



# ENVIRONMENTAL RESOURCE PERMITTING RULE DEVELOPMENT WORKSHOP #3

DWRM / Stormwater Technical Services Program  
Florida Department of Environmental Protection

Tallahassee, FL | Nov. 3, 2022



# WORKSHOP AGENDA

- **Introduction.**
- **Agenda.**
- **Review of new draft language.**
  - Section 9: Stormwater Quality Treatment Requirements.
- **Public comment.**



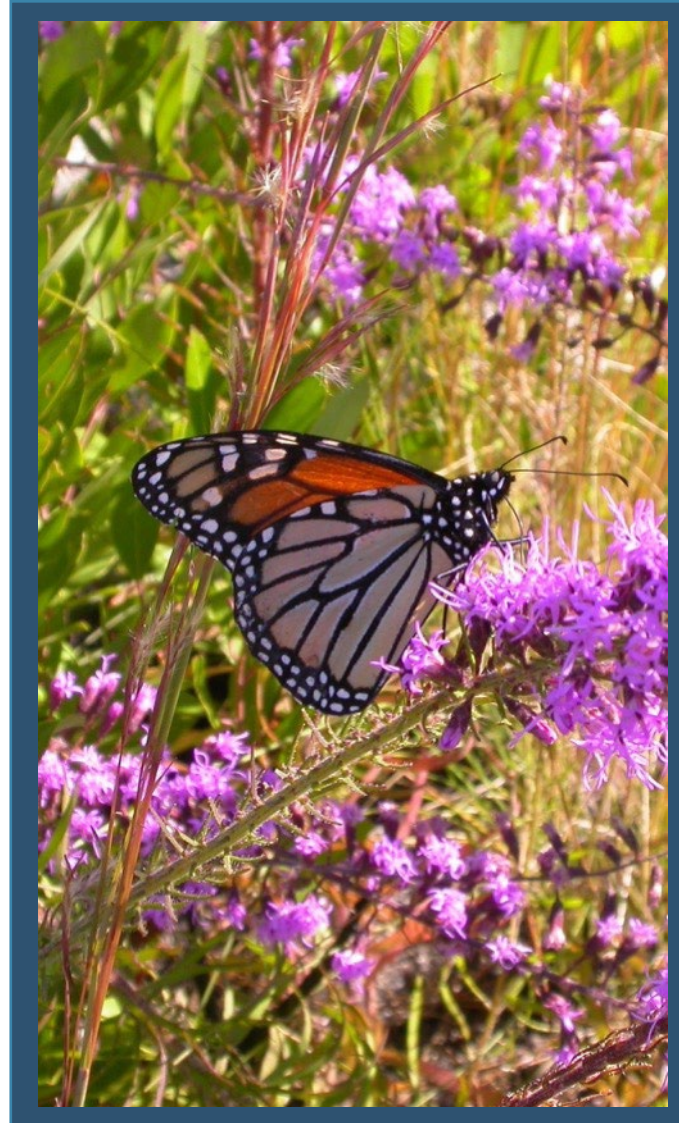


# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS

**Section 9 is a new section that had previously been reserved in Applicant's Handbook Volume I.**

- New language for Volume I.
- Language based on the 2010 draft stormwater manual, county stormwater handbooks and water management district input.
- Establishes the methodology for calculating treatment requirements outlined in Section 8.
- Aids in computation of treatment efficiency.
  - Pre- and post development hydrology.
  - Pre- and post development loading.
  - Required treatment efficiency.
- Describes how required treatment efficiencies can be met.
  - Best management practices (BMPs), green stormwater infrastructure (GSI), alternative designs, compensating treatment.





# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (2)

### 9.2.1 Calculating Predevelopment and Post Development Hydrology.

***Annual Runoff = Area of Site x Average Annual Rainfall x Runoff Coefficient Value***

- Calculations are based on the project site's land cover and directly connected impervious area (DCIA).
  - DCIA consists of those impervious areas that are directly connected to the stormwater conveyance system.
- Describes how you can calculate this by hand using the provided tables.
- Meteorological zones are areas of the state found to be similar in rainfall patterns.
  - Derived from Dr. Harper's 2007 study and currently used in some modeling programs.
  - Impact runoff and treatment efficiency calculations.
- The applicant can choose to use modeling for this process rather than providing hand calculations.



# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (3)

### 9.2.2 Calculating Predevelopment and Post Development Pollutant Loading.

$$\text{Annual average mass loading} = \text{Annual Runoff Volume} \times \text{EMC}$$

- Pollutant loading is based on the volume of annual runoff and the event mean concentration (EMC) value.
- EMCs are the concentration of how much of any pollutant is coming off the site.
- Loading rates are based on the area's land use designation.
- Applicants must choose the appropriate land use type for each project area.
  - For the most accurate selection, they must consider the vegetation cover, soil types, topography and Florida Land Use, Cover, and Forms Classification System code for the project site.
- Standardized statewide total nitrogen (TN) and total phosphorus (TP) EMCs are identified within the rule.
- Standardized statewide EMC values reflect the most up-to-date scientific data available.



# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (4)

### 9.2.2 Calculating Predevelopment and Post Development Pollutant Loading, cont.

- The applicant must use regional EMC values if they are available for the project location.
- Regional studies must meet the qualifications in paragraph b. These requirements include, but are not limited to the following.
  - Minimum two years of rainfall data.
  - Volume weighted composite averaging.
  - Must include all land use types within the region, not just a single land use type.
  - Minimum of three sites for each land use category.
- Regulations are similar to the statewide EMC value study methodology.
- Regional study EMC values are only applicable for those regions specified by the study area.



# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (5)

### 9.3 Determination of Required Treatment Efficiency.

#### Pre < Post or Percent Reduction.

- Based on the project site's Hydrologic Unit Code (HUC) 12 and its relationship to the receiving waters, the applicant will use the applicable paragraph of Section 8 to determine its treatment requirements: either 80% or 95% reduction.
- Determine the percent reduction required to meet a post = pre-loading rate.
  - If percent reduction to meet predevelopment loading rate is greater than the 80% or 95%, then the applicant must achieve at least this treatment efficiency.
  - If this is less than 80% or 95%, then the applicant must meet the applicable 80% or 95% treatment efficiency for their project site.



# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (6)

### 9.4 Rainfall Data.

#### Average Annual Rainfall.

- Calculations for the annual runoff volume and subsequent annual average mass loading calculations require the average annual rainfall for the site.
- Data collected is from the National Centers for Environmental Information (NCEI).
  - Collected in conjunction with the National Oceanic and Atmospheric Administration and the World Meteorological Organization.
- Rainfall data covers the last 30 years; NCEI updates its rainfall averages every 10 years.
- DEP has developed an isopleth for this rainfall data for ease of reference, as well as a link directly to the NCEI mapper.





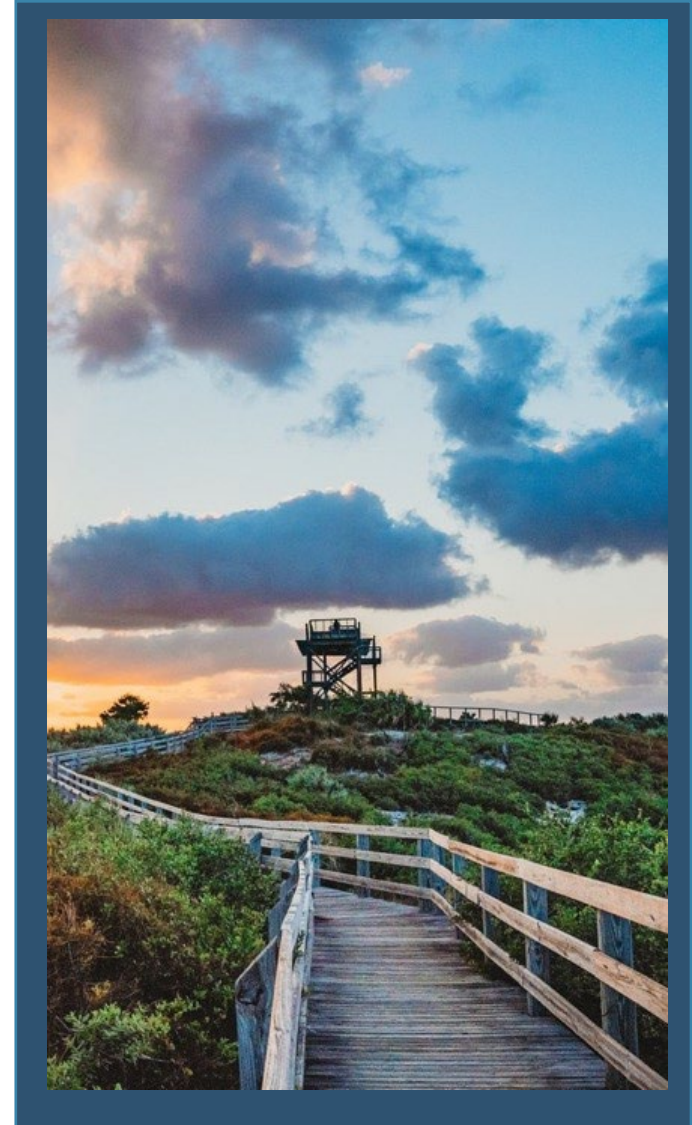
# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (7)

### 9.5 Stormwater Best Management Practices.

#### How applicants are anticipated to meet treatment efficiencies.

- The development of a BMP library is still under consideration.
- DEP encourages the use of one or multiple BMPs to achieve the treatment efficiencies required by Section 8.
- BMPs must follow the general design requirements outlined in the Applicant's Handbook Volume II to provide attenuation.
- Applicants must calculate, based on the design of their BMP, how much treatment that the BMP will achieve due to the variability of sites and BMP configurations.





# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (8)



### 9.5.1 Treatment Train.

**How applicants account for the efficiency of BMPs in series.**

- BMPs used in a series or in conjunction with one another.
- Must consider that the ability of the downstream BMP to further reduce stormwater pollutant concentrations and loads is diminished.



