FLORIDA'S NPDES EVOLUTION

COURSE N: Comprehensive Watershed Evaluation, Planning and Management

Florida Chamber 28th Annual Environmental Permitting Summer School

Marco Island, Florida

July 23, 2014

Geosyntec consultants

engineers | scientists | innovators

OUTLINE

- ✓ Brief History of NPDES
- ✓ Permit Expectation Evolution
- ✓ Changes to Florida MS4 Permits
- ✓ Impacts to Local Managers

NPDES BRIEF HISTORY

- The National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act (CWA) is the primary federal vehicle to regulate the quality of the nation's waterbodies.
- This program was initially developed to reduce pollutants from industrial process wastewater and municipal sewage discharges. These point sources were known to be responsible for poor, often drastically degraded conditions in receiving waterbodies. They were easily regulated because they emanated from identifiable locations, such as pipe outfalls.
- To address the role of stormwater in causing or contributing to water quality impairments, in 1987 Congress wrote Section 402(p) of the CWA, bringing stormwater control into the NPDES program, and in 1990 the U.S. Environmental Protection Agency (EPA) issued the Phase I Stormwater Rules.

Source: Urban Stormwater in the United States, National Research Council, National Academies Press, 2008.

NPDES BRIEF HISTORY

- The sources of stormwater discharges regulated under the NPDES program fall into three categories:
  - Industrial Activity
  - Construction Activity
  - *Municipal Separate Storm Sewer Systems (MS4s)*

NPDES BRIEF HISTORY

- The U.S. Environmental Protection Agency (EPA) developed the federal National Pollutant Discharge Elimination System (NPDES) stormwater permitting program in two phases.
  - Phase I, promulgated in 1990, addresses the following sources:
    - "Large" and "medium" municipal separate storm sewer systems (MS4s) located in incorporated places and counties with populations of 100,000 or more, and
    - Eleven categories of industrial activity, one of which is large construction activity that disturbs 5 or more acres of land.
  - Phase II, promulgated in 1999, addresses additional sources, including MS4s not regulated under Phase I, and small construction activity disturbing between 1 and 5 acres.
- In October 2000, EPA authorized the Florida Department of Environmental Protection (DEP) to implement the NPDES stormwater permitting program in the State of Florida (in all areas except Indian Country lands). DEP's authority to administer the NPDES program is set forth in Section 403.0885, Florida Statutes (F.S.). The NPDES stormwater program regulates point source discharges of stormwater into surface waters of the State of Florida from certain municipal, industrial and construction activities.
- As the NPDES stormwater permitting authority, DEP is responsible for promulgating rules and issuing permits, managing and reviewing permit applications, and performing compliance and enforcement activities.

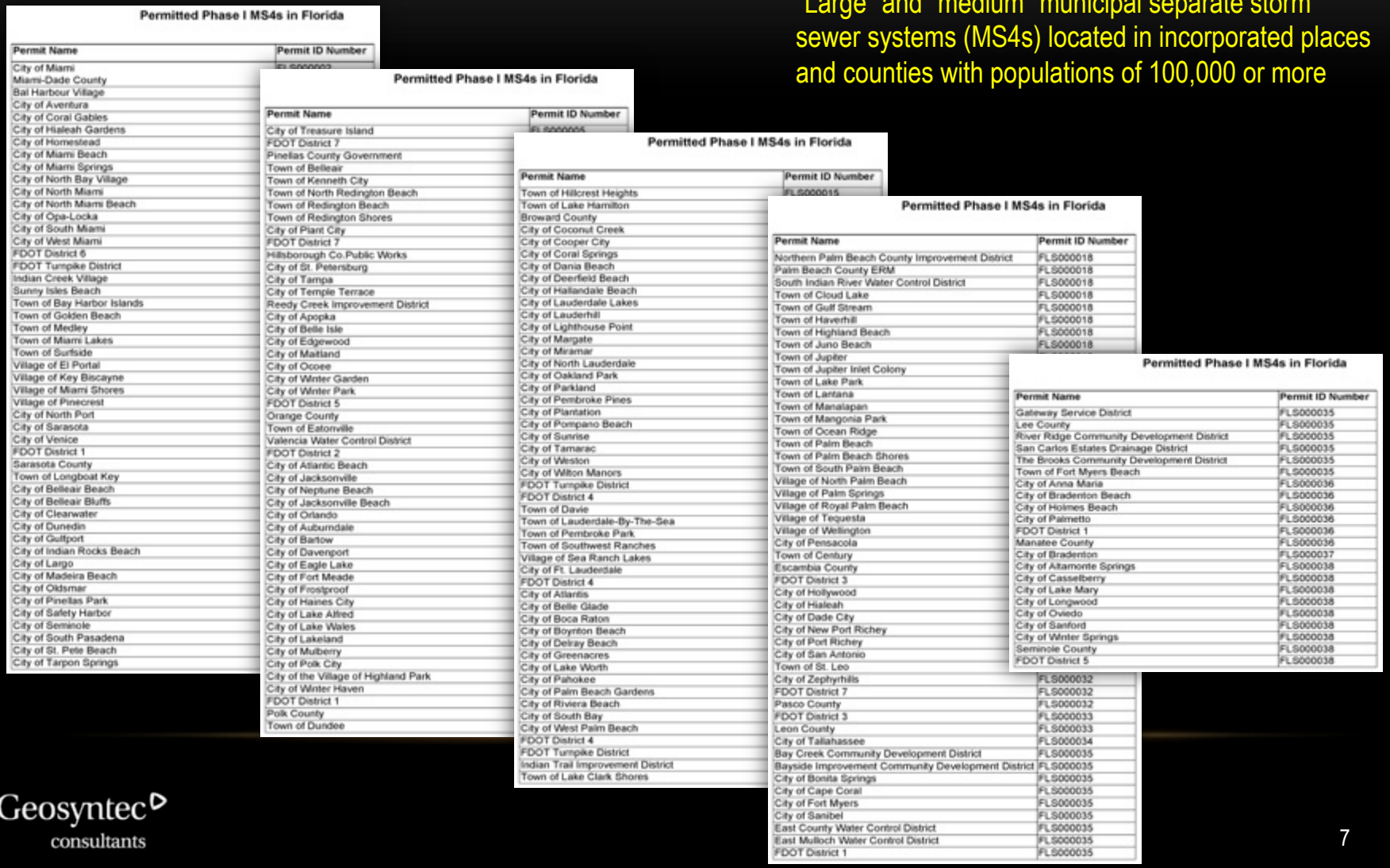
Source: http://www.dep.state.fl.us/water/stormwater/npdes/index.htm

