



September 10, 2021

Clean Waterways Act Stormwater Technical Advisory Committee
Florida Department of Environmental Protection
3900 Commonwealth Blvd.
Tallahassee, FL 32399

Submitted via email to Stormwater2020@floridadep.gov

RE: Conservancy of Southwest Florida and Sanibel-Captiva Conservation Foundation
Comments on the Clean Waterways Act Stormwater TAC Draft Summary Report (draft
report version as of 8-5-21)

Dear Clean Waterways Act Stormwater TAC Members:

The Conservancy of Southwest Florida and the Sanibel-Captiva Conservation Foundation (SCCF) appreciate the time and effort you have committed during the past year working collaboratively to craft recommendations for the Department of Environmental Protection (DEP) to utilize as they draft rule language to update the statewide stormwater rule. We appreciate the opportunity to participate in your meetings, and we offer the following comments on the Environmental Resource Permitting (ERP) Rules for Stormwater Design and Operation Regulations on behalf of our organizations.

Our comments and recommendations will follow the structure of your draft Summary Report, with several general comments at the end of our letter. Italics denotes language from the Summary Report.

Charge Item One

1. *Maintenance and Operation Regulations Recommendation*
 - b. *Inspections should be conducted more frequently than the current time schedule to prevent expensive repairs of failed systems.*
 - i. *More frequent inspections for the first two years then switch to less frequent, approved schedule after that.*

Recommendation: This needs to be more specific as to the proposed frequency. More frequent the first two years – does that mean every six months? And then less frequent, does that mean once a year, once every two years? Clarification through additional specificity needs to be added.

1. *Maintenance and Operation Regulations Recommendation*
 - c. *Inspections and recerts to be submitted to the agency, implement a centralized tracking system, site visits by the agencies, more enforcement and what form of remedial action is required for specific circumstances, baseline quality for state and building flexibility in.*

Comment: In Part I, Section 1.5 of the March 2010 draft applicants handbook, the AH proposed a system of ongoing inspection and recertification of stormwater treatment systems. A similar set of guidelines for stormwater maintenance, monitoring, and compliance should be developed as part of this rulemaking effort that outlines specific schedules for inspection and recertification and identifies the agencies role in oversight and compliance.

In addition to both inspection and recertification, periodic monitoring of effluent water quality is needed to determine whether the systems are achieving the required treatment performance standards – whether 80%, 95%, or net improvement. Given future uncertainties related to sea level rise, water table levels, and climate change impacts, periodic monitoring will help pinpoint stormwater system designs or individual Best Management Practices (BMPs) that may not perform according to expectations and will also provide data that can be used to fine-tune the research and calculations contained in models like BMPTRAINS.

Florida's stormwater treatment rules are technology-based rules that are predicated on a performance standard and the associated presumption that if the stormwater system is built to the design criteria specifications, then it is in compliance. There are decades

of data that demonstrate the presumption of compliance for non-point sources of pollution has been significantly contributing to the degradation of Florida's water quality. Therefore, integrating appropriate monitoring into the updated stormwater rules will create baseline data and the ability to craft a stormwater rule that can be built on and adapted by science-based monitoring and research.

Recommendation: Reconsider the proposed recommendation and consider our input when drafting additional, more specific recommendations.

Charge Item Two

1. Defining Predevelopment

c. Predevelopment defined as "long standing use" of the site

i. Long standing use is defined loosely as the land use and activities of a site 5 years prior to the application of the permit.

Comment: Five years is an arbitrary number, and is not responsive to the fact that the calculation of the pre-development conditions and pollutant loading rates is the foundation for designing a stormwater system that meets all applicable requirements and protects water quality. The correct baseline must be known before calculating the required reductions and designing a suite of stormwater BMPs that will meet the reduction goal.

Pre-development does not necessarily mean "existing conditions", nor land use and activity on the site five years prior to the permit application. Rather, pre-development is the natural, undisturbed land-use and vegetative characteristics of the site absent anthropogenic impacts. Simply using conditions based on the previous five years would in certain cases result in locking in current, human-caused pollutant loading into the stormwater system design. Thus, how "pre-development" is defined will ultimately influence whether the updated stormwater regulations are effective at achieving the relevant performance standards.

The March 2010 Draft of the Environmental Resource Permit Stormwater Quality Applicants Handbook appropriately defined both "pre-development" and "natural vegetative community type", as follows (emphasis added)¹:

"Pre-development" means the natural vegetative community type of the project area.

¹ FDEP and Water Management Districts. March 2010 Draft Environmental Resource Permit Stormwater Applicant's Handbook. 2010.

