 | 0.252 | 0.293 | 0.333 | 0.374 | 0.415 | 0.456 | 0.497 | 0.537 | 0.578 | 0.619 | 0.660 | 0.701 | 0.741 | 0.782 | 0.823 |
| 40 | 0.011 | 0.051 | 0.092 | 0.133 | 0.173 | 0.214 | 0.254 | 0.295 | 0.336 | 0.376 | 0.417 | 0.458 | 0.498 | 0.539 | 0.579 | 0.620 | 0.661 | 0.701 | 0.742 | 0.782 | 0.823 |
| 45 | 0.016 | 0.056 | 0.096 | 0.137 | 0.177 | 0.217 | 0.258 | 0.298 | 0.339 | 0.379 | 0.419 | 0.460 | 0.500 | 0.540 | 0.581 | 0.621 | 0.662 | 0.702 | 0.742 | 0.783 | 0.823 |
| 50 | 0.022 | 0.062 | 0.102 | 0.142 | 0.182 | 0.222 | 0.262 | 0.302 | 0.342 | 0.382 | 0.423 | 0.463 | 0.503 | 0.543 | 0.583 | 0.623 | 0.663 | 0.703 | 0.743 | 0.783 | 0.823 |
| 55 | 0.030 | 0.070 | 0.109 | 0.149 | 0.189 | 0.228 | 0.268 | 0.308 | 0.347 | 0.387 | 0.427 | 0.466 | 0.506 | 0.546 | 0.585 | 0.625 | 0.664 | 0.704 | 0.744 | 0.783 | 0.823 |
| 60 | 0.040 | 0.080 | 0.119 | 0.158 | 0.197 | 0.236 | 0.275 | 0.314 | 0.353 | 0.393 | 0.432 | 0.471 | 0.510 | 0.549 | 0.588 | 0.627 | 0.667 | 0.706 | 0.745 | 0.784 | 0.823 |
| 65 | 0.054 | 0.092 | 0.131 | 0.169 | 0.208 | 0.246 | 0.285 | 0.323 | 0.362 | 0.400 | 0.438 | 0.477 | 0.515 | 0.554 | 0.592 | 0.631 | 0.669 | 0.708 | 0.746 | 0.785 | 0.823 |
| 70 | 0.071 | 0.109 | 0.147 | 0.184 | 0.222 | 0.259 | 0.297 | 0.335 | 0.372 | 0.410 | 0.447 | 0.485 | 0.522 | 0.560 | 0.598 | 0.635 | 0.673 | 0.710 | 0.748 | 0.785 | 0.823 |
| 75 | 0.096 | 0.132 | 0.168 | 0.205 | 0.241 | 0.277 | 0.314 | 0.350 | 0.387 | 0.423 | 0.459 | 0.496 | 0.532 | 0.568 | 0.605 | 0.641 | 0.678 | 0.714 | 0.750 | 0.787 | 0.823 |
| 80 | 0.130 | 0.165 | 0.199 | 0.234 | 0.268 | 0.303 | 0.338 | 0.372 | 0.407 | 0.442 | 0.476 | 0.511 | 0.546 | 0.580 | 0.615 | 0.650 | 0.684 | 0.719 | 0.754 | 0.788 | 0.823 |
| 85 | 0.182 | 0.214 | 0.246 | 0.278 | 0.310 | 0.342 | 0.374 | 0.406 | 0.438 | 0.470 | 0.502 | 0.534 | 0.566 | 0.599 | 0.631 | 0.663 | 0.695 | 0.727 | 0.759 | 0.791 | 0.823 |
| 90 | 0.266 | 0.294 | 0.322 | 0.350 | 0.378 | 0.406 | 0.433 | 0.461 | 0.489 | 0.517 | 0.545 | 0.573 | 0.600 | 0.628 | 0.656 | 0.684 | 0.712 | 0.740 | 0.767 | 0.795 | 0.823 |
| 95 | 0.429 | 0.449 | 0.469 | 0.488 | 0.508 | 0.528 | 0.547 | 0.567 | 0.587 | 0.606 | 0.626 | 0.646 | 0.665 | 0.685 | 0.705 | 0.725 | 0.744 | 0.764 | 0.784 | 0.803 | 0.823 |
| 98 | 0.616 | 0.626 | 0.636 | 0.647 | 0.657 | 0.667 | 0.678 | 0.688 | 0.699 | 0.709 | 0.719 | 0.730 | 0.740 | 0.750 | 0.761 | 0.771 | 0.782 | 0.792 | 0.802 | 0.813 | 0.823 |

