November 2010

GUIDEBOOK FOR PREPARING AN APPLICATION FOR A C-139 BASIN POLLUTANT SOURCE CONTROL PERMIT

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

November 2010

INTRODUCTION

What is the first step in the permit renewal process?

The first step is to submit a Best Management Practices Plan (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), F.A.C., or the equivalent electronic permitting application tool (www.epermitting.gov), with all required supporting documentation.

A General Permit will 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 severely 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 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.

- ❑ 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
new	$250.00
renewal	$250.00
modification	$100.00
letter modification	$0.00
Transfer	$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, or
4. Water quality improvement activities in accordance with subsections 40E63.461(3) or (4), F.A.C., if the C-139 Basin is out of compliance with the water quality performance measures.

Modifications

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 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 30 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.

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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.

Section 2. Applicant Information

The applicant or applicants are usually the responsible entity or entities that will become the permittee and/or the co-permittees' once the permit is issued. Also, an 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 the agent are required.

Section 3. Drainage Information

Propose permit basins, as defined in subsection 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 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.
- 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 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 P_2O_5/1000 ft^2 per application nor exceed 0.50 lbs P_2O_5/1,000 ft^2 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.

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 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.

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 Rule 40E-63.435 and Rule 40E-63.437, F.A.C. and any additional requirements pursuant to 40E-63.461, 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.

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 landuse.
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 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 40E-63.435(2), F.A.C., 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 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;
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 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, and submitting data to the District. Additionally, a permittee may elect to collect rainfall data to

represent site-specific conditions. The District will consider these data along with daily flow and total phosphorus 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 40E-63.446(2)(a), F.A.C.) and the permit basin is within a sub-basin that has exceeded its proportional share of the total phosphorus load. A permittee implementing a permitted discharge monitoring program is not required to implement 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 water quality improvement activities (WQIA) if the C-139 Basin is determined out of compliance. Either proposal shall be submitted with an application 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 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 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 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 WQIQs along with the proposed total phosphorus reductions to be achieved. Three options are available to estimate the proposed total phosphorus 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 removal efficiency
- ❑ 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 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 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.

APPENDIX A

BMP PRE-APPROVAL APPLICATION FORM

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

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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 phosphorus	Avoid successive Planting of vegetables or other crops having high phosphorus needs to avoid phosphorus build up in soils. Includes successive planting with no successive phosphorus application.
2 ½ 2 ½ 5		Recommended nutrient application based on plant tissue analysis	Avoid excess application of phosphorus 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 P requirements
5		Recommended nutrient application based on soil testing	Avoid excess nutrient application by determining phosphorus 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 requirements of the crop.
5		Split nutrient application	More efficient plant uptake of phosphorus by applying small portions of total recommended phosphorus at various times during the growing season. Not to exceed total recommendation based on soil test.
5		Slow release phosphorus fertilizer	Avoid flushing excess phosphorus from soil by using specially treated fertilizer that releases phosphorus to the plant over time.
5		Reduce phosphorus fertilization	Reduce the phosphorus 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, 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 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

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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)

Points	"√"	Water Management Practice	Water Management Practice Description
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

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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
		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
		Minimize sediment transport into canals by constructing ditch bank berms
2 ½ points for any 2		Minimize sediment build-up by implementing a canal cleaning program
		Reduce sediments transported offsite by maintaining field ditch drainage sumps
5 points for any 4		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
10 points for any 6		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 phosphorus is applied to these areas.
15 points for any 8		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 phosphorus source) at main discharge locations
		Reduce debris and aquatic plants (phosphorus 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

November 2010

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

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) 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.

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 require 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 flows and must therefore be reported at the time the change is made. Modifications to a structure that affect the previously approved calibration 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 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 (Ia) coefficient for small agricultural watersheds, and site-specific hydrologic soil group curves and conditions, as indicated below:

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

Where:
Q = runoff (in)
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:

$S = 1000/CN - 10$ (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:

$Q = (P - 0.2S)^2/(P+0.8S)$, if $P > 0.2S$
$Q = 0$, if $P \leq 0.2S$

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

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

Q (inches/day) $= (P - 0.67)^2/(P + 2.7)$

Q (MGD) $= [(P - 0.67)^2/(P + 2.7)] * 2.7$ (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.

