

Reply To: West Palm Beach

SENT VIA ELECTRONIC MAIL ONLY

December 6, 2010

Stephanie Sanzone
Designated Federal Officer
Science Advisory Board
U.S. Environmental Protection Agency (MC-1400R)
1200 Pennsylvania Ave., NW
Washington, DC 20460-4164

Re: Comments on EPA's Methods and Approaches for Deriving Numeric Criteria for Nitrogen/Phosphorus Pollution in Florida's Estuaries, Coastal Waters, and Southern Inland Flowing Waters

Dear Ms. Sanzone:

On behalf of the Florida Association of Special Districts ("FASD") and its statewide membership, Lewis, Longman & Walker, P.A., provides the following comments concerning the U.S. Environmental Protection Agency's ("EPA") report entitled Methods and Approaches for Deriving Numeric Criteria for Nitrogen/Phosphorus Pollution in Florida's Estuaries, Coastal Waters, and Southern Inland Flowing Waters, dated November 17, 2010.

FASD has represented the interests of independent and dependent special districts in the state since 1976. Special districts are limited purpose governmental units administratively separated from county, municipal, or state government.

In Florida, there are approximately 94 special water control or improvement districts that have the legislatively expressed purpose of managing water resources, encompassing well over a million acres of land that are managed for flood control and water supply. Approximately 60 of the 94 special districts manage water resources within the South Florida Coastal Plain Ecoregion (everything south of Lake Okeechobee). FASD represents 39 of the special districts that provide invaluable flood control and water supply services for urban and agricultural land uses.

The public services provided by water control districts are most evident in South Florida where they operate and maintain extensive canal systems and water management facilities that dominate the hydrology of South Florida, provide critical water supply, and prevent flooding throughout South Florida. For example, we have attached a map depicting the water control districts within just one county, Palm Beach County, Florida. A simple review of the map shows just how intertwined the water control districts' canal systems are with Palm Beach County's landscape. Water control districts are not isolated features; instead they are dominant features in the South Florida landscape whereby the health of the communities being served/protected is directly related to the continued and uninterrupted flood control/water supply operations provided by these special districts.

All of the water control districts and improvement districts that manage Florida's water resources have one common origin; they were all legislatively created for the express purpose of flood control and/or water supply. They have little or no legislative authority to implement water quality treatment or environmental enhancement programs. These special districts, although they encompass over a million acres, have limited revenue sources that are based solely upon the flood protection/water supply benefits they provide.

Because they were created for flood control/water supply purposes, the district's water management systems (canals, etc.) were usually constructed in grid system with little or no littoral zone. In essence, they were constructed as a complex plumbing system to control water levels so that the surrounding areas could be utilized for urban development, agricultural activities and other human uses. They were not designed to mimic natural flowing systems. And, there is little or no space left within these systems to modify the systems if financial resources existed to do so.

EPA's proposed methodologies are arbitrary and would result in numeric nutrient criteria that would have severe adverse impacts to FASD's membership and their ability to conduct their intended operations protecting the public safety. FASD maintains that the proposed criteria for in-stream protection are not based on sound scientific principles or methodologies and will result in the expenditure of significant resources without deriving the intended environmental benefit. Specifically, FASD is providing the following comments:

I. Numeric Nutrient Criteria for South Florida Inland Waters is not Based on Sound Science

It is our understanding that EPA is considering three approaches for the development of numeric nutrient criteria for inland waters within the South Florida Region. The stated intent is to protect natural populations of aquatic flora and fauna from defined, excessive levels of nitrogen and phosphorus.

Before discussing the three proposed approaches individually it is important to note that in order for numeric nutrient criteria to reflect in-stream biological conditions, there must first be a relationship between nutrients and adverse biological effects in streams and canals. EPA has acknowledged that there is no evidence demonstrating a strong relationship between biological response variables and nutrient concentrations. Therefore, controlling in-stream nutrient levels does not necessarily control in-stream biological responses. Consequently, there are other factors that must be first addressed in order to control biological responses such as habitat, hydrology, and color. Elevated nutrients as the primary controlling factor for the allowance of the designated use and biology is not supported by the science and is thus arbitrary and unnecessary regulatory action that will only result in a futile effort costing billions of dollars. It is therefore, recommended that the primary causes of impairment be determined and establish criteria for those factors.

a. Reference Condition Approach is Arbitrary

It appears EPA's preferred approach in developing instream protective values for Total Nitrogen (TN) and Total Phosphorus (TP) is the reference condition approach using least-disturbed sites. EPA's development of in-stream numeric nutrient criteria is oriented toward and has the expectation of protecting ecological communities found in "least-disturbed" sites. The South Florida Region is dominated by man-made canals which are artificial systems that are highly maintained. Therefore, using "least-disturbed" sites would result in an ecological expectation that is vastly different from what would be expected, or possible in most canal systems. This point is especially true considering most canal systems are urban systems that do not have natural filtering features that the proposed "least-disturbed" sites would have such as surrounding wetland systems. Failing to account for the full range of canal systems within Florida, dismisses the expected variability of nutrient levels in those systems. Therefore, this approach is inherently overprotective.

Second, EPA is proposing to develop a modified Stream Conditions Index for use in highly maintained systems such as canals to "indicate balance in the natural populations of aquatic flora and fauna." This approach assumes a relationship between biological responses and nutrient concentrations exists. As stated earlier, EPA has acknowledged that there is no evidence

that such a relationship exists. Further, the development of a stream conditions index is problematic because canal systems are highly maintained and highly modified. All previous attempts to develop such an index by the State and EPA have proven unsuccessful. FASD is concerned that such an index will not be an accurate method in gauging a balanced ecological community within canals.

Third, EPA is proposing to select the 75th percentile of the reference sites (streams and canals) in deriving the proposed numeric criteria. Calculating the 75th percentile of the reference sites means that 25 percent of the reference sites selected as being the “least-disturbed” would fail EPA’s proposed criteria. Consequently, picking the 75th percentile is over protective and is the direct result of EPA’s failure to demonstrate a direct relationship between nutrient levels and biological health within canals and streams.

Finally, EPA is proposing a reference based approach because EPA cannot establish a direct relationship between nutrients and biological conditions within flowing waters and canals. EPA has acknowledged that a dose-response approach is the preferred approach; however, such an approach is impossible for nutrients because there is no clear evidence that such dose-response relationship exists. Absent being able to establish such a relationship, EPA is defaulting to alternate approaches that derive criteria based on assumptions that have not been proven.

b. Distribution Approach is Arbitrary

Essentially this approach is the same as the reference based approach except that the data is not screened for the “least-disturbed sites.” Consequently, this approach is flawed for the same reasons the referenced based approach fails: (1) no relationship between nutrient levels and biological health of flowing waters including canals; (2) lack of a scientifically sound measure of the biological conditions (flora and fauna) that are to be protected; (3) selection of the 75th percentile in deriving the proposed numeric criteria is arbitrarily overprotective.

c. Stressor-Response Approach is Arbitrary

EPA’s final approach proposes criteria for Chlorophyll- α as a response indicator of nutrients. However, EPA has failed to scientifically demonstrate that there is a relationship between Chlorophyll- α , total phosphorous, and total nitrogen in flowing waters. Such an approach is premature without scientific evidence to support such a relationship. Again, there is no relationship between nutrients and biological response in flowing waters.

II. Downstream Protection Values are not Necessary

EPA is also proposing deriving numeric nutrient criteria for inland waters that would be protective of downstream inland waters and estuaries. Downstream protection of lakes and estuaries is already addressed by the Total Maximum Daily Loads program whereby an impaired lake and estuary is protected by establishing nutrient load allocations for all upstream waters including flowing waters and canals. Consequently, the development of in-stream nutrient criteria and downstream protection values is not necessary for protection of estuaries or other downstream waters

III. The Proposed Criteria will have Significant and Unnecessary Financial Impacts

Compliance with the proposed numeric nutrient criteria will require the construction and implementation of water treatment facilities and practices. Most water control and improvement districts do not have the physical space to construct new water treatment structures or retro-fit existing structures. As Attachment A demonstrates (a map of Palm Beach County, Florida), these districts serve urban and agricultural areas with little to no opportunity to expand their operations to include water treatment areas.

Regardless of the physical limitations, any attempt to retro-fit existing facilities in order to attempt compliance with numeric criteria derived from the proposed approaches would be fiscally prohibitive. The cost of retro-fitting the thousands of miles of canal systems for water treatment would conservatively be in the billions of tax payer dollars. This does not include the additional billions of dollars that would be expended in eminent domain proceedings that would be necessary to acquire lands to construct the water control facilities assuming such lands exist.

Essentially, special districts would have to assess individual property owners to fund the eminent domain proceeding that would take the very land being assessed in order to build a water treatment facility on what use to be homes, businesses, and farms. Redesigning the existing canal systems would not be a feasible option as it would be excessively costly and any redesigned based on attenuating nutrient loads would necessarily compromise the primary goal of flood protection. Even after wasting billions of dollars to implement the best available water treatment technology, it highly unlikely that the special districts will be able to bring their man-made canals into compliance with EPA's standards that are based the unproven assumption that there is a relationship between nutrient levels and the biological health of canal systems.

The Lake Worth Drainage District (“LWDD”) is a representative example of water control districts and the impacts EPA’s proposed regulations will have on their operations. LWDD is an independent taxing district of the State of Florida created on June 15, 1915. See Attachment B. The LWDD currently operates pursuant to special legislative act and Chapter 298, Florida Statutes. LWDD encompasses approximately 218 square miles in southeastern Palm Beach County, Florida. It includes within its boundaries 11 municipalities, 120,000 acres of urban development and 20,000 acres of agricultural land.