**ZONE 5**

**Mean Annual Runoff Coefficients (ROC Value) as a Function of DCIA Percentage and Non-DCIA Curve Number**

| NDCIA CN | Percent DCIA | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | 100 |
| 30 | 0.008 | 0.048 | 0.088 | 0.128 | 0.168 | 0.208 | 0.248 | 0.288 | 0.328 | 0.368 | 0.408 | 0.448 | 0.488 | 0.528 | 0.568 | 0.608 | 0.648 | 0.688 | 0.728 | 0.768 | 0.808 |
| 35 | 0.012 | 0.052 | 0.092 | 0.132 | 0.171 | 0.211 | 0.251 | 0.291 | 0.331 | 0.370 | 0.410 | 0.450 | 0.490 | 0.529 | 0.569 | 0.609 | 0.649 | 0.689 | 0.728 | 0.768 | 0.808 |
| 40 | 0.018 | 0.057 | 0.097 | 0.136 | 0.176 | 0.215 | 0.255 | 0.294 | 0.334 | 0.373 | 0.413 | 0.452 | 0.492 | 0.531 | 0.571 | 0.611 | 0.650 | 0.690 | 0.729 | 0.769 | 0.808 |
| 45 | 0.025 | 0.064 | 0.103 | 0.142 | 0.182 | 0.221 | 0.260 | 0.299 | 0.338 | 0.377 | 0.417 | 0.456 | 0.495 | 0.534 | 0.573 | 0.612 | 0.651 | 0.691 | 0.730 | 0.769 | 0.808 |
| 50 | 0.034 | 0.072 | 0.111 | 0.150 | 0.189 | 0.227 | 0.266 | 0.305 | 0.343 | 0.382 | 0.421 | 0.460 | 0.498 | 0.537 | 0.576 | 0.614 | 0.653 | 0.692 | 0.731 | 0.769 | 0.808 |
| 55 | 0.044 | 0.082 | 0.121 | 0.159 | 0.197 | 0.235 | 0.273 | 0.312 | 0.350 | 0.388 | 0.426 | 0.464 | 0.502 | 0.541 | 0.579 | 0.617 | 0.655 | 0.693 | 0.732 | 0.770 | 0.808 |
| 60 | 0.057 | 0.095 | 0.132 | 0.170 | 0.207 | 0.245 | 0.282 | 0.320 | 0.357 | 0.395 | 0.433 | 0.470 | 0.508 | 0.545 | 0.583 | 0.620 | 0.658 | 0.695 | 0.733 | 0.770 | 0.808 |
| 65 | 0.073 | 0.110 | 0.147 | 0.183 | 0.220 | 0.257 | 0.294 | 0.330 | 0.367 | 0.404 | 0.441 | 0.477 | 0.514 | 0.551 | 0.588 | 0.624 | 0.661 | 0.698 | 0.735 | 0.771 | 0.808 |
| 70 | 0.093 | 0.129 | 0.165 | 0.201 | 0.236 | 0.272 | 0.308 | 0.344 | 0.379 | 0.415 | 0.451 | 0.486 | 0.522 | 0.558 | 0.594 | 0.629 | 0.665 | 0.701 | 0.737 | 0.772 | 0.808 |
| 75 | 0.120 | 0.155 | 0.189 | 0.223 | 0.258 | 0.292 | 0.327 | 0.361 | 0.395 | 0.430 | 0.464 | 0.498 | 0.533 | 0.567 | 0.602 | 0.636 | 0.670 | 0.705 | 0.739 | 0.774 | 0.808 |
| 80 | 0.157 | 0.189 | 0.222 | 0.254 | 0.287 | 0.319 | 0.352 | 0.385 | 0.417 | 0.450 | 0.482 | 0.515 | 0.547 | 0.580 | 0.613 | 0.645 | 0.678 | 0.710 | 0.743 | 0.775 | 0.808 |
| 85 | 0.209 | 0.239 | 0.269 | 0.299 | 0.329 | 0.359 | 0.389 | 0.419 | 0.449 | 0.479 | 0.509 | 0.538 | 0.568 | 0.598 | 0.628 | 0.658 | 0.688 | 0.718 | 0.748 | 0.778 | 0.808 |
| 90 | 0.292 | 0.318 | 0.343 | 0.369 | 0.395 | 0.421 | 0.447 | 0.472 | 0.498 | 0.524 | 0.550 | 0.576 | 0.602 | 0.627 | 0.653 | 0.679 | 0.705 | 0.731 | 0.756 | 0.782 | 0.808 |
| 95 | 0.445 | 0.464 | 0.482 | 0.500 | 0.518 | 0.536 | 0.554 | 0.572 | 0.590 | 0.609 | 0.627 | 0.645 | 0.663 | 0.681 | 0.699 | 0.717 | 0.736 | 0.754 | 0.772 | 0.790 | 0.808 |
| 98 | 0.614 | 0.624 | 0.633 | 0.643 | 0.653 | 0.662 | 0.672 | 0.682 | 0.692 | 0.701 | 0.711 | 0.721 | 0.730 | 0.740 | 0.750 | 0.760 | 0.769 | 0.779 | 0.789 | 0.798 | 0.808 |

**AH Vol I Section 12**

**FSA Comments (previous + added clarification)**
**12-1-22**

## PART V – OPERATION AND MAINTENANCE-SPECIFIC REQUIREMENTS

### 12.0 Operation and Maintenance Requirements

### 12.1 Responsibilities

(a) In accordance with Rule 62-330.310, F.A.C., and except as provided in section 12.1.1, below, upon completion of a project constructed in conformance with an individual permit issued under Part IV of Chapter 373, F.S., the permit must be converted from the construction phase to an operation and maintenance phase.

(b) Responsibility for operation and maintenance of a regulated activity shall be an obligation in perpetuity as provided in Rule 62-330.310, F.A.C. ~~Such entity or entities must have the financial, legal, and administrative capability to perform operation and maintenance in accordance with Agency rules and permit conditions.~~

(c) Operation and maintenance entities must demonstrate that they have the financial, legal, and administrative capability to perform operation and maintenance in accordance with Agency rules and permit conditions. Legal and financial capability requirements for operation and maintenance entities are specified further in section 12.3 below.

(d)~~(c)~~ Conversion of a permit from the construction to the operation and maintenance phase shall follow the procedures in Rule 62-330.310, F.A.C., and **section 12.2 &, below**.

### 12.1.1 Exceptions

The operation phase of mining projects subject to the land reclamation requirements of Chapter 378, F.S., and that are used solely for and by the mine during its life shall be allowed to terminate, without the need to apply for abandonment of the permit, after the mine, or its subunits, has met the requirements described in the applicable paragraph 62-330.310(7)(a) or (b), F.A.C.

### 12.2 Procedures for Requesting Conversion from the Construction Phase to the Operation and Maintenance Phase

(a) Automatic Conversion —

1. In accordance with subsection 62-330.310(5), F.A.C., projects authorized in a General Permit shall automatically convert to an operation and maintenance phase upon completion of the permitted activities in conformance with all the terms and conditions of the permit.

