

Notice of Change/Withdrawal

WATER MANAGEMENT DISTRICTS

South Florida Water Management District

Rule No.: RULE TITLE

[40E-63.400](#): Purpose and Policy

[40E-63.401](#): Scope of Program

[40E-63.402](#): Definitions

[40E-63.404](#): Incorporation of Forms, Instructions and References

[40E-63.406](#): Delegation

[40E-63.415](#): No Notice General Permits

[40E-63.420](#): BMP Plan Pre-approvals

[40E-63.430](#): Permit Applications

[40E-63.435](#): BMP Plans

[40E-63.437](#): Alternative BMP Plans

[40E-63.438](#): Early Implementation of Water Quality Improvement Activities

[40E-63.439](#): Permit Modifications, Transfers and Renewals

[40E-63.441](#): Permit Duration

[40E-63.443](#): Permit Application Processing Fees

[40E-63.444](#): Limiting Conditions for General Permits in the C-139 Basin

[40E-63.446](#): C-139 Basin Compliance

[40E-63.461](#): C-139 Basin Permit Compliance

[40E-63.462](#): Permit Basin Discharge Monitoring Program

[40E-63.464](#): Limiting Conditions for the Permit Basin Discharge Monitoring Program

NOTICE OF CHANGE

Notice is hereby given that the following changes have been made to the proposed rule in accordance with subparagraph 120.54(3)(d)1., F.S., published in Vol. 36 No. 26, July 2, 2010 issue of the Florida Administrative Weekly. Changes made to the materials incorporated by reference throughout this part of Chapter 40E-63, F.A.C., are available online at www.sfwmd.gov or by contacting Carmela Bedregal, Section Leader, Everglades Regulation Division, South Florida Water Management District, P.O. Box 24680, West Palm Beach, FL 33416-4680, (800) 432-2045, ext. 2737 or (561) 682-2737, email: cbedrega@sfwmd.gov.

40E-63.400 Purpose and Policy.

(1) through (2) No Change.

(3) The objectives of this part of Chapter 40E-63, F.A.C., are as follows:

(a) No Change.

(b) To provide a water quality monitoring program, performance measures and a compliance methodology to evaluate the effectiveness of the BMP program in reducing ~~phosphorus~~ phosphorus discharges;

(c) To establish a BMP compliance verification and enforcement program to ensure that phosphorus discharges from the basin do not exceed historic levels, based upon water quality monitoring data from the period October 1, 1978 to September 30, 1988, in accordance with Chapter 40E-63, F.A.C., Appendix B2, "C-139 Basin Performance Measure Compliance-Methodology", dated _____; and

(d) No Change.

(4) No Change.

(5) The BMP implementation requirements, performance measures and compliance methodology established in this part of Chapter 40E-63, F.A.C., pertain to phosphorus only. Should regulation of other nutrients or constituents be required to meet statutory requirements, including water quality standards, the District shall initiate rulemaking pursuant to Chapter 120 F.S.

(6) ~~(5)~~ Unless otherwise provided by this part of Chapter 40E-63, F.A.C., nothing herein shall be construed to modify any existing state water quality standards, nor to otherwise restrict the authority granted to the District pursuant to Chapter 373, F.S.

(7) ~~(6)~~ Section 403.067(7)(c)2., F.S., authorizes the Florida Department of Agriculture and Consumer Services (FDACS) to develop and adopt BMPs by rule ~~and assist with their implementation.~~

(8) ~~(7)~~ The District's sub-basin monitoring and maintenance program for data collection, performance measure assessment, and determination of when water quality improvement activities are required, as described in paragraphs 40E-63.446(2), (3)(a), (3)(e), and (4), F.A.C., ~~and~~ Appendices B3.1 and B3.2 (which are incorporated by reference in paragraph subsections 40E-63.446(2)(a), 40E-62.404(7) and (8), F.A.C.), ~~and~~ are an inseparable component of this part of Chapter 40E-63, F.A.C., for ensuring that landowners are responsible for their proportional share of phosphorus load discharged from the C-139 Basin. If these provisions are declared invalid, the District shall initiate rulemaking pursuant to Chapter 120, F.S., to revise this part of Chapter 40E-63, F.A.C., to ensure that the proportional share objectives of the EFA, Section 373.4592(4)(f) ~~¶~~, F.S., are met.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086,~~ 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History—New 1-24-02, Amended _____.

40E-63.401 Scope of Program.

(1) through (4) No change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086,~~ 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History—New 1-24-02, Amended _____.

Substantial rewording of Rule 40E-63.402 follows. See Florida Administrative Code for present text.

40E-63.402 Definitions.

(1) "Best Management Practice (BMP)" means a practice or combination of practices determined by the District, in cooperation with the Department of Environmental Protection (Department) and FDACS, based on research, field testing, and expert review, to be the most effective and practicable on-location means, including economical and technological considerations, of improving water quality in agricultural and urban discharges to a level that balances water quality improvements, and agricultural productivity, as applicable.

(2) No Change.

(3) "BMP equivalent point" means the numerical value assigned to a BMP as provided in Appendix B1 (incorporated by reference in subsection 40E-63.435(1), 40E-63.404(3), F.A.C.). The points are used for regulatory permit review to ensure a comparable level of effort in BMP implementation among permittees. The points are an indication of relative BMP effectiveness. The points were ~~are~~ based on expert review, technical publications, best professional judgment, and cooperative workshops with stakeholders.

(4) No Change.

(5) "Demonstration project" means an investigation based on technical information to evaluate the feasibility and effectiveness of best management practices techniques offering phosphorus reduction ~~and financial~~ benefits. Criteria to be considered by the District for review are described in subsection 40E-63.437(3) and Rule 40E-63.438 ~~40E-63-438~~, F.A.C.

(6) through (12) No Change.

(13) "Verification plan" means a water quality monitoring program to verify the expected effectiveness of a BMP Plan or proposed water quality improvement activities in accordance with subsection 40E-63.461(4) ~~40E-63.460(4)~~, F.A.C.

(14) through (15) No change.

(16) "Water quality improvement activities" means a combination of modifications to a BMP Plan proposed by a permittee to meet the required total phosphorus reduction requirements of Appendix B3.2.(incorporated by reference in paragraph subsection 40E-63.446(2)(a), 40E-63.404(8), F.A.C.). Improvement activities may include revising implementation methods to increase the effectiveness of existing BMPs or implementing additional BMPs.

(17) No Change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, F.S., Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f), F.S., History – New 1-24-02, Amended _____.

40E-63.404 Incorporation of Forms, Instructions and References.

The documents listed in subsections (1) through (9) (~~8~~) are ~~hereby~~ incorporated throughout this part of Chapter 40E-63, F.A.C., ~~by reference~~, and are available on the District's website (www.sfwmd.gov), or from the District's Clerk's Office at 3301 Gun Club Road, West Palm Beach, FL 33406, 561-686-8800, upon request.

(1) through (9) No change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New 1-24-02, Amended _____.

40E-63.406 Delegation.

(1) The Governing Board delegates to and appoints the Executive Director and his or her designated agents to review and take final action on BMP Plan pre-approvals and, applications for permits issued under Chapter 40E-63, F.A.C., including the addition of special conditions as necessary to implement the requirements of Chapter 40E-63, F.A.C., and the Everglades Forever Act, Section 373.4592, F.S., and other applicable provisions of Chapters 373 and 403, F.S., except when the staff recommendation is for denial of such applications.

(2) No Change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New 1-24-02, Amended _____.

40E-63.415 No Notice General Permits.

(1) (a) through (1)(b) No Change.

(c) The following BMPs are implemented by the landowner, lessees, and operators, if applicable, and the property must be made available for inspection by District staff or other delegated agents ~~within 14 days~~ after ~~written~~ notice:

1. Phosphorus is only applied to correct phosphorus deficiencies based on soil testing or tissue testing, or for turf and landscape areas, phosphorus is only applied to meet initial establishment and growth needs (fertilizer composition less than 2% for an application rate not to exceed 0.25 lbs P₂O₅/1000 ft² per application, nor exceed 0.50 lbs P₂O₅/1000 ft² per year).

2. through 4. No Change.

(2) through (4) No change.

(5) Notwithstanding the foregoing, the District shall require the submission of applications for General Permits from No Notice General Permit holders if the District determines that the property exceeds its proportional share of phosphorus loading based on representative water quality data for the property, as determined in Appendix B3.1.(incorporated by reference in paragraph subsection 40E-63.446(2)(a), 40E-63.404(7), F.A.C.). Notice of the requirement shall be provided to parcel owners in writing. Applications for new General Permits shall be submitted to the District within 45 days from the date of the notice.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New 1-24-02, Amended _____.

40E-63.420 BMP Plan Pre-approvals.

(1) For entities required to obtain a General Permit, a BMP Plan shall be submitted to the District within 30 days after the effective date of this part of Chapter 40E-63, F.A.C. Failure to provide a complete BMP Plan within 30 days from the effective date of this part of Chapter 40E-63, F.A.C., shall not justify a corresponding delay for full implementation of the approved BMP Plan as described in subsection 40E-63.420(2), F.A.C., and will result in enforcement action pursuant to Rule 40E-63.461, 40E-63.460, F.A.C.

(2) No Change.

(3) In order to assure that the schedule mandated by subsection 40E-63.420(2), F.A.C., is met, the District will ~~may~~ pre-approve a BMP Plan by letter, as long as the BMP Plan is complete and meets the criteria required under Rules 40E-63.435 or 40E-63.437, F.A.C., as applicable. The District will attempt to make a final determination on the BMP Plan within 10 days of receipt of a complete plan and the applicant shall begin implementation in accordance with the approved implementation schedule.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New 1-24-02, Amended _____.

40E-63.430 General Permit Applications.

1) No Change.

(2) Within 45 days after the effective date of this part of Chapter 40E-63, F.A.C., applications for new General Permits or General Permit Renewals shall be submitted to the District. Applicants shall use Form 1045, dated _____, and the “Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit” (“Guidebook”), dated _____, (incorporated by reference herein in subsection 40E-63.404(1), F.A.C.), or the equivalent electronic permitting application (e-permitting) tool, with all required supporting documentation. Copies of Form 1045 and the Guidebook are available on the District’s website (www.sfwmd.gov), or from the District’s Clerk’s Office at 3301 Gun Club Road, West Palm Beach, FL 33406, 561-686-8800, upon request.

(3) through (5) No change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New 1-24-02, Amended _____.

40E-63.435 BMP Plans.

In order to obtain a General Permit, applicants shall submit a BMP Plan that includes a multi-level approach to implementation and operation ~~including the following:~~ for each crop or land use within each permit basin. A BMP Plan shall take into account site-specific conditions, potential phosphorus sources, primary phosphorus species, and transport mechanisms based on available data; and ensure that a thorough approach to implementation and maintenance will be implemented. If a water management system is shared by multiple operating entities, each entity shall submit a separate BMP Plan for their land but the water management operational plan shall be consistent. The BMP Plan shall include the following:

(1) A description of a BMP Plan, including specific methods for implementation and maintenance, based on the BMPs described in “Appendix B1, BMP Description and Equivalent Points Reference Table”, dated _____, (incorporated by reference herein in subsection 40E-63.404(3), F.A.C.). To ensure that approved BMP plans have a comparable level of effort among permittees, the BMP Plan shall propose a minimum of 35 BMP equivalent points. A copy of Appendix B1 is available on the District’s website (www.sfwmd.gov), or from the District’s Clerk’s Office at 3301 Gun Club Road, West Palm Beach, FL 33406, 561-686-8800, upon request.

(2) Of the 35 BMP equivalent points, a minimum of 20 BMP equivalent points shall meet the following criteria:

- (a) A minimum of 10 BMP equivalent points in nutrient control practices
- (b) A minimum of 5 BMP equivalent points in water management practices
- (c) A minimum of 5 BMP equivalent points in particulate matter and sediment control practices. Pasture management BMPs, as described in Appendix B1 (incorporated by reference in subsection 40E-63.435(1), ~~40E-63.404(3)~~, F.A.C.), can provide equivalent points towards this category, if applicable.

(3) If at the time a BMP Plan is proposed for approval, the District has previously determined the C-139 Basin to be out compliance, and the permit basin has an approved BMP Plan including water quality improvement activities, the proposed BMP Plan shall include continuation of the approved BMP Plan and water quality improvement activities; or propose an equivalent alternative for District consideration. The applicant shall provide reasonable assurance that the alternative contains the equivalent or greater phosphorus reduction effectiveness of the approved BMP Plan and water quality improvement activities. The proposal must provide the basis that the BMP Plan and water quality improvement activities would have met the criteria indicated in subsections 40E-63.461(3) and (4) ~~40E-63.460(3), and (4)~~, F.A.C., as applicable, for the years when the C-139 Basin was determined by the District to be out of compliance and water quality improvement activities were required.

(4) No Change.

(5) A description of records and documentation to be maintained on-site or at a suitable location that is readily available for District review. The records and documentation shall be sufficient to verify BMP implementation, maintenance, and training, as described in the post-permit compliance section, Appendix C of the Guidebook

(incorporated by reference in subsection ~~40E-63.430(2)~~ ~~40E-63.404(2)~~, F.A.C.), on the form entitled “C-139 Basin Annual Report – Certification of BMP Implementation”.

(6) No Change.

Rulemaking Authority 373.044, ~~373.083~~, ~~373.085~~, ~~373.086~~, 373.113, 373.4592, F.S., Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f), F.S., History – New _____, See 40E-63.442, F.A.C.

40E-63.437 Alternative BMP Plans.

Applicants who propose to satisfy the water quality requirements of this part of Chapter 40E-63, F.A.C., by employing a BMP Plan other than those described in subsections 40E-63.435(1) and (2), F.A.C., may seek approval for an equivalent alternative through the District permit process. The applicant shall provide reasonable assurance, through the information required below and the requirements indicated in subsections 40E-63.435 (~~3~~), (4), (5), and (6), F.A.C., that the alternative contains the equivalent or greater phosphorus reduction effectiveness of a 35-point BMP Pplan. A BMP Plan shall take into account site-specific conditions, potential phosphorus sources, primary phosphorus species, and transport mechanisms; and ensure that a thorough approach to implementation and maintenance will be implemented. In order to seek approval of an alternative BMP Plan, applicants must submit the information specified for the applicable alternative as part of the permit application process.

(1) Alternative Type BMP. If an application proposes BMPs not listed in Appendix B1 (incorporated by reference in subsection ~~40E-63.404(3)~~, F.A.C.), ~~as required in subsection~~ 40E-63.435(1), F.A.C., the application shall also include the following information for District approval:

(a) through (d) No Change.

(e) technical basis for the reduction effectiveness of the proposed BMP. The applicant ~~shall~~ ~~may~~ be required to demonstrate effectiveness through a proposed monitoring program or through representative technical references including modeling results approved by the District. If approved, the District will determine the appropriate BMP equivalent point credit consistent with Appendix B1 (incorporated by reference in subsection ~~40E-63.435(1)~~ ~~40E-63.404(3)~~, F.A.C.).

(2) Alternative BMP Points per Category. If the BMP Plan does not meet the minimum number of equivalent points per BMP category as required in subsection 40E-63.435 (2), F.A.C., the application shall include a site assessment demonstrating that an alternative BMP Plan will provide an equivalent or greater reduction effectiveness than using the standard approach.

The site assessment shall evaluate phosphorus imports and transport in discharges; current BMPs and implementation methods; other activities for which practices not covered under BMPs are not being implemented; (e.g., grazing, irrigation, nutrient and water management); and representative water quality and soil data. Water quality data that can be used for the assessment include those available from the District sub-basin or synoptic (grab) monitoring programs, or properly collected grab samples using field kits of adequate precision by the applicant.

(3) No Change.

(a) through (c) No Change.

(d) BMP equivalent points shall be initially determined by the District prior to issuance of a permit based on the BMP equivalent points established in Appendix B1 (incorporated by reference in subsection ~~40E-63.435(1)~~ ~~40E-63.404(3)~~, F.A.C.). Additional BMP equivalent points will ~~may~~ be approved by the District, if the applicant provides reasonable assurance through plans, test results, water quality data or other information, that the BMP project will demonstrate improvement in phosphorus removal efficiency in comparison to standard BMP implementation methods.

(e) Once the demonstration project is complete and a final report is submitted in accordance with the approved scope, the permittee shall submit a Letter Modification application requesting that the approved BMP Plan be modified to incorporate the BMP or water quality improvement activity if the District determines that they were successfully developed under the project. The application shall include the information described under Rules 40E-63.430, 40E-63.435, and 40E-63.437, F.A.C., as applicable, and shall describe how the report recommendations for BMP implementation will apply to the applicable crops or land uses for District review. The District shall review the BMP equivalent points initially assigned and will ~~may~~ adjust them based on the reported phosphorus reduction levels and approved methods for implementation of the

proposed BMP or water quality improvement activity. If the permittee decides that the BMP resulting from the demonstration project is not to be proposed for continued implementation, the permittee is required to submit a permit modification proposing a BMP Plan, as described in Rules 40E-63.435 or 40E-63.437, F.A.C., as applicable. The application for modification of the approved BMP Plan shall be submitted no later than 30 days after the project completion date pursuant to the District-approved scope.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592 FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New _____.

40E-63.438 Early Implementation of Water Quality Improvement Activities.

An applicant may request approval for early implementation by opting to submit a proposal for voluntary implementation of additional BMPs (early BMPs), or a voluntary demonstration project that includes a BMP performance verification plan. ~~Based on this early implementation, applicants may qualify for deferral from water quality improvement activities if the C-139 Basin is determined out of compliance in the future.~~ Applicants electing these approaches must submit for District review the following:

- (1) Either proposal shall be submitted together with an application for a new permit, permit renewal, or as a Letter Modification.
 - (a) For optional early BMPs the application shall provide information for meeting the criteria below:
 1. A description of the BMP or group of BMPs (early BMPs) that are proposed in addition to those required by rule at the time of application (Rule 40E-63.435 or subsection ~~40E-63.461(3)~~ ~~40E-63.460(3)~~, F.A.C., as applicable.) The proposal shall include the specific methods for implementation and maintenance of the early BMPs.
 2. The proposal shall provide reasonable assurance through technical documentation, and the requirements indicated in subsections 40E-63.435 (4) and (5), F.A.C., that the combined effect of the optional early BMPs and rule-required BMPs will ensure a phosphorus loading reduction for the identified permit basin or parcels sufficient for the C-139 Basin to consistently achieve ~~compliance with the performance measure's target~~, as described in Appendix B2 (incorporated by reference in subsection ~~40E-63.446(1), 40E-63.404(4)~~ F.A.C.). The District will review whether the proposed loading reduction levels would be conducive to meeting the ~~target~~ Unit Area Load (UAL) based on the most recent five years of water quality data.
 3. The proposal shall include an implementation schedule. ~~To qualify for deferral, District approved early BMPs shall be fully implemented during the water year for which the deferral can be applied.~~
 - (b) For voluntary demonstration projects, the application shall propose a BMP or water quality improvement measure demonstration project that meets the following:
 1. Complies with the criteria described under ~~section paragraph~~ 40E-63.437(3)(a), F.A.C,
 2. Projects estimated phosphorus reductions based on available technical references, and
 3. Proposes a verification plan through a Permit Discharge Monitoring Program to confirm and quantify the estimated phosphorus reductions. The verification plan shall meet the criteria described in subsection ~~40E-63.461(4)~~ ~~40E-63.460(4)~~, F.A.C.
- (2) Upon District approval of the voluntary early BMP implementation project or demonstration project with a verification plan, the permittee will be subject to the BMP reporting and verification requirements of this Chapter for those voluntary initiatives, as described in permit conditions. Permittees cannot be deemed out of compliance solely for failure to implement the early initiatives, however, the ~~District will deem the permittee cannot qualify with the conditions of paragraphs 40E-63.446(2)(b) and 40E-63.446(2)(c) unless unable to claim a deferral if:~~
 1. ~~The early BMPs are implemented,~~
 - 2.1- Reporting and verification requirements for the voluntary early implementation projects are ~~not~~ met, as determined by the District, and
 - 3.-2- The permittee is ~~not~~ in compliance with the BMP Plan required by the permit.
- ~~(3) Early implementation plans that are approved to provide deferral from additional water quality improvement activities for a water year shall become permit requirements and lose their optional status.~~

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592 FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New _____.

40E-63.439 Permit Modifications, Transfers and Renewals.

(1) Applicants for permit modifications, transfers and renewals must use the appropriate Sections of Form 1045 (incorporated by reference in subsection ~~40E-63.430(2)~~~~40E-63.404(1)~~, F.A.C.), or equivalent electronic permitting application (e-permitting) tool.

(2) Modifications and Letter Modifications: Letter modifications are applicable for requesting approval for demonstration or verification plan projects for phosphorus reduction under Rule 40E-63.437, F.A.C., for early implementation of water quality improvement activities under Rule 40E-63.438, F.A.C., for implementing or modifying a voluntary Permit Basin Discharge Monitoring Program under Rule 40E-63.462, F.A.C., and for water quality improvement activities in accordance with subsections ~~40E-63.461(3) or (4)~~ ~~40E-63.460(3) or (4)~~, F.A.C., if the C-139 Basin is determined to be out of compliance with the water quality requirements of this part of Chapter 40E-63, F.A.C., pursuant to Rule 40E-63.44650, F.A.C. Applications for modifications are applicable to any other changes except for clerical changes as indicated in subsection 40E-63.443(3), F.A.C.

A permittee may apply for a modification or a letter modification to an existing General Permit issued under this part of Chapter 40E-63, F.A.C., unless the permit has expired or has been otherwise revoked or suspended. An application for modification or letter modification will not be processed as a complete application if the permit is not in compliance with applicable permit conditions, unless the permit modification is required to bring the permit into compliance. Modifications and letter modifications will be evaluated based on the criteria in effect at the time that the application to modify is submitted. Applications for permit modifications and letter modifications shall be subject to the following requirements and limitations:

(a) through (b) No Change.

(3) Transfers: A permittee shall notify the District within ~~30~~ 90 days after any transfer, sale or conveyance of land or works permitted under this part of Chapter 40E-63, F.A.C., to allow time for processing the application. The permittee remains responsible for the requirements of the permit until the permit is transferred or closed at the request of the permit holder at the time the property is sold. A permittee or transferee may apply for a permit transfer, conveying responsibility for permit compliance. If an application for permit transfer is not received ~~within 90 days after the sale or conveyance of the property~~, the permit will become nontransferable and the transferee will be required to apply for a new permit. Permit transfers shall be subject to the following requirements and limitations:

(a) through (c) No Change.

(4) (a) through (b) No Change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592 FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New1-24-02, Amended 6-20-07, _____, See Rule 40E-63.432, F.A.C.

40E-63.441 Permit Duration.