LWDD was created for the legislatively expressed purpose of reclaiming the lands within its boundaries for agriculture and other types of development and for the purpose of water control and water supply through the construction and maintenance of canals, ditches, water control structures and pumping stations. Its water management system provides comprehensive flood control and water supply protection to over 700,000 residents, 20,000 acres of prime agricultural land (located on LWDD’s western boundary) and 120,000 acres of urban development. It does this by maintaining approximately 511 miles of canals, 20 major water control structures and numerous other minor structures. See Attachment A depicting LWDD’s boundaries in yellow.

Like all water control and improvement districts, LWDD’s primary function is water control and not water treatment. As an urban water control district, LWDD’s day-to-day operations prevent the flooding of approximately 700,000 residents and several agricultural operations. EPA’s proposed numeric criteria would require LWDD to reduce nutrient loads; a requirement that would severely compromise LWDD’s primary function by directing necessary resources to water treatment as opposed to water control. Further, as Attachment A depicts, LWDD is completely built out and thus lacks the necessary land to construct any water treatment facilities, such as a stormwater treatment area, at or near discharge points. Even if LWDD had the necessary land to perform water treatment, LWDD lacks the financial resources to build, maintain, and operate the infrastructure.

In order to add some perspective on the potential, and substantial economic burden EPA’s approach will impose on LWDD, in 1999 the U.S. Army Corps of Engineers submitted a final report of the Central and Southern Florida Comprehensive Review Study (“Restudy”) to Congress. The Restudy required additional water flows to the Everglades National Park. The necessary activities LWDD would have had to undertake to provide the additional flows recommended in the Restudy would be considered minor compared to what LWDD would have to implement to comply with EPA’s proposed regulations. Even so, the estimated impacts LWDD would have incurred due to the Restudy included:

- Acquisition of 48 miles of new right of way for canal excavation, which would require the taking of 875 acres by eminent domain through property that was already fully developed
- New highway and bridge crossing to account for the new infrastructure
- Redirecting two major flood control canals
- Construction of new water control structures

The total estimated cost to LWDD was \$420,000,000 in addition to the cost estimate referenced in the Restudy. The estimated tax increase to residents living within the LWDD was expected to be an additional 477%. See Attachment C, Lake Worth Drainage District and the Restudy. As stated earlier, the impacts due to the Restudy would have been minor compared to the likely impacts resulting from implementation of numeric nutrient criteria within the South Florida Region. The cost to LWDD and its residents would be exponentially higher.

A tax increase of more than 477% is clearly not consistent with the principals set forth in Executive Order 12866, which requires that before issuing regulations, all costs and benefits of available regulatory alternatives must be assessed. Executive Order 12866 further requires that regulations be formulated “in the most cost-effective manner to achieve the regulatory objective” and requires EPA to “tailor [] regulations to impose the least burden on society, including individuals, businesses of different sizes, and other entities...” EPA’s initiative to develop numeric nutrient criteria fails to compile with the requirements of Executive Order 12866. As stated earlier, EPA should determine realistic expectations of healthy biological conditions for canal systems, determine the primary, proven factors that impact the biological health of these systems, and then establish criteria for these primary factors.

Again, even if LWDD were to incorporate water treatment facilities, it is highly unlikely that current levels could be reduced to the standards that EPA’s proposed methodologies are expected to produce. Consequently, EPA’s approach is not the most cost-effective manner to reach the regulatory objective and it is not the least burdensome alternative.

The cost estimate listed above does not include the economic costs that will occur due to resources being diverted from LWDD’s primary mission of flood control/water supply to water treatment. The prohibition on downstream discharges that could contribute to violations of water quality standards is particularly troublesome. Mother Nature does not respect water quality standards when storm events, such as a hurricane, approach Florida. When these storm events occur, LWDD must open the canal gates and allow water to discharge to the Intracoastal

Waterway. Failure to discharge water would result in flooding 11 municipalities and cause significant loss to property and life. LWDD is concerned that the proposed regulations do not account for public safety and welfare and the economic costs that are avoided by flood control protection. LWDD and other water control districts throughout the State must be able to function per their legislative mandate to protect property from flooding. The proposed rules will not only compromise LWDD's day to day operations but will likely shut down LWDD to the detriment of the 700,000 residents LWDD serves.

Finally, the economic impacts to maintaining existing operations must also be considered. The imposition of numeric criteria for canals within the South Florida Coastal Plain Ecoregion will result in having a majority of the South Florida canals non-compliant with regulatory standards and will have significant adverse implications on the ability to operate and maintain water control facilities. As a condition of issuance of any Environmental Resource Permit or Army Corps of Engineers permit, the applicant must demonstrate compliance with state water quality standards. Considering that a majority of the South Florida canals, including LWDD's canals, will not comply with the numeric criteria, a majority of the special districts will not be able to obtain the necessary state and federal authorizations to construct improvements necessary to continue their operations. See Attachment E, water quality data for representative LWDD canals. Essentially, the proposed numeric criteria run the risk of shutting down these vital flood control agencies and putting their service areas in jeopardy.

IV. Lack of Implementation Criteria

EPA's report proposes methodologies on how to develop numeric nutrient criteria but fails to discuss how implementation of numeric nutrient criteria will occur. It is just as important for the Science Advisory Board ("SAB") to evaluate the sufficiency of the implementation approaches as it is to evaluate the sufficiency of the development methodologies. Implementation should also be peer-reviewed to determine the scientific, fiscal, and reasonableness of EPA's criteria development.

V. Summary

In summary, EPA's proposed methodologies for in-stream and downstream numeric nutrient criteria for flowing waters are not based on sound science. EPA's reference site selection process for streams and canals is arbitrary and excludes a true representative sampling of biologically healthy canal systems. This scientific deficiency is further augmented by the EPA's selection of the 75th percentile. EPA is not proposing a dose-response based approach;

an approach it admits would be scientifically defensible, because it cannot establish a direct relationship between nutrient levels and the biological health of canal systems. Instead, EPA assumes the relationship “certainly exists.” If EPA is correct that the relationship “certainly exists,” then FASD requests that the SAB require EPA to prove it instead of basing regulations that will have devastating impacts on mere assumptions. Mere assumptions are not scientifically sound. The arbitrariness of the methodologies is further augmented by the fact EPA has not proposed a sound methodology to determine what constitutes healthy biological conditions within highly managed canal systems. Consequently, EPA is proposing methodologies to protected biological conditions that EPA has not scientifically or accurately determined.

Finally, the implementation of the proposed criteria based on any one of the proposed methodologies will impose immense economic costs on FASD’s membership that will sky rocket into the billions of dollars. The cost of compliance will not only bankrupt many flood control agencies but will diminish the public safety protection they provide. Such a high economic cost is arbitrary when it is clear that there is no biological relationship between nutrients and biological responses. Resources should be directed to the primary causes of biological responses within flowing waters. We therefore request as follows:

1. SAB require EPA to withdraw the proposed methodologies;
2. Determine the realistic expectations of healthy biological conditions for canal systems;
3. Determine the primary, proven factors that impact the biological health of these systems; and
4. Establish criteria for these primary factors.

Thank you for your assistance in this matter. If you require any additional information, please do not hesitate to contact me.

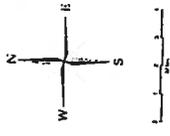
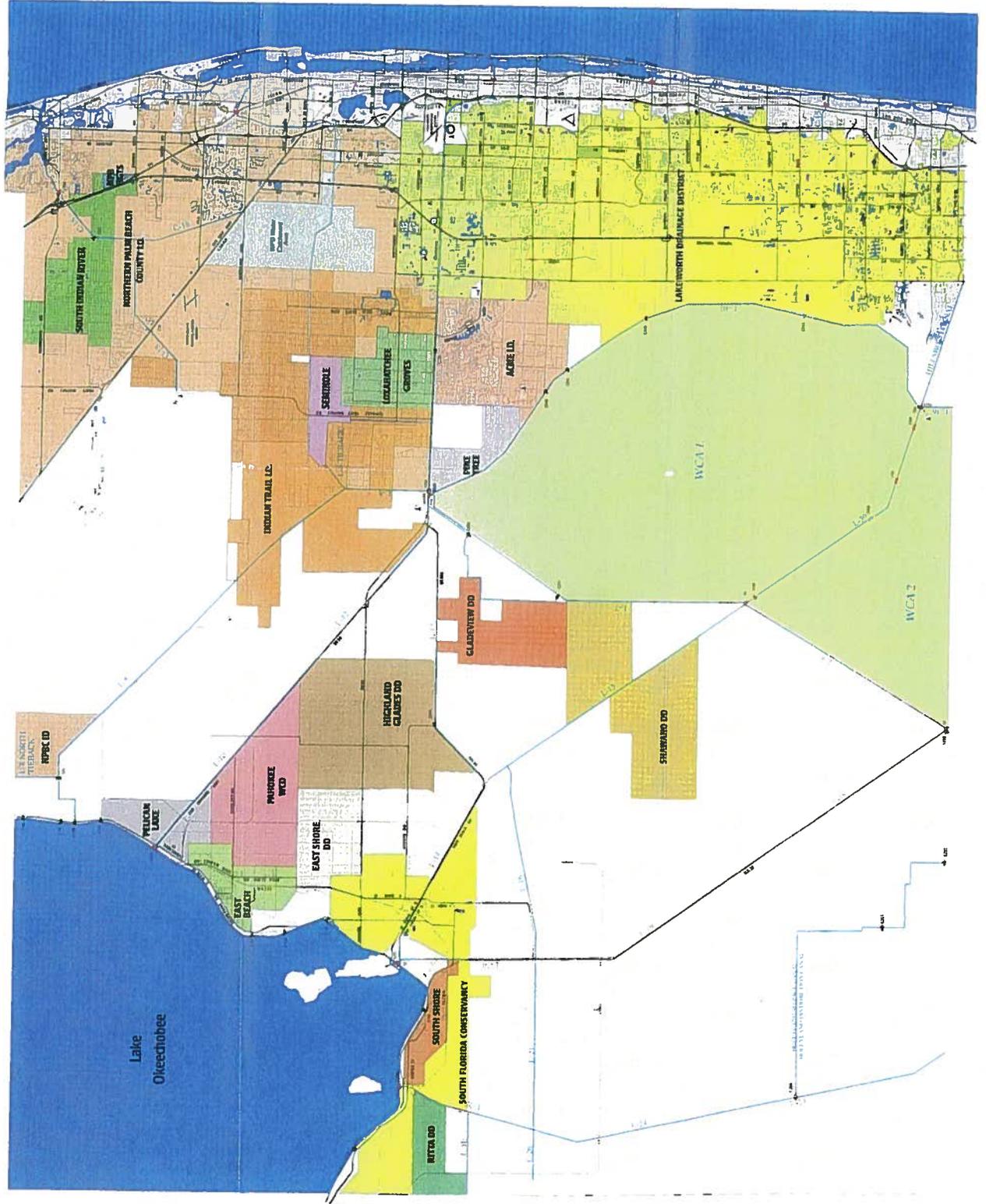
Sincerely,