NPDES REGULATIONS

- Florida Rules Related to Stormwater / NPDES
  - Chapter 62-620 - Wastewater Facility and Activities Permitting
  - Chapter 62-621 - Generic Permits
  - Chapter 62-624 - Municipal Separate Storm Sewer Systems
  - Chapter 62-25 - Regulations of Stormwater Discharge

PHASE I MS4S

"Large" and "medium" municipal separate storm sewer systems (MS4s) located in incorporated places and counties with populations of 100,000 or more



Permitted Phase I MS4s in Florida

Permit Name	Permit ID Number
City of Miami	FLS000003
Miami-Dade County	FLS000003
Bal Harbour Village	FLS000003
City of Aventura	FLS000003
City of Coral Gables	FLS000003
City of Hialeah Gardens	FLS000003
City of Homestead	FLS000003
City of Miami Beach	FLS000003
City of Miami Springs	FLS000003
City of North Bay Village	FLS000003
City of North Miami	FLS000003
City of North Miami Beach	FLS000003
City of Opa-Locka	FLS000003
City of South Miami	FLS000003
City of West Miami	FLS000003
FDOT District 6	FLS000003
FDOT Turnpike District	FLS000003
Indian Creek Village	FLS000003
Sunny Isles Beach	FLS000003
Town of Bay Harbor Islands	FLS000003
Town of Golden Beach	FLS000003
Town of Medley	FLS000003
Town of Miami Lakes	FLS000003
Town of Surfside	FLS000003
Village of El Portal	FLS000003
Village of Key Biscayne	FLS000003
Village of Miami Shores	FLS000003
Village of Pinecrest	FLS000003
City of North Port	FLS000004
City of Sarasota	FLS000004
City of Venice	FLS000004
FDOT District 1	FLS000004
Sarasota County	FLS000004
Town of Longboat Key	FLS000004
City of Belleair Beach	FLS000005
City of Belleair Bluffs	FLS000005
City of Clearwater	FLS000005
City of Dunedin	FLS000005
City of Gulfport	FLS000005
City of Indian Rocks Beach	FLS000005
City of Largo	FLS000005
City of Madeira Beach	FLS000005
City of Oldsmar	FLS000005
City of Pinellas Park	FLS000005
City of Safety Harbor	FLS000005
City of Seminole	FLS000005
City of South Pasadena	FLS000005
City of St. Pete Beach	FLS000005
City of Tarpon Springs	FLS000005

Permitted Phase I MS4s in Florida

Permit Name	Permit ID Number
City of Treasure Island	FLS000005
FDOT District 7	FLS000005
Pinellas County Government	FLS000005
Town of Belleair	FLS000005
Town of Kenneth City	FLS000005
Town of North Redington Beach	FLS000005
Town of Redington Beach	FLS000005
Town of Redington Shores	FLS000005
City of Plant City	FLS000006
FDOT District 7	FLS000006
Hillsborough Co.Public Works	FLS000006
City of St. Petersburg	FLS000007
City of Tampa	FLS000007
City of Temple Terrace	FLS000007
Reedy Creek Improvement District	FLS000008
City of Apopka	FLS000009
City of Belle Isle	FLS000009
City of Edgewood	FLS000009
City of Maitland	FLS000009
City of Ocoee	FLS000009
City of Winter Garden	FLS000009
City of Winter Park	FLS000009
FDOT District 5	FLS000009
Orange County	FLS000009
Town of Eatonville	FLS000009
Valencia Water Control District	FLS000009
FDOT District 2	FLS000010
City of Atlantic Beach	FLS000011
City of Jacksonville	FLS000011
City of Neptune Beach	FLS000011
City of Jacksonville Beach	FLS000011
City of Orlando	FLS000012
City of Auburndale	FLS000013
City of Bartow	FLS000013
City of Davenport	FLS000013
City of Eagle Lake	FLS000013
City of Fort Meade	FLS000013
City of Frostproof	FLS000013
City of Haines City	FLS000013
City of Lake Alfred	FLS000013
City of Lake Wales	FLS000013
City of Lakeland	FLS000013
City of Mulberry	FLS000013
City of Polk City	FLS000013
City of the Village of Highland Park	FLS000013
City of Winter Haven	FLS000013
FDOT District 1	FLS000013
Polk County	FLS000013
Town of Dundee	FLS000013