Pursuant to the EFA, Section 373.4592(4)(f)2., F.S., permit renewals issued pursuant to this part of Chapter 40E-63, F.A.C., are valid for a 5-year term, beginning 90 days after the effective date of this rule amendment. Subsequent permit renewals are effective for 5-year renewal cycles from the previous expiration date, unless:

(1) No Change.

(2) The permit is otherwise modified by enforcement actions pursuant to subsection ~~or~~ ~~(40E-63.461(1))~~ ~~40E-63.460(1)~~, F.A.C.;

(3) through (7) No change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086~~, 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f) FS. History–New _____, See Rule 40E-63.434, F.A.C.

40E-63.443 Permit Application Processing Fees.

(1) through (4) No Change.

Rulemaking Authority 373.016, 373.044, ~~373.083, 373.085, 373.086,~~ 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.109, 373.451, 373.453, 373.4592(4)(f) FS. History–New _____ See Rule 40E-63.436, F.A.C.

40E-63.444 Limiting Conditions for General Permits in the C-139 Basin.

(1) (a) through (b) No Change.

(c) The permittee shall submit to the District an annual report certifying BMP implementation in accordance with the permit. The report is due February 1 of each year. Failure to submit the report by February 1, will result in onsite verification of BMP implementation by District staff and the requirement for the permittee to submit a detailed report documenting implementation of each BMP in the approved BMP Plan for the previous calendar year. Failure to submit the required annual report by April 30 of each year may result in revocation of the General Permit. The notification will be sent by certified mail and indicate that the permit will be revoked within 30 days after the date of the certified mailing unless the annual report is received within those 30 days. If the permit is revoked, the permittee shall be required to apply for a new General Permit and shall be subject to enforcement under subsection 40E-63.461(1) ~~40E-63.460(1)~~, F.A.C. The new permit will include special conditions requiring that documentation certifying BMP implementation is submitted quarterly, at a minimum.

(d) through (e) No Change.

(f) The permittee shall notify the District in writing within 30 ~~90~~ days of any transfer, sale or conveyance of land or works described in the permit.

(g) through (l) No Change.

(m) The C-139 Basin is required to achieve compliance with the phosphorus load limitation requirement and performance measures as specified in Appendix B2 (incorporated by reference in subsection 40E-64.446(1) ~~40E-63.404(4)~~, F.A.C.).

(n) through (p) No Change.

(q) If the District determines that any permittee in a General Permit is not complying with the specific terms and conditions of the General Permit, or the water quality performance measures (including proportional share, in accordance with Chapter 40E-63, F.A.C.), the District will institute enforcement or corrective proceedings against the permittee, any co-permittees, or both, as applicable pursuant to Rules 40E-63.446 ~~40E-63.450~~ and 40E-63.461 ~~40E-63.460~~, F.A.C.

(r) Authorizations from other agencies for disposal or application of wastewater residuals (biosolids), animal manure, solid waste, fill material, or other materials containing phosphorus within the C-139 Basin, shall not relieve permittees from complying with the provisions of this Rule. Permittees Water quality monitoring data will ~~may~~ be required by the District to demonstrate no potential impacts on phosphorus loading.

(s) The permitted discharge shall not cause adverse water quality impacts to of ~~of~~ receiving water and adjacent lands regulated by Chapter 373, F.S.

(t) through (u) No change.

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.086,~~ 373.113, 373.4592, FS. Law Implemented 373.016, 373.085, 373.086, 373.423, 373.451, 373.453, 373.4592(4)(f) FS. History–New 1-24-02, Amended _____.

40E-63.446 C-139 Basin Compliance.

(1) If the C-139 Basin is determined to not meet the performance measures developed in accordance with “Appendix B2, C-139 Basin Performance Measure Methodology”, dated _____, Appendix B2.1 “FORTRAN Program for Calculating C-139 Basin Flows and Phosphorus Loads”, and Appendix B2.2 “Flow Computation Methods Used to Calculate C-139 Basin Flows”, (incorporated by reference ~~herein~~ in subsection 40E-63.404(4), F.A.C.), the basin as a whole will be deemed out of compliance with the water quality requirements of this part of Chapter 40E-63, F.A.C. Copies ~~A copy~~ of Appendices B2, B2.1 and B2.2 are available on the District’s website (www.sfwmd.gov), or from the District’s Clerk’s Office at 3301 Gun Club Road, West Palm Beach, FL 33406, 561-686-8800, upon request.

(2) If the C-139 Basin is out of compliance, water quality improvement activities will be required for permit basins except in the following situations: ~~to achieve their proportional share of the basin-wide loading phosphorus load,~~

as indicated in Appendices B3.1, and B3.2 (incorporated by reference in subsections 40E-63.404(7) and (8), F.A.C.). Exceptions are provided below in subsection (3).

(3) Upon the effective date of the amendments to this part of Chapter 40E-63, F.A.C., the first water year of compliance determination for which water quality improvement activities can be required is WY2013. The requirement for water quality improvement activities in a permit basin will be deferred for one water year if the District determines that one or more of following conditions exist.

- (a) The permit basin is located in a sub-basin that is determined to not exceed its proportional share of the basin-wide loading based on District-collected data for the sub-basin or, if applicable, its Permit Basin Discharge Monitoring Program results are determined not to exceed the proportional share in accordance with “Appendix B3.1, Permittee Annual Phosphorus Load Determination Based on Sub-basin Monitoring and the Permit Basin Discharge Monitoring Program”, dated _____, and “Appendix B3.2, Criteria for Required Phosphorus Reductions”, dated _____, both of which are incorporated by reference herein. Copies of Appendices B3.1 and B3.2 are available on the District’s website (www.sfwmd.gov), or from the District’s Clerk’s Office at 3301 Gun Club Road, West Palm Beach, FL 33406, 561-686-8800, upon request (~~incorporated by reference in subsection 40E-63.404(7), F.A.C.~~).
- (b) District approved early BMPs, as described in paragraph ~~subsection 40E-63.438(1)(a), F.A.C.~~, were fully implemented in the permit basin during a water year that was used to deem the C-139 Basin out of compliance (this provision applies, providing deferral only to the parcels where the early BMPs apply),
- (c) A District approved demonstration project including a verification plan, as described in ~~paragraph subsection 40E-63.438(1)(b), F.A.C.~~, was conducted within the permit basin during a water year that was used to deem the basin out of compliance (this provision applies, providing deferral only to the land uses or crops to which the project applies),
- (d) The permit basin, or portion thereof, has been issued and meets the conditions of a determination of impracticability as described in subsection ~~40E-63.461(6) 40E-63.460(6), F.A.C.~~, (this provision applies providing deferral to the lands where the determination applies), or
- (e) No change.

(3) Upon the effective date of the amendments to this part of Chapter 40E-63, F.A.C., the first water year of compliance determination for which water quality improvement activities can be required is WY2013.

(4) If the C-139 Basin is deemed out of compliance, the District will evaluate BMP program performance at the sub-basin level in accordance with Appendix B3.1 (incorporated by reference in ~~paragraph subsection 40E-63.446(2)(a) 40E-63.404(7), F.A.C.~~).

(5) The District will determine annual phosphorus discharge performance for permit basins that have an individual discharge monitoring plan in accordance with Appendix B3.1 (incorporated by reference in ~~paragraph 40E-63.446(2)(a) 40E-63.404(7), F.A.C.~~).

(6) The District will provide written notice to the C-139 Basin permittees on the C-139 Basin compliance based upon performance measure results (Appendix B2, incorporated by reference in subsection ~~40E-63.446(1) 40E-63.404(4), F.A.C.~~), and the sub-basin and permit basin performance results (Appendix B3.1, incorporated by reference in ~~paragraph subsection 40E-63.446(2)(a) 40E-63.404(7), F.A.C.~~) and whether water quality improvement activities are required. The District shall attempt to transmit the written notices by August of each year. The notices shall describe permittees’ required actions for proposing water quality improvement activities based on these assessments including required total phosphorus reduction levels in accordance with Appendix B3.2 (incorporated by reference in ~~paragraph subsection 40E-63.446(2)(a) 40E-63.404(8), F.A.C.~~). These actions are described in subsection ~~40E-63.461(2) 40E-63.460(2), F.A.C.~~

(7) In accordance with Appendix B2 (incorporated by reference in subsection ~~40E-63.446(1) 40E-63.404(4), F.A.C.~~), the District shall continue collecting monitoring data from the C-139 Basin for the purpose of determining compliance.

Rulemaking Authority 373.044, 373.083, 373.085, 373.086, 373.113, 373.4592, , F.S., Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f), F.S., History – New _____ See Rule 40E-63.4610, F.A.C.

40E-63.461 C-139 Basin Permit Compliance.

(1) No Change.

(2) If the C-139 Basin is determined to be out of compliance with the water quality requirements of this part of Chapter 40E-63, F.A.C., pursuant to Rule 40E-63.446 ~~40E-63.450~~, F.A.C., the permittee shall propose water quality improvement activities in accordance with the following:

(a) No Change.

(b) The submittal shall include a proposal for water quality improvement activities along with the estimated phosphorus reductions to be achieved in accordance with subsection 40E-63.461(3) ~~40E-63.460(3)~~, F.A.C., or a verification plan in accordance with subsection 40E-63.461(4) ~~40E-63.460(4)~~, F.A.C. The phosphorus reductions shall be the minimum levels necessary to meet the permit basin's proportional share of required total phosphorus reductions as determined by the District (Appendices B3.1 and B3.2, incorporated by reference in paragraph subsections 40E-63.446(2)(a) ~~40E-63.404(7) and (8)~~, F.A.C.). The proposal shall include a schedule to ensure that full implementation of an approved BMP Plan incorporating any proposed water quality improvement activities is in effect as soon as feasible and no later than April 30 following the District's transmittal of the notice that the C-139 Basin is not in compliance, unless otherwise approved by the District. An alternate implementation schedule, will ~~may~~ be approved by the District with justification based on the scope of the proposed activities. A permittee shall be required to implement intermediate water quality improvement activities or BMPs, as applicable, if an alternate implementation schedule is approved.

(3) No Change.

(a) Include a detailed description of the proposed improvements to the approved BMP Plan in comparison to the current implementation practices. The basis for the proposed BMP improvements shall consider pre-improvement conditions (e.g., current levels of BMP implementation, pre-BMP improvement water quality data) and the parameters affecting BMP performance and total phosphorus load (site-specific conditions, phosphorus speciation, flow). If the proposal includes implementation of additional BMPs not listed in Appendix B1 (incorporated by reference in subsection 40E-63.435(1) ~~40E-63.404(3)~~, F.A.C.), the proposal shall also include the information indicated in subsection 40E-63.437(1), F.A.C. Note that in contrast with BMP Plans, additional improvements to an approved BMP Plan do not need to be proposed for each land use or crop within a permit basin if it is demonstrated that focus on selected land uses, crops, or acreage will be sufficient to achieve the required total phosphorus reduction of the basin wide load.

(b) Indicate the expected range of percent total phosphorus removal ~~efficiency~~ resulting from the proposal as follows:

a. No Change

b. The expected or assumed total phosphorus removal efficiency shall be based on data from the most current representative technical references including peer reviewed or published BMP research and demonstration projects, with consideration of permit basin specific conditions such as indentified when a site-assessment is completed pursuant to subsection 40E-63.437(2), F.A.C.

c. No Change.

(c) through (d) No Change.

(4) If a permittee selects to or is required to conduct a monitoring program to confirm that required total phosphorus reductions will be achieved, a permittee shall propose a verification plan in addition to the proposal for improvements to an approved BMP Plan or water quality improvement activities. All verification plan proposals shall meet the following criteria for District review and approval:

(a) through (c) No Change.

- (d) The tools that will be used to verify total phosphorus reduction levels such as water quality and quantity monitoring to determine total phosphorus loading pre- and post-BMP improvement and to estimate total phosphorus reduction ~~efficiency~~. Total phosphorus and phosphorus speciation data collected at the District sub-basin monitoring locations may serve as representative monitoring.
- (e) No change.
- (f) A schedule not to exceed three calendar years from the date of District approval of the proposal. Once the confirmatory verification is completed and a final report is submitted in accordance with the approved scope, the permittee shall either submit a Letter Modification application in accordance with Rule 40E-63.439, F.A.C., and subsections 40E-63.461(2) and (3) ~~40E-63.460(2) and (3)~~, F.A.C., to either:
 - a. through b. No Change.

(5) No Change.

(6) Permittees may elect to demonstrate that water quality improvement activities are impracticable. Any such request for determination of impracticability must be submitted to the District under a permit modification application. For the District to consider the application for approval, the submittal shall:

- a. Specify all of the BMPs and activities that were implemented previously and provide evidence to show that no additional BMPs and activities or refinements for the reduction of phosphorus can be reasonably accomplished at the site or sites of operation.
- b. Propose the expected amount of phosphorus discharge in comparison to the C-139 Basin's phosphorus load targets and limits, calculated in accordance with Appendices B3.1 and B3.2 (incorporated by reference in paragraph subsections 40E-63.446(2)(a) ~~40E-63.404(7) and (8)~~, F.A.C.), for the range of historic rainfall conditions in accordance with Appendix B2 (incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C.). No increasing trend in phosphorus from the property, as determined by the District, will be allowed under any scenario. The District will review the proposed performance level in reference to available representative historic data.
- c. Propose a discharge monitoring plan in accordance with Rule 40E-63.462, F.A.C., to verify that the proposed performance level is met. In the event that the farm configuration is not conducive to flow collection under a discharge monitoring program, the District may consider requests for the use of alternate representative locations or monitoring for concentration only. Upon District approval of the monitoring plan, special limiting conditions (such as applicable conditions from Rule 40E-63.464, F.A.C.) will be incorporated in the permit.
- d. through e. No Change.
- f. Determinations of impracticability will be valid until the next permit renewal cycle. Permittees shall re-apply for a permit in accordance with Rule 40E-63.439, F.A.C. A previously permitted impracticability status shall not be automatically renewed. The District will review each request as a new request. All requests shall be reviewed to verify that there have been no increasing trends in phosphorus discharges in the previous 5 years and that the proposed levels of BMP implementation are in accordance with improved BMP implementation techniques based on the latest technical information, as described in Appendix B3.2 (incorporated by reference in paragraph subsection 40E-63.446(2)(a) ~~40E-63.404(8)~~, F.A.C.).

Rulemaking Authority 373.044, ~~373.083, 373.085, 373.113, 373.4592, F.S., Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f), F.S., History – New 1-24-02, Amended _____, See Rule 40E-63.470, F.A.C.~~

40E-63.462 Permit Basin Discharge Monitoring Program.

(1) In addition to implementing an approved BMP Plan, permittees may elect or be required to participate in a discharge monitoring program pursuant to Rules 40E-63.437, 40E-63.438, paragraph ~~40E-63.444(1)(r)~~ ~~40E-63.449(1)(r)~~, subsection ~~40E-63.461(4)~~ ~~40E-63.460(4)~~ or ~~40E-63.461(6)~~, ~~40E-63.460(6)~~ F.A.C., and be subject to:

- (a) For permittees electing a discharge monitoring program or permittees required to implement a monitoring program pursuant to subsection ~~40E-63.461(6)~~, ~~40E-63.460(6)~~, F.A.C.: alternative, site-specific evaluations of compliance with phosphorus load targets and limits for the areas represented by the monitoring plan when the C-139 Basin is collectively determined to be out of compliance in accordance with Chapter 40E-63, F.A.C., Appendix B2 (incorporated by reference in subsection ~~40E-63.446(1)~~ ~~40E-63.460(6)~~, F.A.C.); and
 - (b) Compliance with permit conditions in accordance with Rule ~~40E-63.464~~ ~~40E-63.444~~, F.A.C.
- (2) To implement a discharge monitoring program, permittees must submit a permit application with the following information:
- (a) No Change.
 - (b) All flow quantity discharge from the property shall be calculated using a proposed method by a Florida-Registered Professional Engineer in a flow calibration report approved by the District. A calibration report shall be required for each pump, culvert or other discharge structure. Uncontrolled off-site discharges, such as overland sheet flow, shall also be quantified in the report. Each calibration report shall contain, at a minimum: data collection methodology, instrumentation and procedures; the actual field data collected; the basis for the full operating range represented by the data; the methodology for development of the calibration equation; operational information needed to calculate flow with a temporary backup methodology to be used if the primary equipment becomes inoperable; and the final calibration equation and primary method for calculating the flow. A plan that includes the items specified in the “Flow Calibration Guidelines Developed in Support of Chapter 40E-63, F.A.C. Everglades BMP Permit Program” (incorporated by reference in ~~paragraph subsection 40E-63.462(2)(d)~~ ~~40E-63.404(9)~~, F.A.C.), generally provides reasonable assurance that methods to measure water quantity will be reasonably accurate, however, other alternatives may be proposed by the applicant and authorized by the District;
 - (c) No Change.
 - (d) Other site specific information required by Appendix B3.1, (incorporated by reference in ~~paragraph subsection 40E-63.446(2)(a)~~ ~~40E-63.404(7)~~, F.A.C.).

Rulemaking Authority 373.044, ~~373.083~~, ~~373.085~~, ~~373.086~~, 373.113, 373.4592, F.S., Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f), F.S., History – New _____ See Rule 40E-63.456, F.A.C.

40E-63.464 Limiting Conditions for the Permit Basin Discharge Monitoring Program.

For those applicants proposing to implement the Permit Basin Discharge Monitoring Program, the District-approved monitoring plan will be incorporated into a modified ~~an amended~~ General Permit and the following limiting conditions shall be met in addition to the conditions indicated in Rule 40E-63.444, F.A.C. These limiting conditions will be attached to the General Permit.

(1) through (12) No Change.

Rulemaking Authority 373.044, ~~373.083~~, ~~373.085~~, ~~373.086~~, 373.113, 373.4592, F.S., Law Implemented 373.016, 373.085, 373.086, 373.451, 373.453, 373.4592(4)(f), F.S., History – New 1-24-02, Formerly 40E-63.458, F.A.C., Amended _____, See Rule 40E-63.458, F.A.C.

BMP Description and Equivalent Points Reference Table

A BMP Plan meeting the requirements of Rule 40E-63.435, F.A.C., is required for each land use or crop. BMP Plans shall be implemented across the entire farm acreage (drainage area) with individual BMPs consistently implemented during the water year across each land use (crop) area. The table below provides an array of BMPs available for selection by permittees within the C-139 Basin. However, permittees may propose alternative BMP Plans as described in Rule 40E-63.437, F.A.C.

BMP	PTS	DESCRIPTION
NUTRIENT CONTROL PRACTICES¹		
Nutrient Application Control*	2 ½	Uniform and controlled boundary application of nutrients with a minimum 4' setback from canals with no overlapping application for each application method (e.g. banding at the root zone or side-dressing, pneumatic controlled-edge application such as AIRMAX); fertilization through low volume irrigation system applied at root zone (fertigation); controlled placement by fertilization under plastic near root.
Nutrient Spill Prevention*	2 ½	Formal spill prevention protocols (storage, handling, transfer, and education/instruction). Pasture – Also includes restricted placement of stored feed and housekeeping to prevent spillage near storage and transfer areas (feed and molasses)
Manage Successive Vegetable Planting to Minimize Phosphorus	2 ½	Avoid successive planting of vegetables or other crops having high phosphorus (P) needs to avoid phosphorus P build up in soils. Includes successive planting with no successive phosphorus P application.
Recommended Nutrient Application based on Plant Tissue Analysis	2 ½ 5	Avoid excess application of phosphorus P by determining plant nutrient requirements for adjustments during next growing season (crop specific).
	2 ½	Pastures with Bahia grass – Plant tissue analysis along with soil test is required to make nutrient application recommendation.

¹ For purposes of this Rule the term “nutrient” refers exclusively to phosphorus.

	5	Citrus – Results are applied to the current season <u>phosphorus P</u> requirements.
Recommended Nutrient Application based on Soil Testing [±]	5	Avoid excess nutrient application by determining <u>phosphorus P</u> requirements of soil and follow standard recommendations for application rates (crop specific), or recommendations based on the analysis of optimum economic crop response to added <u>phosphorus P</u> specific to the soil soil and crop. The disposal or application of waste water residuals (biosolids), animal manure, or other materials containing phosphorus shall not exceed the <u>phosphorus P</u> requirements of the crop.
Split Nutrient Application	5	More efficient plant uptake of <u>phosphorus P</u> by applying small portions of total recommended <u>phosphorus P</u> at various times during the growing season. Not to exceed total recommendation based on soil test.
Slow Release <u>Phosphorus</u> Fertilizer	5	Avoid flushing excess <u>phosphorus P</u> from soil by using specially treated fertilizer that releases <u>phosphorus P</u> to the plant over time.
Reduce <u>Phosphorus</u> Fertilization	5	Reduce the P application rate by at least 30% below the recommendation based on soil tests and development of site-specific (reduced) recommendations or application methods. Provide basis for reduction credit.
No Nutrients Imported Via Direct Land Application	20 15	No Application of <u>phosphorus P</u> , in any form, to the soil for amendments or plant nutrients. (Pastures can claim this BMP and still apply fertilizer if done at maintenance or less than optimum production levels no more frequently than once every 6 years. Not applicable to new plantings.
No Nutrients Imported Indirectly Through Cattle Feed	15	No <u>phosphorus P</u> import to the basin through cattle feed (Pastures where no nutrients are imported via direct land application can claim this BMP if the only feed additives are mineral supplements or molasses.
Nutrient Management Plan (Levels I&II/III/IV)	5-25	A plan to manage the amount, source, placement, form, and timing of nutrient application to optimize yields and minimize the movement of phosphorus nutrients to surface and ground waters that ultimately discharge off-site. A site management plan and budget for tracking phosphorus shall be developed. The plan shall consider all nutrient sources (including but not limited to soil residual, crop residual, animal residual (through a waste management plan), organic and chemical fertilizer, soil amendments and supplements, irrigation water quantity and timing, animal nutrient supplements) versus the required amounts of nutrients. The plan shall utilize testing, analysis, and agricultural industry standards to determine nutrient needs. At a minimum, the plan shall address the timing, placement and method of nutrient application; optimization of nutrient uptake; prevention of nutrient movement off-site; site descriptions such as aerial photographs, crop maps, and soil maps; implementation plans and schedules; sediment control BMPs; pasture management BMPs; and water quality monitoring for input into the mass balance prepared for the phosphorus

	<p>budget. These actions shall be developed in accordance with Section IV, Code 590 of the United States Department of Agriculture Natural Resources Conservation Service FOTG, FL, January 2009, hereby incorporated by reference. The Plan must be approved by NRCS or a qualified technical service provider. However, other alternatives may be considered by the District with technical justification. A Nutrient Management Plan can be a component of a Conservation Plan which includes the objective of reducing phosphorus discharges on lands with cattle operations. The District will assign BMP points to each Nutrient Management Plan based on the relative level of treatment proposed, as evidenced by the applicant through plans, test results or other information submitted with the application.</p>
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BMP Description and Equivalent Points Reference Table

BMP	PTS	DESCRIPTION
WATER MANAGEMENT PRACTICES		
½ Inch Detained 1 Inch Detained	5 10	Delayed discharge (based on measuring daily rain events using a rain gage).
Improvements to Water Management System Infrastructure to Further Increase Water Quality Treatment by Delayed or Minimized Discharge	5	Recirculation of water inside farm boundaries to improve water quality prior to off-site discharge includes: fallow field flood water with no direct discharge (instead dispose of via evapotranspiration, seepage, use as irrigation water); or increasing water detention using properly constructed canal berms.
Low Volume Irrigation	5	Use of low volume irrigation methods, e.g. drip irrigation, microjet irrigation.
Approved and Operational Surface Water Reservoir Certified ²	10 10 15	Properly permitted, constructed and maintained storage system meeting specified Environmental Resource Permit (ERP) Basis of Review criteria (version in effect at the time of permitting or in effect at the time of permit modification for modified systems): System meets Section 5.2.1 Water Quality Criteria-Volumetric Requirements System meets Section 6.2 Water Quantity Criteria-Discharge Rate System meets Section 6.3 Water Quantity Criteria-Design Storm (Must have a valid SFWMD construction and operation permit for the surface water system.)