Terry E. Lewis
James E. Charles

c: Michelle Damone
Clete Saunier
James Angle

Attachment “A”

Special Drainage Districts In Palm Beach County



Attachment “B”

OUR RESPONSIBILITIES

The Lake Worth Drainage District (LWDD) manages the water resources in southeastern Palm Beach County Florida. Approximately 100 employees monitor and control a complex system approximately 500 miles of canals and associated rights-of-way. Some of the services provided by LWDD include:

- ⇒ Permitting of all construction projects within LWDD.
- ⇒ An aquatic weed control program utilizing EPA & DEP approved herbicides.
- ⇒ Daily inspections of 20 major water control structures and weekly inspection of numerous minor water control structures.
- ⇒ Daily recording of rainfall at multiple locations throughout LWDD.
- ⇒ Daily monitoring of surface water elevations at 31 stations.
- ⇒ Monthly water quality monitoring at 9 locations.
- ⇒ Mowing of canal banks and berms and clearing of canal rights-of-way.
- ⇒ Participation in Community Outreach and educational programs.

LWDD STAFF

The daily operations of the LWDD are handled through its office.

Ronald L. Crone, PE, PLS
Manager/Secretary
roncrone@lwdd.net

Carol W. Connolly
Assistant Manager/Treasurer
carolconnolly@lwdd.net

Michael D. Baker
Assistant Manager/Director of Operations
mikebaker@lwdd.net

Patrick A. Martin, PE
Director of Engineering
patrickmartin@lwdd.net

Karen M. Hoyt
Director of Finance
karenhoyt@lwdd.net

Rosemary Rayman
Director of Information Services
rosemaryrayman@lwdd.net

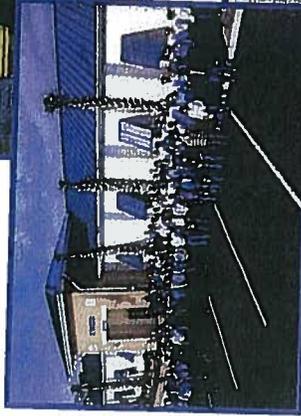


To obtain additional information or copies of this brochure, please contact the District office at:

13081 Military Trail
Delray Beach, FL 33484
561-737-3835 or 561-498-5363
Fax: 561-495-9694
www.LWDD.net

LAKE WORTH DRAINAGE DISTRICT

Water Managers Since 1915



13081 Military Trail
Delray Beach, FL 33484
Tel: 561-737-3835
Tel: 561-498-5363
Fax: 561-495-9694



GRAPHIC SCALE
0 5,000 7,500 10,000
SCALE: 1" = 5,000'

OCEAN

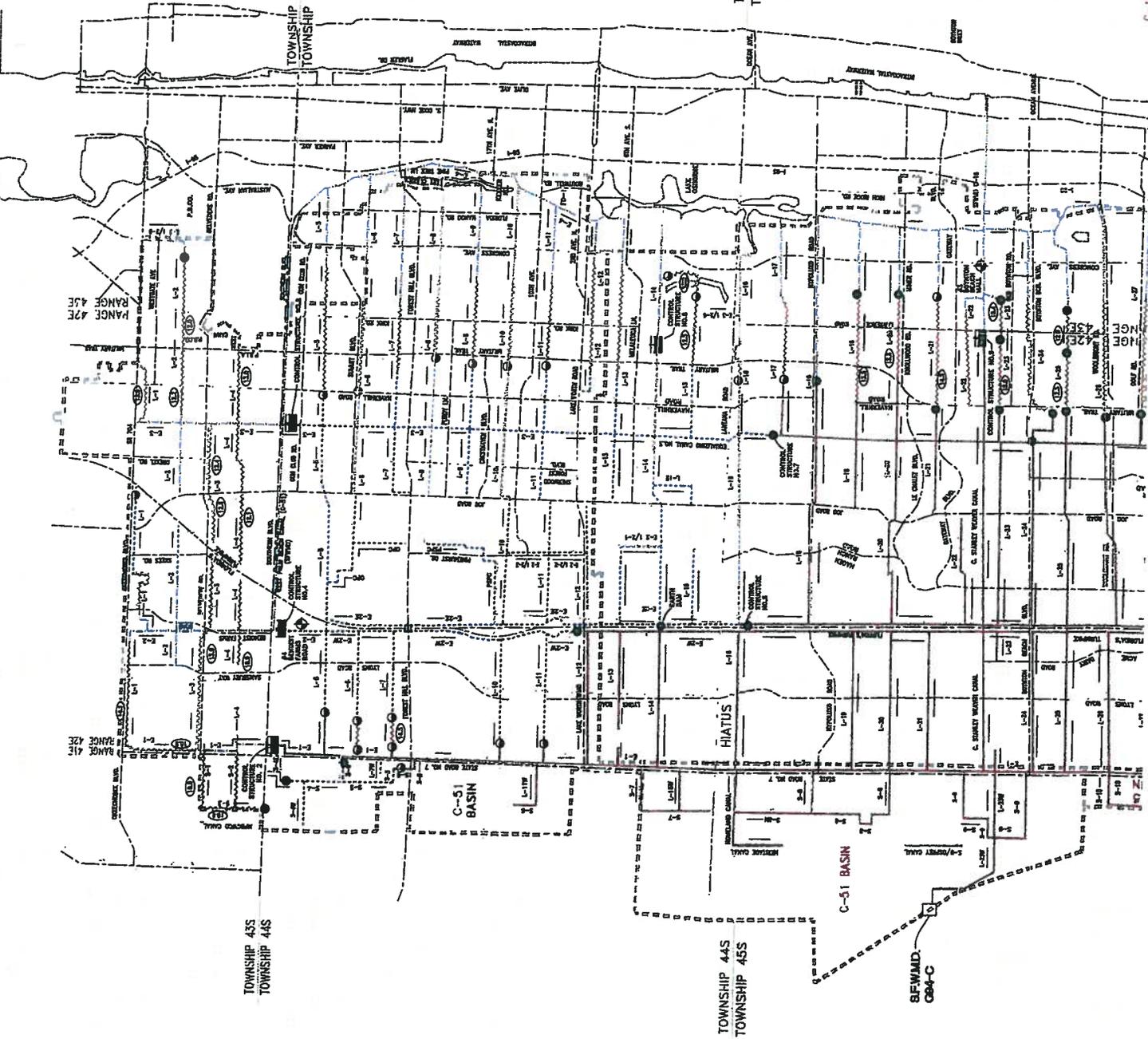
ATLANTIC

C-51 BASIN ALLOWABLE
DISCHARGE
35 CSM (EAST OF TURNPIKE)
27 CSM (WEST OF TURNPIKE)