Permitted Phase I MS4s in Florida

Permit Name	Permit ID Number
Town of Hillcrest Heights	FLS000015
Town of Lake Hamilton	FLS000015
Broward County	FLS000014
City of Coconut Creek	FLS000014
City of Cooper City	FLS000014
City of Coral Springs	FLS000014
City of Dania Beach	FLS000014
City of Deerfield Beach	FLS000014
City of Hallandale Beach	FLS000014
City of Lauderdale Lakes	FLS000014
City of Lauderhill	FLS000014
City of Lighthouse Point	FLS000014
City of Margate	FLS000014
City of Miramar	FLS000014
City of North Lauderdale	FLS000014
City of Oakland Park	FLS000014
City of Parkland	FLS000014
City of Pembroke Pines	FLS000014
City of Plantation	FLS000014
City of Pompano Beach	FLS000014
City of Sunrise	FLS000014
City of Tamarac	FLS000014
City of Weston	FLS000014
City of Wilton Manors	FLS000014
FDOT Turnpike District	FLS000014
FDOT District 4	FLS000014
Town of Davie	FLS000014
Town of Lauderdale-By-The-Sea	FLS000014
Town of Pembroke Park	FLS000014
Town of Southwest Ranches	FLS000014
Village of Sea Ranch Lakes	FLS000014
City of Ft. Lauderdale	FLS000014
FDOT District 4	FLS000014
City of Atlantis	FLS000014
City of Belle Glade	FLS000014
City of Boca Raton	FLS000014
City of Boynton Beach	FLS000014
City of Delray Beach	FLS000014
City of Greenacres	FLS000014
City of Lake Worth	FLS000014
City of Pahokee	FLS000014
City of Palm Beach Gardens	FLS000014
City of Riviera Beach	FLS000014
City of South Bay	FLS000014
City of West Palm Beach	FLS000014
FDOT District 4	FLS000014
FDOT Turnpike District	FLS000014
Indian Trail Improvement District	FLS000014
Town of Lake Clark Shores	FLS000014

Permitted Phase I MS4s in Florida

Permit Name	Permit ID Number
Northern Palm Beach County Improvement District	FLS000018
Palm Beach County ERM	FLS000018
South Indian River Water Control District	FLS000018
Town of Cloud Lake	FLS000018
Town of Gulf Stream	FLS000018
Town of Haverhill	FLS000018
Town of Highland Beach	FLS000018
Town of Juno Beach	FLS000018
Town of Jupiter	FLS000018
Town of Jupiter Inlet Colony	FLS000018
Town of Lake Park	FLS000018
Town of Lantana	FLS000018
Town of Manalapan	FLS000018
Town of Mangonia Park	FLS000018
Town of Ocean Ridge	FLS000018
Town of Palm Beach	FLS000018
Town of Palm Beach Shores	FLS000018
Town of South Palm Beach	FLS000018
Village of North Palm Beach	FLS000018
Village of Palm Springs	FLS000018
Village of Royal Palm Beach	FLS000018
Village of Tequesta	FLS000018
Village of Wellington	FLS000018
City of Pensacola	FLS000019
Town of Century	FLS000019
Escambia County	FLS000019
FDOT District 3	FLS000019
City of Hollywood	FLS000020
City of Hialeah	FLS000021
City of Dade City	FLS000022
City of New Port Richey	FLS000022
City of Port Richey	FLS000022
City of San Antonio	FLS000022
Town of St. Leo	FLS000022
City of Zephyrhills	FLS000022
FDOT District 7	FLS000022
Pasco County	FLS000022
FDOT District 3	FLS000023
Leon County	FLS000023
City of Tallahassee	FLS000024
Bay Creek Community Development District	FLS000025
Bayside Improvement Community Development District	FLS000025
City of Bonita Springs	FLS000025
City of Cape Coral	FLS000025
City of Fort Myers	FLS000025
City of Sanibel	FLS000025
East County Water Control District	FLS000025
East Mulloch Water Control District	FLS000025
FDOT District 1	FLS000025

Permitted Phase I MS4s in Florida

Permit Name	Permit ID Number
Gateway Service District	FLS000035
Lee County	FLS000035
River Ridge Community Development District	FLS000035
San Carlos Estates Drainage District	FLS000035
The Brooks Community Development District	FLS000035
Town of Fort Myers Beach	FLS000035
City of Anna Maria	FLS000036
City of Bradenton Beach	FLS000036
City of Holmes Beach	FLS000036
City of Palmetto	FLS000036
FDOT District 1	FLS000036
Manatee County	FLS000036
City of Bradenton	FLS000037
City of Altamonte Springs	FLS000038
City of Casselberry	FLS000038
City of Lake Mary	FLS000038
City of Longwood	FLS000038
City of Oviedo	FLS000038
City of Sanford	FLS000038
City of Winter Springs	FLS000038
Seminole County	FLS000038
FDOT District 5	FLS000038