2. For projects that serve an individual, private single family dwelling unit, duplex, triplex, or quadruplex that are not part of a larger plan of common development proposed by an applicant, the construction phase of the permit shall automatically convert to the operation and maintenance phase upon receipt of a

completed Form 62-330.310(3), "Construction Completion and Inspection Certification for Activities Associated with a Private Single-Family Dwelling Unit.," ~~the construction phase of the permit shall automatically convert to the operation and maintenance phase. However, if at any time the Agency determines that such an activity was not built in conformance with the terms and conditions of the permit, the permittee shall be subject to enforcement by the Agency and for all measures required to bring the activity into compliance with the permit.~~

3. If at any time the Agency determines that such activities as referenced in subparagraphs (a) 1. and (a) 2. above were not built in conformance with the terms and conditions of the permit, the permittee shall be subject to enforcement action by the Agency and for all measures required to bring the activity into compliance with the permit.

(b) For projects other than those specified in **sections 12.1.1** and **12.2(a), above** — The applicant shall submit ~~Submittal of~~ Form 62-330.310(1) "As-Built Certification and Request for Conversion to Operation Phase," in accordance with subparagraph 62-330.350(1)(f)2., F.A.C., ~~shall serve~~ to notify the Agency that the project, or independent portion of the project, is completed (other than long-term monitoring and any mitigation that will require additional time after construction or alteration to achieve the success criteria specified in the permit) and ready for inspection by the Agency.

1. Projects not requiring certification by a registered professional shall be certified by the permittee or their authorized agent. Projects designed by a registered professional shall be certified by a registered professional, unless exempted by law.

2. As-built drawings shall be included with Form 62-330.310(1). The person completing Form 62-330.310(1) shall inform the Agency if there are substantial deviations from the plans approved as part of the permit. ~~and include as-built drawings with the form.~~

   The plans must be clearly labeled as "as-built" or "record" drawings and shall consist of the permitted drawings that clearly highlight (such as through "red lines" or "clouds") any substantial deviations made during construction. The permittee shall be responsible for correcting the deviations [as verified by a new certification using Form 62-330.310(1)]. Non-substantial deviations do not require a permit modification. Substantial deviations shall be processed as a minor or major modification as described in section 6.2 of this handbook and under Rule 62-330.315, F.A.C. Such modification must be issued by the Agency prior to the Agency approving the request to convert the permit from the construction to the operation and maintenance phase.

3. The person certifying compliance with the permit shall submit documentation that demonstrates satisfaction of all permit conditions, other than long term monitoring and inspection requirements, along with Form 62-330.310(1).

(c) When projects authorized by a permit under this chapter are constructed in phases, each phase or independent portion of the permitted project must be completed prior to the use of that phase or independent portion. The ~~and the~~ Permittee must ~~have~~ submit~~ted~~ Form

62-330.310(1) "As-Built Certification and Request for Conversion to Operation Phase," in accordance with subparagraph 62-330.350(1)(f)2., F.A.C., certifying as to such completion for that phase or independent portion to be considered complete. ~~prior to the use of that phase or independent portion of the project.~~ The request for conversion to the operating phase for any phase or independent portion of the permitted project shall occur before construction of any future work that may rely on that infrastructure for conveyance and water quality treatment and attenuation. Phased construction can include a partial certification.

(d) Within 60 days of receiving Form 62-330.310(1), the Agency shall approve the request or ~~will~~ notify the permittee of any deficiencies that must be corrected prior to conversion to the operation and maintenance phase. If the Agency fails to take action on the request to convert the permit or notify the permittee of deficiencies, the conversion to operation and maintenance shall be deemed approved.

(e) If the Agency notifies the permittee of deficiencies that must be corrected, and if the permittee fails to correct those deficiencies in a timely manner, the project will be considered to be not operating in accordance with a permit issued under Chapter 62-330, F.A.C., and the permittee will be subject to enforcement action by the Agency. In such cases, the permittee will be responsible for any necessary permit modifications, alterations, or maintenance to bring the project into ~~such~~ compliance, and for submitting any new certifications and requests to convert the permit to the operation and maintenance phase as provided in this section.

(f) The requirements for submittal of an "as-built certification" contained in a permit issued under Part IV of Chapter 373, F.S., prior to October 1, 2013, the effective date of Chapter 62-330, F.A.C., shall continue to be followed in accordance with the existing permit unless the permittee obtains a modification using the procedures in Rule 62-330.315, F.A.C., to comply with the "as-built certification" requirements of Rules 62-330.310 and 62-330.350, F.A.C., and this section of Volume I.

### 12.2.1 Transfer to the perpetual operation and maintenance entity

(a) If the permittee is also the operation and maintenance entity, once the activity has been converted to the operation phase as described in **section 12.2, above,** no other action is required under this section.

(b) In accordance with subparagraph 62-330.350(1)(g)2., F.A.C., if the permittee is not ~~also~~ the operation and maintenance entity, a completed Form 62-330.310(2), "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" must be submitted to transfer the permit to the operation and maintenance entity. If the transfer is to the entity identified in the permit, the submittal of the form does not require a processing fee, and the review shall not require processing as a permit modification under Rule 62-330.315, F.A.C. The form must be signed by a person authorized to represent the operation and maintenance entity, and shall be submitted along with the following, as applicable:

1. A copy of the recorded transfer of title to the operation and maintenance entity for the common areas on which the stormwater management system, or other permitted works are located (unless dedicated by plat);~~,~~

2. A copy of all recorded plats;~~,~~

3. Copies of recorded declaration of covenants and restrictions, amendments, and associated exhibits;~~, and~~

4. A copy of the filed articles of incorporation and documentation of the operation and maintenance entity's active corporate status with the Department of State, Division of Corporations, if the entity is a corporation;~~.~~

5. A copy of the operation and maintenance plan, revised as necessary to be applicable to the stormwater management system as designed and permitted;

6. A copy of the cost estimate as defined in 12.3.5 below; and

7. Documentation demonstrating financial capability in accordance with Section 12.3 below.

(c) The permittee shall ensure that all documents ~~Documents~~ that require recordation in the public records are ~~must be~~ recorded in the county where the project is located prior to any lot or unit sales within the project served by the system or work, or upon completion of construction of the system or work, whichever occurs first.