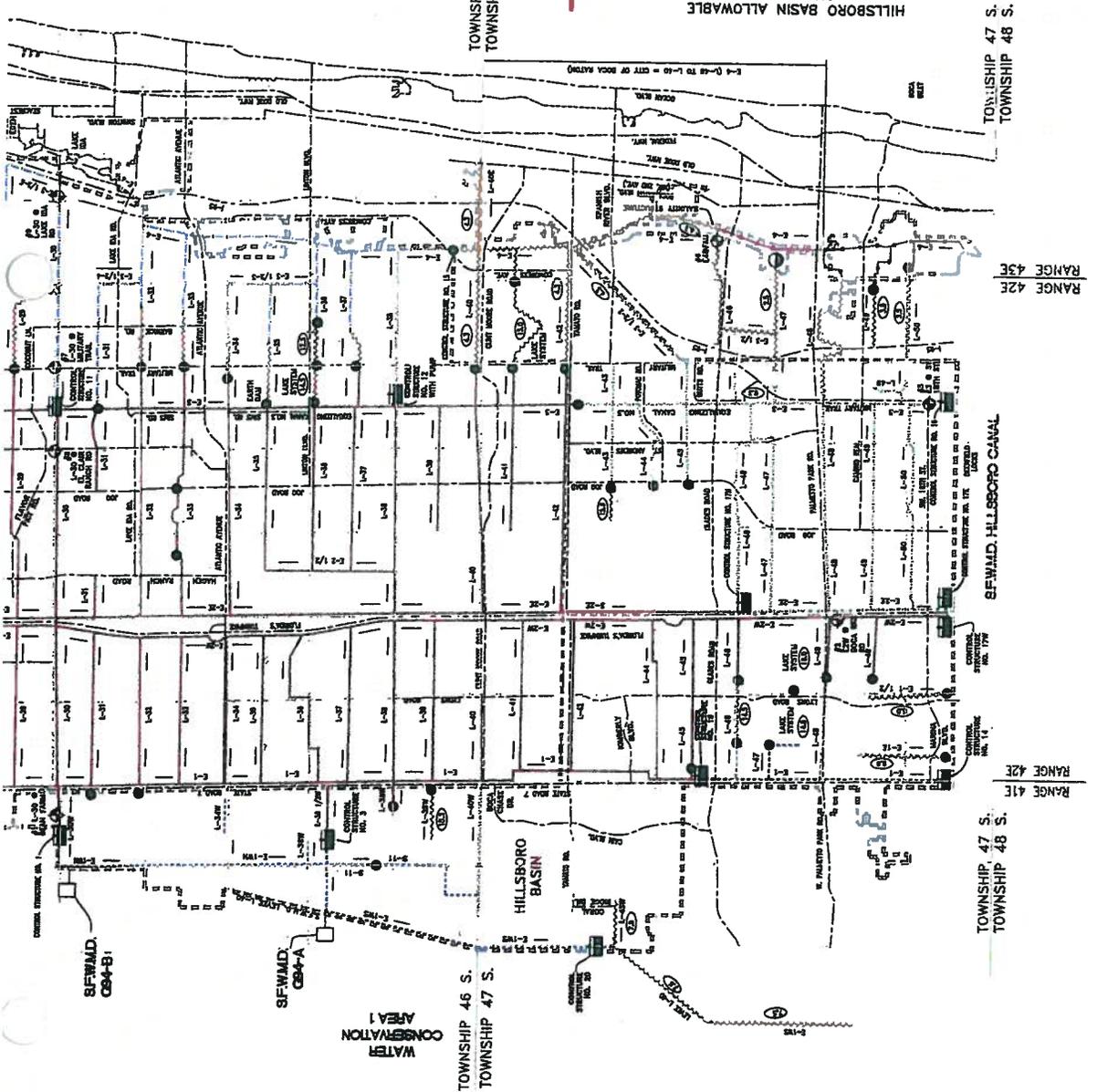
C-51 BASIN
C-16 BASIN

TOWNSHIP 445
TOWNSHIP 444

C-16 BASIN ALLOWABLE
DISCHARGE
82.6 CSM



OCEAN



LEGEND

- BOUNDARY LINE FOR L.W.D.D. BASIN AREA
 - PRINCIPAL ROAD
 - DENOTES SOME SPECIFIC CANAL MAINTENANCE ELEVATIONS
 - CANAL DESIGNATIONS
 - DIRECTION OF FLOW
 - ▭ CONTROL STRUCTURE
 - ▭ SHEET PILE WEIR/CONCRETE WALL WEIR
 - ALUMINUM OR WOOD RESER/GATE
 - WATER SAMPLING LOCATIONS
- MAINTENANCE ELEVATIONS**
- 9.5' NOVD
 - 13.0' NOVD
 - 9.3' NOVD
 - 16.0' NOVD
 - ** SEE NOTE BELOW
 - TIDAL

MAINTENANCE ELEVATION OF THE CONTROL STRUCTURE AND NOT NECESSARILY THE CANAL WATER SURFACE ELEVATION. ACTUAL WATER LEVEL IN THE CANAL WILL VARY.

UNDESIGNED, THE MAINTENANCE ELEVATIONS IN THIS MAP ARE BASED ON CURRENT CANAL BOTTOM ELEVATIONS. CURRENT INVERT ELEVATIONS OR GROUNDWATER INTRUSION.

NOTE:
ALL ELEVATIONS ARE SUBJECT TO VERIFICATION BY A CURRENT CANAL CROSS SECTION(S) TO L.W.D.D. SPECIFICATIONS.



DISCLAIMER:
THIS MAP IS TO BE USED FOR INFORMATIONAL PURPOSES ONLY. FOR DESIGN REQUIREMENTS, PLEASE CONTACT THE LWDD ENGINEERING DEPARTMENT DIRECTLY.

LWDD CANAL MAINTENANCE ELEVATIONS MAP

REVISIONS		NO.	DATE	BY	DATE
4	UPDATE MAP	JF			
3	UPDATE MAP	JW/JLF			
2	UPDATE MAP	JW/JLF			
1	UPDATE MAP	JW/JLF			

BOARD OF SUPERVISORS

The Lake Worth Drainage District (LWDD) is governed by a five member Board of Supervisors. Supervisors are elected to three year terms which are staggered to provide that at least one Supervisor is elected at each Annual Landowners' meeting.

ANNUAL LANDOWNERS MEETING

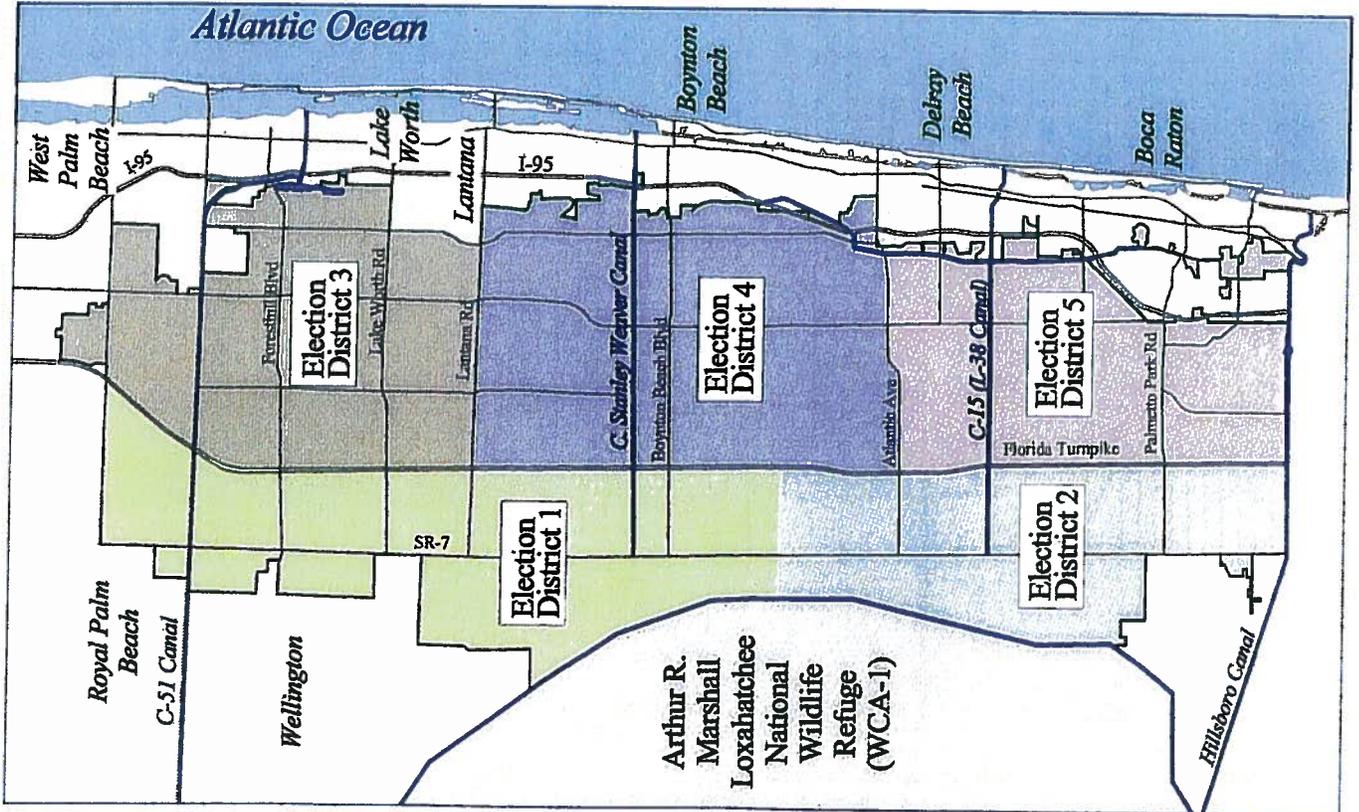
The Annual Landowners' Meeting is held in January on the first Wednesday after the 3rd of the month. Landowners within the boundaries of LWDD are entitled to one (1) vote per acre or fraction thereof. Landowners are encouraged to express their view and vision of LWDD.

BOARD OF SUPERVISORS' MEETING

Meetings of the Board of Supervisors are held monthly on the first Wednesday after the 10th of the month. Requests to be placed on the Board agenda must be received no later than 60 days prior to the meeting date at which the petitioner desires to appear.