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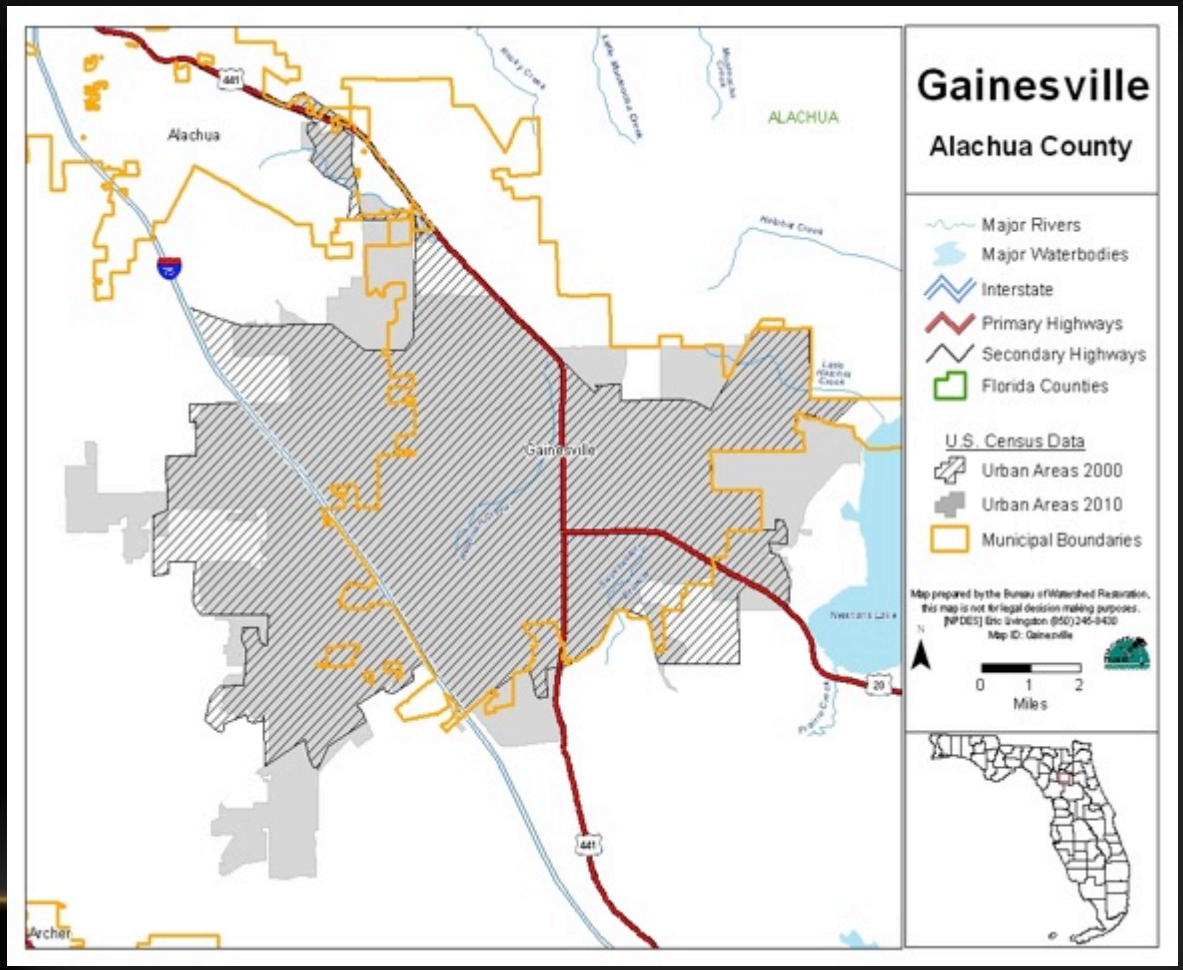
EXAMPLE PHASE II MS4

- Urban Census Areas
- Clean Water Partnership
  - Alachua County
  - Gainesville
  - FDOT



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EPA'S EFFECTIVENESS EVOLUTION

- Purposes of Program Evaluation
  - Meet regulatory requirements
  - Document progress toward water quality goals
  - Justify commitment of resources
  - Provide feedback to the management program
  - Assess reductions in pollutants of concern

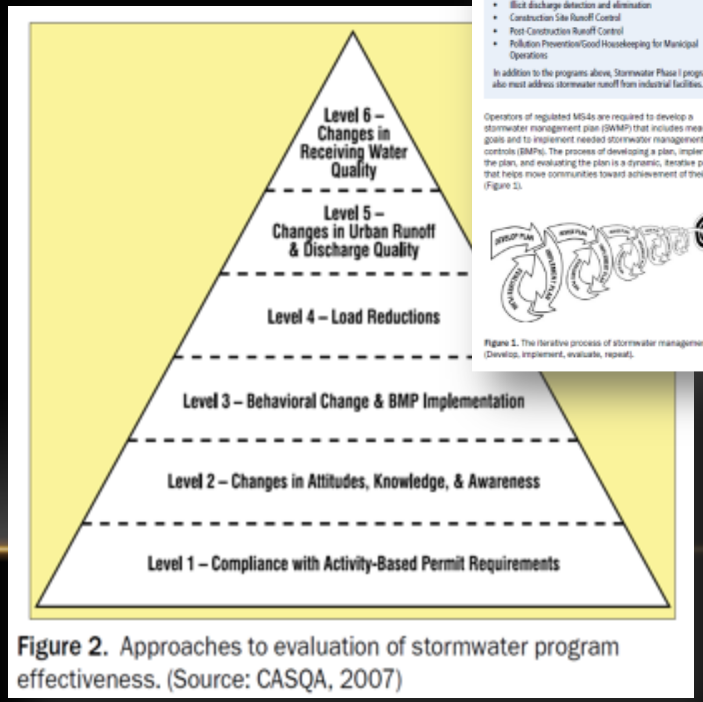

Figure 2. Approaches to evaluation of stormwater program effectiveness. (Source: CASQA, 2007)

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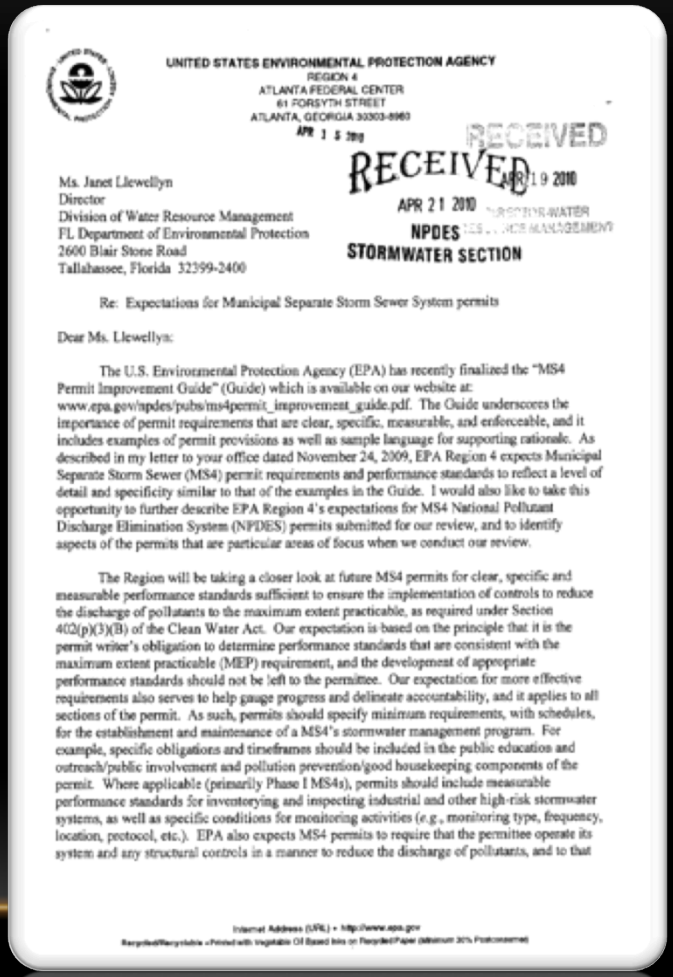
EPA'S MS4 EXPECTATIONS