“Natural vegetative community type” means the landscape that *currently exists* or is *likely to have existed prior to disturbance* based on the vegetation community associated with the natural soil type of the project area, using information such as soil surveys, aerial photographs, and the vegetation communities that can reasonably be expected to have existed on the site before disturbance.

Recommendation 1: Reconsider this item and define predevelopment as “the natural vegetative community type of the project area.”

Recommendation 2: Include the definition of natural vegetative community type to mean “the landscape that *currently exists* or is *likely to have existed prior to disturbance* based on the vegetation community associated with the natural soil type of the project area, using information such as soil surveys, aerial photographs, and the vegetation communities that can reasonably be expected to have existed on the site before disturbance.”

2. *Redevelopment*

- a. *For redevelopment, not in an impaired watershed, post development nutrient loading should be less than existing.*

Comment: The level of treatment for redevelopment should be the same as for new development. Setting a lower level of treatment for redevelopment than the level required for new development is inequitable. It creates an economic advantage and ignores the exceedingly high stormwater pollutant loadings that come from properties developed before 1982 when the state began requiring stormwater treatment. It is also important to note that these older developments without stormwater treatment are the ones nearest to our water bodies.

Recommendation: Reconsider this item and propose that redevelopment be treated in the same manner as new development.

3. *Defining Net Improvement*

Comment: Since the beginning of Florida’s stormwater program, a common problem has been inconsistent use of terminology. A good example is retention versus detention. Therefore, we recommend against using the term “Net Improvement” rather than “Performance Standard” for the minimum level of stormwater treatment. The term has been used for nearly 40 years and is well understood. Additionally, the term “Net Improvement” is already known as the impaired waters level of treatment performance standard, making the current use of the term in the Summary Report unnecessarily confusing and complicated.

Recommendation: Retain the term “Net Improvement” for the impaired waters level of treatment performance standard and go back to the term “Performance Standards” for the minimum level of stormwater treatment.

3. *Defining Net Improvement*

- a. *In a new development, not in impaired waters, the loading pre $\geq$ post*
 - i. *Alternative: 85% or pre $\geq$ post, whichever is less*
 - ii. *In a new development, in TMDL or BMAP waters, pre $\geq$ post unless the TMDL or BMAP is less.*

Recommendation: Our organizations recommend the baseline Performance Standard be 80% average annual load reduction and not include the optional language of pre>post since agricultural properties, and other lands, have extremely high nutrient loadings. This would also not be consistent with ensuring equitability between the minimum level of treatment needed for point and nonpoint sources of pollutants. Finally, to minimize confusion, the Performance Standard for Impaired water bodies should be separate.

3. *Defining Net Improvement*

- b. *Net improvement for redevelopment in OFWs and Impaired waters defined as 150% treatment volume or previously permitted/authorized treatment volume.*

Comment: We first want to point out that the minimum level of treatment for Outstanding Florida Waters (OFWs) and impaired waters is different. In addition, increasing the treatment volume by 50% doesn’t translate to meeting the required level of treatment which is either 95% or Net Improvement, depending on the receiving water body.

Recommendation: Identify a specified minimum level of treatment that is not a BMP design parameter. We recommend a 95% average annual load reduction as set forth in 62-40.432 for OFWs. Doing this will be responsive to the objective for this rule making, which is to increase stormwater treatment and the reduction of nutrient loadings.

3. *Defining Net Improvement*

- c. *Net improvement requirements will be for the entire watershed, not just direct discharge.*

Question: It would be helpful to understand what level watershed is being considered for this recommendation. The 8 digit Hydrologic Unit Code? The 10-digit HUC? The 12-digit HUC?

3. Defining Net Improvement

- d. For Impaired waters/where it is available, TMDL standards should be used.*

Recommendation: Reword to say: “For water bodies with adopted TMDLs, the level of treatment shall be pre-development loading less the required % reduction set forth in the adopted TMDL”.

3. Defining Net Improvement

- e. Net improvement should pertain to the impaired pollutant of the site, not just nutrients.*

Comment: It is our understanding that nutrients were selected as the indicator pollutant because they are the hardest to remove and the largest cause of water body impairments. There is also inadequate data to confidently use EMCs for copper and they are not applicable to bacteriological impairments.

Recommendation: Revisit this proposed recommendation.

3. Defining Net Improvement

- f. Net improvement should be measured at the outfall of the system with a mean annual basis.*

Comment: We do not believe this is a performance standard, and therefore should not be in any rule. Load reduction effectiveness of BMPs is measured by doing flow weighted composite sampling at inflows and outflows over a year long period.