SUPERVISORS

James M. Alderman	District 1
Murray R. Kalish	District 2
C. David Goodlett	District 3
Joyce D. Haley	District 4
John I. Whitworth, III	District 5



OUR HISTORY

The Lake Worth Drainage District (LWDD) was originally created on June 15, 1915 under Chapter 6458 Laws of Florida. The District currently operates under Chapter 98-525, 99-422 and amendments thereto.

Lake Worth Drainage District was created to reclaim lands within its boundaries and thereby provide water control and supply for settlement and agriculture. Currently, LWDD provides comprehensive flood control, water conservation and water supply protection to an estimated 700,000 residents and several thousand acres of prime agricultural land. LWDD protects its service area from flooding by maintaining approximately 500 miles of canals, 20 major water control structures and several minor structures. This system is also operated to provide ground water recharge to prevent saltwater intrusion for numerous municipal water utilities.

Lake Worth Drainage District encompasses roughly 200 square miles in southeastern Palm Beach County and is bordered on the west by the Loxahatchee National Wildlife Refuge. Included within the boundaries of LWDD are all or portions of 13 municipalities.

Lake Worth Drainage District is supported by an annual non-ad valorem assessment, which is assessed per acre or portion thereof.

The logo for Lake Worth Drainage District (LWDD) is rendered in a large, bold, blue, italicized sans-serif font. The letters are outlined in white and have a slight 3D effect. The background of the entire page is a photograph of a wetland area with tall green grasses and a body of water in the foreground. A single bird is visible in the middle ground, standing in the water. The sky is a clear, pale blue. There are four white circular punch holes along the left edge of the page.

LWDD

LAKE WORTH DRAINAGE DISTRICT

A decorative blue wavy line with a scalloped pattern, resembling water ripples, is positioned below the text.

**INTEGRAL
TO
EVERGLADES
RESTORATION**

WHERE WE ARE LOCATED

The Lake Worth Drainage District encompasses 218 square miles in southeastern Palm Beach County, including eleven municipalities, and is bordered on the west by the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Water Conservation Area #1)

WHAT WE DO

The LWDD water management system provides flood protection to over 700,000 residents, 20,000 acres of prime agricultural land and 120,000 acres of urban development by maintaining approximately 511 miles of canals, 20 major water control structures and numerous minor structures. Our system is also operated to provide groundwater recharge and for the prevention of saltwater intrusion.

WHO WE SERVE

- 700,000 residents benefit from the comprehensive flood control and water supply protection that LWDD provides.
- 23 public wellfields benefit from groundwater recharge and the prevention of saltwater intrusion that LWDD provides.
- 20,000 acres of prime agricultural land benefit from flood protection and irrigation that LWDD supplies.

Comprehensive Everglades Restoration Plan (CERP)

For the past 45 years LWDD has relied on water supply deliveries from the regional system, primarily the Arthur R. Marshall Loxahatchee Wildlife Refuge (Water Conservation Area #1), to maintain canal levels that recharge public water supply wellfields, prevent saltwater intrusion and to provide irrigation to a vital agricultural area.

CERP initiatives promote alternatives to reduce dependence on the regional system. Four components directly impact LWDD. To ensure that proper flood protection and water supplies were not impaired, LWDD actively participated in the development of the Everglades Restoration Plan. LWDD strongly supported Congressional action to ensure the federal passage of CERP. District staff continues to monitor the plan by participating in the following:

- Lower East Coast Regional Water Supply Advisory Committee (LEC)
- Palm Beach County Integrated Water Resource Plan
- Project Delivery Team for Lake Okeechobee and Hillsboro Impoundment ASR projects
- Multi-Agency Design Team (MAD)

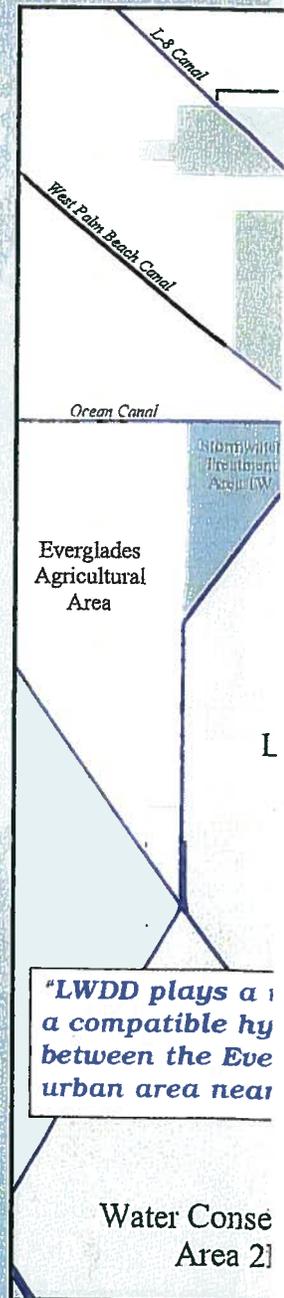
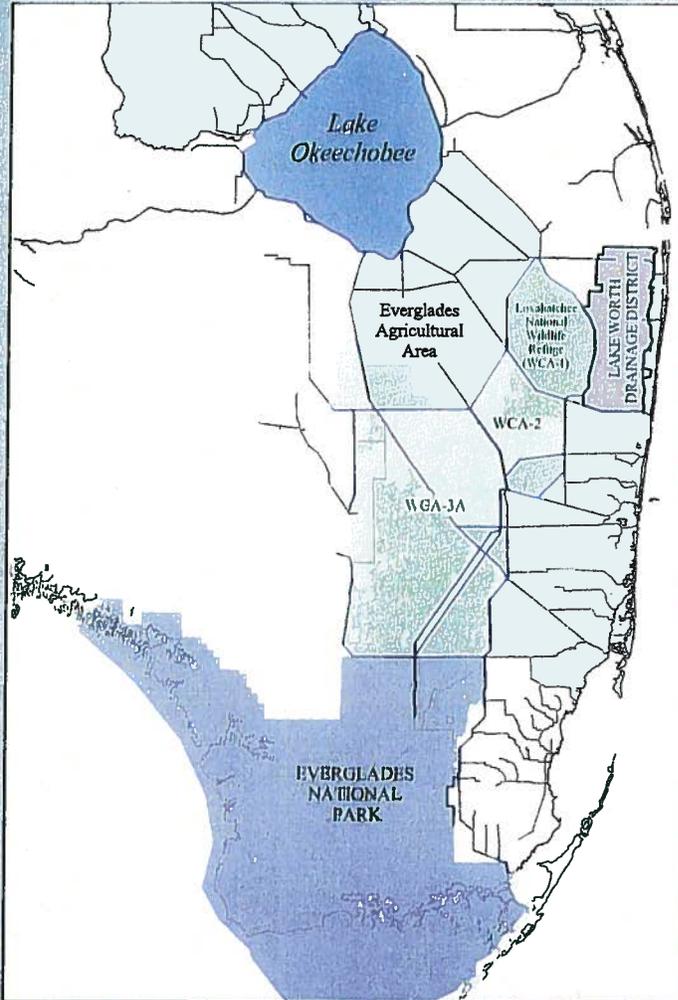
CERP projects will necessitate structural changes to LWDD facilities.

WHO

The Lake Worth Drainage District (LWDD) provide flood control to promote settlement what was then a sparsely populated

Lake Worth Drainage District is the

The Lake Worth Drainage District was originally established by the Laws of Florida. The District currently operates



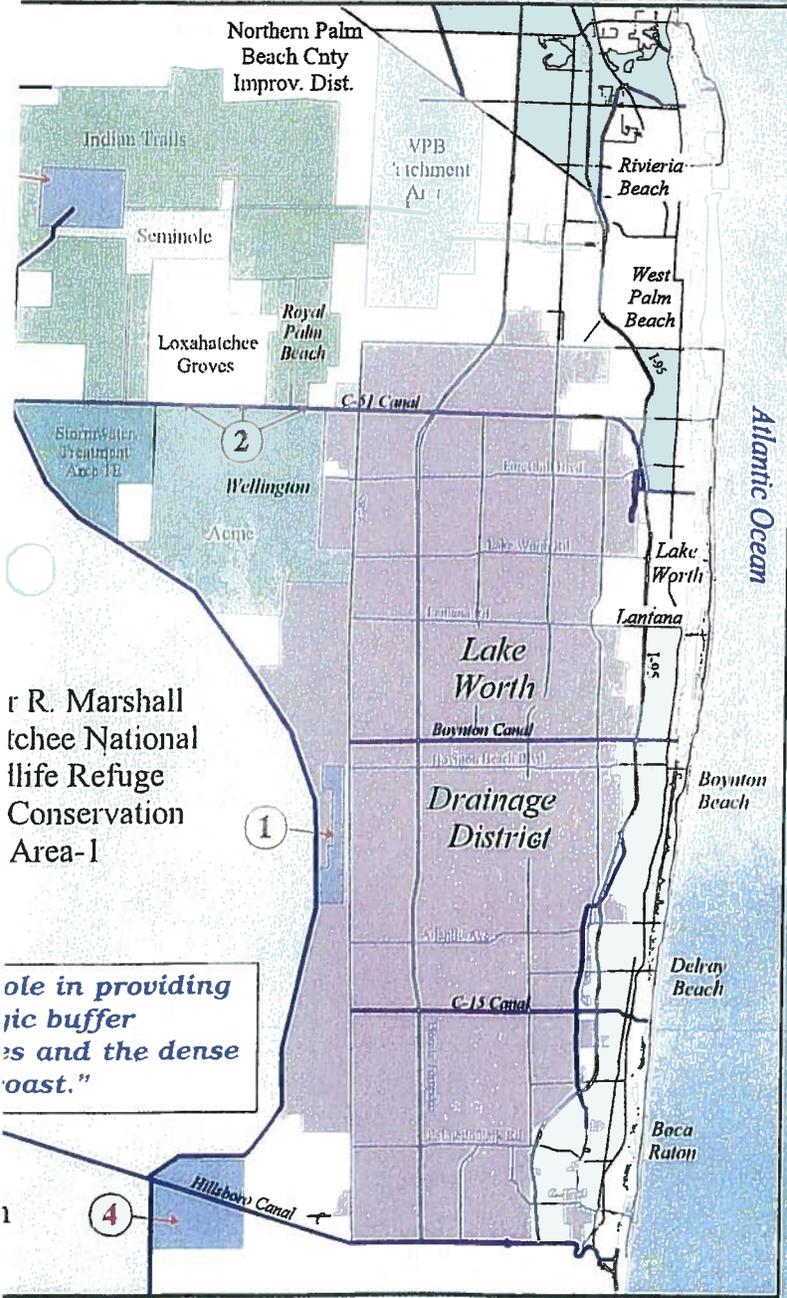
CERP Component Hillsboro Impoundment
This component will provide supplemental water to the dry season. The depth of 6 feet will be maintained in the canal. Thirty ASR wells