- EPA Region 4 to FDEP - April 2010
- Expectations based on *MS4 Permit Improvement Guide*
- Underscores the importance of permit requirements that are clear, specific, measurable, and enforceable
- Performance Standards Consistent with the *Maximum Extent Practicable* (MEP) Requirement
- Permit Elements of Focus:
  - Implementation of TMDLs
  - Stormwater Controls for Construction Activities
  - Stormwater Controls for New Development and Redevelopment - Post Construction
  - Illicit Discharge Detection and Elimination Program



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

APR 1 5 2010

RECEIVED
APR 19 2010
NPDES
STORMWATER SECTION

Ms. Janet Llewellyn
Director
Division of Water Resource Management
FL Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Re: Expectations for Municipal Separate Storm Sewer System permits

Dear Ms. Llewellyn:

The U.S. Environmental Protection Agency (EPA) has recently finalized the "MS4 Permit Improvement Guide" (Guide) which is available on our website at: www.epa.gov/npdes/pubs/ms4permit_improvement_guide.pdf. The Guide underscores the importance of permit requirements that are clear, specific, measurable, and enforceable, and it includes examples of permit provisions as well as sample language for supporting rationale. As described in my letter to your office dated November 24, 2009, EPA Region 4 expects Municipal Separate Storm Sewer (MS4) permit requirements and performance standards to reflect a level of detail and specificity similar to that of the examples in the Guide. I would also like to take this opportunity to further describe EPA Region 4's expectations for MS4 National Pollutant Discharge Elimination System (NPDES) permits submitted for our review, and to identify aspects of the permits that are particular areas of focus when we conduct our review.

The Region will be taking a closer look at future MS4 permits for clear, specific and measurable performance standards sufficient to ensure the implementation of controls to reduce the discharge of pollutants to the maximum extent practicable, as required under Section 402(p)(3)(B) of the Clean Water Act. Our expectation is based on the principle that it is the permit writer's obligation to determine performance standards that are consistent with the maximum extent practicable (MEP) requirement, and the development of appropriate performance standards should not be left to the permittee. Our expectation for more effective requirements also serves to help gauge progress and delineate accountability, and it applies to all sections of the permit. As such, permits should specify minimum requirements, with schedules, for the establishment and maintenance of a MS4's stormwater management program. For example, specific obligations and timeframes should be included in the public education and outreach/public involvement and pollution prevention/good housekeeping components of the permit. Where applicable (primarily Phase I MS4s), permits should include measurable performance standards for inventorying and inspecting industrial and other high-risk stormwater systems, as well as specific conditions for monitoring activities (e.g., monitoring type, frequency, location, protocol, etc.). EPA also expects MS4 permits to require that the permittee operate its system and any structural controls in a manner to reduce the discharge of pollutants, and to that

Internet Address (URL) • http://www.epa.gov

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FDEP'S REACTION

- Permit Expectations Embraced by FDEP
  - Increased accountability and measurable permit requirements – enforceability
  - Focus areas: TMDL implementation, construction sites, post-construction SWM, illicit discharge detection/elimination
  - Stormwater system inspection, O&M
  - Require written plans, SOPs, schedules, milestones, etc.
  - Antidegradation policy implementation
- Increased Load Reductions

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

FDEP'S REACTION

- Permit Expectations Not Embraced by FDEP
  - Annual MS4 system-wide inspections
  - Monitoring of all stormwater outfalls
  - Implementation of post-development stormwater regulatory program
  - Minimum number of construction site inspections set by State
  - Expanded MS4 regulatory program for industrial dischargers
  - Mandatory use of "Green Infrastructure" BMPs

Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

FDEP MS4 PERMITTING RESOURCE MANUAL

- Components
  - Structural Controls and Stormwater System Operation
  - Areas of New Development and Significant Redevelopment
  - Roadways
  - Minimizing Water Quality Impacts from Flood Control Projects
  - Municipal Waste Treatment, Storage, or Disposal Facilities Not Covered by an NPDES Stormwater Permit
  - Pesticides, Herbicides, and Fertilizer Application
  - Illicit Discharges
  - Industrial and High Risk Runoff
  - Construction Site Runoff Management
  - Monitoring Requirements.
  - Annual Reporting
  - TMDL Implementation

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CHANGES TO PERMITS (CYCLE 3)

- Inventory, Inspection, & Maintenance
- Standard Operating Procedures (SOPs)
- Training Plans & Public Ed Plans
- Accountability Reporting – Load Reductions
- TMDL Implementation

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

INVENTORY, INSPECTION, MAINTENANCE

- Better inventory of stormwater system
- More detailed maintenance items
- Inspection schedule changes
  (closer agreement with WMD ERP requirements)
  - Outfalls – annual unless historical records
  - Pipes, culverts – 10% of assets per year
  - Inlets, catch basins, - 10% of assets per year
  - *Note that EPA wanted annual inspections of all assets*