² Surface water reservoir certification refers to a construction completion certification by a Florida licensed Professional Engineer as required in Chapter 40E-4, F.A.C., using Form 0881A for projects permitted after October 3, 1995, and Form 0881B for projects permitted prior to October 3, 1995, which are incorporated by reference in paragraph subsection 40E-4.361(1)(b), F.A.C., and Section 10.01 of the Basis of Review for Environmental Resource Permit Applications within the South Florida Water Management District, incorporated by reference in Rule 40E-4.091, F.A.C., or the current certification requirements of Chapter 40E-4, F.A.C.

Temporary Holding Pond	15	Temporary agricultural activities (as described in Chapter 40E-400, F.A.C.) with a properly constructed and permitted temporary holding pond.
Overland Sheet Flow over Entire Property	15	No drainage improvements made to a land area so that it drains through overland sheet flow, or drainage improvements such as ditches have been removed to restore overland sheet flow drainage to the land area.
No Point Discharge of Surface Water	15	Voluntarily disabling of offsite discharge structures or other permanent means to prevent point discharge from a land area.
Tailwater Recovery System	10	A planned irrigation system in which facilities have been installed and the system is operated to collect, store, and transport irrigation tailwater and/or rainfall runoff that would have been discharged offsite without the system.
Precision Irrigation Scheduling	10	Combination of low volume irrigation and soil-moisture measuring equipment, specialized irrigation decision tools (e.g. computer software), and/or remote sensing tools to ascertain real-time crop needs to maximize irrigation system performance and to develop precise irrigation scheduling (time, location and amount).
Water Resources Management for Pastures	5	Combination of water conservation and management practices considering the requirements of the primary forage grasses and supplemental cattle watering. Managing surface water via pump or controlled gravity structures to detain a minimum of ¼ inch of rain within soils, wetlands, canals and ditches.

BMP Description and Equivalent Points Reference Table

BMP	PTS	DESCRIPTION
PARTICULATE MATTER AND SEDIMENT CONTROLS³³		
Any 2	2 ½	<ul style="list-style-type: none"> _ erosion control by leveling fields _ reduce soil erosion using grassed swales and field ditch connections to laterals _ minimize sediment transport with slow velocity in main canal near discharge structure
Any 6	10	<ul style="list-style-type: none"> _ minimize sediment transport into canals by constructing ditch bank berms
Any 8	15	<ul style="list-style-type: none"> _ minimize sediment build-up through a canal cleaning program _ reduce sediments transported offsite by using field ditch drainage sumps

³³ Approved and Operational Surface Water Reservoirs (Certified) can provide a 5 BMP equivalent points toward the Particulate matter and Sediment Control Practices category, based upon maintenance and operation of the reservoir and of a sediment canal cleaning and floating vegetation barrier or equivalent at the canals connecting the reservoir discharge and the offsite discharge locations.

	<ul style="list-style-type: none"> _ minimize sediment transport with slow field ditch drainage near pumps/structure _ reduce sediments transported offsite by maintaining a sediment sump/trap upstream of drainage structure _ reduce sediments transported offsite by stabilizing soil through infrastructure improvements at canal/ditch intersections (e.g. flexible plastic pipe, polymer treatment) _ maintain sustainable forage growth on pasture to reduce soil/erosion/range seedlings _ reduce soil erosion with constructed ditch bank stabilization _ reduce soil erosion with cover crops (No <u>phosphorus P</u> applied) _ maintain vegetative cover in upland areas to reduce soil erosion _ reduce soil erosion with vegetation on ditch banks _ minimize <u>phosphorus P</u> from plants by aquatic weed control _ <u>phosphorus (P source)</u> at main discharge locations _ reduce debris and aquatic plants (<u>phosphorus P source</u>) leaving the site by using barriers at discharge locations
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**BMP Description and Equivalent
Points Reference Table**

BMP	PTS	DESCRIPTION
PASTURE MANAGEMENT ⁴⁴		

⁴⁴-These pasture management BMPs can provide equivalent points towards the particulate matter and sediment control practices category.

	<p>2½ 2½ 2½ 2½ 5 10</p>	<p>High intensity area management:</p> <ul style="list-style-type: none"> • Includes restricted placement of stored feed, feeders, mineral, and molasses stations to reduce concentrated areas near drainage ditches, when applicable. • Provide restricted placement of cowpens to reduce concentrated areas near drainage ditches. • Provide shade structures to prevent cattle in waterways • Alternative cattle water sources: restricted placement of water to reduce concentrated areas near drainage ditches • Low cattle density (1 head/2 acres, non-irrigated pasture) by providing comprehensive prescribed grazing. • Restrict cattle from waterways through fencing of canals in manner that protects water quality.
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C-139 Basin Performance Measure Compliance Methodology

INTRODUCTION

This Appendix sets forth the performance measure compliance methodology for determining whether the C-139 Basin is meeting the annual phosphorus load requirements described within the Everglades Forever Act (EFA), Section 373.4592(4)(f)5, F.S. It includes procedures the District will follow to determine whether the entire C-139 Basin has maintained discharges at or below the collective average annual phosphorus loading based proportionally on the historical rainfall during the baseline period of October 1, 1978 to September 30, 1988. The determination requires annual calculation of the phosphorus TP load leaving the outfall structures from the C-139 Basin (location shown in Figure B1 and listed in Table B-1). The list of outfall structures used in the annual phosphorus load calculation will be adjusted by the South Florida Water Management District (District) to account for any changes in outflow structures from the C-139 Basin, including those changes caused by construction of regional projects.

Future water year The annual observed loading of phosphorus attributed to C-139 Basin for performance assessment by this methodology may be adjusted by the District to reduce basin boundary flows that are demonstrated not representative of historic conditions. Potential circumstances where the discharge attributed to C-139 Basin landowners may be reduced include discharges not related to the District's operation of the regional water management system for purposes other than flood control and inflows to the historic hydrologic boundary. The District shall describe the reductions and their technical basis in an annual report.

Load is the amount of phosphorus carried past a monitoring point by the movement of water. Data on water quality concentration and water quantity (flow) are required to calculate the phosphorus load discharged from a monitoring point. Data on water quality and quantity at the C-139 Basin outfall structures are available from the District. Several methods of collecting the data are also used. Accordingly, the best method of data collection and source of data to use in a load calculation must be identified.

The water quality and quantity collection sources and methods currently available are described below. The methods are improved continuously as new equipment becomes available and technology improves. However, when new methods are introduced, existing methods of data collection are continued concurrently with the new methods for a sufficient period of time to evaluate the impact of the method change on phosphorus load calculations. When the District reports the results of the C-139 Basin collective annual phosphorus loading for the period of May 1 through - April 30, annually, the sources and methods of data collection used in the calculation will be described and available for inspection. Any changes in methods from the prior year will be specified. Substantially affected persons will have an opportunity to request an administrative hearing. The District shall incorporate permanent changes in methods into this

Appendix periodically through Chapter 120, Florida Statutes, rulemaking proceedings as required.

The load calculations involve detailed procedures, which have been automated by a computer program in FORTRAN language. A flow chart of the program is shown in Figure B2. The methods and equations used in the program are outlined in Appendix B2.1, which is incorporated published by reference in subsection 40E-63.446(1), F.A.C., and incorporated into this Chapter and is also available on various electronic media.

DATA COLLECTION SOURCES AND METHODS

Water Quantity – Flows

The District computes flow at all of the water control structures serving the C-139 Basin. Water control structures may include pumps, gated spillways, and gated culverts.

The District's hydrologic database stores multiple flow data sets at each structure. Each flow data set is created using a unique combination of sources of stage and control operations data. The District uses its data to perform water budget analyses and estimation techniques to obtain a "preferred" flow data set at each structure. Table B-1 shows the "preferred" C-139 Basin discharge flow data sets available in the District's hydrologic database (DBHYDRO).

Water Quality

A water sample collected in the field is called a "raw water sample", in differentiation with a "water sample" used in the chemistry laboratory. Current raw water sample collecting methods at structures utilized in the C-139 C-129 Basin phosphorus load calculation are listed in Table B-2. All raw water collection sites in the C-139 Basin phosphorus load calculation shall be collected by automatic samplers, however grab samples will be taken when automatic samplers are not functioning or when necessary for other purposes. Automatic samplers will be programmed to take flow proportional composite samples. Where on-site real-time flow computation is impossible, time proportional composite samples will be taken. For future sampling, if an improved sampling method is proposed to replace existing sampling methods, existing methods will be continued concurrently until the relationship between results from existing and proposed methods have been established. The establishment of these relationships shall be based on an amount and quality of data that is sufficient to be statistically valid. When determining whether the data set is sufficient, at minimum the following shall be considered: the length of the period over which data was collected; the quality assurance of the data; and the number of events in the period.

Only a portion of a well-mixed raw water sample is used as the water sample in actual quantitative analysis of a given water quality parameter. The chemical analysis is performed by a certified laboratory using accepted standard methods. In the event the District changes laboratories or analytical methods, concurrent analyses shall be

conducted until a correlation can be established. Water quality parameters are identified by structure and collection site, project code, sample date, and serial number of the sample. The data are stored in data base WQDMAIN.

Data Upgrades

There are three ways in which the quality and reliability of District flow data are being improved: (1) establishment of single time series of flow for each station from multiple sources of stage and control operations data, (2) verification and calibration of flow equations through intensified discharge measurements at all major C-139 Basin structures, and (3) calibration of acoustic velocity meter systems for future use as an additional source of flow data.

A prioritized list of sources of stage and control operations data are established for each flow station. Flow will be computed from the highest ranking sources. When the highest ranking source of data is missing, the next highest source will be used, and so on. This method will ensure the calculation of the best flow values from all sources and will minimize missing data.

Stream gauging has been utilized to provide discharge measurements at all major C-139 Basin structures. Statistical analyses verify or calibrate the discharge rating equations. Statistical analysis and calibration of rating equations will continue to increase the accuracy of the calculated flow values. When new or substantially different methods or techniques are proposed for measuring discharge at any of the sites listed in Table B-1, an analysis will be done to determine the relationships between the existing method and the proposed method prior to implementing the proposed change.

If any upgrades in water quality sampling are undertaken in the future, concurrent samples will be taken by the existing methods to maintain data continuity, at least until the upgraded methods have been tested and documented as reliable in accordance with the procedures described under "Water Quality" above.

ANNUAL PERFORMANCE DETERMINATION

With regard to BMP implementation initiated in 2001, the "Initial Compliance Determination Period" was the water year beginning May 1, 2002 and ending April 30, 2003 (WY2003). Following four years in which the C-139 Basin was determined to be "out of compliance", rulemaking was initiated in WY2007 to amend the existing Chapter 40E-63, F.A.C., to ensure that the objectives of the EFA, Section 373.4592(4)(f)5., F.S., are met. As a result, the "Initial Performance Measure Determination" period for the C-139 Basin is reset to account for additional water quality improvement activities and will be the water year beginning May 1, 2011 and ending April 30, 2012 (WY2012). The frequency of compliance determinations will be as set forth in Rule 40E-63.446, F.A.C. However, basin performance will be computed and reported on an annual water year basis, that is annual phosphorus loads will be compared to the collective annual average phosphorus load derived for the baseline period (October 1, 1978 to

September 30, 1988). This will occur annually as of April 30, a date that corresponds generally with the change from the dry to the wet rainfall periods.

Hydrology, that is discharge and rainfall, is a dominant factor when computing phosphorus loads. Because rainfall and discharge are subject to large temporal and spatial variation in south Florida, the evaluation for performance adjusts the phosphorus load to account for hydrologic variability. In addition to annual rainfall, significant influence of intra-annual rainfall on phosphorus loads has been observed and use of a relationship based on the monthly variability of rainfall is physically justified, in addition to having the greater statistical power.

Integrating recent data reflecting changes to the operation of the water management system as well as the influence of monthly rainfall patterns to the performance measure is anticipated to improve the methodology's future representation of C-139 Basin landowners' collective annual loading of phosphorus based proportionally on rainfall. For the calibration period of WY2000-2009 utilized for regression of phosphorus load from rainfall, the mean annual phosphorus load was calculated to be 51.5 metric tons. To establish a load target that preserves the objectives of the EFA, the WY2000-2009 annual phosphorus loads were proportionally adjusted by a factor of 74.05%, such that the adjusted mean annual phosphorus load was equivalent to the baseline period mean of 38.2 mtons. The adjusted annual data from the calibration period was utilized to determine a relationship between rainfall and target load.

The adjustment for hydrologic variability includes two components:

1. A model to estimate future phosphorus loads. The model estimates a future phosphorus load from the C-139 Basin rainfall characteristics by substituting future hydrologic conditions for the conditions that occurred during the calibration period (WY2000-2009), adjusting the observed annual loads by 74.05% so the average annual phosphorus load equals the average annual load of the baseline period (WY1980-1988). The estimation is based on hydrologic data collected for any time period of May 1 through April 30 subsequent to the calibration period. The annual adjusted rainfall range for which the model shall be applied is from 27.97 ~~27.07~~ inches to 66.21 inches based upon rainfall observed during the WY1980-2009 period of record.
2. Accommodation for possible statistical error in the model. Statistical error in the model was accounted for by specifying a required level of statistical confidence in the prediction of the long-term average phosphorus load. The 90th percentile confidence level was selected as reasonable.

Evaluation of the C-139 Basin for phosphorus load performance will be based upon the following:

1. If the actual measured phosphorus loading from the C-139 Basin in a post-baseline May 1 through April 30 period is less than the model phosphorus load estimate (target), then the C-139 Basin will be determined to meet its performance measure, that is, it will not have exceeded the collective average annual phosphorus loading that

would have occurred during the baseline period adjusted for hydrologic variability.

2. The performance determination will be suspended if the adjusted rainfall for the May 1 through April 30 water year is outside the range of 27.97 inches to 66.21 inches and the actual measured phosphorus loading exceeds the target in any May 1 through April 30 period. Any period(s) for which the performance determination is suspended will be excluded from the calculation of the three-year average annual phosphorus load, and will be excluded from the determination of whether the target has been exceeded in three or more consecutive May 1 through April 30 periods.

3. If the actual measured phosphorus loading from the C-139 Basin exceeds the model phosphorus load estimate (target) in three or more consecutive May 1 through April 30 periods, and if not suspended due to rainfall, then the C-139 Basin will be determined to exceed its performance measure, that is, it will have exceeded the collective average annual phosphorus loading that would have occurred during the baseline period adjusted for hydrologic variability.

4. If the actual measured phosphorus loading from the C-139 Basin exceeds the upper 90% confidence level of the target (hereinafter referred to as the limit), in any May 1 through April 30 period, and if not suspended due to rainfall, the C-139 Basin will be determined to exceed its performance measure, that is, it will have exceeded the collective average annual phosphorus loading that would have occurred during the baseline period adjusted for hydrologic variability.

5. The target, ~~and~~ limit and adjusted rainfall will be calculated according to the following equations and explanation:

$$\text{Target} = \exp(-17.0124 + 4.5995 X + 3.9111 C - 1.0055 S)$$

$$\text{Explained Variance} = 74.2\%, \text{ Standard Error of Estimate} = 0.5440$$

Predictors (X, C, S) are calculated from the first three moments (m_1, m_2, m_3) of the 12 monthly rainfall totals ($r_i, i=1$ to 12, inches) for the current year:

$$m_1 = \text{Sum} [r_i] / 12$$

$$m_2 = \text{Sum} [r_i - m_1]^2 / 12$$

$$m_3 = \text{Sum} [r_i - m_1]^3 / 12$$

$$X = \ln(12 m_1)$$

$$C = [(12/11) m_2]^{0.5} / m_1$$

$$S = (12/11) m_3 / m_2^{1.5}$$

$$\text{Limit} = \text{Target} \exp(1.440 \text{ SE})$$

SE = standard error of predicted $\ln(L)$ for May-April interval

$$SE = 0.5440 [1 + 1/10 + 4.8500 (X-X_m)^2 + 8.1932 (C-C_m)^2 + 0.9247 (S-S_m)^2 + 4.5950 (X-X_m) (C-C_m) - 0.3624 (X-X_m) (S-S_m) - 4.0048 (C-C_m) (S-S_m)]^{0.5}$$

$$\text{Adjusted Rainfall} = \exp [X + 0.8503 (C - C_m) - 0.2186 (S - S_m)]$$

Where:

Target = predicted load for future rainfall conditions (metric tons/yr)

Limit = upper 90% confidence limit for target (metric tons/yr)

Adjusted Rainfall = equivalent rainfall for mean C and S variables (inches)

X = the natural logarithm of the 12-month total rainfall (inches),

C = coefficient of variation calculated from 12 monthly rainfall totals,

S = skewness coefficient calculated from 12 monthly rainfall totals,

X_m = average value of the predictor in calibration period = 3.8434,

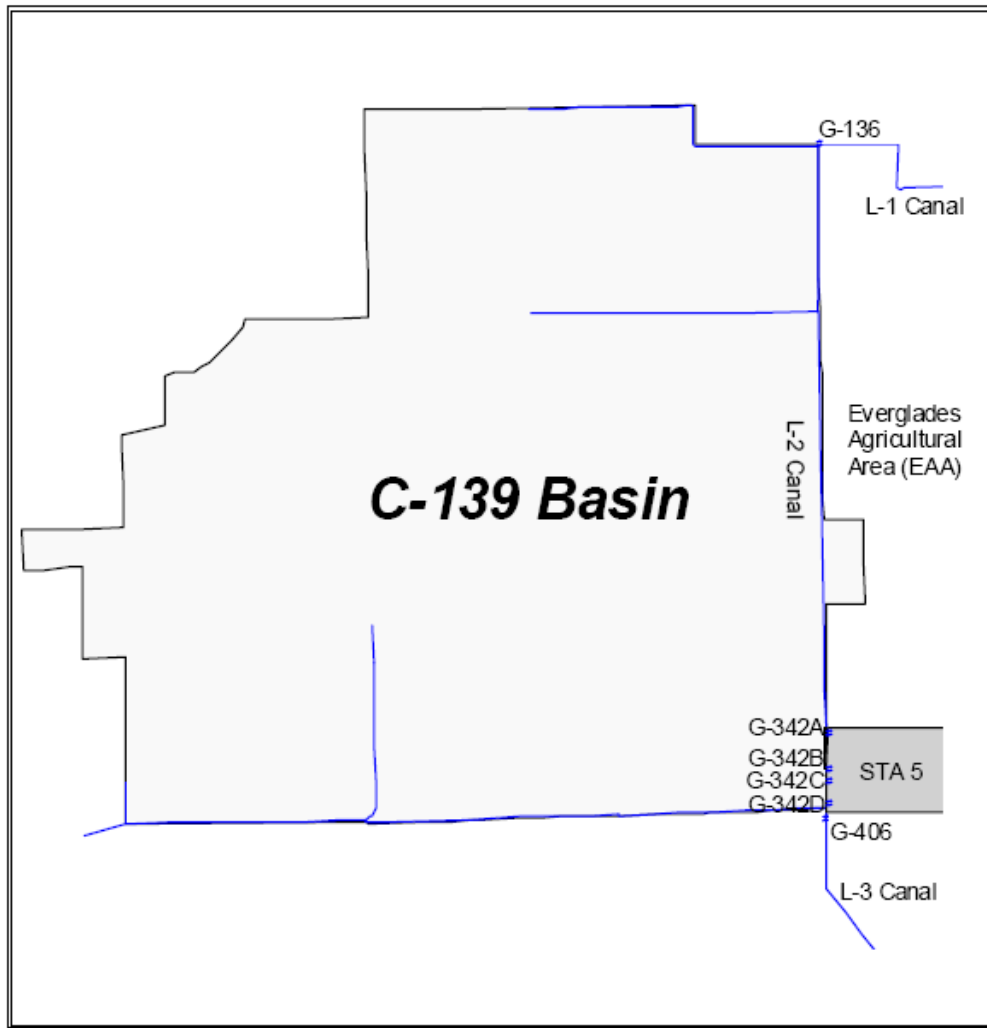
C_m = average value of the predictor in calibration period = 0.9087,

S_m = average value of the predictor in calibration period = 0.8200,

The first predictor (X) indicates that load increases exponentially with total annual rainfall. The second and third predictors (C & S) indicate that the load resulting from a given annual rainfall is higher when the distribution of monthly rainfall has higher variance or lower skewness. For a given annual rainfall, the lowest load occurs when rainfall is evenly distributed across months and the highest load occurs when all of the rain falls in one month. Real cases fall in between.