Recommendation: Do not move this recommendation forward.

3. Defining Net Improvement

- g. Proposed net improvement requirements be regionally based on impervious area of the municipality.*
 - i. The more impervious an area, the more net improvement is needed for redevelopment*
 - ii. The less impervious an area, the less net improvement is needed for redevelopment to de-incentivized urban sprawl.*

Comment: We do not believe this concept is scientifically supportable. The permitting standard is whether a discharge causes or contributes to a violation of water quality standards. Water quality standards do not change based on the level of imperviousness within a region, and neither should the level of stormwater treatment.

Recommendation: Do not move this recommendation forward.

Table 2 – Net Improvement

Recommendation: Rename the table to Performance Standards

Comment: As discussed above, the minimum level of stormwater treatment is called the Performance Standard. “Net Improvement” is the name given to the Performance Standard for projects that are within the watershed of an impaired water body, a water body with an adopted TMDL, or with an adopted BMAP. “Net improvement” comes from Section 373.414(1)(b)3 which states:

“If the applicant is unable to meet water quality standards because existing ambient water quality does not meet standards, the governing board or the department shall consider mitigation measures proposed by or acceptable to the applicant that cause net improvement of the water quality in the receiving body of water for those parameters which do not meet standards.”

The statute clearly states that the applicant will cause a net improvement in the water quality of the impaired water body which is a much higher level of treatment than has been discussed.

Recommendation: Use the Performance Standards set in the Alachua County Stormwater Treatment Manual. These already have been demonstrated to be achievable both technically and economically. These performance standards are:

1. Projects that discharge directly or indirectly to surface waters - Reduce the post-development annual average stormwater total nitrogen load by at least 70% and the annual average stormwater total phosphorus load by at least 80%. This means that 30% of the post-development total nitrogen load and 20% of the total phosphorus load may be discharged. Depending on pre-development conditions, this may still represent an increase in load.
2. Projects that directly discharge to Outstanding Florida Waters – Reduce the post-development annual average total nitrogen and total phosphorus load by at least 95%. This means that 5% of the post-development total nitrogen load and total phosphorus load may be discharged. Depending on pre-development conditions, this may still represent an increase in load.
3. Projects within watersheds of Verified Impaired Water Bodies or Water Bodies with Adopted Nutrient Total Maximum Daily Loads (TMDLs) – Either meet the

performance standard in 1 or 2 above or reduce the post-development average annual nitrogen and phosphorus load to at least 10 percent less than the pre-development average annual nitrogen and phosphorus load, whichever provides the highest amount of average annual nutrient load reduction (Net Improvement Performance Standard).

4. Projects using retention BMPs within Sensitive Karst Areas – Meet (1), (2), (3) above, as applicable to the surface water, and treat the first inch of runoff from the contributing drainage area with a combination of one or more Low Impact Design techniques separate from the dry retention basin(s).
5. Projects using Rapid Infiltration Stormwater Retention Basins will incorporate appropriate Best Management Practices to reduce the post-development total nitrogen loading into the groundwater by at least 70%.

Charge Item 3

3. BMP Library Recommendations

Comment: It is not entirely clear exactly what the BMP library is envisioned to be or how it may be used in rule making. As it appears to be a live web site, it cannot be adopted by reference. If it is being considered as a BMP Clearinghouse, then it can help DEP meet its statutory obligation to conduct a continuing review of the costs of stormwater management systems and the effect on water quality and quantity, and fish and wildlife values (403.0891(4)). Additionally, it is important that any FDEP BMP library include all of the research and monitoring reports from the past 40 years that have been used in developing BMP design and operational criteria. Many of these previously were on the DEP website but have been removed.

Any BMP that is going to be adopted in rule as a presumptive BMP needs to have been thoroughly monitored, both in the lab and in the field. This means installation at multiple sites with clear design criteria that can be evaluated along with the annual pollutant load reductions. This has been how DEP and the WMDs have evaluated BMPs and developed BMP design criteria since the stormwater rule began.

Recommendation: As part of the analysis required for determining pre- and post-development loading and designing stormwater management systems, we recommend requiring the BMPTRAINS model for use statewide in WMD applicant handbooks. The BMPTRAINS model developed cooperatively by DEP, FDOT, and the WMDs is published by the University of Central Florida Stormwater Management Academy. It allows evaluation of multiple structural and non-structural Best Management Practices (BMPs), including Low Impact Development (LID) BMPs to reach the desired level of

pollutant removal. The current BMPTRAINS model is based on the regulatory framework in place at this time, and would need to be revised to incorporate the updates from this rulemaking. However, the use of the BMPTRAINS tool has the potential to increase the transparency, consistency, and review of proposed stormwater systems.