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

SOP'S

- What is a written Standard Operating Procedure (SOP) ?
  - Management tool
  - What makes sense for your MS4 and local government departments
  - Organizes processes and procedures
  - Includes coordination policies among local government departments
  - Includes prioritization factors, checklists, flow charts, etc.
  - Assures continuity when staff changes
- Develop written standard implementation procedures
- Perform annual review and revise as necessary

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

SOP'S

- Conducting MS4 system inspections/O&M
- Roadway litter program
- Street sweeping, road repair/O&M
- Equipment & maintenance yards
- Waste TSD facility inspections
- Minimize use of and properly store and use pesticides, herbicides, and fertilizers
- Conducting pro-active and reactive illicit discharge inspections
- Conducting/coordinating spill prevention and response
- Reducing & responding to sanitary sewer overflows or spills
- Conducting high risk facility inspections
- Conducting site plan reviews
- Conducting construction site inspections

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

TRAINING & PUBLIC EDUCATION

- Develop and implement a written training plan for personnel and contractors, including refresher training, for:
  - Identifying illicit discharges and knowing how to report them and deal with them
  - Proper spill prevention, containment, and response techniques and procedures
  - Conducting construction site plan reviews and inspections
- Develop and implement a written public education plan on how to minimize stormwater impacts associated with:
  - Use of pesticides, herbicides, and fertilizers including Florida-friendly landscaping principles
  - Promote identification and reporting of illicit discharges and improper disposal
  - Promote proper use and disposal of used vehicle fluids, household hazardous wastes, etc.

Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

ACCOUNTABILITY REPORTING

- Monitoring and Loadings
  - Use state EMCs to calculate Year 3 pollutant loadings – in MS4 Permit Resource Manual
  - Standard set of six parameters (TN, TP, TSS, BOD, Zinc, Copper)
  - Not required to do seasonal loadings
  - No change in monitoring
- Annual Report on the effectiveness of SWMP in reducing pollutant loads
  - Compare with previous two Year 3 outfall or watershed loadings
  - If no load reduction, explain why not and revise your SWMP to make it more effective in reducing stormwater loads
  - Which components of the SWMP are working & effective in reducing SW loadngs?
  - Which components of the SWMP are not working well & need revised to make them more effective?
  - Which components of the SWMP do not contribute to reducing SW loads and could be revised or de-emphasized?
  - Is the monitoring program providing data that assesses SWMP effectiveness, BMP effectiveness, retrofitting locations?

Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

ACCOUNTABILITY REPORTING

- Conducting construction site plan reviews and inspections
  - Do we have requirements that exceed ERP or CGP?
  - If no, four checks needed:
    1. ES control plan included
    2. Stormwater plan included
    3. ERP obtained or applied for?
    4. CGP needed? Obtained or applied for?

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

TMDL IMPLEMENTATION

- Fact sheet lists DEP adopted and EPA established TMDLs at time of permit issue as starting list
- TMDLs with BMAPs – stay the course
- TMDLs without BMAPs
  - Prioritization report (Months 1–6)
  - Monitoring & assessment plan (Months 6-12)
  - TMDL outfall storm event monitoring of 1 outfall (Months 12-36)
  - Supplemental SWMP = TMDL implementation plan (Months 24-48)

Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

TMDL IMPLEMENTATION

- TMDL Implementation Prioritization Report
- Each permittee that discharges to a water body with an adopted TMDL is responsible for reporting - individually or with other permittees
- Prioritization factors might include:
  - For a verified impaired water body? If not, suggest monitoring to delist
  - BMAP development underway?
  - Public access? Significance to community?
  - Used for swimming or fishing?
  - DO or nutrient impairment vs coliform?
  - For water body with SW master plan?

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Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

OTHER NEW REQUIREMENTS

- Fertilizer applicators must receive training through Green Industry BMP Program
- Adopt Florida-friendly ordinance if within watershed of impaired water
- Notify DEP if industrial facility does not have coverage under MSGP
- Develop and implement procedures to ensure that ERP and CGP permits have been obtained prior to issuing local grading, clearing, or building permits

Source: New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011

CONSTRUCTION DEWATERING

- Revisions to the Generic Permit for Stormwater Discharge from Large and Small Construction Activities, Rule 62-621.300(4)(a), F.A.C.
- COMMENTS: From 6/19/2014 To 7/10/2014 (closed)

The proposed revisions to the stormwater NPDES generic permit include provisions authorizing construction dewatering for non-contaminated ground water, with appropriate control measures for non-stormwater discharge. ***Revisions to the dewatering permit will provide that sites covered under the CGP that also have dewatering operations do not need separate coverage under the industrial wastewater generic permits.*** *The combined revisions will have the effect of allowing sites covered by the CGP to conduct dewatering operations without the need to obtain a separate NPDES permit under the Industrial Wastewater Program.*

IMPACT TO LOCAL NPDES MANAGERS

- Impacts to Local Manager
  - Time
  - Budgets
  - Staffing
- Stakeholder Coordination
  - Municipal Partners
  - Public
  - Regulatory
- Practical Pollutant Load Reduction
  - Accountability
  - BMP benefit/cost
- Rallying Support from the Powers that Be

IMPACT TO LOCAL NPDES MANAGERS

- TMDL /BMAP vs. NPDES
  - NPDES = Outfall – centric
  - TMDLs = Watershed – centric
  - Multiple Stakeholders
  - Multiple Permitees
  - Approach:
    - Prioritize TMDL waters
    - Prioritize Outfalls
    - Monitor Priority Outfall
    - Assess Reductions
    - Report Progress