(d) Within 60 days of receiving a complete request to transfer the permit to the operation and maintenance entity, the Agency shall approve the request, or will notify the permittee that the documentation is insufficient to demonstrate compliance with **Section 12.3, below,** and permit conditions. The permittee shall remain liable until the permit is transferred to the operation and maintenance entity by the Agency. If the Agency fails to take action or notify the permittee of the insufficiencies within 60 days of the request, the transfer shall be deemed approved if the permit has already been certified and converted to the operation phase.

(e) If a permit modification is required to allow for a new entity or multiple entities to operate and maintain the project, the 60-day time period for Agency action shall not commence until the permit modification is issued.

## 12.3 Operation and Maintenance Entities

**12.3.1** An acceptable operation and maintenance entity shall have the financial and legal capability to access, monitor, operate, and maintain the permitted project. Typically, this is accomplished through ownership or control of all property on which the permitted project is located by one of the entities listed below. However, alternative methods of achieving the legal requirements necessary for operation and maintenance will be considered by the Agency. Drainage easements, cross drainage agreements, or similar documents may be required for connected systems or systems with common infrastructure to be operated by different entities.

The following entities are acceptable for ensuring that an activity will be operated and maintained in compliance with the requirements of Section 373.416(2), F.A.C., and Chapter 62-330, F.A.C.

(a) Local government units, including counties and municipalities, Municipal Service Taxing Units, or special taxing units;

(b) Water control districts created pursuant to Chapter 298, F.S., drainage districts created by special act, special districts defined in Chapter 189, F.S., Community Development Districts created pursuant to Chapter 190, F.S., Special Assessment Districts created pursuant to Chapter 170, F.S., or water management districts created pursuant to Chapter 373, F.S.;

(c) State or federal agencies;

(d) Duly constituted communication, water, sewer, stormwater, electrical, or other public utilities;

(e) Construction permittees, subject to the restrictions below; or

(f) Non-profit corporations, including homeowners' associations, property owners' associations, condominium owners' or master associations, subject to the restrictions below.

**12.3.2** If the proposed operation and maintenance entity falls within paragraph (a), (b), (c), or (d) above, a preliminary letter of intent or statement from such entity must be submitted to the Agency with the permit application, or in a permit modification request, indicating the entity's intention to accept responsibility for operation and maintenance of the permitted system. The letter of intent or statement must be submitted along with Form 62-330.xyz, "Certification of Financial Capability for Perpetual Operations and Maintenance Entities," and must clearly indicate what portions of the system will be operated and maintained by the entity, and whether any portions of the system are to be operated and maintained by another entity. If portions of the system are to be operated and maintained by another entity, similar letters of intent or statements must be received from those entities. Upon approval by the Agency, all such identified entities will be responsible for operation and maintenance of the system.

**12.3.3** A construction permittee is an acceptable operation and maintenance entity, provided the property on which all of the permitted project is located will continue to be owned or controlled by the construction permittee. When a construction permittee intends to convey the property to a third party, the permittee will be an approved operation and maintenance entity from the time construction begins until the system is transferred to the established legal entity approved by the Agency. If a permittee intends to convey or transfer any portion of the property on which the permitted project is located, the permittee may continue to be the long-term operation and maintenance entity only if appropriate drainage easements, cross drainage agreements or similar documents that provide the entity with the legal capability and authority to operate and maintain the permitted project is approved as part of the permit application, are recorded in the official records of the applicable county, and are in effect prior to any conveyance or transfer of the property or conversion of the permit to the operation and maintenance phase, whichever occurs first. Where the property is leased or rented to a third party, the property owner shall continue to be the responsible operation and maintenance entity, unless the Lessor is the permittee.

**12.3.4** Homeowners' associations, property owners' associations, and condominium owners' or master associations (collectively, "Associations") are acceptable operation and maintenance entities only if they have the financial, legal, and administrative capability to provide for the perpetual ~~long term~~ operation and maintenance of the project. Accordingly, the applicant must:

(a) Submit draft Articles of Incorporation, Declaration, Restrictive Covenants, Deed Restrictions

or other organizational and operation documents, or draft amendments thereto, that affirmatively assign responsibility to the Association for the operation or maintenance of the project. Model language for Declaration and Restrictive Covenants is included in section 7 of the "References and Design Aids" for Volume I. The Association documents must comply with Chapters 617, 718, 719, and 720, F.S., as applicable.

(b) Submit documentation that the Association will have sufficient powers (reflected in governing documents where applicable)~~,~~ to:

1. Own and convey property;

2. Operate and perform maintenance of the permitted project on common property as exempted or permitted by the Agency;

3. Establish rules and regulations governing membership or take any other actions necessary for the purposes for which the corporation or association was organized;

4. Assess members for the cost of operating and maintaining the common property, including the stormwater management system, and enforce the collection of such assessments;

5. Sue and be sued;

6. Contract for services to provide for operation and maintenance (if the association contemplates employing a maintenance company);

7. Require all owners of real property or units to be members of the corporation or association; and

8. Demonstrate that the land on which the system is located is owned or otherwise controlled by the corporation or association to the extent necessary to operate and maintain the system or convey operation and maintenance to another entity.

(c) Submit documentation that the following covenants and restrictions, will be or have been set forth in the Declaration of Restrictive Covenants, Deed Restrictions, Declaration of Condominium, or other recorded document setting forth the Association's rules and regulations:

1. That it is the responsibility of the Association to operate and maintain the system;

2. The system is owned by the Association or described therein as common property;

3. That there is a method of assessing and collecting the assessment for operation and maintenance of the system;

4. That assessments are such that they would at minimum cover the annual costs of operation and maintenance for the permitted stormwater systems, outlined in the cost estimate as described in section 12.3.5, and that those assessments are intended to be allocated sufficiently within the annual budget to cover projected

operating expenses, including deferred maintenance, in accordance with Chapter 720, F.S.;

5. ~~4.~~ That any proposed amendment to the Association's documents affecting the system (including environmental conservation areas and the water management portions of the common areas) must be submitted to the Agency for a determination of whether the amendment necessitates a modification of the environmental resource permit. If a modification is necessary, the Agency will so advise the permittee. The amendment affecting the system may not be finalized until any necessary permit modification is approved by the Agency or the Association is advised that a modification is not necessary;