Figure B-1

C-139 Basin Boundary and Discharge Monitoring Locations



• Water Control Structures
□ C-139 Basin Boundary

2 0 2 4 Miles



C-139 Basin Boundary and Discharge Monitoring Locations

Figure B-2

Flowchart - Calculation of C-139 Basin Phosphorus Loads

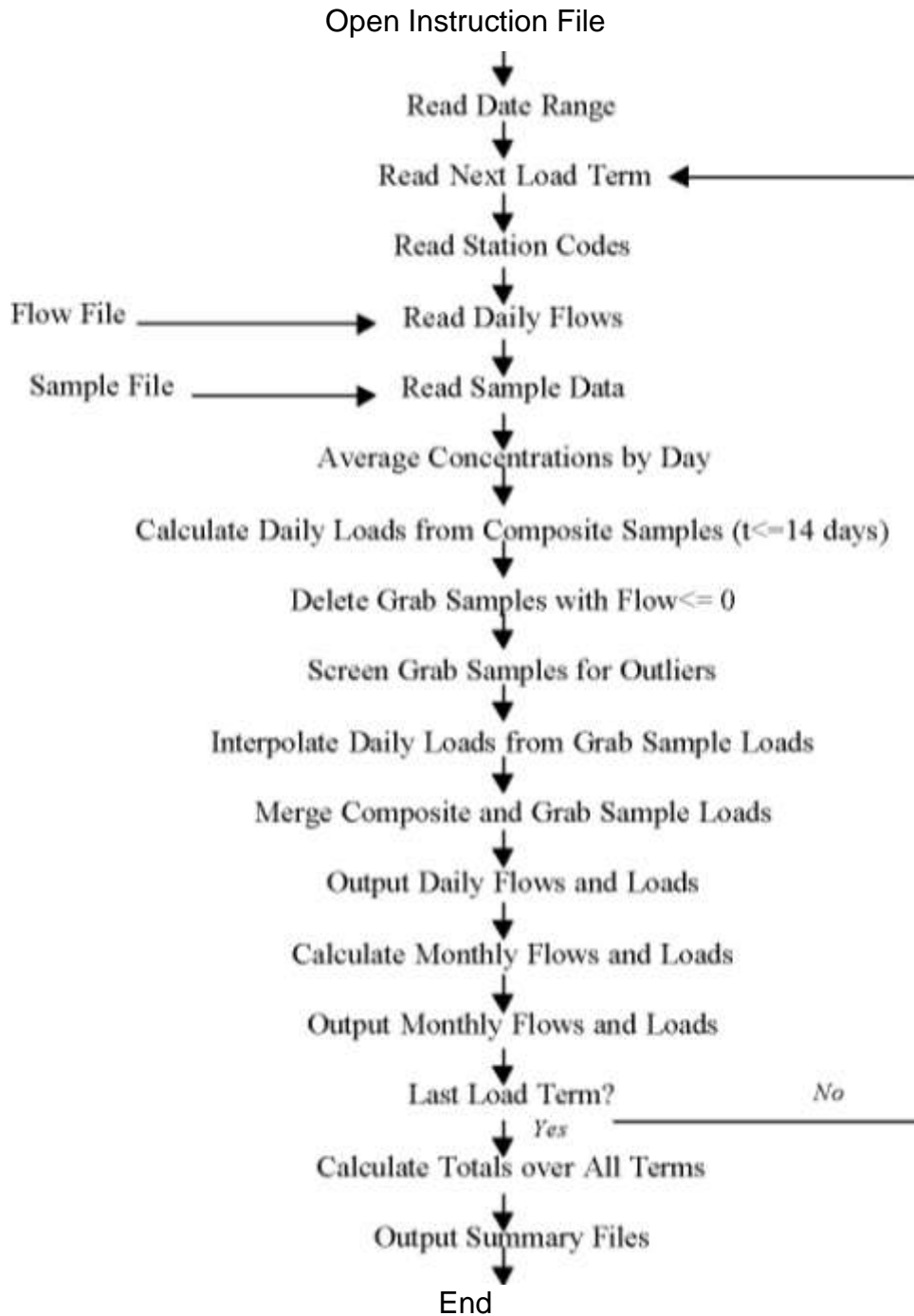
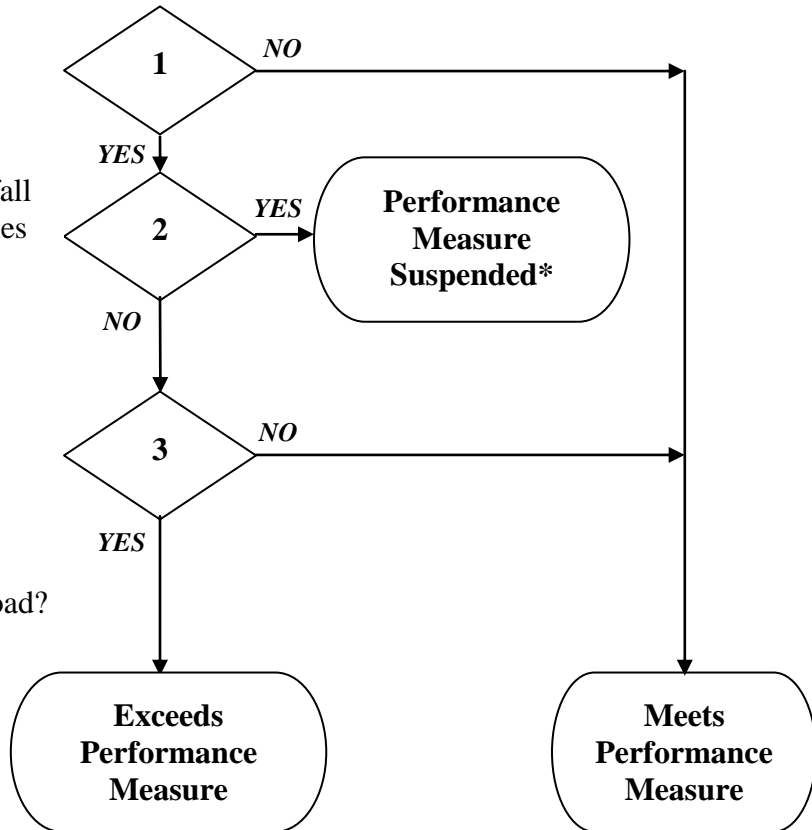


Figure B-3
Flowchart – C-139 Basin Annual Performance Determination

1. Does the calculated annual phosphorus load exceed the predicted target load?
2. Is the water year adjusted rainfall outside the range of 27.97 inches to 66.21 inches?
3. Does the calculated annual phosphorus load...
 - a) cause exceedance of the predicted target load for three consecutive years (excluding suspension), or...
 - b) exceed the predicted limit load?



* If the target is exceeded in a May 1 through April 30 period, and the District determines that the adjusted rainfall for the period is outside the range of 27.97 inches to 66.21 inches, the target and limit will be suspended and the C-139 Basin will not be determined to exceed its performance measure for that period only. Any period(s) for which the target and limit is suspended will be excluded from the determination of whether the target has been exceeded in three or more consecutive May 1 through April 30 periods. That is, the C-139 Basin will exceed its performance measure when the target is exceeded for three May 1 through April 30 periods, without an intervening May 1 through April 30 period in which the C-139 Basin has been determined to meet its performance measure, even though the three periods may be interrupted by periods of suspension.

**Table B-1
C-139 Basin Discharge Structures
Database Keys To Flow Data Time Series**

Structure	Preferred DBKEY
G-136	15195
G-342A	J6406
G-342B	J6398
G-342C	J6407
G-342D	J6405
G-406	JU789

The reference numbers in the table are keys to the data sets, known as "dbkeys".
The list of outfall structures used in the annual phosphorus load calculation will be adjusted by the District to account for any changes in outflow structures from the C-139 Basin, including those changes caused by construction of Stormwater Treatment Areas.

**Table B-2
C-139 Basin Discharge Structures
Current Water Quality Sampling Methods**

Structure	Collection Site	Instrument*
G-136	Gravity	A
G-342A	Gravity	A
G-342B	Gravity	A
G-342C	Gravity	A
G-342D	Gravity	A
G-406	Gravity	A

* ~~G = grab sample primary method~~

* A = automatic sampler primary method, grab sample back-up

Permittee Annual Phosphorus Load Determination Based On Sub-basin Monitoring and the Permit Basin Discharge Monitoring Program

INTRODUCTION

In accordance with the Everglades Forever Act (373.4592(4)(f)5 F.S.), determinations for permittees within the C-139 Basin for remedial action, if the C-139 Basin is out of compliance for that year, shall be based on the proportional share of phosphorus loading, as set forth in Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C. The proportional share value will be derived as described herein from the target UAL or limit UAL depending upon the cause of non-compliance and distributed equally over the C-139 Basin area.

This Appendix establishes the procedures for calculating assigned phosphorus unit area load (assigned UAL) for sub-basins and monitored permit basins, and for calculating their corresponding proportional share of phosphorus load (proportional share UAL) based on the performance measures established in Appendix B2, incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C. The assigned UAL and proportional share UAL will be calculated each water year. Results of the calculations will be used for determining remedial action when the C-139 Basin is determined to be out of compliance pursuant to Rule 40E-63.446, F.A.C. This Appendix will be used in conjunction with the conditions established in subsection 40E-63.446(23), F.A.C., to determine each permit basin's required ~~eligibility for permittee's deferral of~~ remedial action.

A monitoring network has been established and shall be maintained by the District for flow and phosphorus concentration at several locations within the C-139 Basin to determine loading from sub-basins. This sub-basin monitoring may be supplemented or optimized in the future by the District to improve representation of hydrologic drainage areas. For all permittees within the C-139 Basin, a deferral of remedial action pursuant to subsection 40E-63.446(3), F.A.C., may be granted based upon the results of the sub-basin discharge monitoring data. Deferral will be granted to all permit basins located in a sub-basin if it is determined to have not exceeded the Proportional Share UAL.

For those permittees electing to implement the Permit Basin Discharge Monitoring Program in accordance with the requirements of Rules 40E-63.462 and 40E-63.464, F.A.C., qualifying a deferral of remedial action may also be granted based on permittee-collected discharge monitoring data for permit basins will be considered for remedial action evaluation. For each water year the District shall calculate the observed UAL for the monitored permit basins based upon permittee submitted data. If the C-139 Basin is out of compliance, remedial action eligibility for deferral will be evaluated by the District pursuant to subsection 40E-63.446(23), F.A.C. according to whether it is determined to have not exceeded the proportional share UAL.

If the flow or concentration monitoring data during the water year is not adequate as

defined herein to calculate phosphorus load, no load determination will be made for that sub-basin or permit basin. In that case, load determination shall be evaluated at the levels of monitoring for which data is adequate.

DEFINITIONS

- (1) "Assigned UAL" is the phosphorus load per unit area (lbs/acre) assigned to a sub-basin or permit basin for the water year evaluation of exceedance of the proportional share UAL. The assigned UAL incorporates all adjustments of the observed load data representing the sub-basin or permit basin described within this appendix.
- (2) "C-139 Basin Acres" is the total acreage within the C-139 Basin boundaries described in the Everglades Forever Act, Section 373.4592(16), F.S., adjusted for any identified changes to the hydrologic drainage area.
- ~~(3) "Deferral of remedial action" relieves eligible permittees from remedial action based on the conditions established in subsection 40E-63.446(3), F.A.C., which include the results from that water year's Permit Basin Discharge Monitoring Program and sub-basin monitoring.~~
- (34) "Limit Unit Area Load (limit UAL)" in pounds per acre is the upper 90% confidence limit of the C-139 Basin Compliance model phosphorus load estimate (also known as the limit) calculated in accordance with Appendix B2, which is incorporated by reference in subsection 40E-63.446(1), F.A.C., and divided by the C-139 Basin Acres.
- (45) "Proportional Share UAL" in pounds per acre is the calculated maximum allowable phosphorus load in proportion to land area. The proportional share UAL shall be based on the target UAL if C-139 Basin non-compliance is based on exceedance of the target, and/or on the limit UAL if the C-139 Basin non-compliance is based on exceedance of the limit.
- (56) "Target Unit Area Load (target UAL)" in pounds per acre is the C-139 Basin Compliance model phosphorus load estimate (target) calculated in accordance with Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C., and divided by the C-139 Basin Acres.
- (67) "Observed Unit Area Load (UAL)" is the observed phosphorus load per unit area (lbs/acre) calculated for a sub-basin or permit basin during the water year and is determined from the data collected by the District under sub-basin monitoring or submitted by the permittee under the Permit Basin Discharge Monitoring Program.

TARGET AND LIMIT UNIT AREA LOAD DETERMINATION

The target UAL and limit UAL are determined using the results of the C-139 Basin Performance Measure Methodology—compliance model calculations outlined in Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C. That methodology model estimates C-139 Basin target and limit loads in metric tons (one metric ton equals 2,204.6 pounds). These loads are then divided by the C-139 Basin acres to determine a target UAL and limit UAL in pounds per acre.

~~Since the entire C-139 Basin is not required to obtain a C-139 Basin Works of the District Permit, it is necessary to determine the Target and Limit loads attributed to the Regulated portion of the C-139 Basin. This is done by multiplying the Regulated Acres times the UAL Target and UAL Limit to obtain a Regulated Target Load and Regulated Limit Load. The Permit Basin Acreage Ratio is calculated by dividing the Permit Basin Acres by the Regulated Acres and this value is multiplied by the Regulated Target Load and Regulated Limit Load to obtain the Permit Basin Target Load and Permit Basin Limit Load.~~

C-139 Basin target load	=	38.26 mtons	=	84,348 lbs
C-139 Basin limit load	=	101.77 mtons	=	224,362 lbs
C-139 Basin acres	=		=	168,450 acres
target UAL	=	(84,348 / 168,450)	=	0.50 lbs/acre
limit UAL	=	(224,362 / 168,450)	=	1.33 lbs/acre

SUB-BASIN AND PERMIT BASIN OBSERVED AND ASSIGNED UAL DETERMINATION

Annually, individual daily records of flow and phosphorus load computed by the District at sub-basin monitoring sites or submitted under the Permit Basin Discharge Monitoring Program will be summarized by the District to determine the observed UAL for each sub-basin and permit basin.

The boundary of each sub-basin is determined based upon the hydrologic drainage areas contributing to the District monitoring locations. A permittee can have permit basins in different sub-basins and ~~the may be granted deferral of remedial action required for each on some of their permit basins depends and not on others depending~~ on the performance of each sub-basin or permit basin. The District shall prepare maps depicting the sub-basin boundaries based upon the monitoring station locations. Maps of sub-basin boundaries shall be revised by the District as necessary to account for improved information, changes to surface water drainage patterns, or changes to monitoring locations. Area adjustments for calculation of unit area loads shall be weighted to the month the change was known to occur.

In accordance with the procedures set forth in this section, for each water year the District shall: (1) determine whether monitoring deficiencies cause any sub-basins to be not eligible for UAL determination, (2) establish observed UAL values from eligible sub-basin and permit basin monitoring data, (3) account for differences between C-139 Basin, sub-basin and permit basin outlet phosphorus loads through load adjustment factors (4) compute an assigned UAL for each sub-basin and permit basin.

Missing Data

When the water year dataset contains missing daily records (flow and/or total phosphorus concentration), the District will evaluate if the missing records can be

estimated and if sufficient data are available to populate those missing records in order to create a complete data set. The steps to follow by the District for each data type are as follows:

Step 1: ESTIMATE MISSING DAILY FLOW

District staff shall determine for each monitoring site the most applicable of the following estimation methods:

1. Use of adjacent or representative site data
2. Use of a stage vs. flow relationship
3. Use of a rainfall vs. runoff relationship
4. Use of a maximum calibrated capacity
5. Other technically justified estimation

Step 2: ESTIMATE MISSING TOTAL PHOSPHORUS CONCENTRATION

1. Use the total phosphorus concentration from a representative site within the permit basin if flow conditions and land use were similar during the sampling period (not applicable to sub-basin monitoring).
2. Linear interpolation of total phosphorus concentrations from adjacent sampling periods (before and after) when the missing time period is less than or equal to 21 days.
3. Use the sampled annual flow-weighted mean concentration when the missing time period is greater than 21 days.

Step 3: ESTIMATE THE PERCENT LOAD SAMPLED

1. Daily records for estimated phosphorus loads due to missing flow and/or missing total phosphorus concentration will be "flagged" as "estimated load".
2. The percent load sampled is determined by taking the ratio of the sum of the "estimated loads" during the water year to the total annual loads for the entire water year. The ratio is subtracted from 1 and multiplied by 100 to convert to a percentage.
3. If the percent load sampled is less than 75%, proper implementation of the Permit Basin Discharge Monitoring Program was not achieved. The results of that monitoring are not eligible for a determination of not exceeding its proportional share of loading and deferral of remedial action for that water year only.
4. If the percent load sampled is greater than or equal to 75% then the permit basin load determination can be made.

Sub-basin and Permit Basin Observed UAL

When all missing data for the water year has been estimated, the annual sub-basin or permit basin total load will be calculated as the sum of the daily loads (estimated and observed). Where applicable, phosphorus load flowing into a sub-basin will be accounted for based on surface water monitoring upstream and downstream of the sub-basin. The following general calculation method will be applied to annual loads for each sub-basin and permit basin:

$$\text{Sub-basin Total Load} = \text{Total Annual Sub-basin Outflow Load} - \text{Inflow Load}$$

$$\text{Permit Basin Total Load} = \text{Total Annual Permit Basin Outflow Load} - \text{Inflow Load}^1$$

¹ Permit Basin inflow Load such as seepage or water supply is not discounted from annual loading. In some cases, monitored runoff from adjacent areas may be discounted from annual loading. The District will determine whether a permit basin's inflow load qualifies to be discounted from the runoff load calculation.

Observed UAL values are calculated as the annual total load divided by the associated hydrologic drainage area acreage (lbs/acre). For each water year:

$$\text{Sub-basin Observed UAL} = \text{Sub-basin Total Load} / \text{Sub-basin Area}$$

$$\text{Permit Basin Observed UAL} = \text{Permit Basin Total Load} / \text{Permit Basin Area}$$

The permit basin observed UAL is the Phosphorus Load Per Unit Area determined to represent the permit basin. In the event that total phosphorus reduction is required, collective C-139 Basin and sub-basin level loads will first be evaluated relative to the proportional share UAL as described herein to determine the requirements for eligibility for deferral of water quality improvement activities.

If a permit basin's discharge monitoring meets the requirements under this rule the observed UAL shall be computed for the individual permit basin. Loads for permit basins without discharge monitoring or not meeting the monitoring requirements for the water year shall be represented by the sub-basin load. In cases where one or more permit basins within a sub-basin are issued a determination of impracticability, the remaining area's UAL shall be adjusted to exclude those permit basins with discharge monitoring required due to District impracticability determinations unless the resulting observed UAL is larger than the sub-basin observed UAL. For permit basins without qualifying individual monitoring data, their observed UAL is the minimum of:

1. Sub-basin Observed UAL
2. $(\text{Sub-basin Total Load} - \text{Permit Basin Loads Monitored for Impracticability}) / (\text{Sub-basin Area} - \text{Permit Basin Area Monitored for Impracticability})$

Sub-basin and Permit Basin Load Adjustment and Assigned UAL

In conjunction with observed UAL determinations for secondary and tertiary sub-basins, the District shall evaluate sub-basin discharge phosphorus loads in relation to C-139 Basin discharge phosphorus loads. Differences between the sub-basin and C-139 Basin discharge loads may occur, as well as variations in the flow and load estimates from monitoring data. Where no permittee discharge occurs between upstream sub-basin monitoring and C-139 Basin discharge monitoring, a load adjustment factor shall be computed by the District, contingent on successful implementation of sub-basin monitoring. If any of the contributing sub-basins did not have successful implementation of its monitoring, the mass balance adjustment cannot be made and the sub-basin load adjustment factor is one. The load adjustment factor shall be computed from loads at sub-basin monitoring stations directly upstream of C-139 Basin outlets and those C-139 Basin outlets potentially receiving those sub-basin loads. Including only the load data relevant to the area between the sub-basin monitoring and the C-139 Basin outlet(s):

$$\text{Sub-basin Load Adjustment Factor} = \text{C-139 Basin discharge loads} / \text{Sub-basin discharge loads}$$

This load ratio shall be applied to the contributing upstream sub-basin and permit basin observed loads for only that water year. For sub-basins discharging load to more than one basin outlet, a weighted load adjustment factor shall be computed based on the percent load discharged in each direction. For example, a load adjustment factor less than one may indicate attenuation of load between the sub-basin and C-139 Basin discharges. A load adjustment factor less than one would lower the assigned UAL for those sub-basins, in this case, to account for the difference in measured loads. For each water year:

$$\text{Sub-basin Assigned UAL} = \text{Sub-basin Observed UAL} \times \text{Sub-basin Load Adjustment Factor}$$

Application of a load adjustment factor can also be made on loads upstream within the sub-basin. If, for example, all permit basins representing an entire sub-basin successfully implement individual monitoring, the District shall calculate a permit basin load adjustment factor:

$$\text{Permit Basin Load Adjustment Factor} = \text{Sub-basin discharge load} / \text{Sum of Permit Basin discharge loads}$$

Both the sub-basin and permit basin load adjustment factor are applied to a permit basin, therefore, can be a compounded factor incorporating the adjustments downstream of its discharge. The product of a Permit Basin's observed UAL and its load adjustment factors results in the permit basin's assigned UAL. For each water year:

$$\text{Permit } b\text{Basin } a\text{Assigned UAL} = \text{Permit } b\text{Basin } o\text{Observed UAL} * \text{Sub-basin } l\text{Load } a\text{Adjustment } f\text{Factor} * \text{Permit } b\text{Basin } l\text{Load } a\text{Adjustment } f\text{Factor}$$

PROPORTIONAL SHARE UNIT AREA LOAD DETERMINATION AND EVALUATION OF EXCEEDANCES TO THE PERMIT BASIN PROPORTIONAL SHARE UAL

Once the target UAL and limit UAL are calculated for a given water year, the proportional share UAL is determined by evaluating whether the C-139 Basin out of compliance condition was caused by exceedance of the target, limit or both.

If the C-139 Basin is out of compliance as a result of exceeding the target three years in a row (as described in Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C., "Evaluation of the C-139 Basin for compliance...", paragraph 3-4-2):

1. the proportional share UAL is the arithmetic average of the three target UAL values calculated for the three water years (excluding any suspension due to rainfall), and
2. a sub-basin or permit basin will be deemed to have not exceeded its proportional share of the loading if the average of the three annual assigned UAL values corresponding to the three water years causing the out of compliance condition is less than or equal to the proportional share UAL.

If the C-139 Basin is out of compliance as a result of exceeding the limit in a single year (as described in Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C., "Evaluation of the C-139 Basin for compliance...", paragraph 4-5):

1. the proportional share UAL is the same as the limit UAL calculated for that water year, and
2. a sub-basin or permit basin will be deemed to have not exceeded its proportional share of the loading if the assigned UAL for the water year in question is less than or equal to the proportional share UAL.

If the C-139 Basin is out of compliance exceeding both the target for three years and limit the current year (e.g. target, target, limit):

1. both the current water year limit UAL and the average of the three target UAL values (excluding any suspension due to rainfall) are utilized for assessment of a proportional share UAL, and
2. a sub-basin or permit basin will be deemed to have not exceeded its proportional share of the loading if both the average of the three annual assigned UAL values is less than or equal to the average of the three target UAL values and the current water year assigned UAL is less than or equal to the limit UAL.

Permit basins will be evaluated from the largest to smallest sub-basin that they belong to, and then based on their individually monitored permit basin data, if applicable. If a single sub-basin level to which a permit basin belongs is determined to meet the proportional share UAL, requirements for a deferral of water quality improvement activities will be determined by the District based on subsection 40E-63.446(2) ~~40E-63.450(3)~~, F.A.C., regardless of additional sub-basin level or permit basin monitoring results. Three tiers of sub-basins have been defined for the C-139 Basin as indicated in Table B-3, which relates each initial primary, secondary and tertiary sub-basin to its larger or smaller units.