ARE

Governmental agency established in 1915 to provide water for large and small scale agricultural enterprises in southeastern Palm Beach County.

Best water control district in the State.

Created on June 15, 1915 under Chapter 6458 under Chapter 98-525 and amendments thereto.



R. Marshall
Ketchum National
Wildlife Refuge
Conservation
Area-1

role in providing
agricultural buffer
zones and the dense
coast."

ASR

As a water supply storage reservoir, ASR provides water to the Hillsboro canal during the wet season. The reservoir has a maximum capacity of 100,000,000 gallons and is located on both sides of the Hillsboro Canal. ASR is planned for this area.

If properly implemented the LWDD system will benefit from the storage capabilities of this feature. However, until these storage capabilities, including ASR, are proven reliable, LWDD's current water sources should not be eliminated or transferred.

CERP Component ①

Agricultural Reserve Reservoir

This Reservoir will supplement water supply for central and southern Palm Beach County by capturing and storing water during the rainy season. These supplemental deliveries will reduce demands on Lake Okechobee and Water Conservation Area 1.

Runoff from the western portion of the LWDD system will pump into a 750-acre impoundment during the wet season and receive water from the reservoir during the dry season. Thirty ASR wells are also part of this component.

This component will impact the LWDD operations requiring a pumped, rather than a gravity system form of flood protection, which will increase the potential for flood impacts. This will require the installation of two new pump stations in addition to improving several existing LWDD canals, roadway bridges and utility crossings.

CERP Component ②

C-51 Backpumping and Treatment

The C-51 Canal receives flood flows from the LWDD system. The relocation of the S155A structure will reverse the direction of flow for this segment of the canal.

CERP Component ③

Water Preserve Area/L-8 Basin

This component involves capturing more of the wet season tidal discharge from portions of the southern L-8, C-51, and C-17 basins. Although the primary benefits are derived for Northern Palm Beach County, LWDD can benefit from additional water in the C-51 during the dry season.

WHERE WE'RE GOING

LWDD maintains a presence in Washington D.C. to continue to protect the taxpayers in the District guaranteeing that we continue to meet existing levels of service and to monitor appropriations.

LWDD is building partnerships with the Environmental Protection Agency, Florida Department of Environmental Protection, South Florida Water Management District, Palm Beach County and public utilities to provide local solutions for water supply development alternatives, including planning for more efficient reuse of water within the LWDD system.

LAKE WORTH DRAINAGE DISTRICT

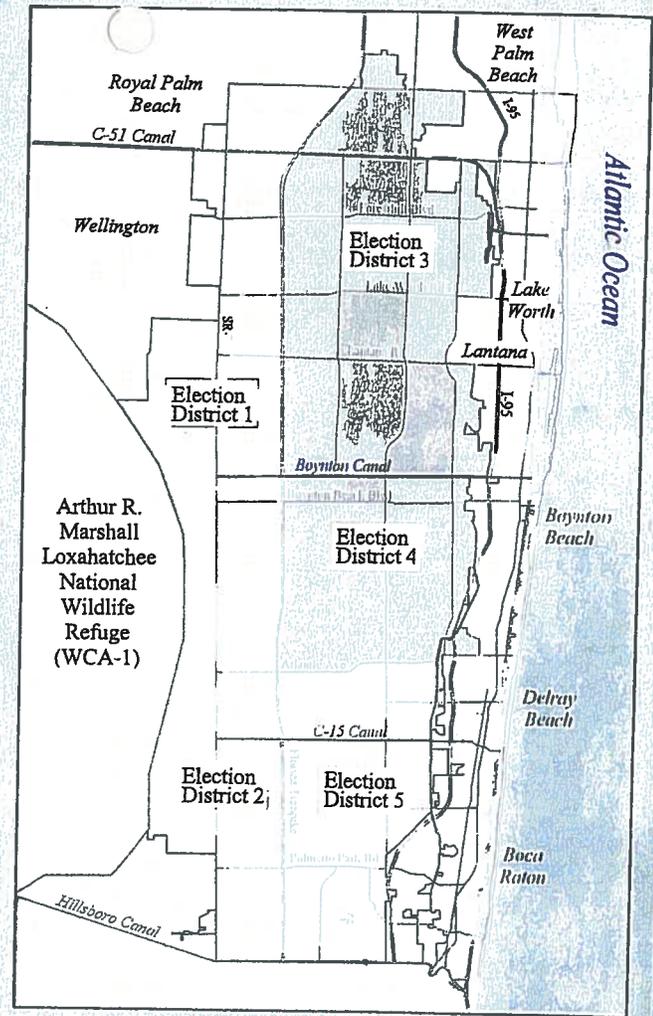
MANAGING THE WATER RESOURCES OF SOUTHEASTERN PALM BEACH COUNTY

The Lake Worth Drainage District is located in southeastern Palm Beach County and is governed by a five member Board of Supervisors. Each Supervisor is elected to a three year term. Their length of service is staggered so at least one Supervisor is elected or re-elected at the Annual Landowners Meeting held each January.

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Murray Kalish	District 2
David Goodlett	District 3
C. Stanley Weaver	District 4
John I Whitworth	District 5

For over 85 years, the Lake Worth Drainage District has been managing the water resources of South-eastern Palm Beach County. Approximately 100 employees monitor and control a complex system of 511 miles of canals and associated right-of way. Services provided by LWDD include:

- Daily inspection of 20 major water control structures.
- Weekly inspections of numerous minor water control structures.
- Aquatic weed control using EPA approved herbicides and mechanical harvesting methods.
- Surface water elevations are monitored daily at 31 stations.
- Rainfall is recorded daily at multiple locations throughout the District.
- Permitting of all construction projects within the District.
- Education programs for homeowner's associations, civic groups and residents.
- Participation in Community Outreach programs.
- Provides technical oversight on water resource forums throughout Palm Beach County and south-east Florida.



To obtain additional information concerning LWDD, please contact the District office at:

**13081 Military Trail
Delray Beach, FL 3348
561-498-5363 • 561-737-3835**

or
visit our Web Site
www.LWDD.net

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Attachment “C”

**LAKE
WORTH
DRAINAGE
DISTRICT**

**AND THE
RESTUDY**

HISTORY

The Lake Worth Drainage District (LWDD) was established in 1915 to provide flood control to promote settlement and small scale agricultural enterprises in what was then a sparsely populated rural area.

Now, the LWDD provides comprehensive flood control, water conservation and water supply protection for 700,000 residents and the Loxahatchee National Wildlife Refuge on its Western boundary.

The District encompasses 218 square miles in eastern Palm Beach County including eleven municipalities. The District provides its service area from floods by maintaining approximately 511 miles of canals, 20 major water control structures and numerous minor structures. This system is also operated to provide ground water recharge, water quality protection and prevention of saltwater intrusion for 23 municipal water utilities.

THE RESTUDY

On July 1, 1999 the U. S. Army Corps of Engineers submitted the final report of the Central and Southern Florida Comprehensive Review Study (The Restudy) to Congress. The plan recommends \$7.8 billion worth of changes to the water management system in south Florida.

The Lake Worth Drainage District (LWDD) service area will be directly affected by the outcome of the Restudy.

While the District supports the need to review the water management system and has participated in the Restudy process, the specific commitments contained in the Chief of Engineer's letter to Congress pose a serious potential threat to the residents and taxpayers in our District.