6. ~~5.~~ That the governing provisions of the Association must be in effect for at least 20 years with automatic renewal periods thereafter;

7. 6. That the Association shall exist in perpetuity. However, should the Association dissolve, the operational documents shall provide that the system shall be transferred to and maintained by one of the entities identified in **sections 12.3.1(a) through (f), above**, who has the powers listed in **section 12.3.4(b)1. through 8., above**, the covenants and restrictions required in **section 12.3.4(c)1. through 9., herein**, and the ability to accept responsibility for the operation and maintenance of the system described in **section 12.3.4(d)1. or 2., below**;

8. ~~7.~~ If wetland mitigation and/or water quality monitoring is required by the permit condition(s) and the operational entity will be responsible to carry out this obligation, the rules and regulations of the Association shall state that it will be the Association's responsibility to complete the task successfully, including meeting all conditions associated with water quality and mitigation maintenance and monitoring;

9. ~~8.~~ The Agency has the right to take enforcement action, including a civil action for an injunction and penalties, against the Association to compel it to correct any outstanding problems with the system facilities or in mitigation or conservation areas under the responsibility or control of the Association; and

10. ~~9.~~ A "Recorded Notice of Environmental Resource Permit," Form No. 62-330.090(1), shall be recorded in the public records of the County(s) where the project is located. The Registered Agent for the Association shall maintain copies of all permitting actions for the benefit of the Association.

(d) Submit documentation that the Association will ~~have the ability to accept responsibility for the operation and maintenance of the system~~:

1. Have the ability to accept responsibility for the operation and maintenance of the system for ~~F~~or future phases of the project, if the operation and maintenance entity is proposed for a project that will be constructed in phases, and subsequent phases will utilize the same system as the initial phase or phases; ~~or~~

2. Have, either separately or collectively, the responsibility and authority to operate and perform maintenance of the system for the entire project area, if the development scheme contemplates independent operation and maintenance

entities for different phases, and the system is integrated throughout the project. That authority must include cross easements for surface water management and the ability to enter and maintain the various portions of the system, should any sub-entity fail to maintain a portion of the system within the project area; and.

3. Have ownership or control of the reserve fund(s), if established by the construction permittee or a prior operation and maintenance entity, or provide other reasonable assurance that financial obligations of the system will be met.

**12.3.5** All applicants for operation and maintenance phase activities must demonstrate that they have the financial capability to operate and maintain the stormwater management system as designed and permitted. The operation and maintenance entity shall provide a cost estimate for the perpetual operation and maintenance of the stormwater management system through the submission of the documents described herein.

(a) Cost estimates:

1. Cost estimates will be required for all stormwater management systems, except those that self-certify in accordance with the 10-2 general permit authorization under section 403.814, F.S.

2. The cost estimate shall be computed using ~~a formula, in~~NOT ADD current year dollars, to determine the annual operating expenses, including maintenance costs, for the estimated remaining useful life of the system accounting for replacement costs or deferred maintenance expenses for non-annual expenditures, for all components of the stormwater management system, or any independent portion thereof, including for each BMP in the stormwater management system.

3. The operation and maintenance entity may adjust replacement reserve assessments annually to take into account any changes in estimates of cost or useful life of a reserve item.

4. The applicant shall submit written cost estimates with verifiable bases for the estimates to the Agency along with the financial assurance. At the time of request for transfer the permittee shall submit an updated written cost estimate. The source of any cost estimates shall be indicated.

5. If more than one financial mechanism is proposed for perpetual operation and maintenance, the cost estimate shall specify the appropriate mechanism for each itemized cost.

b) Demonstration of Financial Capability for Operation and Maintenance:
Applicants for the operation and maintenance phase must provide Form 62-330.xyz, "Certification of Financial Capability for Perpetual Operations and Maintenance Entities,"

c) For those Associations subject to reporting and budgeting requirements under Chapter 720, F.S., summary information reported on Form 62-330.xyz shall conform to the financial reporting and budget requirements of Chapter 720, F.S., and such certification shall provide reasonable assurance that the Association has the financial capability to operate and maintain the permitted system as designed and permitted. An Association may submit draft documentation, including information on a reserve account, to the Agency with the permit

application. The reserve account, if part of the Association's demonstration of financial capability as approved by a permit, must be executed and funded prior to the transfer to the operation and maintenance phase, unless another time frame is specified in the permit, once issued.

1. If the budget for an Association includes a reserve account for capital expenditures and deferred maintenance, the required funds for such shall be computed by a means consistent with the requirements of 12.3.5 (a) above.

2. The operation and maintenance entity may adjust replacement reserve assessments annually to take into account any changes in estimates of cost or useful life of a reserve item.

3. Reserve funds originally proposed to support operation and maintenance activities for a stormwater management system shall remain in the reserve account(s) and shall be used only for authorized operation and maintenance expenditures, unless their use for other purposes is approved in advance by the Association in accordance with the requirements of Chapter 720, F.S.

## 12.4 Minimum Operation and Maintenance Standards

(a) In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems, dams, impoundments, reservoirs, appurtenant works, or works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity. The operation and maintenance shall be in accordance with the designs, plans, calculations, and other specifications that are submitted with an application, approved by the Agency, and incorporated as a condition into any permit issued.

(b) Operation and Maintenance Access

An operation and maintenance entity shall provide documentation of legal authorization, such as access easements, deed restrictions, or other legal instruments, for the operation and maintenance entity to have and maintain sufficient access for operation and maintenance of the stormwater treatment system, except where the operation and maintenance entity has provided separate documentation of having ownership control of the related stormwater management system property. The following requirements shall apply to operation and maintenance access easements:

1. Access easements must cover at least the primary and high-maintenance components of the system (i.e., inlets, outlets, littoral zones, filters, pumps, etc.), including provisions for equipment to enter and perform the necessary maintenance on the system. Applicants may propose site-specific easements that meet this requirement.