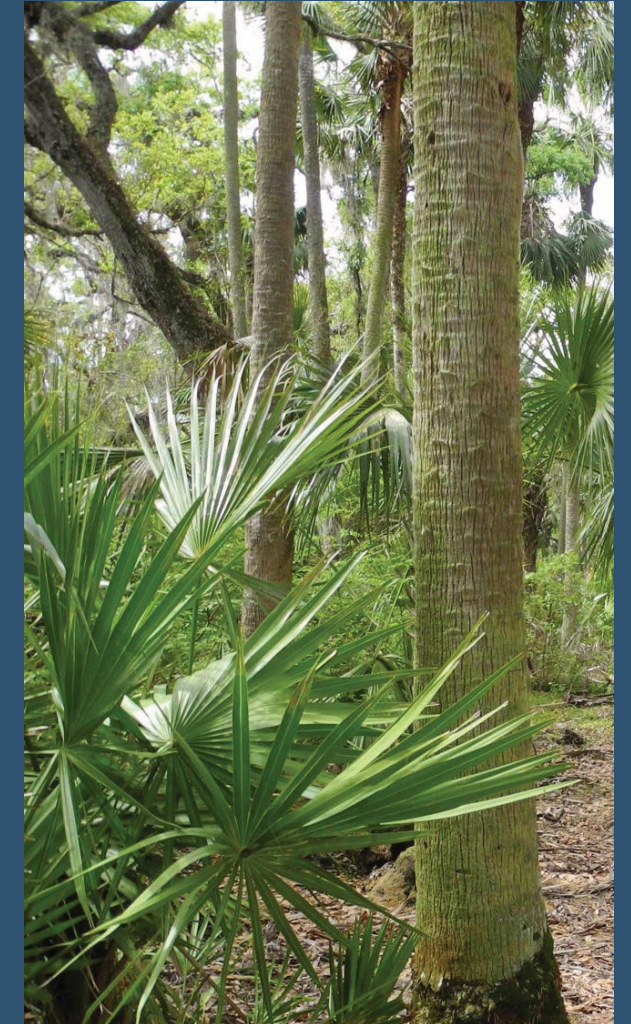
# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (9)

### 9.5.2 Alternative Designs.

#### Use of technologies not outlined in the Applicant's Handbook Volume II.

- Must provide a level of treatment that is required, either by themselves or in conjunction with other BMPs.
- Evaluated based on engineering plans, quality assurance plans, representative monitoring data in Florida and test results for the specific site conditions of the project.
- Technology must be appropriately tested and reviewed.
- Technology must continue to be properly maintained as described in Section 12.





# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (10)



### 9.5.3 Green Stormwater Infrastructure and Low Impact Design.

**Encouraged by the agencies.**

- Use of GSI and low impact design (LID) can provide the following benefits.
  - Can be used to supplement or replace traditional BMPs.
  - Provide nutrient reductions similar to a traditional BMP.
  - Reduce the runoff volume of a site.
  - Reduce the size requirements for BMPs downstream.
- Typically, the start of a BMP treatment train.



# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (11)

### 9.6 Offsite Stormwater.

- Applicants must consider the effects of stormwater runoff from offsite areas co-mingling with on-site runoff when performing their load reduction calculations.
- If this occurs, the applicant is required to treat that offsite stormwater.





# SECTION 9

## STORMWATER QUALITY TREATMENT REQUIREMENTS (12)

### 9.7 Compensating Stormwater Treatment.

**Split into two parts: overtreatment and off-site compensating.**

- Overtreatment.
  - If a portion of the project site can not be treated, then another portion of the site can treat its stormwater to a higher degree to achieve the overall reductions required in Section 8.
- Off-site compensating.
  - Allows for the applicant to perform treatment outside their project site as long as it is within the same HUC 12 and upstream of the proposed project.
  - Offsite compensating treatment must meet the requirements of Section 8 and the allocated load reduction for the onsite system.
  - Offsite must be maintained in perpetuity consistent with onsite requirements.



# CONTINUED WORK AND FUTURE TOPICS

## **Work is ongoing; future topics include the following.**

- Technical details and design of BMP library.
- Updates to Chapter 62-330, F.A.C.
- Continued updates to Applicant's Handbook Volume I.
- Continued updates to previously altered sections based on public review.
  - Section 2.
  - Section 8.
  - Section 9.
  - Section 12.
- Creation of forms mentioned in new language.



# REQUEST FOR COMMENTS

- Please submit any comments, suggested edits and recommendations to [Stormwater2020@FloridaDEP.gov](mailto:Stormwater2020@FloridaDEP.gov).
- We will continue to encourage and accept comments throughout the entire rulemaking process.
- The next workshop will be noticed in the Florida Administrative Register as well as on the DEP calendar and our rulemaking website below.

<https://floridadep.gov/water/water/content/water-resource-management-rules-development#erp-sw>





# THANK YOU

Division of Water Resource Management  
Florida Department of Environmental Protection

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