

**AGRICULTURAL STORM WATER MANAGEMENT SYSTEMS FOR THE LAKE  
OKEECHOBEE WATERSHED**

**GUIDANCE DOCUMENT FOR OWNERS AND ENGINEERS, TO EXPEDITE  
REGULATORY AND CONSTRUCTION APPROVAL**

**South Florida Water Management District**

**Florida Department of Environmental Protection**

**Florida Department of Agriculture and Consumer Services  
Office of Agricultural Water Policy**

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**April 2006**

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## Introduction and Purpose

Agricultural Storm Water Management Systems (ASWMS) can play a significant role in the treatment and/or reuse of nutrients in agricultural operations. Therefore, the Florida Department of Environmental Protection (DEP), the South Florida Water Management District (SFWMD), and the Florida Department of Agriculture and Consumer Services (FDACS), have developed this document to aide the land owners and their consulting engineers in expediting the regulatory review and construction approval for such ASWMS.

The following pages outline the major components of these ASWMS, and clarify for the design engineer and landowner the implications associated with proposing such components for construction authorization by DEP or SFWMD.

Any agricultural properties that have internal areas covered by NPDES permits shall have those internal areas **excluded** from any ASWMS proposed for those agricultural properties. Therefore, no effluent, runoff, or discharges from any agricultural internal areas covered by NPDES permits shall be allowed to enter or mix with the ASWMS being proposed for the remainder of the agricultural property.

Agricultural properties that would typically have an internal area covered by an NPDES permit are dairies, poultry farms, plants processing agricultural products, and some cow/calf ranches. Agricultural properties that typically do not have internal areas covered by NPDES permits are citrus groves, row crop farms, and most cow/calf ranches.

**Any ASWMS that proposes to include or mix-in effluent, runoff or discharges from internal areas addressed by NPDES permits, will not be considered by DEP or SFWMD under this expedited review and approval process.**

**The landowner and design engineer are strongly encouraged to choose the option(s) associated with each of the ASWMS components, which will facilitate timely review and approval by DEP or SFWMD, and will provide treatment methodologies that will reduce phosphorus concentrations and loads from the agricultural operation.**

## Key Agricultural Surface Water Management System Components Affecting Regulatory Review Processes and Approvals

### Existing Wetlands, Sloughs, or Creeks:

It is important that a professional certified in the determination of wetlands be retained by the landowner or his consulting engineer, so that the condition of any wetlands,

sloughs or creeks in question can be determined in accordance with the Florida Unified Wetland Delineation Methodology (UMAM), per Chapter 62-340, F.A.C. Such professional should coordinate with DEP or SFWMD to determine the level of wetland impacts, so that such information is available in advance to the landowner's consulting engineer, prior to the development of a final layout of the proposed ASWMS.

It is also important that any wetland, slough, or creek proposed to be included in the proposed ASWMS be clearly identified and mapped, so that DEP can also make a sovereign and submerged land determination on those wetlands, sloughs or creeks, as applicable or necessary.

### **Impacted Wetlands**

If the certified wetland specialist and DEP or SFWMD have determined that some of the wetlands on the subject property are already and significantly impacted, those impacted wetland areas can be included in the ASWMS, without creating any major delays in obtaining regulatory review and construction approvals.

If additional impacts are proposed on those wetlands, the certified wetland specialist and consulting engineer shall provide DEP or SFWMD with written justification on how the benefits of constructing the ASWMS as proposed outweigh those additional wetland impacts.

### **Pristine Wetlands, Sloughs or Creeks**

If the certified wetland specialist and DEP or SFWMD have determined that some of the wetlands on the property are pristine or in good condition and the landowner or his design engineer want to include those wetlands in the ASWMS (especially inside a new pond), this decision may create some regulatory and construction approval delays (several weeks or months). This is because of the additional amount of information that the certified wetland specialist and the engineer will have to submit to DEP or SFWMD (and DEP or SFWMD have to review and approve) on those wetlands, to assure DEP or SFWMD that the wetlands will not be impacted by including them in the ASWMS. For example, a wetland management plan will have to be developed for each of those wetlands.

If impacts are proposed on those wetlands, the certified wetland specialist and consulting engineer shall provide to DEP or SFWMD written justification about how those impacts will be outweighed by the benefits of constructing the ASWMS as proposed.