The District shall prepare maps delineating sub-basin boundaries based upon the location of monitoring sites and the hydrologic area boundaries they represent. The boundaries of sub-basins may be adjusted in the future to account for supplemental information on field conditions or revised/additional monitoring station locations. Data for the sub-basin monitoring will be stored in the District's database, Dbhydro. Reference information for the monitoring sites upon adoption of this rule, such as flow site name, flow DBkey, water quality station name are listed in Table B-4. Example equations for computation of annual load for each sub-basin are contained in Table B-5.

Table B-3: Primary, Secondary and Tertiary Sub-basin Levels

Primary Sub-basins	Secondary Sub-basins	Tertiary Sub-basins
L1		
L3	L2	L2W
		L2E
		L2S
	DF	DFW
		DFE
	SM	SMW
		SME

The steps for evaluating the permit basins are as follows:

1. Primary sub-basins represent the largest division of hydrologic drainage areas within the C-139 Basin and will be evaluated first for not exceeding the proportional share UAL. The primary sub-basins are the L-1 and the L-3.
2. If the L-1 sub-basin exceeds the proportional share UAL, the District will evaluate

the individually monitored permit basins within the sub-basin. Permit basins not individually monitored shall also be evaluated by the resulting UAL computed from sub-basin load less eligible monitored permit basins' load required due to District impracticability determinations, if available.

3. If the L-3 sub-basin exceeds the proportional share UAL, the District will evaluate the secondary sub-basins within the L-3 (L2, DF, and SM).
4. If any of the L3 secondary sub-basins exceed the proportional share UAL, the tertiary sub-basins within those secondary sub-basins will be evaluated.
5. If any of the tertiary L-3 sub-basins exceed the proportional share UAL, any individually-monitored permit basins within those tertiary sub-basins will be evaluated. Permit basins not individually monitored shall also be evaluated by the resulting UAL computed from sub-basin load less eligible monitored permit basins' load required due to District impracticability determinations, if available.
6. Permit basins in the L-3 ~~not granted deferral of remedial action because of~~ exceeding the proportional share UAL at the primary, secondary, tertiary, and, if available, individual permit basin level, will be assigned the assigned UAL for the individual permit basin, if monitored individually. Permit basins not individually monitored shall be assigned the lesser of the assigned UAL of the smallest eligible sub-basin where they are located and sub-basin load less eligible monitored permit basins' load required due to District impracticability determinations.

PARTICIPATION IN THE PERMIT BASIN DISCHARGE MONITORING PROGRAM

Only data submitted by deadlines specified in the permit will be considered when reviewing Permit Basin Discharge Monitoring Program submitted data for annual observed and assigned UAL determination. If the results of a Quality Assurance Audit or an on-site verification of BMP Implementation by District Staff indicate the submitted water quantity and quality data may not provide reasonable assurance that annual water discharge and total phosphorus load are accurately documented, the permittee submitted data shall not be considered in evaluation of ~~may not be eligible for a deferral of remedial action requirements for the water year during which the Quality Assurance Audit or on-site verification of BMP Implementation was performed.~~

If not required due to specific permit conditions, a permittee may elect at any time to discontinue participation in the Permit Basin Discharge Monitoring Program by submitting an application to modify their permit as outlined in Rule 40E-63.4392. If the permittee elects to discontinue participation in the Permit Basin Discharge Monitoring Program for a period of time and then elects to resume participation, any monitoring data which may have been collected by the permittee in the interim period will not be considered in evaluation of remedial action requirements. The first opportunity for permit basin level evaluation of remedial action requirements will be after submittal of all data

for the first complete water year following resumption of participation in the Permit Basin Discharge Monitoring Program.

Table B-4: C-139 Basin and Sub-basin Monitoring Stations

Flow Station		Water Quality Station Name
Name	DBKEY	
G136	15195	G136
G342A	J6406	G342A
G342B	J6398	G342B
G342C	J6407	G342C
G342D	J6405	G342D
G406	JU789	G406
G150	15520	G150
DFNBV	TP376	DF02.1TW
SMSBV	TP378	SM00.2TW
C139S1	US184	C139S1
C139S2	US185	C139S2
C139S3	US186	C139S3
C139S4	VC276	C139S4
C139S6	VN389	C139S6

* Note: The information within this table may be adjusted in the future to account for supplemental or optimized monitoring for the sub-basins.

Table B-5: Sub-basin Arithmetic Load Calculation

Name	Load Calculation (Flow Structure Name)
Primary Sub-Basins	
L1	G136 - G150
L3	G406 + G150 + G342A + G342B + G342C + G342D
Secondary Sub-Basins	
L2	C139S2 + G150
DF	DFNBV
SM	SMSBV
Tertiary Sub-Basins	
L2W	C139S4
L2E	C139S3 - C139S4 + G150
L2S	C139S2 - C139S3
DFW	C139S1
DFE	DFNBV - C139S1
SMW	C139S6
SME	SMSBV - C139S6

* Note: The information within this table may be adjusted in the future to account for supplemental or optimized monitoring for the sub-basins.

Criteria for Required Phosphorus Reductions

Intent

Since 2002, landowners in the C-139 Basin have implemented a mandatory program of BMPs for reduction of total phosphorus in discharges. BMPs for the C-139 Basin were developed using best professional judgment based on consultation with qualified stakeholder participants and academic resources on in-field studies, available pertinent literature in support of non-point source pollutant reduction potential, existing BMP manuals, and relevant models. This process is considered to be the initial verification that BMPs were reasonably expected to be effective and was the basis for adoption of these BMPs in Part IV of Chapter 40E-63, F.A.C. Florida Administrative Code

When water quality problems are demonstrated, despite the appropriate implementation, operation, and maintenance of BMPs and other measures according to the adopted rules, the District shall reevaluate the BMPs and other measures and revise the rules to require implementation of modified practices or water quality improvement measures within a reasonable time period.

Requirement for the Improvement to BMP Plans

The water quality improvement strategy under this Part is to require that any additional required improvements to the BMP Plan or water quality improvement activities shall be based on their ability to achieve the percentage total phosphorus reduction levels specified by the District (Required Total Phosphorus Reductions), as necessary to affect C-139 Basin discharges to meet performance measures.

Permittees will propose additional improvements to the BMP Plan and expected reductions. These reductions may be estimated based on the most current applicable technical references or based on a monitoring program that confirms estimated total phosphorus reductions (verification plan).

Availability of Technical Information for Estimating Total Phosphorus Reductions

The Everglades Forever Act under Section 373.4592(4)(f)2 of the Florida Statutes mandates “a comprehensive program of research, testing, and implementation of BMPs that will address all water quality standards”. Under this provision, “BMPs shall be field-tested in a sufficient number of representative sites in the EAA to reflect soil and crop types and other factors that influence BMP design and effectiveness.” Section 373.4592(4)(f)6 of the Everglades Forever Act states that provision 373.4592(4)(f)2 concerning BMP research shall apply to the landowners within the C-139 Basin.

There is an ongoing and coordinated effort with the Florida Department of Environmental Protection (FDEP) and the Florida Department of Agriculture and Consumer Services (FDACS), to expand the body of knowledge regarding BMP effectiveness and total phosphorus removal efficiency of BMPs. Further, the District has

established under Rule 40E-63.437(3), F.A.C., criteria by which BMP demonstration projects can serve permittees to meet BMP equivalent point credits. Also, if the C-139 Basin is found out of compliance with water quality performance measures in the future, BMP demonstration projects with a verification plan to determine BMP effectiveness serve as will provide deferral from additional water quality improvement activities under Rules 40E-63.446 and 40E-63.461, F.A.C.

For the purpose of estimating total phosphorus reduction levels for proposed BMP improvements to meet the requirements of 40E-63.461(3), F.A.C., the District will provide permittees, on an annual basis, with an update on applicable research, testing, modeling, and technical source information on the implementation of BMPs by the District to improve total phosphorus removal efficiency. This Part provides for a regulatory framework, schedule, and collaborative approach towards the development of this technical information to meet total phosphorus reductions requirements.

Calculation of the Required Total Phosphorus Reduction

The District will determine C-139 Basin compliance with total phosphorus load performance measures annually in accordance with Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) 40E-63.404(4), F.A.C. If the C-139 Basin is deemed out of compliance with the water quality requirements of this Part, the District will calculate the required total phosphorus reduction level corresponding to each permit basin, as defined under subsection 40E-63.402(10), F.A.C., except for the situations indicated in that is not deferred from improvements to the BMP Plan or water quality improvement activities based on 40E-63.446(23), F.A.C. The method to estimate the percent required total phosphorus reduction level is indicated below:

1. The total phosphorus reduction levels will be based on the lLimit uUnit aArea Load (UAL), the tTarget UAL, the pProportional sShare UAL and the aAssigned UAL derived for each permit basin pursuant to Appendices B2 and B3.1, which are incorporated by reference in subsections 40E-63.446(1) and (2), F.A.C.
2. If the C-139 Basin is out of compliance as a result of exceeding the tTarget three years in a row (as described in Appendix B2, "Annual Performance Determination", paragraph number 3, incorporated by reference in subsection 40E-63.446(1) 40E-63.404(4), F.A.C.), the required total phosphorus reduction for each permit basin will be calculated as the percent difference between the arithmetic average of the aAssigned UAL values calculated on the year that non-compliance occurs and the two previous years and the pProportional sShare UAL (excluding any suspension due to rainfall as described in Appendix B2, which is incorporated by reference in subsection 40E-63.446(1) 40E-63.404(4), F.A.C.).

$$\text{Required total phosphorus reduction level (\%)} = 100\% \times \left(\frac{\text{Average } \underline{a}\text{Assigned UAL}_{\text{Year 1, 2, 3}} - \underline{p}\text{Proportional } \underline{s}\text{Share UAL}}{\text{Average } \underline{a}\text{Assigned UAL}_{\text{Year 1, 2, 3}}} \right)$$

3. If the C-139 Basin is out of compliance as a result of exceeding the Limit in the current year (as described in Appendix B2, "Annual Performance Determination", paragraph 4, which is incorporated by reference in subsection 40E-63.446(1) ~~40E-63.404(4)~~, F.A.C.), the required percentage total phosphorus reduction will be calculated for each permit basin as the percent difference between its assigned UAL and its proportional share UAL on the year that non-compliance occurs.

$$\text{Required total phosphorus reduction level (\%)} = 100\% \times (\text{aAssigned UAL} - \text{pProportional sShare UAL}) / \text{aAssigned UAL}$$

4. If the C-139 Basin is out of compliance exceeding both the target for three years in a row and the Limit the current year (e.g. target, target, Limit), the required total phosphorus reduction shall be the greater of those calculated from (2) and (3) above.

Criteria for Approval of Improvements to BMP Plans or Water Quality Improvement Activities

Under a C-139 Basin-wide out of compliance scenario, the level of effort required for improvements to the BMP Plan may vary across permit basins based on the required total phosphorus reduction level for each one as defined under "water quality improvement activities" in subsection 40E-63.402(16), F.A.C. The total phosphorus removal efficiency of the activities described within the proposal shall aim to meet the required total phosphorus reduction for each permit basin.



PART I. GENERAL INFORMATION

Please use the booklet titled Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control ~~“Works of the District”~~ Permit pursuant to Chapter 40E-63, F.A.C., to complete the applicable sections of this application. Please discuss any questions you may have with District staff prior to application submittal.

GOVERNING BOARD ACTIONS

Applications for new, renewed, or modified General Permits or transfers of existing General Permits will not require District Governing Board action.
All recommendations for denial of applications will require final action by the District Governing Board.

SECTION 1. PERMIT INFORMATION

TYPE OF PERMIT APPLICATION

This is an application for (Please check one box):

Permit Type	New	Renewal	Modification	<u>Letter Modification</u>	Transfer
General Permit	<input type="checkbox"/> \$250.00	<input type="checkbox"/> \$250.00	<input type="checkbox"/> \$100.00	<input type="checkbox"/> No Change	<input type="checkbox"/> \$100.00

- Please check if application is for any of the following:
- Alternate BMP Plan (See Part IV Section 2)
 - Discharge Monitoring Plan (See Part V)
 - Optional Activities for Incentives (See Part VI)
 - Water Quality Improvement Activities (See Part VII)
 - Impracticability (See Part VIII)

OTHER PERMITS FROM THIS DISTRICT

If the Best Management Practices Plan submitted as part of this application proposes activities that require a new District permit or a modification to an existing District permit, applications for the other permits shall be submitted concurrently with the Pollutant Source Control Permit application.

The following permit applications are being submitted concurrently (please check any appropriate boxes):

- Surface Water Management / ERP Water Use Right-of-Way Well Construction

If you already applied for or obtained District permits covering any or all of the lands or activities in this present application, please list the District application or permit numbers below.

FOR DISTRICT USE ONLY

Application Number _____ Fee Code _____ Fee Paid _____ Receipt Number _____



SECTION 2. APPLICANT INFORMATION

Applicant (Responsible Entity)		Authorized agent (requires letter of authorization)	
Name and Title		Name and Title	
Company Name		Company Name	
Address		Address	
City, state, zip		City, state, zip	
Telephone	Fax	Telephone	Fax
e-mail		e-mail	
Co-Applicant (if applicable)		Authorized agent (requires letter of authorization)	
Name and Title		Name and Title	
Company Name		Company Name	
Address		Address	
City, state, zip		City, state, zip	
Telephone	Fax	Telephone	Fax
e-mail		e-mail	

SECTION 3. DRAINAGE INFORMATION

Please list proposed pPermit bBasins (as defined in subsection Rule 40E-63.402(10), F.A.C. types of discharges*, and drainage acreage. Attach documentation identifying ownership or controlling entity.

Permit Basin	Discharge Type	Acreage Drained	Permit Basin Farm Name	Discharge Type	Acreage Drained

*Examples: Single/multiple pump structure, open culvert, weired culvert, open channel connection, overland flow, etc.



SECTION 4. ADDITIONAL REQUIRED INFORMATION (SEE GUIDEBOOK FOR DETAILS)

For each proposed pPermit bBasin submit and check that the following applicable items are attached:

- Description and documentation of legally responsible entities for site operations and permit compliance
- Documentation verifying ownership of the parcels and/or structures
- Written contracts, leases, or agreements with landowners, lessees or other entities, where applicable
- Written contracts, agreements, or equivalent regarding BMP implementation, and use or operation of the parcels and/or structures. This includes copies of leases for lessees that are applicants or co-applicants.
- Tax assessor's parcel identification numbers for all included parcels
- A clear delineation of the property boundaries, drainage area, general direction of flow, inflow points and off site discharge points/locations. Also, acreage contained in the permit application, including a map which is correlated with the list of parcel owners and lessees
- Proposed Best Management Practices (BMP) Plan
- For shared water management systems, an executed legally binding agreement or contract regarding construction, use, maintenance and operational criteria, and BMP implementation requirements.
- Permit Application Fee Check paid to the South Florida Water Management District

SECTION 5. CERTIFICATION BY APPLICANT (RESPONSIBLE ENTITY)

I hereby certify that, to the best of my knowledge, the structures and project acreages listed in this application are owned or controlled by the applicant or participants, as applicable, and encompass the area referenced in this permit application. I also certify that, where applicable, the applicant or participants agree to participate in this permit application and to abide by the terms and conditions of the issued permit. In addition, I agree to provide entry at any time to the area which is included in this permit application, for South Florida Water Management District staff or their duly authorized agents, as provided for in subsection Rules 40E-63.444(d), F.A.C., or as otherwise provided by the issued permit.

Type or print owner name

Type or print lessee name

Signature of owner of parcel/farm (if not the owner verify below)

Signature of lessee of parcel/farm (if applicable)
(if not the lessee, certify below)

I hereby certify that I am the authorized agent of the owner.

I hereby certify that I am the authorized agent of the lessee.

Type or print name and title

Type or print name and title

Signature

Signature

Date

Date



PART II. PROPERTY INFORMATION (To be completed for each parcel or proposed Permit Basin)

New Participant Change in Controlled Acreage

SECTION 1. OWNER/LESSEE INFORMATION

Owner of Parcel/Permit Basin		Lessee of Parcel/Permit Basin	
Name and Title		Name and Title	
Company Name		Company Name	
Address		Address	
City, state, zip		City, state, zip	
Telephone	Fax	Telephone	Fax
e-mail		e-mail	

SECTION 2. INDIVIDUAL PARCEL/PERMIT BASIN INFORMATION (To be completed for each Parcel or proposed Permit Basin)

Name of Parcel/Farm		Land Use			
*Tax Assessor's parcel identification number	Acres	Township	Range	Section(s)	County
_____	_____	_____ S	_____ E	_____	_____
_____	_____	_____ S	_____ E	_____	_____
_____	_____	_____ S	_____ E	_____	_____
_____	_____	_____ S	_____ E	_____	_____
_____	_____	_____ S	_____ E	_____	_____
_____	_____	_____ S	_____ E	_____	_____
Total Acreage _____		<i>*Please use additional sheets if necessary</i>			

SECTION 3. CERTIFICATE OF PARTICIPATION (Complete Part II for the applicant and/or each participant, as applicable)

I hereby certify that, to the best of my knowledge, the total acreage listed above is owned or controlled by me. I also certify that I will abide by the terms and conditions of the issued permit. In addition, I agree to provide entry at any time to the area which is described above and included in this permit application, for South Florida Water Management District ~~staff inspectors~~ or their duly authorized agents, as provided for in subsection Rule 40E-63.444(d), F.A.C., or as otherwise provided by the issued permit.

_____	_____
Type or print owner name	Type or print lessee name
_____	_____
Signature of owner of parcel/Permit Basin (If not the owner, verify below)	Signature of lessee of parcel/Permit Basin (If not the owner, <u>verify</u> below)
_____	_____
I hereby certify that I am the authorized agent of the owner.	I hereby certify that I am the authorized agent of the lessee.
_____	_____
Type of print name and title	Type or print name and title
_____	_____
Signature	Signature



PART IV. C-139 BASIN BMP PLAN							
SECTION 1: COMPREHENSIVE BMP PLAN (Shaded cells indicate a BMP not applicable for a specific land use.)							
BMP PLAN IMPLEMENTATION – 35 POINTS REQUIRED (Minimum 10 points Nutrient Control Practices, minimum 5 points in Particulate Matter and Sediment Controls, and minimum 5 points in Water Management Practices)							
<i>BMP</i>	<i>POINTS</i>	<i>SAND CANE</i>	<i>PASTURE</i>	<i>VEG.</i>	<i>SOD</i>	<i>CITRUS</i>	<i>OTHER</i>
NUTRIENT CONTROL PRACTICES							
Nutrient Application Control*	2 1/2						
Nutrient Spill Prevention*	2 1/2						
Manage Successive Vegetable Planting	2 1/2						
Plant Tissue Analysis	5						
Soil Testing*	5						
Split Nutrient Application	5						
Slow Release Phosphorus Fertilizer	5						
Reduce P Fertilization	5						
No Nutrients Imported via Direct Land Application	20						
No Nutrients Imported Indirectly through Cattle Feed	15						
Nutrient Management Plan	5-25						
PARTICULATE MATTER AND SEDIMENT CONTROLS							
Any 2	2 1/2						
Any 4	5						
Any 6	10						
Any 8	15						
WATER MANAGEMENT PRACTICES							
Water Detention 1/2 inch	5						
1 inch	10						
Improvements to Water Management System Infrastructure to Further Increase Water Quality Treatment by Delayed or Minimized Discharge	5						
Low Volume Irrigation	5						
Approved & Operational Surface Water Reservoir (certified)	35						
Temporary Holding Pond (40E-400, F.A.C.)	15						
Overland Sheet Flow Over Entire Property	15						
No Point Discharge of Surface Water	15						
Tailwater Recovery System	10						
Precision Irrigation Scheduling	10						
Water Resources for Pastures	5						
PASTURE MANAGEMENT							
Restricted Placement of Feeders	2 1/2						
Restricted Placement of Cowpens	2 1/2						
Restricted Placement of Water	2 1/2						
Provide Shade Structures away from Drainage	2 1/2						
Low Cattle Density (1 head/2 acres)	5						
Restrict Cattle through Fencing of Canals	10						
Totals (35 points)							



SECTION 2. ALTERNATIVE BMP PLAN

I. ALTERNATIVE TYPE BMP

DESCRIPTION OF BMP RATIONALE AND PROPOSED EFFECTIVENESS OF THE BMP

DETAILED EXPLANATION OF PROPOSED BMP

SCHEDULE FOR IMPLEMENTATION OF BMP

PROPOSED VERIFICATION METHOD AND ASSOCIATED DOCUMENTATION

- | | | |
|--------------------------------------|--|--|
| <input type="checkbox"/> Work Orders | <input type="checkbox"/> Maps | <input type="checkbox"/> Photographs |
| <input type="checkbox"/> Receipts | <input type="checkbox"/> Manufacturer Specifications | <input type="checkbox"/> Technical documentation |
| <input type="checkbox"/> Logs | <input type="checkbox"/> Test Records | <input type="checkbox"/> Other (explain below) |

Please describe the method and how documentation will be used:

TRAINING REQUIREMENTS/PROGRAM DESCRIPTION



SECTION 2. ALTERNATIVE BMP PLAN (continuation)

II. ALTERNATIVE BMP POINTS PER CATEGORY

SITE ASSESSMENT (*assurance shall be provided that the alternative BMP Plan provides equivalent or greater reduction effectiveness than the standard approach*)

III. ALTERNATIVE BMP DEMONSTRATION PROJECT

SCOPE OF WORK (*at a minimum, the proposal shall contain the demonstration or research hypothesis, implementation, technical basis and scientific methods employed, performance indicators, reporting and schedule*)

REMAINING BMP EQUIVALENT POINTS (*at a minimum, 10 points in the nutrient control practices category and 5 points in the water management practices category*)



PART V. DISCHARGE MONITORING PLAN

MONITORING INFORMATION	<input type="checkbox"/> Optional	<input type="checkbox"/> Required (see Part VIII)
-------------------------------	--	--

Control Structure Operator		Sample Collector	
Name and Title		Name and Title	
Company Name		Company Name	
Address		QA Plan Holder (Name) & Field Sampling QA Plan Number	
Address		Address	
City, state, zip		City, state, zip	
Telephone	Fax	Telephone	Fax
e-mail		e-mail	

STRUCTURE IDENTIFICATION

Please indicate the pPermit bBasin name, type of discharge structure* and structure designation
 *(i.e. Single/multiple pump structure, open culvert, weired culvert, open channel connection, etc.)
 Check type of automatic sampler: Time Proportional/Time Weighted (TPTW) or Flow Proportional/Flow Weighted (FPFW)

Permit Basin Name	Structure Type/Description	Structure Designation (for example, Station ID)	Sampling Method	
			TPTW	FPFW

SAMPLING REQUIREMENTS

Please check that the following items have been installed or are included:

<input type="checkbox"/> Description of Rainfall Collection Equipment	<input type="checkbox"/> Description of Staff Gauge Locations
<input type="checkbox"/> Location of Rainfall Collection Equipment	<input type="checkbox"/> Sample Field Data Logs
<input type="checkbox"/> Autosamplers	<input type="checkbox"/> Description of Backup Methodology, as applicable
<input type="checkbox"/> Flow Calibrations	<input type="checkbox"/> Description of Flow Calculation Methodology
<input type="checkbox"/> Description of Field Data	

SAMPLING LABORATORY INFORMATION

Company Name		Contact
Address		HRS Certification Number
City, state, zip		Additional Lab/Sampler Information
Telephone	Fax	
e-mail		



PART VIII. IMPRACTICABILITY	<input type="checkbox"/> New	<input type="checkbox"/> Renewal
------------------------------------	-------------------------------------	---

GENERAL INFORMATION

Please indicate the pPermit bBasin, acreage and land use for which additional water quality improvement activities are proposed to be impracticable*:

Permit Basin Name*	Acreage	Land use

**Please use additional sheets if necessary*

ACTIVITIES IMPLEMENTED IN THE PERMIT BASIN(S)

Provide a detailed description of all previously implemented and current activities, and evidence that no additional BMPs or refinements to the implementation methods can be reasonably accomplished*.