2. Easements for stormwater management systems must:

   a. Include the area of the water surface measured at the control elevation;
   b. Extend a minimum of 20 feet from the top of bank and include side slopes or an allowance for side slopes calculated at no steeper than 4H:1V (horizontal to vertical) or an alternate allowance for installation and maintenance of a fence or other public access restriction, whichever is greater; and

c. Be traversable by operation and maintenance equipment and personnel.

3. Easements for piped stormwater conveyance must be a minimum of the width of the pipe plus 4 times the depth of the pipe invert below finished grade.

4. Easements must provide a minimum access width of 20 feet, unless it can be demonstrated that smaller widths will provide sufficient access for equipment and personnel to enter and perform the necessary maintenance for the system. The easement(s) shall extend from a public road, public right-of-way or other location from which operation and maintenance access is legally and physically available and extend to provide access as needed for operation and maintenance for each stormwater management system component.

As an alternative, the applicant may propose other forms of legal authorization for provided operation and maintenance access provided the applicant affirmatively demonstrates that equipment and operators can enter and perform the required operation and maintenance activities on the stormwater management system.

### 12.4.1 Stormwater Treatment System Operation and Maintenance Plan

Since each stormwater treatment system is unique, an applicant for construction shall provide a written operation and maintenance plan, prepared and certified by a qualified registered professional, specific for the stormwater management system, so that the owner/permittee knows which operation and maintenance activities must be done to ensure the perpetual performance of the stormwater management system. The operation and maintenance plan shall describe the overall inspection and maintenance requirements, including applicable operations and maintenance requirements as specified herein, and shall identify future maintenance expenditures that are required to ensure that the stormwater system continues to function as designed and permitted.

(a) The written operation and maintenance (O&M) plan at a minimum shall include:

1. A list and details of all stormwater system components including their location, type, and other pertinent information;

2. A list and description of each of the identified maintenance and inspection tasks for each of the system's components and for the overall system, (refer to the BMP library for reference on procedures for BMPs);

3. All regular inspection and maintenance schedules;

4. Inspection checklists;

5. Copies or references for of the pertinent sections of all covenants, conditions, restrictions, and other association documents, permits, approvals, and agreements that govern the operation and maintenance of the stormwater management system; and

6. Permitted or as-built plans of the stormwater water management system.

(b) Once transferred to the operation and maintenance phase, as-built plans shall be included in the operation and maintenance plan upon completion of construction of each completed phase, if applicable. The operation and maintenance plan must also include

or reference other pertinent facility information such as design limitations and replacement schedules for any non-annual components of the stormwater treatment system that are needed to maintain performance as originally designed and permitted. The plan should also include a list of after-hours telephone numbers of key maintenance personnel in case of emergencies and information necessary for reviewing copies of maintenance and inspection records.

(c) The operation and maintenance entity shall maintain a copy of the operation and maintenance plan as submitted and approved in accordance with this Chapter 62-330, F.A.C. If a third-party entity performs operation and maintenance on behalf of the owner or permittee, the permittee shall remain responsible for all operation and maintenance requirements.

(d) The operation and maintenance plan should be periodically reviewed, at least at the time of inspections required under 12.5 below, to identify required operation and maintenance activities. The operation and maintenance entity shall ensure that the plan is updated as needed with applicable contact information and any new operation and maintenance requirements to ensure that the stormwater system continues to function as designed and permitted. If any document is updated, the updated document(s) shall be available for inspection upon request by the permitting Agency.

**12.5 Inspections**

(a) Each permit that contains a stormwater management system requires the operation and maintenance entity to conduct periodic inspections. All stormwater treatment systems shall be inspected annually to ensure that they continue to function as designed and permitted. The operation and maintenance entity shall employ a qualified ~~registered~~ professional to inspect the stormwater treatment system permitted under rule 62-330, F.A.C., and to submit a report to the Agency describing and certifying the results within 30 days of the inspection. The report shall certify that the stormwater treatment system is operating as designed and permitted. The results of all such inspections shall be filed with the Agency using Form 62-330.xyz, "Operation and Maintenance Inspection Certification." Inspections under this section shall be performed and reported at least once every 12-month period, unless the required inspection frequency is modified as described in section 12.5(e).

FSA Comment: Please clarify that new requirements apply to only new permitted facilities. In 12.4.1 it specifically states "applicant for construction".

Requiring a registered professional engineer for the inspections could be problematic and not needed. We suggest a "certified" professional as FSA's training program could expand to support this effort.

Annual inspection frequencies for all stormwater facilities for the first five years is a significant change from previous schedules. Generally different types of assets require different inspection frequencies.

Requiring a specific form for reporting inspections does not seem necessary and would be a burden. Most municipalities or other entities have their own forms. We suggest prescribes what inspections reports should contain instead of having specific forms.

(b) Upon completion of the permitted stormwater management systems, dams, reservoirs,

impoundments, appurtenant work, or works, the Agency may conduct ~~shall have~~ periodic inspections ~~made~~ to ensure the project was constructed and is being operated in compliance with the terms and conditions of the permit, and in a manner that protects the public health and safety and the natural resources of the state. No person shall refuse immediate entry or access to any authorized representative of the District or DEP who requests entry for purposes of such inspection and presents appropriate credentials.

(c) Inspections may be performed by Agency staff during and after construction and as~~. When~~ needed to ensure a project is being operated and maintained in perpetuity in compliance with permit conditions.~~, the permit may require the operation and maintenance entity to conduct the periodic inspections. The required inspection schedule for a specific project will be specified in the permit.~~

(d) Some projects **that do not consist of or include a stormwater management system, dam, impoundment, reservoir, or appurtenant work,** whether designed by a registered professional or not, also may be required in the permit to be regularly inspected and monitored to ensure continued compliance with permit conditions and the functioning of the project. This may include individual permits issued for activities at a private residential single-family residence. For example, a residential fill pad may have been permitted with specific requirements for slope drainage or runoff. A dock located in waters with sensitive resources may have been permitted with conditions prohibiting mooring in certain locations, limiting the number or size of boats to be moored at the dock, or with requirements for handrailing or other associated structures. The permit will specify the periodic inspections that will be required, and how the results of the inspections are to be either retained by the permittee or reported to the Agency.