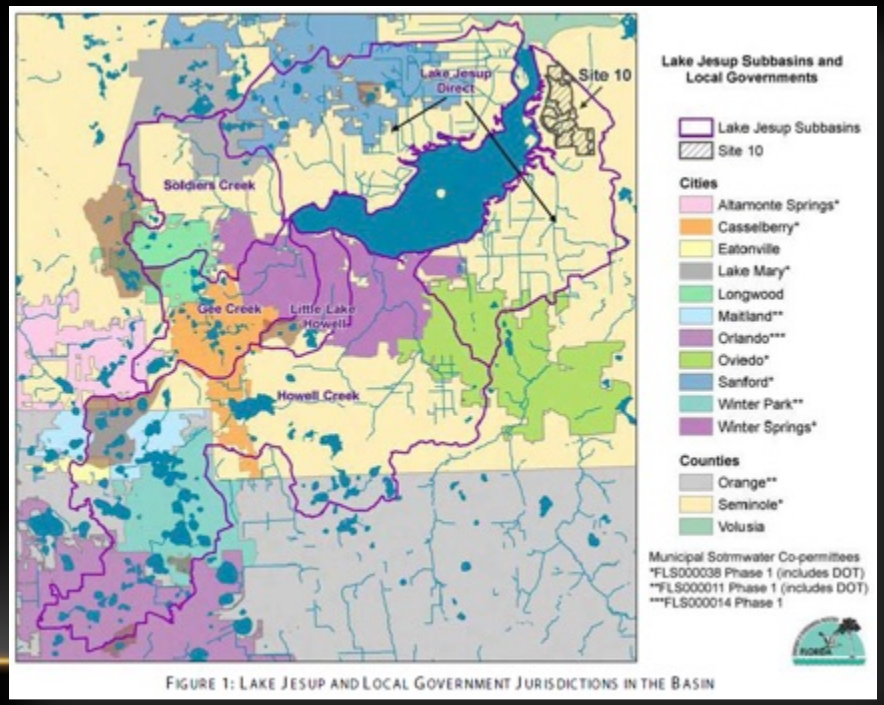

FIGURE 1: LAKE JESUP AND LOCAL GOVERNMENT JURISDICTIONS IN THE BASIN

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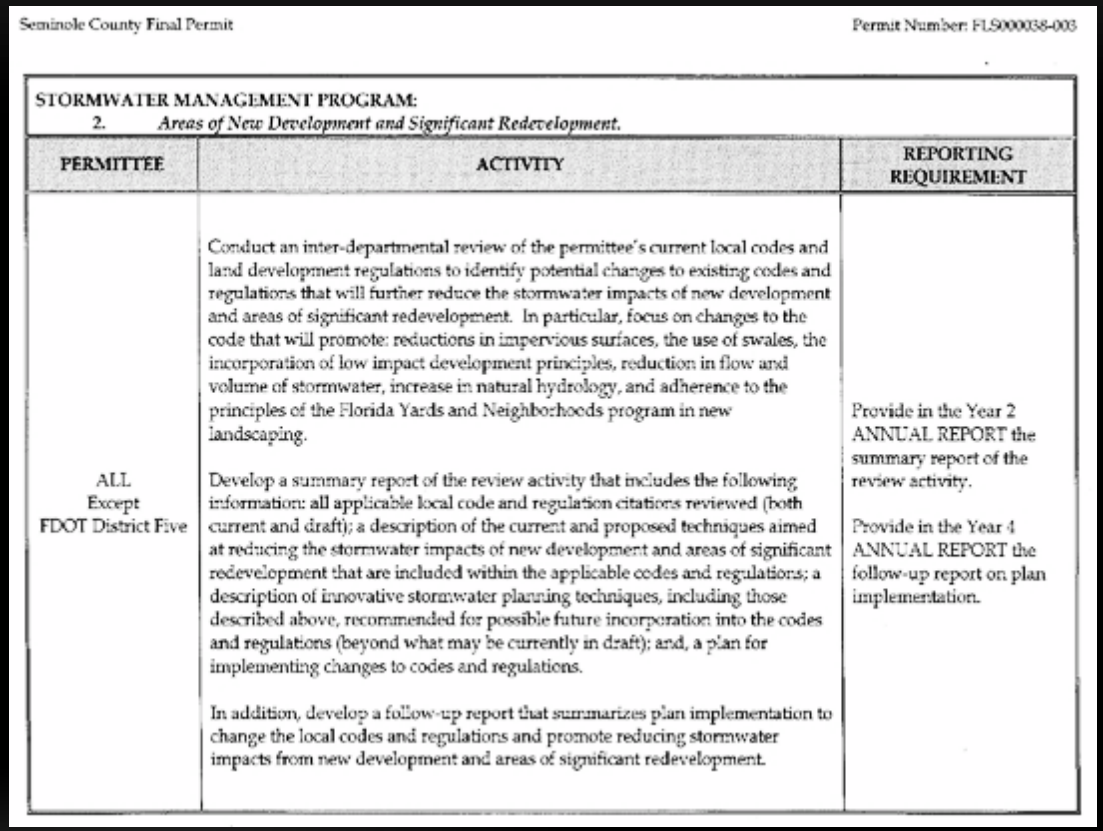
IMPACT TO LOCAL NPDES MANAGERS

- Code Review
  - Stormwater Regulations
  - WMD Concurrency
  - Illicit Discharges
  - Floodplains
  - Lake Management
  - Stormwater Utility



Seminole County Final Permit — Permit Number: FLS000038-003

STORMWATER MANAGEMENT PROGRAM:
2. *Areas of New Development and Significant Redevelopment.*