PROPOSED PERFORMANCE LEVELS

The proposed expected amount of phosphorus discharge from the pPermit bBasin(s) is:

Permit Basin*	Annual Unit Area Loading Levels*	Basis for proposed levels*

**Please add pages, as needed.*

MONITORING PLAN AND HISTORIC WATER QUALITY DATA

Please check that the following items are attached:

- Part V – C-139 Basin Discharge Monitoring Plan of this application form
- Installation and implementation schedule
- Description of the monitoring program and monitoring sites
- Description of proposed sample collection methods and schedule
- Description of backup plan
- Description of proposed sample handling and laboratory analyses
- Description of data review procedures
- Analysis of representative water quality data for the lands requesting impracticability (minimum of five years if renewal.)

**Guidebook
for Preparing an Application
for a
C-139 Basin
Pollutant Source Control
Permit**



November 2010
October 2004



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

INTRODUCTION

What is the first step in the permit renewal ~~initial application~~ process?

The first step is to submit a Best Management Practices (BMP) Plan for pre-approval. You must complete and submit to the District the form presented in Appendix A of this Guidebook. The BMP Plans are due no later than 30 days after the effective date of the revised Part IV of Chapter 40E-63, F.A.C. (Rule). District staff will respond no later than 30 days after receiving the BMP Plan. This enables the applicant to implement the BMP Plan while the new permit or permit renewal application is being processed, thereby reducing any potential delay of BMP implementation pending administrative processing of the application.

When are applications due under the revised rule and what shall be submitted?

Applications for new General Permits and General Permit Renewals shall be submitted to the District within 45 days of the effective date of the revised Rule. Applicants shall use Permit Application Form 1045, entitled "Application for a C-139 Basin General Permit" (application form), which is incorporated by reference in subsection 40E-63.430(2) ~~40E-63.404(2)~~, F.A.C., or the equivalent electronic permitting application tool (www.epermitting.gov), with all required supporting documentation.

A General Permit will ~~may~~ be issued to any operating entity or entities, owners, or lessees of the parcels identified in the permit that are singly or collectively responsible for implementing the BMP Plan for the lands specified within the permit, as applicable. Each participant to which a General Permit is issued is a co-permittee and jointly and severally liable for implementing the requirements of the General Permit.

APPLICATION CHECKLIST

Complete applications for new General Permits and General Permit Renewals shall include the items below. The items indicated with an asterisk are required to consider the application filed (received).

- 2 signed originals of the completed permit form*
- Copies of written recorded deeds, leases, certificate of participation, or agreements to demonstrate that the applicant or applicants possess the legal and financial authority and ability to carry out all acts as necessary to implement all the terms and conditions of the permit
- Correct application fee in the form of a cashier's check or money order made payable to "South Florida Water Management District"*

2 copies of all items listed in the guidebook including:

- A map with clear delineation of the boundaries and acreage contained in the application. The maps shall be correlated with a list of all parcel owners and corresponding county tax identification numbers, and operators or lessees associated with the acreage at the time of application.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

- A map, aerial photograph, sketch, or drawings that shows the drainage features of the land in the application (e.g., direction of overland flow, inflow points, and off-site discharge points) for delineation of permit basins (consistent with Section 3 of the application form)
- A list of existing and pending District permits for the application area and their status
- A BMP Plan in accordance with Rules 40E-63.435 or 40E-63.437, F.A.C., as applicable (see Part IV of the application form)
- For shared water management systems, an executed legally binding agreement or contract regarding construction, use, maintenance and operational criteria, and BMP implementation requirements.

*** In the case of permit application renewals and modifications, there may be information that has not changed in comparison to the current permit or that is not applicable to the modification request. You can note "No change" or "Not applicable" for those items in the application form. If any additional information or clarification is required, the District will follow-up with you within 30 days of the day that your application was received***

Fee Schedule

	General Permit
<i>New</i>	\$250.00
<i>Renewal</i>	\$250.00
<i>Modification</i>	\$100.00
<i>letter modification</i>	\$0.00
<i>Transfer</i>	\$100.00

How do I modify my permit?

Indicated below are the conditions under which a permit would need to be modified and the type of application that would be required:

Letter Modifications

Applications for Letter Modifications are applicable for requesting approval for:

1. Demonstration or verification projects,
2. Early implementation of water quality improvement activities,
3. Implementing or modifying a voluntary discharge monitoring program plan, or
4. Water quality improvement activities in accordance with subsections 40E-63.461(3) or (4) 40E-63.460(3) or (4), F.A.C., if the C-139 Basin is out of compliance with the water quality performance measures.

Modifications



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Permit modifications are applicable to any changes not covered under a Letter Modification. These include but are not limited to:

1. Adding acreage to a permit,
2. Adding permit basins to a permit,
3. Changes in permit basin boundaries,
4. Merging of permit basins,
5. Changes in Land Practice,
6. Revisions to the BMP Plan,
7. Changes in water management that may affect the sub-basin monitoring program, and/or
8. Other modifications that result in a change in the conditions of the Permit.

Transfers

A request for transfer of an existing permit must be initiated no later than ~~3090~~ 3090 days after any transfer, sale or conveyance of property. To qualify for a permit transfer, an action must be limited to changes in administrative information about the permittee, for example, name, address, title, etc. (Complete Part III of the Permit Application Form 1045.)

When will I need to renew my permit again?

Your permit will indicate its expiration date. Permits are generally valid for approximately a 5-year term and are all set to expire on the same date (permit renewal cycle expiration date). Permit renewals must be applied for **prior** to the expiration of an existing permit. If the permittee allows the permit to expire prior to applying for a permit renewal, an application for a new permit shall be required.

APPLICATION INSTRUCTIONS

*** You may reproduce individual pages of the application form or add pages if required to submit additional information***

PART I. GENERAL INFORMATION

Section 1. Permit Information

Identify the type of permit application. Most applications will require that the General Information, Property Information, and BMP Plan parts are completed (Parts I, II, and Section 1 of Part IV of the application form.) However, specific parts and sections need to be completed if the application includes an alternative BMP Plan, a discharge monitoring program (or plan), optional activities for incentives, water quality improvement activities, or a request for impracticability.

What other Permits might be needed?

If the proposed BMP Plan requires any changes to the existing water management system, it may be necessary to modify an existing consumptive water use, environmental resource program, surface water, right-of-way, and/or well-construction permit or apply for a new permit, where applicable. Questions about these permits or the need for one can be addressed by contacting the District at 561-686-8800 or visiting the website at www.sfwmd.gov.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Section 2. Applicant Information

The applicant or applicants are usually the responsible entity or entities that will become the permittee or the co-permittees' once the permit is issued. Also, an ~~AA~~ agent can be designated through an original letter of authorization from the responsible entity or entities. The name, title, company name, address, and phone number of both the applicant (and any co-applicants, if applicable) and agent are required.

Section 3. Drainage Information

Propose permit basins, as defined in subsection ~~Rule~~ 40E-63.402(10), F.A.C., that discharge offsite by names and locations (section, township, range). If there is no permit basin name, it may be identified by section/township/range, landowner name, or another naming convention.

- List the type of each off-site discharge for each permit basin. If there is no point source discharge, note this by saying "non-point" or overland flow off-site.
 - Provide the total acreage drained for each permit basin. The sum of all of the permit basins acreage should equal the total permitted acreage.
 - If a controlling discharge structure exists, please provide proof of ownership or authority to operate.
-

Section 4. Additional Required Information

Additional documentation needed to consider the application complete includes, but is not limited to the following (copies are acceptable):

- Description of the entity legally responsible for implementation of BMPs. This may be the landowner and/or the lessee. To qualify as a co-applicant, a lessee shall provide documentation to show authority to operate, including a copy of the applicable lease agreement. The lease must be effective for the duration of the permit. The lessee shall formally accept responsibility for ensuring that all conditions of the permit are met, including BMP implementation, record keeping, reporting requirements, and field verifications, when applicable.
- Documents that verify ownership of the parcels and/or structures. A recorded deed, affidavit of ownership, or executed contract for purchase will satisfy this requirement.
- Written contracts or agreements with landowners, lessees or other entities, as applicable, describing authority and responsibility.
- Written contracts or agreements or equivalent regarding use or operation of the parcels and/or structures, such as lease agreements, as applicable.
- A clear delineation of the area and acreage contained in the permit application, including maps correlated to the list of parcel owners and lessees. Maps can be aerial photographs, sketches or drawings that show the property boundaries, locations of discharge structures, primary and secondary canals and ditches, drainage flow patterns, names of individual landowners, land use, and BMP implementation.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

- The BMP Plan selected from the BMP Equivalent Points Tables or alternative BMP Plan section, specific to crop or land use for each hydrologic drainage area (farm) described in the permit.

Section 5. Certification by Applicant

Each co-applicant or authorized agent must sign and date this section.

Information required after permit issuance: Certification by Landuser

Each lessee or operator whose lease was executed after the effective date of the amendments to this Part IV of Chapter 40E-63, F.A.C. and is not a co-applicant must provide within 30 days after issuance of the permit a copy of the lease or sign and date a certification indicating its agreement to implement the BMP Plan and be bound by the terms and conditions of the permit, including any amendments thereto. This is not a Certificate of Participation in the permit. However, it provides assurance that the applicant possesses the legal authority to carry out all acts necessary to implement the terms and conditions of the permit, in accordance with subsection 40E-63.430(4), F.A.C. A template certification is included in Appendix F.

PART II. PROPERTY INFORMATION

The purpose of this section is to identify owners, lessees, properties, acreage, and associated property tax identification numbers. The Property Information section shall be submitted for all the properties within the boundaries of the General Permit Application.

In the case of properties served by a Central Drainage System, Certificates of Participation in the permit shall be submitted by the entity responsible for operation of the drainage system and by individual landowners (or qualifying lessees in lieu of those landowners), except for:

1. Properties determined as inactive, or properties that are less than 40 acres in size, and
2. Properties where the following BMPs are implemented by the landowner and the property must be made available for inspection by District staff or other delegated agents within 14 days after written notice:
 - Phosphorus is only applied to correct deficiencies based on soil testing or tissue testing, or for turf and landscape areas, phosphorus is only applied to meet initial establishment and growth needs (fertilizer composition less than 2% for an application rate not to exceed 0.25 lbs P₂O₅/1000 ft² per application nor exceed 0.50 lbs P₂O₅/1,000 ft² per year, or to correct phosphorus deficiencies based on soil or tissue testing).
 - Fertilizer or other soil amendments containing phosphorus are not applied within 10 feet of any pond, stream, lake, water course, or any designated wetland.
 - Spill prevention practices for nutrients are implemented, and
 - Runoff is managed in accordance with surface water or environmental resource permits, if applicable.



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Part II is required for a new application as well as a modification to a permit, as applicable. Check the applicable box as to whether this is a new participant or a participant in an existing permit (existing permit modification).

Section 1. Owner/Lessee Information

Provide the name, address, electronic mail address, and phone number of the participant, i.e. parcel owner and the lessee, if applicable.

Section 2. Individual Parcel/Farm Information

- A separate sheet must be completed for each farm. The information in this section must correlate with the information provided in Sections 1 and 3.
 - Provide some way of identifying the farm. This can be done using the owner name, identification numbers, section/township/range, or some other designation (examples: Smith Farm 31, Smith North Farm, Farm Section 31).
 - Briefly describe the current land use (examples: all cane, cane with vegetable rotation, sod, cane with rice rotation, pasture).
 - List tax identification numbers for all parcels that make up the farm. Use additional sheets if necessary. One farm boundary may include one or more tax identification numbers. The total acreage of the parcels should match the total farm acreage.
-

Section 3. Certificate of Participation

The certification statement, indicating that the applicant/co-applicant will abide by the conditions of the permit, must be signed and dated by each participant whether it is the owner or lessee that is applying as an applicant or co-applicant, as applicable.

PART III. REQUEST FOR C-139 BASIN PERMIT TRANSFER

To qualify for a permit transfer, the changes must be limited to administrative information about the permittee. Section 1 and Section 2 shall ~~may~~ be completed and submitted separately, although both sections are required prior to approving the application for transfer.

All other changes or additions will require a permit modification.

Section 1. Permittee Information

This section is to be completed by the current permit holder. It requires:

- Name, address, and phone number of the current permit holder and the proposed transferee.
- Reason for the permit transfer with supporting documentation, for example: copy of a deed, lease, or contract.
- Original signature of the current permit holder and date.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Section 2. Transferee Information

This section is to be completed by the proposed transferee. It requires:

- Applicable transfer application fee and documentation.
- Original signature of the transferee and date.

PART IV. C-139 BASIN BMP PLAN

What is a BMP Plan?

A BMP Plan combines the use of various operational programs and/or physical enhancements to minimize the levels of phosphorous leaving a permit basin. For purposes of this Rule, a BMP Plan means a combination of BMPs that meets, but is not limited to, the requirements of Rules 40E-63.435 and 40E-63.437, F.A.C. and any additional requirements pursuant to Rule 40E-63.461 ~~40E-63.460~~, F.A.C.

In order to obtain a General Permit, applicants shall submit a BMP Plan for each crop or land use within each permit basin. A BMP Plan shall take into account site-specific conditions, potential phosphorus sources, primary phosphorus species, and transport mechanisms; and demonstrate that a thorough approach to implementation and maintenance will be implemented. If a water management system is shared by multiple operating entities, each entity shall submit a separate BMP Plan for their land but the water management operational plan shall be consistent (e.g., consistent detention or retention levels provided by structures controlled by upstream entities and the downstream discharge structure operated by the central drainage system.)

The BMP Plan is created by completing Part IV of the application form. Each BMP is assigned a certain number of “BMP equivalent points” for each crop type or land use. These “BMP equivalent points” give the landowner and/or lessee the flexibility to develop a BMP Plan best suited for site-specific geographic and crop conditions and ensures an equivalent level of BMPs between farms. The BMP Plan must identify a minimum number of BMP equivalent points for each category as follows:

Of the 35-point BMP Plan, a minimum of 20 BMP equivalent points shall meet the following criteria:

- (a) A minimum of 10 BMP equivalent points in nutrient control practices,
- (b) A minimum of 5 BMP equivalent points in water management practices,
- (c) A minimum of 5 BMP equivalent points in particulate matter and sediment control practices. Pasture management BMPs can provide equivalent points towards this category, if applicable.

Additionally, approved and operational surface water reservoirs (certified) can provide 5 BMP equivalent points toward the particulate matter and sediment control practices category, based upon maintenance and operation of the reservoir and of a sediment canal cleaning and aquatic weed control at the canals connecting the reservoir discharge and the offsite discharge locations.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

When completing the BMP Plan form, please note the following:

1. The shaded cells in the table indicate the BMP is likely not applicable to the specific land use. Technical justification shall be provided if this selection is made.
2. A BMP Plan must be completed for each crop or land use within the permitted acreage.
3. The total points for each column must be the minimum required for that crop or land use.
4. The total points for each BMP category must equal or exceed the minimum required unless an alternative BMP with justification is being submitted.
5. If a proposed BMP is not described on the BMP Equivalent Points Table, Section 2 of Part IV, must be completed for an alternate BMP Plan.
6. For permit modifications or renewals after 2010, please note that the BMP Plan shall propose continuation of the approved BMP Plan and water quality improvement activities; or seek approval for an equivalent alternative through the District permit process in accordance with subsection Rule 40E-63.435(3), F.A.C.

Alternative BMP Plan

Please provide the information described below for the selected alternative:

1. Alternative Type BMP (if the selected BMPs are not listed in Appendix B1, incorporated by reference in subsection 40E-63.435(1), F.A.C.)
 - A description of the best management practices rationale;
 - A detailed explanation of the proposed BMP;
 - A schedule for implementation of the BMP;
 - Sample documentation of the proposed BMP(s) for on-site verification; and
 - Technical basis for the reduction effectiveness of the proposed BMP (through scientific data or monitoring program)
2. Alternative BMP points per Category (if the minimum number of equivalent points per BMP category as required in subsection Rule 40E-63.435(2) are not met by the alternative BMP Plan)
 - A site assessment demonstrating that the alternative BMP Plan will provide an equivalent or greater reduction effectiveness using the standard approach.
3. Alternative BMP Demonstration Project.
 - The proposed Scope of Work (SOW) as described in paragraph Rule 40E-63.437(3)(a), F.A.C.;
 - The BMP Plan for the remaining 15 points (demonstration project shall account for no more than 20 BMP equivalent points). This includes 10 BMP equivalent points in the nutrient control practices category and 5 BMP equivalent points in the water management practices category.

All BMP Plans shall include the following:

1. A description of the best management practice rationale;



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

2. An education and training program, arranged by the permittee or other educational resource, for the management and staff responsible for implementing, documenting, and monitoring the approved BMP Plan;
3. A description of records and documentation to be maintained on-site to verify BMP implementation. Examples of documentation are described on the checklist entitled "C-139 Basin Annual Report", found in the Guidebook under the Post Permit Compliance Section, Appendix B; and
4. A proposed implementation schedule. Except for BMP Plans required immediately upon revision of Part IV of Chapter 40E-63, F.A.C., implementation of new BMPs shall be completed within 90 days after the date of District approval.

PART V. C-139 BASIN DISCHARGE MONITORING PLAN

What is the Discharge Monitoring Plan?

Water discharged from the C-139 Basin is monitored by SFWMD for phosphorous load (quality and quantity). The implementation of a discharge monitoring plan upstream of District monitoring sites on permit basins is optional, except when required to confirm proposed total phosphorus reductions under a verification plan if the C-139 Basin is out of compliance; or when a determination of impracticability has been approved by the District. In the latter, the discharge monitoring plan ~~program~~ will serve to determine compliance with permit basin specific target and limits, as approved by the District, and that there are no increasing trends.

The discharge monitoring plan shall meet specified criteria and have the plan approved by the District. These permit basin-level monitoring plans consist of daily flow measurements achieved by maintaining operation logs during discharge events, collecting and compositing permit basin discharge water samples, analyzing those samples for total phosphorus TP, and submitting data to the District. Additionally, a permittee may elect to collect rainfall data to represent site-specific conditions. The District ~~will~~ may consider these data along with daily flow and total phosphorus TP data for the site. Any data collection method shall be pre-approved by the District as part of the discharge monitoring plan, or data will not be considered.

The permit basin data will be evaluated for individual compliance if the C-139 Basin is determined to be out of compliance (see Appendix B3.1, incorporated by reference in paragraph subsection 40E-63.446(2)(a) ~~40E-63.404(7)~~, F.A.C.) and the permit basin is within a sub-basin that has exceeded its proportional share of the total phosphorus TP load. A permittee implementing a permitted discharge monitoring program is not required to ~~may obtain deferral from~~ implementation of water quality improvement activities if data from the optional Discharge Monitoring Plan demonstrates that the permit basin did not exceed its proportional share of the load.

PART VI. INCENTIVES

Applicants who opt to voluntarily implement additional BMPs (early BMPs) or a BMP demonstration project that includes a BMP performance verification plan, are not required to implement ~~may qualify for deferral from~~ water quality improvement activities (WQIA) if the C-139 Basin is determined out of compliance ~~in the future~~. Either proposal shall be submitted with an application



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

for a new permit, permit renewal, or as a Letter Modification. The following applicable items need to be included in the application:

Early BMPs

- Description of the BMP or group of BMPs that will be implemented in addition to those required by Rule at the time of the application (Rule Section 40E-63.435 or subsection 40E-63.461(3), F.A.C.).
- The specific methods for implementation and maintenance
- Technical documentation supporting the proposed loading reduction levels. The proposed loading reduction levels shall be in accordance with paragraph 40E-63.438(1)(a)2, F.A.C.
- The implementation schedule

Demonstration Plan with the Verification Plan

- Proposed Scope of Work (SOW) (as required in paragraph Section 40E-63.437(3)(a), F.A.C.)
- Projected phosphorus removal efficiencies (include technical supporting documentation)
- Verification Plan (shall meet the criteria described in subsection 40E-63.461(4), F.A.C.). The proposal shall include (but is not limited to):
 - Please complete Part V of Form 1045 – Discharge Monitoring Plan;
 - Installation and implementation schedule;
 - Description of the monitoring program;
 - Description of the monitoring sites;
 - Description of proposed sample collection methods and schedule;
 - Description of proposed sample handling and laboratory analyses;
 - Description of data review procedures;
 - Description of backup plan if there is equipment malfunction.

PART VII. WATER QUALITY IMPROVEMENT ACTIVITIES (WQIA)

If the C-139 Basin is determined to be out of compliance and no exceptions deferral conditions apply, the permittee shall submit an application for a letter modification within 120 days from the District's transmittal of the notice that the C-139 Basin is not in compliance. The letter modification application shall propose WQIAs along with the proposed total phosphorus TP reductions to be achieved. Three options are available to estimate the proposed total phosphorus TP reductions:

1. Most current representative technical references such as peer reviewed or published BMP research and demonstration projects,
2. A verification plan,
3. District criteria based on most current representative technical references (see Appendix D)

Once the selection has been made, the following information needs to be provided (if applicable):

- A detailed description of the proposed improvements to the BMP Plan in comparison to the current implementation practices
- The expected range of percentage total phosphorus TP removal efficiency



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

- A detailed description of the technical basis
- Indicate the technical references used (if selected option 1 above)
- A verification plan according to the requirements specified in subsection Rule 40E-63.461(4), F.A.C. (if selected option 2 above). The proposal shall include (but is not limited to):
 - Part V of the application form – Discharge Monitoring Plan
 - Installation and implementation schedule;
 - Description of the monitoring program;
 - Description of the monitoring sites;
 - Description of proposed sample collection methods and schedule;
 - Description of proposed sample handling and laboratory analyses;
 - Description of data review procedures;
 - Description of backup plan.