THE CHIEF'S REPORT

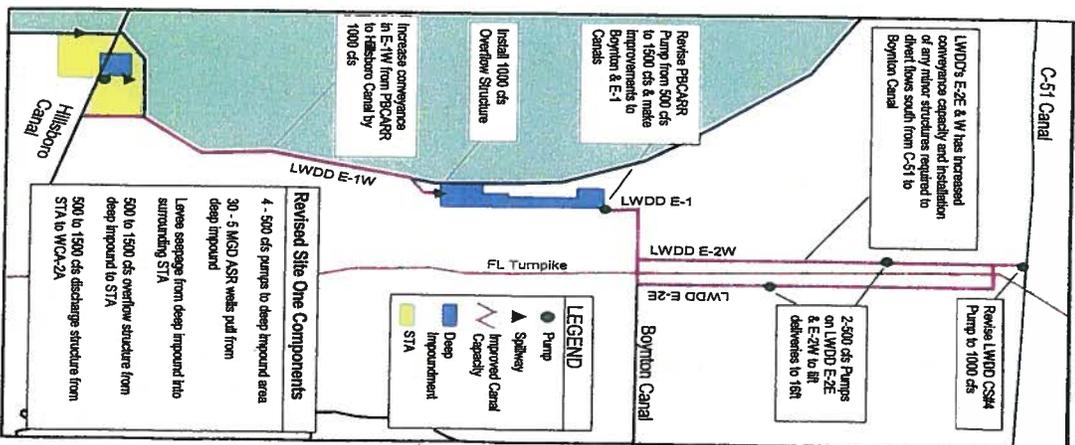
Accompanying the Final Restudy report to Congress was a letter from the Chief of Engineers containing a number of "further commitments" which constitute a last minute change to the final plan after completion of the public review process. These commitments which appear to be in response to pressure from environmental groups and the Department of the Interior, are viewed by many local interests as a betrayal of the open planning process that was used to gain broad local support.

One of the Chief's commitments is to guarantee additional water (245,000 acre-feet per year) to Everglades National Park over and above the flow provided by the Recommended Plan. This commitment cannot be met with the plan submitted to Congress and would pose additional environmental and implementation problems.

IMPACT TO LWDD

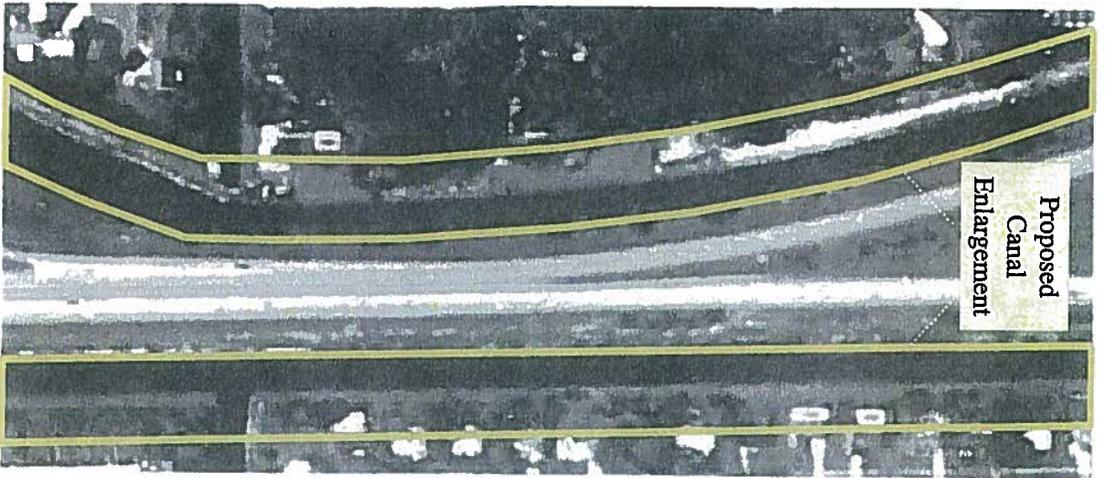
The preliminary evaluation by the Corps of what it would take to provide the additional flow indicate major impacts to the LWDD:

- ◆ The complete redirection of water flow in two major LWDD canals.
- ◆ New Control Structures on numerous later canals.
- ◆ Up to 48 miles of new right of way acquisition for canal excavation requiring the taking of 875 acres by eminent domain through property that is now fully developed.
- ◆ Twenty-four new highway and secondary bridge crossings for the redirected canals, including two interchanges on the Ronald Reagan Turnpike.
- ◆ The total cost of over \$420,000,000 is not reflected in the current estimate for the Restudy.
- ◆ The Chief's report does not provide additional flood protection.
- ◆ A POTENTIAL TAX INCREASE OF 477% TO LWDD RESIDENTS.



Changes to the recommended Plan required to meet the obligations in the Chief Engineer's report.

**Proposed
Canal
Enlargement**



This shows a small representative area where the LWDD canals along the Florida Turnpike would have to be enlarged to add capacity for the additional flow. Based on the preliminary sketch provided by the Corps over 100 single family homes would be taken along with numerous recreational and industrial facilities.

ALTERNATIVES

LWDD will support the use of its system to convey storm water to the National Park under the following conditions:

- ◆ The quantity and quality of the water should be validated by an independent review panel to confirm the actual needs of the Everglades National Park.
- ◆ Installation of a series of pump stations along the west side of the E-1 canal, to re-direct storm water into proposed reservoir or storm water treatment area (STA), instead of discharge to tide.
- ◆ Combine adjacent areas storm water and redirect flow into proposed reservoir or STA and pump clean water into Catchment Area 1 (WCA-1).
- ◆ Capital improvement costs should be included in the overall restoration budget and paid for by the State and Federal Government not by the taxpayers of the Lake Worth Drainage District

WHAT YOU CAN DO

Contact your Senator/Congressman and tell them you support the Everglades Restoration and the Restudy however, the further commitments from the Chief's report are not acceptable.

Itemized Costs within the LWDD

The table below estimates the costs that can be expected within the boundaries of the LWDD. Operation and maintenance costs have not been included.

Item	Quantity	Total
Canal Enlargement	48 Miles	\$177,408,000
New Pump Stations	4	\$ 36,500,000
Control Structures	~45	\$ 24,350,000
New Bridges	24	\$ 35,840,000
Real Estate	~875 acres	\$ 56,875,000
Houses/Apartments	~200	\$ 90,000,000
TOTAL		\$420,973,000

Wherever possible, costs were adapted from estimates in the Army Corps C&SF Restudy. Other costs were adapted from LWDD structural data, bridge cost source - FDOT.



LAKE WORTH DRAINAGE DISTRICT

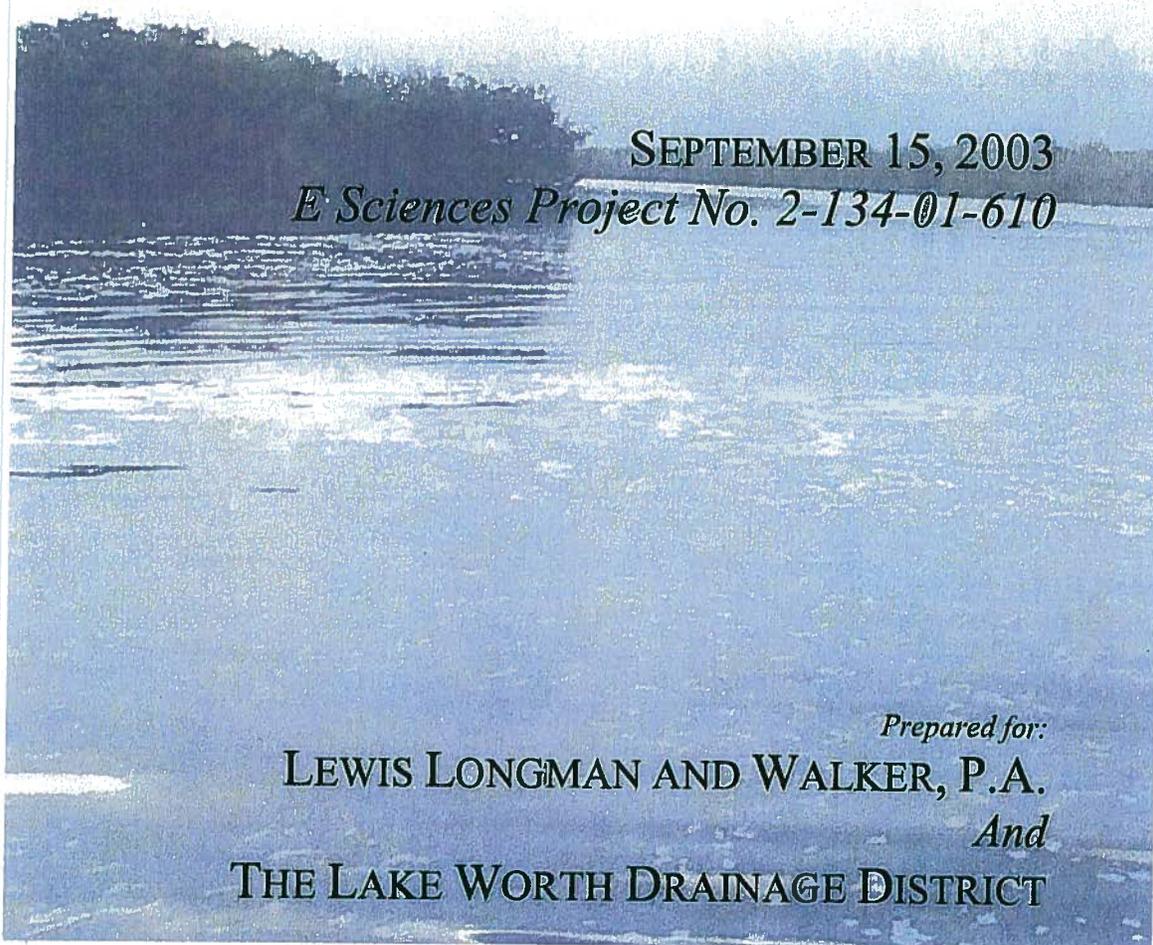
13081 Military Trail
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Attachment “D”



National Pollutant Discharge Elimination System *Permitting Analysis*

**ENGINEERING
ENVIRONMENTAL
ECOLOGICAL**



SEPTEMBER 15, 2003
E Sciences Project No. 2-134-01-610

Prepared for:
LEWIS LONGMAN AND WALKER, P.A.
And
THE LAKE WORTH DRAINAGE DISTRICT

E Sciences



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I. INTRODUCTION

This document has been prepared in response to Lake Worth Drainage District's (LWDD's) request for an analysis of the potential cost and effort necessary to obtain a permit to discharge under the National Pollution Discharge Elimination System (NPDES).