PERMITTEE	ACTIVITY	REPORTING REQUIREMENT
ALL Except FDOT District Five	Conduct an inter-departmental review of the permittee's current local codes and land development regulations to identify potential changes to existing codes and regulations that will further reduce the stormwater impacts of new development and areas of significant redevelopment. In particular, focus on changes to the code that will promote: reductions in impervious surfaces, the use of swales, the incorporation of low impact development principles, reduction in flow and volume of stormwater, increase in natural hydrology, and adherence to the principles of the Florida Yards and Neighborhoods program in new landscaping. Develop a summary report of the review activity that includes the following information: all applicable local code and regulation citations reviewed (both current and draft); a description of the current and proposed techniques aimed at reducing the stormwater impacts of new development and areas of significant redevelopment that are included within the applicable codes and regulations; a description of innovative stormwater planning techniques, including those described above, recommended for possible future incorporation into the codes and regulations (beyond what may be currently in draft); and, a plan for implementing changes to codes and regulations. In addition, develop a follow-up report that summarizes plan implementation to change the local codes and regulations and promote reducing stormwater impacts from new development and areas of significant redevelopment.	Provide in the Year 2 ANNUAL REPORT the summary report of the review activity. Provide in the Year 4 ANNUAL REPORT the follow-up report on plan implementation.

IMPACT TO LOCAL NPDES MANAGERS

- Code Review
  - Innovative Stormwater Practices
  - Green infrastructure
  - LID

Each section of the Land Development Code should be reviewed to identify possible impediments to using newer, more sustainable techniques such as "Low Impact Design" or "LID". *In addition, this is an excellent time to revise and correct any references to statutes, rules of other agencies, or your own legal authority to implement and enforce the various components of your MS4 permit.*

In recent years there has been increased interest in LID which seeks to minimize the hydrologic and water quality changes that result as part of site development. ***Low impact design principles seek to integrate the following concepts into the design process:***

- ***Use hydrology as the integrating framework***
- ***Think micromanagement***
- ***Control stormwater at the source***
- ***Use simplistic, non-structural methods***
- ***Create a multi-functional landscape and infrastructure***

LID provides the opportunity to recharge groundwater supplies, protect surface waters, and reduce waste and disposal through the use of natural processes with waste that can be composted. It reduces potable water demand through the use of cisterns and also improves air quality and reduces urban heat island effects through the use of vegetation and trees. LID also improves neighborhoods by beautifying the common spaces and adding aesthetic value. One of the reasons that LID is a sustainable solution is the fact that it addresses more than just one issue.

WOTUS

- April 2014 EPA and USACE jointly propose revising definition of **Waters of the United States**
- Purpose to clarify what waters are and are not covered by CWA
- Representing that new language will not substantially impact MS4s
- Traditional definition of WOTUS: *those waters that are susceptible for use in interstate or foreign commerce, interstate waters, certain wetlands, territorial seas and impoundments of these waters, and tributaries thereto.*
- Definition being expanded to include:
  - Adjacent Waters
  - Tributaries
  - Waters with "Significant Nexus"

More information see Federal Register April 21, 2014: http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf

WOTUS

- Adjacent Waters
  - "Adjacent" not specifically defined
  - All waters including wetlands
  - Neighboring waters within the floodplain
  - EPA will use best professional judgment
- Tributaries
  - "Tributary" not specially defined
  - Includes man-altered or man-made ponds, canals, ditches
- Waters with "Significant Nexus"
  - On a case-specific basis, the proposed regulations provide that other waters and wetlands, alone or in combination with other waters, that have a significant effect on WOTUS in the region, are also considered jurisdictional waters.

WOTUS

- Exclusions
  - Ditches that are excavated entirely from uplands, drain only upland areas, and have less than perennial flow
  - Ditches that do not contribute flow to a WOUS
  - Waste treatment systems, such as ponds or lagoons that are used for stormwater/water quality treatment that are designed to meet requirements of the CWA
  - Prior converted cropland, where wetlands were converted to farmland, prior to the "Swampbuster" provision of the Food Security Act of 1985
  - Artificial features, such as:
    - Irrigated areas that would revert to uplands if irrigation applications ceased;
    - Man-made lakes or ponds created by excavating and/or diking uplands and used exclusively for livestock watering, irrigation, settling basins, or rice growing;
    - Aesthetic pools, such as reflecting pools, swimming pools, or ornamental waters that were excavated/constructed in uplands;
    - Depressional areas that may fill with water that were incidentally created during construction activities;
    - Groundwater, including groundwater drained through subsurface drainage systems; and,
    - Gullies, rills, and non-wetland swales.

http://www.gpo.gov/fdsys/pkg/FR-2014-04-21/pdf/2014-07142.pdf.

WOTUS

- Potential consequences for MS4s
  - Municipal Separate Storm Sewer System permit requirements and water quality standards must be met in stormwater conveyances and retention structures that are determined to be WOTUS, including numeric nutrient criteria applicable to Class III ("recreational") water bodies, antidegradation requirements and other permit conditions.
  - Dredge and fill permitting policies of the Corps will be applicable to stormwater attenuation ponds, drainage ditches and other conveyances that are determined to be WOTUS- even during routine maintenance activities.

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http://www.dep.state.fl.us/water/stormwater/npdes/

REFERENCES

- Evaluating the Effectiveness of Municipal Stormwater Programs, EPA 833-F-07-010, January 2008
- MS4 Improvement Guide, USEPA #833-R-10-001, April 2010.
- New Permit Conditions for Phase I MS4 Permits, E. Livingston, FDEP NPDES Section, Presentation from FSA New Directions in Stormwater Permits & Programs Seminar, September 2011.
- New & Improved NPDES MS4 Permits – Challenges from a Local Perspective, K. Ornberg & R. Potts, Presentation from ASCE EWRI Seminar, March 2012.
- NPDES Phase I MS4 Permitting Resource Manual, FDEP, January 2013.
- NPDES Phase II MS4 Generic Permit and Rule Revisions, Workshop/Webinar, FDEP, April 2013.
- Urban Stormwater in the United States, National Research Council, National Academies Press, 2008.

Thank you !

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