FSA Comment: When is the operation plan submitted?
During the permit application or after the permit is issued?

The following are examples of activities as discussed above that are subject to an initial inspection prior to conversion to the operation phase, and then subject to routine inspections during the operation and maintenance phase. The inspection frequency during the operation and maintenance phase will be determined in the permit:

- Single-family dock (to verify that: handrails are constructed and are maintained to prevent mooring of vessels in shallow waters);
- Multi-slip docking facility (to verify maintenance of manatee protection signs, sewage pumpout facilities, or over-water fueling operation);
- Single-family lot fill (to verify lawn grading and sloping is maintained to reduce discharges of nutrients from lawn runoff entering sensitive waters);
- Seawalls or rip rap (to verify integrity of system or shoreline plantings);
- Lands within a conservation easement (for encroachments, alterations, or exotic/nuisance vegetation removal) in accordance with a permit under this chapter;
- Mitigation sites (to determine compliance with success criteria, including the status of exotic species removals); and
- Other dredging or filling (for example, dredged material sites and dams to ensure functioning and stability of dikes and control structures).

~~(e) The efficiency of stormwater management systems, dams, impoundments, and most other projects normally decreases over time without periodic maintenance. For example, a~~

~~significant reduction in the flow capacity of a stormwater management system often can be attributed to partial blockages of its conveyance system. Once flow capacity is compromised, flooding may result. Therefore, operation and maintenance entities must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies so that the project is returned to the operational functions required in the permit and contemplated by the design of the project as permitted. The corrections must be done a timely manner to prevent compromises to flood protection and water quality.~~

(e)~~(f)~~ The permittee for a stormwater management system that has been in the operation and maintenance phase for five or more years may apply for a permit modification to reduce the annual inspection frequency. The reduction shall be considered a minor modification under Rule 62-330.315, F.A.C., where the proposed inspection frequency meets either the applicable time frames specified in Table 12-1, or time frames in which the inspection frequency is reasonably expected to maintain the performance of the stormwater management system based on the considerations below. The applicant must demonstrate that for five consecutive years the system was in service, it showed no decrease in functionality and that the stormwater management system will continue to function as designed and permitted with the reduced inspection frequency. The permitting Agency shall allow a less frequent minimum inspection schedule proposed by a registered professional where an applicant has provided reasonable assurance that the proposed inspection schedule will ensure that the system is being operated and maintained as designed and permitted. In a request for an alternate inspection and reporting frequency, the applicant shall provide historical information on the operation and maintenance of the stormwater management system, as well as the specific operational and maintenance requirements of the site, including the following: ~~Inspection and reporting frequencies will be included as permit conditions based on site- specific operational and maintenance requirements, considering things as:~~

1. The type, nature, and design of the design and performance standards proposed, including any alternative designs such as pervious pavement, green roofs, cisterns, managed aquatic plant systems, stormwater harvesting, wetland treatment trains, low impact designs, alum or polymer injection systems;

2. The proximity of receiving waters classified as Outstanding Florida Waters in Rule 62-302.700, F.A.C., or impaired for constituents likely to be contained in discharges from the project;

3. The nature of the site, such as whether it is part of a port or landfill, whether it will impound more than 40 acre-feet of water, or will include above ground impoundments;

4. The topography, rainfall patterns, and adjacent development surrounding the activity site, including any special basin designations within the District in which the activity is located, as identified in paragraph 62-330.301(1)(k), F.A.C.;

5. The nature of the underlying soils, geology, ~~and~~ groundwater, and hydrology;

6. The potential for construction and operation of the project to cause harm to public

health, safety, or welfare, or harm to water resources, water quality standards, or water quality; ~~and~~

7. Prior compliance history with the proposed design and performance type, including whether the activity characteristics are likely to pose more than a minimal risk for harm~~.~~; and

8. Type of BMPs in the system. Table 12-1 lists common BMPs and their recommended reduced inspection frequency. For stormwater systems with multiple BMPs in series, the most frequent inspection rate will be used for the entire system. This listing is suggested as general guidance for reduced inspection frequencies and is not all inclusive. These frequencies can be altered by the permitting Agency based on considerations of 1-7 above.

Table 12-1: Reduced Inspection Frequencies for common BMPs

| **TYPE OF SYSTEM** | **AFTER FIVE OR MORE YEARS OF SUCCESSFUL OPERATION** |
|---|---|
| Dry Retention basins | Once every 5 years |
| Exfiltration trenches | Once every 2 Years |
| Underground retention | Once every 2 Years |
| Sand or Media Filters | Once every 2 Years |
| Underdrain System | Once every 2 Years |
| Underground vault/chambers | Once every 2 Years |
| Swales (treatment) | Once every 5 years |
| Wet Detention systems | Once every 5 years |
| Vegetated Natural Buffers | Once every 5 years |

## 12.5.1 Inspection Requirements

Operation and Maintenance entities must ensure that inspections are being conducted to ensure that stormwater management systems are being maintained as designed and permitted. The efficiency of stormwater management systems, dams, impoundments, and most other projects normally decreases over time without periodic maintenance. For example, a significant reduction in the flow capacity of a stormwater management system often can be attributed to partial blockages of its conveyance system. Once flow capacity is compromised, flooding may result. Therefore, operation and maintenance entities must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies so that the project is returned to the operational functions required in the permit and contemplated by the design of the project as permitted. The corrections must be done a timely manner to prevent flooding and protect water quality.