PART VIII. DETERMINATION OF IMPRACTICABILITY

Permittees may submit a permit modification to request review determination of impracticability for District final action. Any such request shall include:

- Permit basin name(s), acreage, and landuse(s) for which further activities are impracticable;
- A detailed description of previously implemented activities and BMPs, evidence demonstrating that no additional activities or refinements can be accomplished;
- The proposed expected total phosphorus TP in discharges from the permit basin(s) in comparison to the C-139 Basin's phosphorus load targets and limits;
- A discharge monitoring plan in accordance with Rule 40E-63.462, F.A.C. (to verify no increasing trends from the permit basin and compliance with proposed phosphorus load targets and limits.) The proposal shall include Part V the application form and supplementary documentation.



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

APPENDIX A BMP PRE-APPROVAL APPLICATION FORM



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.			
INDICATE CROP/LANDUSE FOR THIS REPORT:			
LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:			
NUTRIENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S)			
Points	"√"	Nutrient Control Practice	Nutrient Control Practice Description
2 ½		Nutrient application control	Uniform and controlled boundary application of nutrients with a minimum 4' setback from canals with no overlapping application for each application method (e.g. banding at the root zone or side-dressing, pneumatic controlled-edge application such as AIRMAX); fertilization through low volume irrigation system applied at root zone (fertigation); controlled placement by fertilization under plastic near root.
2 ½		Nutrient spill prevention	Formal spill prevention protocols (storage, handling, transfer, education/instruction). Pasture – Also includes restricted placement of stored feed and housekeeping to prevent spillage near storage and transfer areas (feed and molasses).
2 ½		Manage successive vegetable Planting to minimize <u>phosphorus P</u>	Avoid successive Planting of vegetables or other crops having high phosphorus needs to avoid <u>phosphorus P</u> build up in soils. Includes successive planting with no successive <u>phosphorus P</u> application.
2 ½ 2 ½ 5		Recommended nutrient application based on plant tissue analysis	Avoid excess application of <u>phosphorus P</u> by determining plant nutrient requirements for adjustments during next growing season (crop specific). Pastures with Bahia grass – plant tissue analysis along with soil test is required to make nutrient application recommendation. Citrus – Results are applied to the current season <u>phosphorus P</u> requirements
5		Recommended nutrient application based on soil testing	Avoid excess nutrient application by determining <u>phosphorus P</u> requirements of soil and follow standard recommendation for application rates (crop specific), or recommendations based on the analysis of optimum economic crop response to added P phosphorus specific to the soil and crop. The disposal or application of waste water residual (biosolids), animal manure, or other materials containing phosphorus shall not exceed the phosphorus-P requirements of the crop.
5		Split nutrient application	More efficient plant uptake of <u>phosphorus P</u> by applying small portions of total recommended <u>phosphorus P</u> at various times during the growing season. Not to exceed total recommendation based on soil test.
5		<u>phosphorus-P</u> fertilizer	Avoid flushing excess <u>phosphorus P</u> from soil by using specially treated fertilizer that releases <u>phosphorus P</u> to the plant over time.
5		Reduce <u>phosphorus P</u> fertilization	Reduce the <u>phosphorus P</u> application rate by 30% below standard recommendations based on soil tests and development of site-specific (reduced) recommendations or application methods. Provide basis for reduction credit.
20		No nutrients imported via direct land application	No application of <u>phosphorus P</u> , in any form, to the soil for amendments or plant nutrients. (Pastures can claim this BMP and still apply fertilizer if done at maintenance or less than optimum production levels no more frequently than once every 6 years. Not applicable to new plantings.)
15		No nutrients imported indirectly through cattle feed	No <u>phosphorus P</u> import to the basin through cattle feed (Pastures where no nutrients are imported via direct land application can claim this BMP if the only feed additives are mineral supplements or molasses.)
5-25		Nutrient Management Plan	A plan to manage the amount, source, placement, form, and timing of nutrient application to optimize yields and minimize the movement of phosphorus nutrients to surface and ground waters that ultimately discharge off-site. A site management plan and budget for tracking phosphorus shall be developed.

I certify that the indicated BMPs have been selected in accordance with the permit requirements and that the appropriate staff will be instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.

INDICATE CROP/LANDUSE FOR THIS REPORT:

LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:

WATER MANAGEMENT PRACTICES BEST MANAGEMENT PRACTICES (BMP'S)

<u>Points</u>	<u>"√"</u>	<u>Water Management Practice</u>	<u>Water Management Practice Description</u>
5 10		½ inch water detention 1 inch water detention	Delayed discharge (based on measuring daily rain events using a rain gage)
5		Improvements to water management system infrastructure to further increase water quality treatment by delayed or minimize discharge	Recirculation of water inside farm boundaries to improve water quality prior to off-site discharge, includes: fallow field flood water with no direct discharge (instead dispose of via evapotranspiration, seepage, use as irrigation water); or increasing water detention using properly constructed canal berms.
5		Low volume irrigation	Use of low volume irrigation methods, e.g., drip irrigation, microjet irrigation.
10		Approved and operational surface water reservoir (certified) ¹	Properly permitted, constructed and maintained storage system meeting specified Environmental Resource Permit (ERP) Basis of Review criteria (version in effect at the time of permitting or in effect at the time of permit modification for modified systems): System meets Section 5.2.1 Water Quality Criteria – Volumetric Requirements
10			System meets Section 6.2 Water Quantity Criteria – Discharge Rate
15			System meets Section 6.3 Water Quantity Criteria – Design Storm (must have a valid SFWMD construction and operation permit for the surface water system)
15		Temporary holding pond	Temporary agricultural activities (as described in Chapter 40E-400 F.A.C.) with a properly constructed and permitted temporary holding pond
15		Overland sheet flow over the entire property	No drainage improvements made to a land area so that it drains through overland sheet flow, or drainage improvements such as ditches have been removed to restore overland sheet flow drainage to the land area.
15		No point discharge of surface water	Voluntarily disabling of off-site discharge structures or other permanent means to prevent point discharge from a land area.
10		Tailwater recovery system	A planned irrigation system in which facilities have been installed and the system is operated to collect, store, and transport irrigation tailwater and/or rainfall runoff that would have been discharge off-site without the system.
10		Precision irrigation scheduling	Combination of low volume irrigation and soil-moisture measuring equipment, specialized irrigation decision tools (e.g. computer software), and/or remote sensing tools to ascertain real-time crop needs to maximize irrigation system performance and to develop precise irrigation scheduling (time, location and amount).
5		Water resources management for pasture	Combination of water conservation and management practices considering the requirements of the primary forage grasses and supplemental cattle watering. Managing surface water to hold water onsite, as much as possible including use of wetlands to hold water onsite (minimum of ¼-inch detention), or providing retention in canals, ditches and soils via pump or controlled gravity structures.

¹ Surface water reservoir certification refers to a construction completion certification by a Florida licensed Professional Engineer as required in Chapter 40E-4, F.A.C., using Form 0881A for projects permitted after October 3, 1995, and Form 0881B for projects permitted prior to October 3, 1995, or the current certification requirements of Chapter 40E-4, F.A.C.

I certify that the indicated BMPs have been selected in accordance with the permit requirements and that the appropriate staff will be instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.		
INDICATE CROP/LANDUSE FOR THIS REPORT:		
LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:		
PARTICULATE MATTER AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S)		
Points	"√"	Check at least the Minimum Number of Required Particulate Matter and Sediment Controls
2 ½ points for any 2		Erosion control by leveling fields
		Reduce soil erosion using grassed swales and field ditch connections to laterals
5 points for any 4		Minimize sediment transport with slow velocity in main canal near discharge structure
		Minimize sediment transport into canals by constructing ditch bank berms
		Minimize sediment build-up by implementing a canal cleaning program
		Reduce sediments transported offsite by maintaining field ditch drainage sumps
10 points for any 6		Minimize sediment transport with slow field ditch drainage near discharge pumps/structure
		Reduce sediments transported offsite by maintaining a sump/trap upstream of drainage structure
15 points for any 8		Reduce sediment transport through the use of grassed waterways
		Reduce sediment transport through the use of filter strips or riparian conservation buffers adjacent to waterways. No <u>phosphorus P</u> -is applied to these areas
		Reduce sediments transported offsite by raising culvert bottoms above all ditch bottoms to minimize sediment transport
		Reduce sediments transported offsite by stabilizing soil through infrastructure improvements at canal/ditch intersections (e.g. flexible plastic pipe, polymer treatment)
		Maintain sustainable forage growth on pasture to reduce erosion/range seedings
		Reduce soil erosion with constructed ditch bank stabilization
		Reduce soil erosion with cover crops (not fertilized)
		Maintain vegetative cover in upland areas to reduce soil erosion
	Reduce soil erosion with vegetation on ditch banks	
	Minimize P from plants by aquatic weed control (<u>phosphorus P</u> source) at main discharge locations	
	Reduce debris and aquatic plants (<u>phosphorus P</u> source) leaving the site by using barriers at discharge locations	

I certify that the indicated BMPs have been selected in accordance with the permit requirements and that the appropriate staff will be instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.

INDICATE CROP/LANDUSE FOR THIS REPORT:

LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:

PASTURE MANAGEMENT BEST MANAGEMENT PRACTICES (BMP'S)

Points	"√"	Pasture Management Practice Description
2 ½		Restricted placement of stored feed, feeders, mineral, and molasses stations to reduce concentrated areas near drainage ditches, when applicable
2 ½		Provide restricted placement of cowpens to reduce concentrated areas near drainage ditches
2 ½		Provide shade structures to prevent cattle in waterways
2 ½		Alternative cattle water sources: restricted placement of water to reduce concentrated areas near drainage ditches
5		Low cattle density (1 head/2 acres, non-irrigated pasture) by providing comprehensive prescribed grazing
10		Restrict cattle from waterways through fencing of canals in a manner that protects water quality

I certify that the indicated BMPs have been selected in accordance with the permit requirements and that the appropriate staff will be instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

APPENDIX B **REQUIREMENTS FOR DISCHARGE MONITORING PLAN**

The form and requirements for the optional Discharge Monitoring Plan are listed in Part V of the application.

WATER QUALITY

Monitoring Requirements

All off-site discharges must be monitored for phosphorous concentrations and water quantities. During periods of off-site discharge, water quality information is obtained through use of an automatic sampler. Samples are collected and preserved, to be delivered to the laboratory no later than 21 days from the time the first sample was drawn. Composite samples are multiple samples that are mixed together to give a mean concentration during a given time period. Sample preservation is conducted by using acid in the composite sample jar prior to the collection of the first sample. Digestion of the phosphorous samples must occur within 28 days from when the first sample was drawn. If the automatic sampling equipment becomes inoperable for any reason, grab samples must be taken twice daily during flow events until the automatic sampling equipment becomes operable. Sampling methods most commonly used are as follows:

Flow-Proportional/Flow Weighted Water Samples (FPFW) – This method is best suited for gradually varying flows that can be approximated by a time function. As flow increases, the number of samples increases.

Time-Proportional/Time Weighted Water Samples (TPTW) – This method is best suited for steady flow discharge in the flow period. When a flow event is triggered, the samples are drawn based on elapsed time. For example, the sampler could be set to draw a sample of a predetermined volume at the beginning of each flow event and every two hours thereafter.

WATER QUANTITY

Monitoring Requirements

Offsite discharges must be monitored to calculate the water quantity and the total phosphorous load. To determine quantity through any structure (a structural device or hydrologic feature), the discharge system is analyzed and a method of calculation is presented to the District in a calibration methodology report for approval. A Florida-registered Professional Engineer (“P.E.”) must prepare the calibration methodology report.

Monitoring requirements for structural devices generally include, but are not limited to, recording upstream and downstream water level readings twice daily during pump discharge events, flow duration (time), pump speeds as applicable (or engine speeds including verified drive ratios), daily rainfall, weir elevations as applicable, continuous monitoring of culvert water elevations as applicable, and backup monitoring equipment. Monitoring requirements for hydrologic features (e.g., overland flow) may include water table levels and rainfall, at a minimum.

REPORTING REQUIREMENTS

Water quality and quantity data shall be submitted to the District in accordance with permit conditions in an approved electronic format. The permittee is responsible for calculating daily flow according to the permitted methodology.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Calibrations

A structural device calibration includes the data collection procedure performed in the field (methodology) and the development of the calibration equation. Water flow and canal water elevation data are collected to predict the amount of water moving through the structure. The mathematical calibration equation is then developed to predict flow for the structure under its full range of operating conditions. This equation is used to calculate flow quantity during discharge events. Accurate operation logs (see sample log next page) must be kept for inputs to calculate flows.

Various methods (theoretical calculations, models) exist to estimate flow when structural devices do not exist or are not sufficient for an actual measure of total runoff from a permit basin. Selection of the most adequate methods for each site shall be proposed by a Florida-registered P.E. This Guidebook provides an example of runoff calculation based on the use of Soil Conservation Service (SCS) Runoff Curve Number method described in the SCS technical release 55 (TR-55.)

Structural Device - Calibration Report Checklist

A Florida-registered P.E. shall submit a proposed calibration report including:

- Certification of the calibration and its applicable operating range
- Calibration field data collection methodology
- Calibration data evaluation methodology
- Description of primary and back-up instrumentation necessary to determine flow

Other information ~~that may be~~ required for a calibration report includes, but is not limited to, the following:

- Structure identification (name/number)
- Pump ID (orientation/number)
- Date and reason the calibration was performed
- Date the new calibration equation becomes effective
- Type of structure/pump
- Size of pump, as applicable
- Structure configuration
- Full operating range of the structure or pump, as applicable
- Full range of static lift
- Verification of relativity of upstream and downstream water elevation instruments
- Structure elevations (i.e. pump centerlines, discharge pipe centerlines, weir elevations)
- Drive ratios, as applicable
- Actual raw field data with a minimum of 5 valid test points collected in the full operating range
- Calibration equation and basis for determination
- Sample log (must record upstream and downstream water elevations at approximately the same time each day, pump/engine speeds, start/stop times, daily rainfall, operators initials)
- Signed and sealed engineer's certification statement

For both pumps and culverts, upstream and downstream water level elevations must be recorded during discharge events. If the discharge structure is a culvert or a weired culvert, water elevations must be continuously recorded and the weir elevation must be documented with all changes in elevation (i.e. adding/removing boards) noted and dated. If the structure is a pump, the start and stop time, upstream and downstream staff gage readings (at least twice daily at approximately the same time each day), and pump speed must be recorded. A sample pump log is included in Appendix B. Changing an engine or a drive ratio will affect calculated



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

flows and must therefore be reported at the time the change is made. Modifications to a structure ~~that may~~ affect the previously approved calibration ~~and~~ must be reported to the District. The District's "Flow Calibration Guidelines Developed in Support of Chapter 40E-63, F.A.C., Everglades BMP Permit Program" (incorporated by reference in paragraph 40E-63.462(2)(d), F.A.C."), shall be used for review criteria.

Calculations

Daily flows can be determined by calculating the flow at the first daily reading and at the second daily reading. Each of these readings can then be multiplied by half of the total daily hours of operation and summed for daily flow. Other flow calculation techniques may be acceptable. The District must approve the calculation methodology in the discharge monitoring plan.

Hydrologic Features - Calibration Report Checklist

A Florida-registered P.E. shall submit a proposed calibration report including:

- Certification of the flow estimation method and its applicable operating range (e.g., sheet flow or runoff computations)
- Field Data Collection
- Theoretical Calibration Equations
- Independent Variables (e.g., soils, coverage, slope, water table levels, rainfall)
- Description of Primary and Back-up Instrumentation necessary to determine flow

Other information ~~that may be~~ required for a calibration report includes, but is not limited to, the following:

- Rainfall gage specifications and location
- Staff gage specifications and location
- Actual raw field data to verify theoretical equations
- Basis for selection of the Theoretical Calibration Equations
- Sample log (must record daily water elevations at approximately the same time each day, daily rainfall, operators initials)
- Signed and sealed engineer's certification statement

Example

Derive an equation for the estimation of daily runoff for a small permit basin where there are no ditches or canals and runoff occurs through overland sheet flow only. Please note that other methods may be proposed by the Florida-registered P.E. with technical justification.

Permit basin A is comprised of 100 acres of pasture. All runoff from the pasture flows overland to a low land area from which it discharges offsite to a canal.

A Florida-registered P.E., on behalf of the permittee, has proposed to meet this requirement via use of the SCS theoretical equation to estimate runoff based on the empirical Initial Abstraction (I_a) coefficient for small agricultural watersheds, and site-specific hydrologic soil group curves and conditions, as indicated below:

$$Q = (P - I_a)^2 / ((P - I_a) + S), \text{ if } P > I_a$$
$$Q = 0, \text{ if } P \leq I_a \text{ (Equation 1)}$$

Where:

Q = runoff (in)



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

I_a = initial abstraction (in) = $0.2S$ for typical small agricultural watersheds unless otherwise justified

P = daily rainfall (in)

S = Soil storage capability or potential maximum retention after runoff begins (in). S is related to the soil cover conditions of the basin and can be calculated using the following formula:

$$S = 1000/CN - 10 \quad (\text{Equation 2})$$

CN = Runoff curve number

Based on the acreage-weighted soil and cover conditions and equations (1) and (2) above, a runoff equation for the property can be defined as:

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)}, \text{ if } P > 0.2S$$

$$Q = 0, \text{ if } P \leq 0.2S$$

CN = 75 (acreage-weighted based on soil and cover conditions)

$$S = 1000/CN - 10 = 1000/75 - 10 = 3.33$$

$$Q \text{ (inches/day)} = \frac{(P - 0.67)^2}{(P + 2.7)}$$

$$Q \text{ (MGD)} = \left[\frac{(P - 0.67)^2}{(P + 2.7)} \right] * 2.7 \text{ (Flow equation)}$$

For this example, 2 inches of rainfall in one day would result in a runoff volume of 0.381 inches (runoff coefficient of approximately 0.19).

Limitations:

This example is provided for illustration purposes only. Curve numbers define average conditions that are useful for design purposes. However, as indicated in the TR-55 caution needs to be exercised to recreate specific features of an actual storm. This is responsibility of the Florida P.E. certifying the proposed calibration equation. For instance, the initial abstraction coefficient may need to be adjusted, on the basis of continued rainfall levels that may saturate the soils, reducing initial infiltration, and surface depression storage. Use of the S value based on the Basis for Review for Environmental Resource Permits within the South Florida Water Management District under Section 8.4.2 Ground Storage capability may also be considered. Also, on-site verification of the applicability of theoretical equations may be required, if the areas with predominant overland sheet flow are affected by the management conditions of neighboring lands or operation of the regional system. Parameters such as water table levels, soil saturation, and accumulated rainfall may need to be considered in addition to rainfall.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

APPENDIX C **POST-PERMIT COMPLIANCE**

As part of permit compliance, the permittee is required to certify annually that the permitted BMPs are being implemented for the previous calendar year. The report must be submitted to the SFWMD Water Resource Regulation Department by February 1 of each calendar year. The “C-139 Annual Report – Certification of BMP Implementation” Form (hereinafter referred to as “BMP Annual Report”). The form shall be completed for each land use or farm. The permittee shall indicate on the form the BMPs that were implemented on the associated parcels for the previous calendar year.

BMP implementation includes record keeping and documents available for review by the District to demonstrate the implementation of BMPs. Examples and details are listed on the BMP Annual Report Form.

A second function of permit compliance is on-site BMP verifications by District staff. This component is only initiated by the District if the C-139 Basin is determined to be out of compliance. The documentation described in the BMP Annual report form and any specific information indicated in the permit shall be available to District staff for review during these site visits.

Finally, for the Permit Basin Discharge Monitoring Program, permit compliance activities include the monthly submittal of data to the District (see Appendix B), Quality Control Audits of data, verification of calculated flow, and compliance with conditions as specified in the permit.

Comprehensive BMP Annual Report

If the C-139 Annual Report Form is not submitted by February 1 of each year, the permittee shall submit a comprehensive BMP Annual Report. The Comprehensive BMP Annual Report is a more detailed version of the BMP implementation form that follows. It includes the form and the required supporting documentation to verify the implementation of each BMP. This documentation includes all maps, copies of sample receipts, laboratory reports, etc. Examples of other acceptable documentation are listed on the form.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____

PERMITTEE/LANDOWNER: _____

LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.

INDICATE CROP/LANDUSE FOR THIS REPORT: _____ Check here if there is a change to your permitted BMP Plan

LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES: _____

NUTRIENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S)

Points	"√"	Nutrient Control Practice	Nutrient Control Practice Description	BMP Implementation Documentation
2 ½		Nutrient application control	Uniform and controlled boundary application of nutrients with a minimum 4' setback from canals with no overlapping application for each application method (e.g. banding at the root zone or side-dressing, pneumatic controlled-edge application such as AIRMAX); fertilization through low volume irrigation system applied at root zone (fertigation); controlled placement by fertilization under plastic near root.	Documentation demonstrating required BMP implementation shall be maintained on site for District review, as applicable. Examples of documentation are: <ul style="list-style-type: none"> • Fertilizer application work orders • Training protocols/ company guidelines • Attendance sheets for training • Maps indicating crop types/locations • Maps indicating fertilizer application rates and areas • Fertilizer delivery receipts • Soil test results • Plant tissue analysis results • Crop specific fertilizer recommendations <i>Field Verification</i> , when applicable, can include observation of: <ul style="list-style-type: none"> • Fertilizer banding equipment • Fertilizer loading areas • No on-site fertilizer storage
2 ½		Nutrient spill prevention	Formal spill prevention protocols (storage, handling, transfer, education/instruction). Pasture – Also includes restricted placement of stored feed and housekeeping to prevent spillage near storage and transfer areas (feed and molasses).	
2 ½		Manage successive vegetable planting to minimize phosphorus-P	Avoid successive planting of vegetables or other crops having high phosphorus-P needs to avoid phosphorus-P build up in soils. Includes successive planting with no successive phosphorus-P application.	
2 ½ 2 ½ 5		Recommended nutrient application based on plant tissue analysis	Avoid excess application of phosphorus-P by determining plant nutrient requirements for adjustments during next growing season (crop specific). Pastures with Bahia grass – plant tissue analysis along with soil test is required to make nutrient application recommendation. Citrus – Results are applied to the current season phosphorus-P requirements	
5		Recommended nutrient application based on soil testing	Avoid excess nutrient application by determining phosphorus-P requirements of soil and follow standard recommendation for application rates (crop specific), or recommendations based on the analysis of optimum economic crop response to added phosphorus specific to the soil and crop. The disposal or application of waste water residual (biosolids), animal manure, or other materials containing phosphorus shall not exceed the phosphorus-P requirements of the crop.	
5		Split nutrient application	More efficient plant uptake of phosphorus-P by applying small portions of total recommended phosphorus-P at various times during the growing season. Not to exceed total recommendation based on soil test.	
5		Slow release phosphorus-P fertilizer	Avoid flushing excess phosphorus-P from soil by using specially treated fertilizer that releases phosphorus-P to the plant over time.	
5		Reduce phosphorus-P fertilization	Reduce the phosphorus-P application rate by 30% below standard recommendations based on soil tests and development of site-specific (reduced) recommendations or application methods. Provide basis for reduction credit.	
20		No nutrients imported via direct land application	No application of phosphorus-P, in any form, to the soil for amendments or plant nutrients. (Pastures can claim this BMP and still apply fertilizer if done at maintenance or less than optimum production levels no more frequently than once every 6 years. Not applicable to new plantings.)	
15		No nutrients imported indirectly through cattle feed	No phosphorus-P import to the basin through cattle feed (Pastures where no nutrients are imported via direct land application can claim this BMP if the only feed additives are mineral supplements or molasses.)	
5-25		Nutrient Management Plan	A plan to manage the amount, source, placement, form, and timing of nutrient application to optimize yields and minimize the movement of phosphorus nutrients to surface and ground waters that ultimately discharge off-site. A site management plan and budget for tracking phosphorus shall be developed.	