For purposes of future review (years later) by DEP or SFWMD regarding those pristine wetlands, the jurisdictional boundaries of any of those wetlands will be considered to remain the same as when they were initially reviewed by DEP or SFWMD, even if those boundaries expand due to the inclusion of those wetlands into the ASWMS.

If the pristine wetland proposed to be included in the ASWMS system is not isolated but is part of a regional system such as a natural slough, creek or river, the Army Corp of Engineers (ACOE) may also have to review such proposal and issue permits as necessary. Such federal review and approval process by the ACOE will most likely generate additional construction approval delays of months. Furthermore, any wetland impacts determined by the ACOE will most likely disqualify the landowner from any federal financial assistance such as EQIP.

### **Wetlands, Sloughs or Creeks that were not Professionally Evaluated**

If the landowner or his consulting engineer do not choose to retain a certified wetland specialist and therefore there is no professional determination on any wetlands, sloughs, or creeks on the property (and thereby the condition the wetlands, sloughs or creeks are not determined); it is strongly recommended that any components of the proposed ASWMS be constructed no closer than 200' from the edge of any wetland, slough, or creek, regardless of the type of wetland, slough, or creek. Failure to do so is likely to result in significant regulatory review and construction approval delays (several months or more) by DEP or SFWMD, because approvals may not only be required by the State, but also by the Federal government via the ACOE.

Furthermore, any impacts to wetlands, sloughs or creeks determined by the ACOE will most likely disqualify the landowner from any Federal financial assistance such as EQIP.

### *New Canals/Ditches:*

#### **Outside of any Area Covered by any NPDES Permit as Applicable, and Internal to the Agricultural Property**

As long as any new ditches do not negatively impact any adjacent properties, pristine wetlands, sloughs or creeks (by going through them or draining them), the ditches are no deeper than a 5 foot average depth, and the ditches drain into a gravity or pumped pond system that provides water quality treatment and attenuation, there should be no major construction approval delays by DEP or SFWMD.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more), because potential neighboring properties and/or wetland impacts will have to be reviewed and evaluated, and additional significant engineering work and information will be required to prove otherwise.

If the ditches drain by gravity (no drainage pump is being proposed) into a pond, they will need to be sized such that the pond's discharge offsite does not exceed the one maximum discharge criteria that applies to the property, out of the three criteria outlined in Section 6.2 of SFWMD's Basis of Review for Environmental Resource Permit (ERP) document; and adjacent landowners are not negatively impacted.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more) by DEP or SFWMD, because additional and significant engineering work and information will be required to prove otherwise.

### **By Pass and Flow Through Canal/Ditch Systems**

The existing overall drainage patterns into the property and leaving the property need to be maintained, when proposing an internal ASWMS for the property (but outside any internal area addressed by any NPDES permit, as applicable). For example, if the property currently accepts offsite runoff at its northwest corner and discharges runoff offsite at its southeast corner, then those overall drainage patterns need to remain, once the internal ASWMS is constructed.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more) by DEP or SFWMD, because the safety of upstream and downstream property owners as well as any personnel working in the property may be compromised by potential flooding. Significant engineering work and information will be required to prove otherwise.

The landowner and his consulting engineer can maintain those existing overall drainage patterns when constructing their ASWMS, by using by-pass canals or flow through canals as part of the property internal ASWMS. The canals must be sized so that the inflow drainage rate onto the property and the offsite drainage rate from the property do not exceed existing rates and the canals do not negatively impact wetlands.

### *New Pumps:*

#### **Outside of any Area Covered by any NPDES Permit as Applicable, and Internal to the Agricultural Property**

Axial flow or centrifugal pumps whose only purpose is to re-use runoff from inside the property (but outside any internal area addressed by any NPDES permit, as applicable) will typically obtain prompt construction approval. Some examples are pumps used for spray fields (not associated with any NPDES permit) or for irrigation, or pumps that are used to fill retention ponds which have no discharges offsite.

#### **Discharging into Ponds**

Axial flow or centrifugal pumps that are used to fill detention ponds which have offsite discharges, or retention ponds which may have emergency offsite or by-pass discharges, will need to be sized such that the pond's discharge offsite does not exceed the one maximum discharge criteria that applies to the property, out of the three criteria outlined in Section 6.2 of SFWMD's Basis of Review for Environmental Resource Permit (ERP) document, and adjacent landowners are not negatively impacted.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more) by DEP or SFWMD, because the safety of downstream property owners may be compromised due to potential for flooding, and significant engineering work and information will be required to prove otherwise.