General Comments Not Associated with a Specific TAC Recommendation

Avoid Pre-emption of Local or Regional Stormwater Standards

The Conservancy and SCCF support the establishment of a minimum consistent baseline for stormwater standards statewide. However, the ability of WMD's and/or local governments' ability to enact stricter standards than the statewide baseline must be preserved. WMD's and/or local governments may tailor regionally-specific standards based upon the communities served, land use changes, and environmentally-sensitive areas. We recommend that FDEP clearly define during rulemaking initiation that the stormwater rule's objective is to provide a consistent baseline, which may be modified by WMD's or local governments to be more protective.

10/2 General Permits Self Certification

Section 5 of Chapter 2020-15 also directs DEP to review and evaluate permits issued pursuant to F.S. 403.814(12), commonly referred to as 10/2 General Permits or 10/2 Self Certification Permits. Projects with 10 acres or less of upland impacts and 2 acres or less of impervious surface are eligible to "self-certify" under 10/2 that a development meets the applicable requirements, including providing net improvement if located within an impaired watershed. 10/2 General Permits bypass the higher level of scrutiny and review required by the agencies for Individual Permits. An analysis by Eric Livingston in 2014 indicated that "less than one percent of the 10/2 Self Certifications for projects within impaired watersheds met the 'Net Improvement' standard of having the post-development pollutant load less than the pre-development pollutant load."

Despite the size restrictions on these types of permits, the cumulative impact of hundreds of 10/2 permits being approved within impaired watersheds and failing to meet net improvement must be addressed in the rulemaking process. Moreover, due to the site-specific nature of net improvement, our organizations recommend that the 10/2 provisions in F.S. 403.814(12) be revised to prohibit issuance when a proposed project is located within a watershed listed as impaired, or has an adopted TMDL.

Sea Level Rise and Climate Change Impacts on Stormwater Systems

Due to climate change and increasing sea level, the ability of our stormwater system to handle additional water is at risk. Florida is expected to see, on average, about 0.76 m sea level rise by 2060, and 1.95m by 2100. This, coupled with low elevations and a high-water table, puts Florida's stormwater systems in jeopardy.

A 2020 research study near Tampa Bay investigated and attempted to quantify the reliability and performance of a retention pond evaluated under sea level rise conditions. An integrated model that uses both surface water and groundwater data – both projected for future sea level rise – was utilized to determine whether or not the retention pond would fail given the additional water. The results of the study showed that sea level rise could cause an increase of the seasonal high-water elevation of the pond, thereby lowering the systems reliability by about 45%. The amount of pollutants discharged by the system increased due to the ponds failure to recover within the required 72 hours.

The results of this study highlight the need to update stormwater system standards to reflect possible changes in groundwater elevations, peak flows, and the ability for soils to store water. Updated sea level rise projections and increases of both surface water and groundwater must be included in stormwater system designs in order to avoid pond failure and possible release of untreated stormwater.

Stormwater systems are designed using an estimate of rainfall depth-area-duration in order to achieve a certain level of performance. Rainfall estimates are created by using historical rainfall record statistics; this method unfortunately does not take into consideration future climate conditions. The changing climate is likely to increase rainfall amounts and durations, therefore, current stormwater systems may not be able to handle these increased volumes, thus causing flooding and other unanticipated issues. The updated rule must address the dynamic nature of projected average rainfall frequency and volume used as the basis for the design of stormwater systems.

Conclusion

The Conservancy and the Sanibel-Captiva Conservation Foundation greatly appreciate the opportunity to provide comments and recommendations on your Summary Report and we ask that you consider our input during your upcoming meetings in September

and October. Updating the statewide stormwater standards for development and redevelopment continues to be a priority for our organizations. We look forward to working with DEP and all stakeholders on ensuring the updated stormwater rule provides the necessary framework and regulations to ensure the protection of our precious water resources for years to come.

Sincerely,

A handwritten signature in blue ink that reads "Nicole Johnson". The signature is written in a cursive, flowing style.

Nicole Johnson
Director of Environmental Policy
Conservancy of Southwest Florida

A handwritten signature in blue ink that reads "James Evans". The signature is written in a cursive, flowing style.

James Evans
Environmental Policy Director
Sanibel-Captiva Conservation Foundation