SAMPLE PUMP LOG

DAY	START / CONTINUE				STOP				RAIN	INIT.	COMMENTS
	TIME	RPM	*INSIDE GAUGE*	*OUTSIDE GAUGE*	*TIME*	RPM	*INSIDE GAUGE*	*OUTSIDE GAUGE*			
1											
2											
3											
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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

November 2010

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: • 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 *Field Verification*, when applicable, can include observation of: • 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	Avoid successive planting of vegetables or other crops having high phosphorus needs to avoid phosphorus build up in soils. Includes successive planting with no successive phosphorus application.	
2 ½ 2 ½ 5		Recommended nutrient application based on plant tissue analysis	Avoid excess application of phosphorus 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 requirements	
5		Recommended nutrient application based on soil testing	Avoid excess nutrient application by determining phosphorus 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 requirements of the crop.	
5		Split nutrient application	More efficient plant uptake of phosphorus by applying small portions of total recommended phosphorus at various times during the growing season. Not to exceed total recommendation based on soil test.	
5		Slow release phosphorus fertilizer	Avoid flushing excess phosphorus from soil by using specially treated fertilizer that releases phosphorus to the plant over time.	
5		Reduce phosphorus fertilization	Reduce the phosphorus 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, 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 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

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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:

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: • Pump logs/staff gage readings • Pump calibration records • Rain gage readings • Work orders for reservoir construction • Permits for reservoir construction • Photographs • Maps *Field Verification,* when applicable, can include observation of: • 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): System meets Section 5.2.1 Water Quality Criteria – Volumetric Requirements	
10			System meets Section 6.2 Water Quantity Criteria – Discharge Rates	
15			System meets Section 6.3 Water Quantity Criteria – Design Storm	
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).	
15		No direct discharge	Overland sheet flow over entire property, 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

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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:

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		Erosion control by leveling fields	Documentation demonstrating required BMP implementation shall be maintained on site for District review, as applicable. Examples of documentation are: • 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: • 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
		Reduce soil erosion using grassed swales and field ditch connections to laterals	
		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	
5 points for any 4		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	
		Reduce sediment transport through the use of grassed waterways	
10 points for any 6		Reduce sediment transport through the use of filter strips or riparian conservation buffers adjacent to waterways. No phosphorus is applied to these areas.	
		Reduce sediments transported offsite by raising culvert bottoms above all ditch bottoms to minimize sediment transport	
15 points for any 8		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 (phosphorus source) at main discharge locations	
		Reduce debris and aquatic plants (phosphorus 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.

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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	Documentation demonstrating required BMP implementation shall be maintained on site for District review, as applicable. Examples of documentation are: • 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 *Field Verification,* when applicable, can include observation of: • 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 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. 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 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 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 total phosphorus 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 removal efficiency applies. The total phosphorus 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 removal efficiencies above the high-end of the range for the category will be approved if supported by technical justification that is provided.

Please refer to section 3 of this appendix for guidance on how total phosphorus 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 removal efficiency in response to C-139 Basin stakeholder concerns during rule development. However, it is 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 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.

Table D.1: Total Phosphorus Removal Efficiency Criteria

BMPs[1]	Typical High-end Total Phosphorus Removal Efficiency (percentage)[2]	Criteria for Determination of Total Phosphorus Removal Efficiency[3]
Nutrient Management		
Row crops		
Manage Successive Vegetable Planting to Minimize phosphorus	25%	For higher application rates: 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 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 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 removal efficiency of 5%.)
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus 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 removal efficiency of 10%.)[4]
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus 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 removal efficiency of 3%.)[5]
Split Nutrient Application		
Slow Release Fertilizer		
Reduced phosphorus Fertilization		

BMPs[1]	Typical High-end Total Phosphorus Removal Efficiency (percentage)[2]	Criteria for Determination of Total Phosphorus 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 total phosphorus 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 total phosphorus 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 TP in runoff because of edge-of-farm chemical precipitation shall be equivalent to a TP removal efficiency of 80%.)

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

[2]Efficiencies 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 not applicable under all conditions.

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

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

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

Table D.1 described how total phosphorus removal efficiencies could be estimated for individual BMPs when they are proposed as part of a WQIA proposal. This section explains how total phosphorus removal efficiencies of various BMPs could be combined to determine the total phosphorus 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 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 reductions (or proportional share of the load.)

Indicated below is an example describing how the default TP removal efficiencies could be applied in an area where different BMPs are proposed to meet the required 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%. The permittee is required to submit a WQIA proposal with an expected total phosphorus reduction efficiency that is no less than 25%. The permittee proposal to meet this requirement is as follows:

BMPs Area 1	**Total Phosphorus Reduction Efficiency per BMP**	**BMPs Area 2**	**Total Phosphorus Reduction Efficiency per BMP**
Row crops (60 acres or 75% of contributing acreage)		Pastures (20 acres or 25% of contributing acreage)	
Reduced phosphorus 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%
Total Phosphoru 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 crop areas such as nutrients not being land applied or feed not being provided. This can be done at the District's discretion.

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 B1 (incorporated by reference in subsection 40E-63.435(1), 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 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:

[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 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 or using field kits of adequate precision by the applicant.

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. 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 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 _____