It is strongly recommended that such pumps be operated and maintained according to design and the manufacturer's recommendations, and be repaired immediately after any failure, to minimize the potential for internal flooding.

### *New Above Ground Dikes/Berms:*

#### **For Wet Detention Ponds and Property Perimeter Areas**

Dikes or berms for these types of ponds should hold back up to a 4 foot maximum water depth (when measured from natural ground), must have a minimum 12 foot top, minimum bank slopes of 2:1, and a minimum free board of 2 feet.

Dikes or berms that are adjacent to a neighboring property shall be built to the same criteria outlined above, with the exception that the bank away from the detained water shall have a 3:1 slope (instead of a 2:1 slope).

The dikes of the wet detention ponds shall have at least one emergency overflow structure that discharges from the pond back into the property, to help maintain the integrity of the dikes during a pond pump and/or outfall structure failure.

All dikes and berms shall be inspected and repaired as necessary at least once a year, to help maintain their integrity through out the pond's lifetime.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more) by DEP or SFWMD, because approvals may not only be required by the State, but also by the Federal government.

#### **For Retention Ponds that Reuse Runoff**

Dikes or berms for these types of ponds should hold back up to a 4 foot maximum water depth (when measured from natural ground), must have a minimum 12 foot top, minimum slopes of 2:1 for the bank against the retained water and 3:1 for the bank away from the retained water, and a minimum free board of 2 feet. They should also have a core trench and be compacted at no more than 1 foot lift intervals, up to the maximum water level being retained.

The dikes of the retention ponds shall have at least one emergency overflow structure that discharges runoff from the pond back into the property, to help maintain the integrity of the dikes during a pond pump and/or outfall structure failure.

All dikes and berms shall be inspected and repaired as necessary at least once a year, to help maintain their integrity through out the pond's lifetime.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more) from DEP or SFWMD, because approvals may not only be required by the State but also by the Federal government, and the safety of the agricultural operation's personnel or downstream property owners may be compromised due to potential for flooding. Therefore, significant engineering work and information will be required to prove otherwise.

### *New Below Ground or Excavated Ponds that Discharge Offsite*

Because of the highwater table conditions in most of the locations where agricultural properties exist, storing or treating significant amounts of runoff from those properties (but outside any internal area addressed by any NPDES permit, as applicable) via below ground excavated ponds is generally not as effective as with above ground ponds.

In addition, ground and surface water interaction becomes more prevalent when these types of ponds are constructed, especially if excavation occurs deeper than 1 to 2 feet below natural ground, and across the entire bottom of the proposed pond. Furthermore, if the soils from those excavated ponds are proposed to be removed from the property, additional mining permits may have to be obtained.

Because of these and other factors, it is expected that review and construction approval by DEP or SFWMD for below ground excavated ponds that discharge offsite will take more time (months) than for above ground ponds.

Therefore, construction of below ground excavated ponds that discharge offsite is discouraged, unless such ponds are proposed in soils with very deep water tables that will remain at least 3' below the excavated pond's proposed bottom elevation at all times.

### *New Structures Discharging Offsite by Gravity:*

These structures are generally culverts, culverts with risers, weirs, orifices, and drop inlet structures, that are normally installed in ditches or ponds, to control water depth and discharge (flow).

These structures will need to be sized such that their discharge offsite does not exceed the one maximum discharge criteria that applies to the property, out of the three criteria outlined in Section 6.2 of SFWMD's Basis of Review for Environmental Resource Permit (ERP) document, allow for water quality treatment and attenuation, and do not negatively impact adjacent landowners.

Failure to do so is likely to cause significant regulatory review and construction approval delays (several months or more) by DEP or SFWMD, because the safety of downstream property owners may be compromised due to potential for flooding, and significant engineering work and information will be required to prove otherwise.

Fixed structures that discharge offsite such as fixed size weirs, orifices, risers or culverts are preferred over operable structures such as screw gates or temporary boards on risers, unless the operable structures are proposed to be used only for emergency situations or for internal water use.

*Means for Ultimately Discharging Offsite:*

Spreader swales are strongly recommended as the means by which offsite discharges from the proposed property ASWMS ultimately reach the downstream neighboring property. Such spreader swale discharge is distinctively different from a point discharge, and minimizes erosion and sedimentation offsite.