(a) ~~(g)~~ Special attention shall be made during inspections to ensure that:

1. All erosion is controlled, and soil is appropriately stabilized to prevent sediment discharge to waters in the state;

2. The system is kept free of debris, trash, garbage, oils and greases, floatables, and other refuse;

~~3.~~ Stormwater management systems that include oil and grease separators, skimmers, or collection devices are working properly and do not allow the discharge of oils or greases. Oils and greases or other materials removed from such a device during routine maintenance shall be disposed of at a sanitary landfill or by other lawful means; ~~and~~

4. All structures within stormwater management systems have not become clogged or choked with vegetative or aquatic growth to such an extent as to render them inoperable~~.~~;

5. System components have been maintained to remove sediments, debris, and other deleterious materials to ensure that the systems continue to perform as designed and permitted, and that their original permitted dimensions have not been altered substantially; and

6. All system components associated with nutrient or other pollutant removal are in good working order. Maintenance logs and records are reviewed to ensure devices are functioning properly and are being replaced at intervals recommended in the operation and maintenance plan.

(b) Inspection checklists may be used for reporting by registered professionals and supplemented with other forms as appropriate. Inspection checklists are recommended for the annual inspections after the project has been transferred to the operation and maintenance phase, to ensure that all system components are functioning as originally permitted and constructed. Appendix L includes model Inspection Checklists that can be used by registered professionals as drafted or can be customized as needed.

(c) ~~(h)~~ Unless otherwise specified in the permit, the operation and maintenance entity must maintain a record of each inspection, including the date of inspection, the name and contact information of the inspector, whether the system was functioning as designed and permitted, and make such record available upon request of the Agency, in accordance with **section 12.6~~12.5~~, below**.

~~(i) The inspection and reporting requirements contained in a permit issued under Part IV of Chapter 373, F.S., prior to October 1, 2013, the effective date of Chapter 62-330, F.A.C., which implements Section 373.4141, F.S., shall continue to be followed in accordance with the existing permit unless the permittee obtains a modification using the procedures in Rule 62-330.315, F.A.C., to comply with the inspection and reporting requirements of Rule 62-330.311, F.A.C., and this section of the Handbook.~~

## 12.6 ~~12.5~~Reporting

(a) All forms required for reporting can be submitted to the respective Agency Internet site. If the permittee does not use the electronic forms provided on that site, they shall be responsible for retaining records of the inspections and for delivering such records within 30 days of request to the requesting Agency, unless a more rapid delivery is requested for such reasons as the potential for the activity harm to water quality, water resources, public health, or public safety.

(b) Operation and maintenance entities responsible for a stormwater management system shall submit an inspection report to the agency describing and certifying the results of the inspection within 30 days of the inspection. A registered professional shall certify the results of all such inspections. The permittee shall submit inspection reports with the Agency using Form 62-330.xyz, "Operation and Maintenance Inspection Certification." Inspection reports shall be submitted to the Agency at the approved frequency. Reports shall also include, as applicable:

1. Inspection Checklists,
2. Any updated operation and maintenance cost estimates as described in Section 12.3.5,
3. A summary of updates to the operation and maintenance plan described in Section 12.4.1, and
4. Any monitoring reports as may be required by permit specific condition.

FSA Comment: In some cases, 30 days may not be sufficient for providing inspection reports. Some entities schedule a significant number of inspections to occur over a period of time and may want to submit those reports together, doing so over a period longer than 30 days.

Again, requiring a registered professional could be problematic. There are highly qualified inspectors who are not registered professionals or engineers and this places a financial burden on stormwater utilities and groups, like HOAs, that is unnecessary.

(c)~~(b)~~ Within 30 days of any failure of a stormwater management system or deviation from the permit, a report shall be submitted electronically or in writing to the Agency using Form 62-330.311(1), "Operation and Maintenance Inspection Certification," describing the remedial actions taken to resolve the failure or deviation.

(d)~~(c)~~ The operation and maintenance entity of a regional stormwater management facility must notify the Agency on an annual basis, using Form 62-330.311(2), "Regional Stormwater Management System Annual Report," of all new systems and their associated stormwater volumes that have been allowed to discharge stormwater into the regional facility, and confirming that the maximum allowable treatment volume of stormwater authorized to be accepted by the regional stormwater management facility has not been exceeded.

(e) The inspection and reporting requirements contained in a permit issued under Part IV of Chapter 373, F.S., prior to October 1, 2013, the effective date of Chapter 62-330, F.A.C., which implements Section 373.4141, F.S., shall continue to be followed in accordance with the existing permit unless the permittee obtains a modification using the procedures in Rule 62-330.315, F.A.C., to comply with the inspection and reporting requirements of Rule 62- 330.311, F.A.C., and this section of the Handbook.

(f)~~(d)~~ A listing of all the forms that are incorporated by reference in Chapter 62-330, F.A.C., is contained in Appendix C and Appendix L of this Volume; copies of which may be obtained from the Agency, as described in Appendix A of this Volume and subsection 62-330.010(5), F.A.C.

**12.7~~12.6~~ Recording of Operation and Maintenance Documents and Notice of Permit**

(a) Operation and maintenance documents required by **section 12.3.3 above**, must be

submitted to the Agency for approval prior to recording. Such documents must be recorded in public records of the county where the project is located prior to any lot or unit sales within the project served by the system, or upon completion of construction of the system, whichever occurs first. ~~For those systems that are to be operated and maintained by county or municipal entities, final~~ Final operation and maintenance documents must be received by the Agency when maintenance and operation of the system is accepted by the operation and maintenance ~~local government~~ entity. Failure to submit the appropriate final documents will result in the permittee remaining liable for carrying out maintenance and operation of the permitted system.

(b) Permittees are advised that the Agency shall cause a "Recorded Notice of Environmental Resource Permit," Form No. 62-330.090(1), to be recorded in the public records of the county where the property is located in accordance with subsection 62-330.090(7), F.A.C., upon issuance of a permit, except for certain types of activities identified in that subsection.

**12.8 ~~12.7~~ Subsequent Transfers**

Transfers of the permitted activity or the real property on which the permitted activity is located once a permit is in the operation and maintenance phase are governed by the procedures described in Rule 62-330.340, F.A.C., and **section 6.3 of this Volume**.