*Indicates a BMP required for direct land application of phosphorous

I certify that the indicated BMPs have been implemented in accordance with the permit requirements and that the appropriate staff have been instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.				
INDICATE CROP/LANDUSE FOR THIS REPORT:				<input type="checkbox"/> Check here if there is a change to your permitted BMP Plan
LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:				
WATER MANAGEMENT PRACTICES BEST MANAGEMENT PRACTICES (BMP'S)				
Points	"√"	Water Management Practice	Water Management Practice Description	BMP Implementation Documentation
5 10		½ inch water detention 1 inch water detention	Delayed discharge (based on measuring daily rain events using a rain gage)	Documentation demonstrating required BMP implementation shall be maintained on site for District review, as applicable. Examples of documentation are: <ul style="list-style-type: none"> Pump logs/staff gage readings Pump calibration records Rain gage readings Work orders for reservoir construction Permits for reservoir construction Photographs Maps <i>Field Verification</i> , when applicable, can include observation of: <ul style="list-style-type: none"> Visual inspection of rain gages Visual inspection of pump stations Visual inspection of holding reservoirs Observation of flooded fallow fields Internal booster pumps Internal culverts for rerouting of water
5		Improvements to water management system infrastructure to further increase water quality treatment	Recirculation of water internal to the drainage of the farm to improve water quality prior to off-site discharge (particularly discharge from rice and vegetables), includes: fallow field flood water with no direct discharge (instead allow to "drain" via evapotranspiration, seepage, use as irrigation water)	
5		Low volume irrigation	Use of low volume irrigation methods, e.g., drip irrigation, microjet irrigation.	
10		Approved and operational surface water reservoir (certified) ¹	Properly permitted, constructed and maintained storage system meeting specified ERP Basis of Review criteria (version in effect at the time of permitting or in effect at the time of permit modification for modified systems):	
10			System meets Section 5.2.1 Water Quality Criteria – Volumetric Requirements	
15			System meets Section 6.2 Water Quantity Criteria – Discharge Rates	
15		System meets Section 6.3 Water Quantity Criteria – Design Storm	Temporary agricultural activities (as described in Chapter 40E-400 F.A.C.) with a properly constructed and permitted temporary holding pond	
15		Temporary holding pond	No drainage improvements made to a land area so that it drains through overland sheet flow, or drainage improvements such as ditches have been removed to restore overland sheet flow drainage to the land area.	
15		Overland sheet flow over the entire property	Voluntarily disabling of off-site discharge structures or other permanent means to prevent point discharge from a land area.	
15		No point discharge of surface water	A planned irrigation system in which facilities have been installed and the system is operated to collect, store, and transport irrigation tailwater and/or rainfall runoff that would have been discharge off-site without the system.	
10		Tailwater recovery system	Combination of low volume irrigation and soil-moisture measuring equipment, specialized irrigation decision tools (e.g. computer software), and/or remote sensing tools to ascertain real-time crop needs to maximize irrigation system performance and to develop precise irrigation scheduling (time, location and amount).	
10		Precision irrigation scheduling	Overland sheet flow over entire property, no direct discharge	
15		No direct discharge		

¹ Surface water reservoir certification refers to a construction completion certification by a Florida licensed Professional Engineer as required in Chapter 40E-4, F.A.C., using Form 0881A for projects permitted after October 3, 1995, and Form 0881B for projects permitted prior to October 3, 1995, or the current certification requirements of Chapter 40E-4, F.A.C.

I certify that the indicated BMPs have been implemented in accordance with the permit requirements and that the appropriate staff have been instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.			
INDICATE CROP/LANDUSE FOR THIS REPORT:		<input type="checkbox"/> Check here if there is a change to your permitted BMP Plan	
LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:			
PARTICULATE MATTER AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMP'S)			
Points	"√"	Check at least the Minimum Number of Required Particulate Matter and Sediment Controls	BMP Implementation Documentation
2 ½ points for any 2	<input type="checkbox"/>	Erosion control by leveling fields	Documentation demonstrating required BMP implementation shall be maintained on site for District review, as applicable. Examples of documentation are: <ul style="list-style-type: none"> • Work orders • Maps • Material delivery tickets • Laser leveling work orders • Sump Maintenance records • Dredging/Canal cleaning records • Culvert installation work orders • Photographs • As-built records • Aquatic weed spraying records • Grass mowing work orders Field Verification, when applicable, can include observation of: <ul style="list-style-type: none"> • Vegetation growth in fields/on berms • Cover crops • Fallow fields • Dredged material stockpiles • Culverts with risers at connections • Canal widening indicating sump areas • Floating debris barriers
	<input type="checkbox"/>	Reduce soil erosion using grassed swales and field ditch connections to laterals	
5 points for any 4	<input type="checkbox"/>	Minimize sediment transport with slow velocity in main canal near discharge structure	
	<input type="checkbox"/>	Minimize sediment transport into canals by constructing ditch bank berms	
	<input type="checkbox"/>	Minimize sediment build-up by implementing a canal cleaning program	
	<input type="checkbox"/>	Reduce sediments transported offsite by maintaining field ditch drainage sumps	
10 points for any 6	<input type="checkbox"/>	Minimize sediment transport with slow field ditch drainage near discharge pumps/structure	
	<input type="checkbox"/>	Reduce sediments transported offsite by maintaining a sump/trap upstream of drainage structure	
	<input type="checkbox"/>	Reduce sediment transport through the use of grassed waterways	
15 points for any 8	<input type="checkbox"/>	Reduce sediment transport through the use of filter strips or riparian conservation buffers adjacent to waterways. No <u>phosphorus-P</u> is applied to these areas.	
	<input type="checkbox"/>	Reduce sediments transported offsite by raising culvert bottoms above all ditch bottoms to minimize sediment transport	
	<input type="checkbox"/>	Reduce sediments transported offsite by stabilizing soil through infrastructure improvements at canal/ditch intersections (e.g. flexible plastic pipe, polymer treatment)	
	<input type="checkbox"/>	Maintain sustainable forage growth on pasture to reduce erosion/range seedings	
	<input type="checkbox"/>	Reduce soil erosion with constructed ditch bank stabilization	
	<input type="checkbox"/>	Reduce soil erosion with cover crops (not fertilized)	
	<input type="checkbox"/>	Maintain vegetative cover in upland areas to reduce soil erosion	
	<input type="checkbox"/>	Reduce soil erosion with vegetation on ditch banks	
<input type="checkbox"/>	Minimize P from plants by aquatic weed control (<u>phosphorus-P</u> source) at main discharge locations		
<input type="checkbox"/>	Reduce debris and aquatic plants (<u>phosphorus P</u> source) leaving the site by using barriers at discharge locations		

I certify that the indicated BMPs have been implemented in accordance with the permit requirements and that the appropriate staff have been instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

PERMIT NO: _____ PERMITTEE/LANDOWNER: _____ LESSEE: _____

COMPLETE ONE BMP IMPLEMENTATION REPORT FOR EACH CROP GROWN. Check "√" the applicable boxes in column 1. Sign the certification statement below.			
INDICATE CROP/LANDUSE FOR THIS REPORT:			<input type="checkbox"/> Check here if there is a change to your permitted BMP Plan
LIST THE FARMS/PERMIT BASIN IDs FOR WHICH THIS REPORT APPLIES:			
PASTURE MANAGEMENT BEST MANAGEMENT PRACTICES (BMP'S)			
Points	"√"	Pasture Management Practice Description	BMP Implementation Documentation
2 ½		Restricted placement of stored feed, feeders, mineral, and molasses stations to reduce concentrated areas near drainage ditches, when applicable	<p>Documentation demonstrating required BMP implementation shall be maintained on site for District review, as applicable.</p> <p>Examples of documentation are:</p> <ul style="list-style-type: none"> • Fencing installation work orders • Maps indicating location of feeders, cowpens, watering holes, shade structures, etc. • Cattle counts • Feed/supplement manufacturer's content labels • Rotation schedules • Photographs <p><i>Field Verification</i>, when applicable, can include observation of:</p> <ul style="list-style-type: none"> • Visual inspection of fencing • Visual inspection of adjacent canals • Visual inspection of the location of feeders, cowpens, watering holes, shade structures, etc. • Visual inspection of discharge structures
2 ½		Provide restricted placement of cowpens to reduce concentrated areas near drainage ditches	
2 ½		Provide shade structures to prevent cattle in waterways	
2 ½		Alternative cattle water sources: restricted placement of water to reduce concentrated areas near drainage ditches	
5		Low cattle density (1 head/2 acres, non-irrigated pasture) by providing comprehensive prescribed grazing	
10		Restrict cattle from waterways through fencing of canals in a manner that protects water quality	

I certify that the indicated BMPs have been implemented in accordance with the permit requirements and that the appropriate staff have been instructed on the BMPs and the conditions of the permit. Farm records showing specific details of the implementation of each BMP as described herein will be provided during the on-site inspection.

Print or Type Name and Title of Signature

Permittee/Landowner/Lessee Signature



APPENDIX D DISTRICT CRITERIA FOR THE CALCULATION OF TOTAL PHOSPHORUS TP REDUCTIONS

1. INTRODUCTION

Water quality improvement activities (WQIA) are a combination of modifications to a BMP Plan to meet required reduction requirements if the C-139 Basin is found out of compliance, ~~and conditions for deferral do not apply.~~ WQIAs include revising implementation methods to increase the effectiveness of existing BMPs or implement additional BMPs. The proposed effectiveness of the improvement activities shall be based on the most current applicable technical references or on a monitoring program to verify the expected effectiveness (verification plan.)

This appendix provides District criteria for the estimation of total phosphorus TP removal efficiency. These criteria are based on best professional judgment and technical references available at the time of issuance of the amended C-139 Basin Rule. It is expected that these criteria will may need to be revised in the future, upon new technical information on BMP performance efficiency becoming available.

2. BMP REMOVAL EFFICIENCY CRITERIA

Table D.1 describes proposed criteria to determine the anticipated percent reduction of total phosphorus TP removal efficiency for those BMPs anticipated to be proposed as WQIAs based on the base level of BMP implementation required by the amended rule, and current practices based on BMP verification.

BMPs are grouped into categories for which the same criterion for determination of total phosphorus TP removal efficiency applies. The total phosphorus TP removal efficiency high-end range reflects a typical potential maximum removal from the implementation of one or more of the BMPs in each category based on C-139 Basin conditions. It does not reflect the effectiveness of any individual BMP in the category and is not additive across the category. Total phosphorus TP removal efficiencies above the high-end of the range for the category will may be approved if supported by technical justification that is provided.

Please refer to section 3 of this appendix for guidance on how total phosphorus TP removal efficiency for a permit basin should be calculated. The District criteria are an initial attempt to provide a simplified method to determine total phosphorus TP removal efficiency in response to C-139 Basin stakeholder concerns during rule development. However, it is may not be applicable under all situations or outside the C-139 Basin regulatory boundaries. The District has the discretion to require that applicants submit technical sources to substantiate total phosphorus TP removal efficiency estimates or to base efficiencies on a water quality verification plan, if the site specific conditions deem the assumptions on which the criteria are based not applicable.

Also, note that these criteria do not replace the need for determining the actual performance of BMP implementation. Confirmatory verification can only result from actual water quality monitoring by the District or through District-approved discharge monitoring plans.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Table D.1: TP Removal Efficiency Criteria

BMPs ¹	Typical High-end Total Phosphorus TP Removal Efficiency (percentage) ²	Criteria for Determination of Total Phosphorus TP Removal Efficiency ³
Nutrient Management		
Row crops		
Manage Successive Vegetable Planting to Minimize phosphorus P	25%	For higher application rates: TP Total phosphorus removal efficiency is assumed 1:1 proportional to proposed reductions in phosphorus application rates (e.g., a reduction of 25% in phosphorus application recommendations is equivalent to a total phosphorus TP removal efficiency of 25%) For lower rates apply the ratio indicated for sugarcane.
Recommend Nutrient Application Based on Plant Tissue Analysis		
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus P Fertilization		
Sugarcane		
Recommend Nutrient Application Based on Plant Tissue Analysis	15%	9:5 proportional to proposed reductions in phosphorus application rates (e.g., a reduction of 9% in phosphorus application recommendations is equivalent to a total phosphorus TP removal efficiency of 5%)
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus P Fertilization		
Improved Pastures		
Recommend Nutrient Application Based on Plant Tissue Analysis	15%	3:2 proportional to proposed reductions in phosphorus application rates (e.g., a reduction of 15% in phosphorus application recommendations is equivalent to a total phosphorus TP removal efficiency of 10%) ⁴
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus P Fertilization		
No Nutrients Imported Indirectly Through Cattle Feed		
Citrus		
Recommend Nutrient Application Based on Plant Tissue Analysis	15%	5:1 proportional to proposed reductions in phosphorus application rates (e.g., a reduction of 15% in phosphorus application recommendations is equivalent to a total phosphorus TP removal efficiency of 3%) ⁵
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus P Fertilization		



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Table D.1: TP Removal Efficiency Criteria (continued)

BMPs ¹	Typical High-end <u>Total Phosphorus TP</u> Removal Efficiency (percentage) ²	Criteria for Determination of <u>Total Phosphorus TP</u> Removal Efficiency ³
Water Management Practices		
Improvements to existing water management systems by delayed or minimized discharge	40%	1:2 proportional to increased detention time or retention volume ⁶ (e.g., an increase of 50% in retention volume or detention time, is equivalent to a <u>total phosphorus TP</u> removal efficiency of 25%)
Tailwater Recovery System		
Precision Irrigation Scheduling		
Particulate Matter and Sediment Controls		
Any combination of four (or more) additional sediment controls	20%	10% ⁷ (e.g., implementation of four or more particulate matter and sediment controls is equivalent to a <u>total phosphorus TP</u> removal efficiency of 5%)
Pasture Management		
Restricted placement of feeders, minerals, and water sources	30%	A typical reduction of 3% is assumed.
Provide shade structures to prevent cattle in waterways	10%	A typical reduction of 2% is assumed.
Alternative cattle watering sources	20%	A typical reduction of 10% is assumed.
Critical area fencing	20%	A typical reduction of 5% is assumed.
Other		
Improvements to existing water management systems to further increase water quality treatment	90%	1:1 Proportional to the proposed reductions in comparison to the water year or years that the C-139 Basin was out of compliance (e.g., a reduction of 80% of <u>total phosphorus TP</u> in runoff because of edge-of-farm chemical precipitation shall be equivalent to a <u>total phosphorus TP</u> removal efficiency of 80%)

¹Based on best professional judgment upon review of the C-139 Basin conditions. Total phosphorus TP Removal Efficiencies above the typical high-end of the range require the applicant to submit technical justification.

²Efficiencies are based on the proposed BMP being implemented for the first time. The District has the discretion to require submittal of technical justification. The proposed criteria ~~are~~ may not be applicable under all conditions.

³Proposed reductions in application rates shall consider any concurrent increases in feed or supplements.

⁴Proposed reductions in application rates shall consider any concurrent increases in foliar application.



Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

3. CALCULATION OF TOTAL PHOSPHORUS TP REMOVAL EFFICIENCY FOR A PERMIT BASIN

Table D.1 described how total phosphorus TP removal efficiencies could be estimated for individual BMPs when they are proposed as part of a WQIA proposal. This section explains how total phosphorus TP removal efficiencies of various BMPs could be combined to determine the TP removal of the WQIA proposal when more than one BMP is proposed. Indicated below are three concepts that need to be considered when estimating the total phosphorus TP Removal Efficiency:

1. The performance of BMPs that occur in sequence (a treatment train) shall consider the reductions achieved by preceding BMPs,
2. The performance of BMPs that occur in parallel are additive, and
3. When different BMPs are proposed for individual areas within the permit basin, the permittee shall consider the contribution of each area and acreage for achieving the required total phosphorus TP reductions (or proportional share of the load.)

Indicated below is an example describing how the default total phosphorus TP removal efficiencies could be applied in an area where different BMPs are proposed to meet the required total phosphorus TP reductions.

Example:

Permit basin A is comprised of 60 acres of row crops (Area 1), 20 acres of improved pastures (Area 2) and an above ground impoundment (AGI). All runoff is conveyed to the AGI. Feed is provided. Permit basin A does not participate in the optional individual monitoring. The C-139 Basin compliance monitoring results indicate that the C-139 Basin is out of compliance and sub-basin monitoring for the permit basin where permit basin A is located indicate that the sub-basin is exceeding its proportional share of the load by 25%. ~~No conditions for deferral apply to permit basin A.~~ The permittee is required to submit a WQIA proposal with an expected Total Phosphorus TP reduction efficiency that is no less than 25%. The permittee proposal to meet this requirement is as follows:

BMPs Area 1	<u>Total Phosphorus TP</u> Reduction Efficiency per BMP	BMPs Area 2	<u>Total Phosphorus TP</u> Reduction Efficiency per BMP
Row crops (60 acres or 75% of contributing acreage)		Pastures (20 acres or 25% of contributing acreage)	
Reduced <u>Total Phosphorus TP</u> fertilization in row crop areas by 20%	20%	Alternative water cattle sources	10%
		Critical area fencing	5%
Acreage weighed total phosphorus reduction efficiency per area ¹	15%		4%
<u>Total Phosphorus TP</u> Reduction Efficiency both Areas			19%
Improvements to existing water management systems by 20%			10%
Permit Basin Reduction Efficiency [19% + 10% x (1 - 0.19)]			27%

Note that no considerations regarding the potential difference in contributions between the row crop and the pasture areas are made in this example. However, they may be reasonable based on how the specifics of each operation, e.g., if pastures are managed substantially less intensively than row



November 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

crop areas such as nutrients not being land applied or feed not being provided. This can be done at the District's discretion.



Oct 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

APPENDIX E (NEW) **DETERMINATION OF IMPRACTICABILITY CHECKLIST**

Part VIII of the Permit Application Form can be used by applicants to request approval of a Determination of Impracticability. Among the information required in this part, applicants shall provide a detailed description of all previously implemented and current activities, and evidence that no additional BMPs or refinements to their implementation methods can be reasonably accomplished. This appendix describes the types of information, at a minimum, that the applicant shall submit as evidence. The applicant shall provide detailed descriptions for each type of information based on site-specific conditions, for District determination.

For each land use or crop, and parcels for which an application for Determination of Impracticability is submitted, the District shall consider:

1. The required and voluntary best management practices (BMPs) from Appendix B-1, which is incorporated by reference in subsection 40E-63. ~~435(1)404(3)~~, F.A.C., that are being implemented as part of the applicant's C-139 Basin Pollutant Source Control Permit. This includes any early implementation BMPs. The District will review the status of compliance and ongoing monitoring/reporting requirements for Works of the District permit. Any areas for improvement based on prior District inspection reports will be noted.
2. The specific implementation methods of each BMP (e.g., frequency, maintenance, buffers) and how they might be optimized to improve water quality; the technical basis (documentation) for the methods utilized; and an estimation of the relative difference in water quality benefits between methods considered. Additional reporting, inspections and monitoring requirements ~~will~~ may be required to verify and document implementation.
3. The status of compliance and ongoing monitoring/reporting requirements with District Surface Water and Environmental Resource Permits. The District review will ensure that the permittee has consistently met the requirements of the Surface Water and Environmental Resource Permits.
4. The status of compliance and ongoing monitoring/reporting requirements with other agencies permits or licenses for activities that can affect phosphorus in runoff.
5. A site assessment report provided by the applicant, as described in subsection 40E-63. ~~437(2)~~¹.
6. How recently changes in the land use, crop type, surface water management system, operation, lessee, and other factors have occurred and their potential impact to the current level of optimization of BMPs and water quality improvement activities.
7. Impracticability eligibility only in cases where the applicant has:
 - a. participated in BMP implementation and demonstration projects, (funding may be provided by the District or other agencies, such as FDACS, 319 Grants, NRCS, etc.

¹ The site assessment shall evaluate phosphorus imports and transport in discharges; current BMPs and implementation methods; other practices not covered under BMPs (e.g., grazing, irrigation, nutrient water management); and representative water quality and soil data. Water quality data that can be used for the assessment include those available from the District sub-basin or synoptic (grab) monitoring programs, or properly collected grab samples or using field kits of adequate precision by the applicant.



Oct 2010

Guidebook for Preparing an Application for a C-139 Basin Pollutant Source Control Permit

Recommendations based on the findings from the demonstration projects have been fully implemented.

- b. A NRCS conservation plan or FDACS Notice of Intent to implement BMPs that has been fully implemented.

APPENDIX F (NEW)

CERTIFICATION OF LANDUSER (LESSEE OR OPERATOR)

CERTIFICATION BY LANDUSER (LESSEE OR OPERATOR)

I hereby certify that, I have received a copy of Permit No. _____ with application No. _____, dated _____ . I agree to comply with the permit and implement the terms and conditions of the permit as it is indicated in lease. In addition, I agree to provide entry at any time to the area for South Florida Water Management District staff or their duly authorized agents, as provided for in ~~subsection Chapter~~ 40E-63.444(d), F.A.C., or as otherwise provided by the issued permit.

Type or print lessee name

Signature of lessee of parcel/farm (if not the lessee, certify below)

I hereby certify that I am the authorized agent of the lessee.

Type or print name and title

Signature _____

Date _____