The LWDD was formed on June 15, 1915 and currently operates under Chapter 98-525 Florida Statutes (F.S.). It was created for the purpose of reclaiming the lands within its boundaries for agriculture and other types of developments, and for the purpose of water control and water supply through the construction and maintenance of canals, ditches, water control structures and pumping stations. Recently, the LWDD has also begun to protect the county's well fields through the implementation of a wellfield protection plan.

Purpose

The purpose of this report is to provide an analysis of the potential costs and efforts associated with the LWDD obtaining a NPDES permit for discharges to Waters of the U.S. The impetus for this analysis is the Supreme Court's recent decision to consider a case in which the Miccosukee Tribe of Indians of Florida (Miccosukee) has brought action against the South Florida Water Management District (SFWMD) alleging a violation of the Clean Water Act (CWA). The Miccosukee's suit contends that the SFWMD must obtain a NPDES permit for one of their (i.e. SFWMD's) pumping stations. Initially, the Miccosukees moved for a summary judgment on its complaint that the SFWMD violated the CWA by failing to obtain a NPDES permit before transferring water between the C-11 canal and the Everglades through pump station S-9. The SFWMD filed a cross motion for summary judgment.¹ The case was heard by the US District Court, Southern District of Florida. In September 1991, the judge ruled that the plaintiff's (i.e. Miccosukee's) motion for summary judgment was granted, and the defendant's (i.e. SFWMD's) motion for summary judgment was denied.

The SFWMD appealed the summary judgment. The appeal was heard by the US Court of Appeals, Eleventh Circuit which, in February 2001, held that: (1) the pumping station was a source of added

¹ "In considering a summary judgment, the Court must examine 'whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that the defendant should prevail as a matter of law'." From Order on Motion for Summary Judgment, September 30, 1999.

pollutants, within the meaning of the CWA, and thus a NPDES permit was required, but (2) injunctive relief was not appropriate.²

The case now goes before the Supreme Court, and the LWDD is filing an amicus curiae due to possible repercussions of this case. It has been speculated by lawyers for the Pacific Legal Foundation that if the ruling was not overturned, "the decision could cause serious operational and economic problems for hundreds of thousands of dam, and dam-like, facilities in this country that prior to this decision did not require such permits" and that the permitting "will be a slow, ponderous, logistically difficult, monumentally costly project." The case is South Florida Water Management District v. Miccosukee Tribe, 02-626.

² The September 1999 District Court's decision included an injunction prohibiting the SFWMD from operating the S-9 without a NPDES permit, but the Appeals Court noted that if the injunction were enforced substantial flooding in Broward County would result.

II. POTENTIAL PERMITS REQUIRED

Typically, through delegation, the Florida Department of Environmental Protection's (FDEP's) Industrial Wastewater Section issues discharge permits that authorize the discharge of properly treated wastewater to the land or to waters of the state. Delegation from the US Environmental Protection Agency (USEPA) to FDEP occurred on May 1, 1995. Subsequent to that delegation, the FDEP has issued NPDES permits for industrial discharges in the state of Florida.

Traditional industrial wastewater discharges are highly variable in the amount and types of pollutants they contain. Pollution from industry includes the "traditional" pollutants such as BOD (biochemical oxygen demand, a pollutant that contributes to the depletion of oxygen in receiving waters), suspended solids, and nutrients (nitrogen and phosphorus, chemicals that act as fertilizers in receiving waters and contribute to algae blooms and other nuisance plant growth). However, industrial waste can also include heavy metals, pesticides, oils and greases, and many toxic organic and inorganic compounds.

Waste flows can vary from several hundred gallons per day to tens of millions of gallons a day. Because of this variability, industrial waste treatment requirements are typically developed on a case-by-case or industry-by-industry basis rather than under a uniform treatment standard such as the minimum secondary treatment requirement for domestic wastewater facilities (FDEP website, 2003). However, "discharges" in the context of this report, from the LWDD consist primarily of non-point source runoff and surface water flows.

A. Scope of the NPDES Program

The following section is an excerpt from the USEPA document entitled *Water Permitting 101*, from the USEPA Office of Wastewater Management.

"Under the NPDES Program, all facilities which discharge *pollutants* from any *point source* into *waters of the United States* are required to obtain an NPDES permit. Understanding how each of the key terms ("pollutant," "point source," and "waters of the United States") have been defined and interpreted by the regulations is the key to defining the scope of the NPDES Program.

Pollutant

The term *pollutant* is defined very broadly by the NPDES regulations and litigation and includes any type of industrial, municipal, and agricultural waste discharged into water. For regulatory purposes, pollutants have been grouped into three general categories under the NPDES Program: *conventional*, *toxic*, and *non-conventional*. There are five *conventional pollutants* (defined in Section 304(a)(4) of the CWA). *Toxic pollutants*, or *priority pollutants*, are those defined in Section 307(a)(1) of the CWA and include metals and manmade organic compounds. *Non-conventional pollutants* are those which do not fall under either of the above categories, and include such parameters as ammonia, nitrogen, phosphorus, chemical oxygen demand (COD), and whole effluent toxicity (WET).

Point Source

Pollutants can enter waters of the United States from a variety of pathways including agricultural, domestic, and industrial sources. For regulatory purposes these sources are generally categorized as either *point sources* or *non-point sources*. Typical *point source* discharges include discharges from publicly owned treatment works (POTWs), discharges from industrial facilities, and discharges associated with urban runoff. While provisions of the NPDES Program do address certain specific types of agricultural activities (i.e., concentrated animal feeding operations), the majority of agricultural facilities are defined as *non-point sources* and are exempt from NPDES regulation. Pollutant contributions to waters of the United States may come from both *direct* and *indirect* sources. *Direct* sources discharge wastewater directly into the receiving water body, whereas *indirect* sources discharge wastewater to a POTW, which in turn discharges into the receiving water body. Under the national program, NPDES permits are issued only to direct point source discharges. Industrial and commercial indirect dischargers are addressed by the National Pretreatment Program. As indicated above, the primary focus of the NPDES permitting program is municipal and non-municipal (industrial) direct dischargers. Within these major categories of dischargers, however, there are a number of more specific types of discharges that are regulated under the NPDES Program.

Municipal Sources

Municipal sources are POTWs that receive primarily domestic sewage from residential and commercial customers. Larger POTWs will also typically receive and treat wastewater from industrial facilities (indirect dischargers) connected to the POTW sewerage system. The types of pollutants treated by a POTW will always include conventional pollutants, and may include non-conventional pollutants and toxic pollutants depending on the unique characteristics of the commercial and industrial sources

discharging to the POTW. The treatment provided by POTWs typically includes physical separation and settling (e.g., screening, grit removal, primary settling), biological treatment (e.g., trickling filters, activated sludge), and disinfection (e.g., chlorination, UV, ozone). These processes produce the treated effluent (wastewater) and a biosolids (sludge) residual, which is managed under the Municipal Sewage Sludge Program. Some older POTWs have an additional concern of combined sewer overflow (CSO) systems that can release untreated effluent during storm events. CSOs were an economic way for municipalities to collect both sanitary sewage and storm water and are controlled under the NPDES program. A number of municipalities have MS4s that are also subject to NPDES requirements. Specific NPDES program areas applicable to municipal sources are:

- the National Pretreatment Program,
- the Municipal Sewage Sludge Program,
- Combined Sewer Overflows (CSOs), and
- the Municipal Storm Water Program.

Non-municipal Sources

Non-municipal sources, which include industrial and commercial facilities, are unique with respect to the products and processes present at the facility. Unlike municipal sources, at industrial facilities the types of raw materials, production processes, treatment technologies utilized, and pollutants discharged vary widely and are dependent on the type of industry and specific facility characteristics. The operations at industrial facilities are generally carried out within a clearly defined plant area; thus, the collection systems are typically less complex than those for POTWs. Industrial facilities may have storm water discharges contaminated by manufacturing activities, contact with raw materials or product storage activities, and may have non-process wastewater discharges such as non-contact cooling water. The NPDES Program addresses these potential wastewater sources for industrial facilities. Residuals (sludge) generated by industrial facilities are not currently regulated by the NPDES Program. Specific NPDES program areas applicable to industrial sources are:

- Process Wastewater Discharges,
- Non-process Wastewater Discharges, and
- the Industrial Storm Water Program

Waters of the United States

EPA defines the term *waters of the United States*, to include:

- Navigable waters,
- Tributaries of navigable waters,
- Interstate waters, and
- Intrastate lakes, rivers, and streams which are:
 - used by interstate travelers for recreation and other purposes;
 - sources of fish or shellfish sold in interstate commerce; or
 - utilized for industrial purposes by industries engaged in interstate commerce.

The intent of this definition is to cover all possible waters within federal jurisdiction under the Commerce Clause of the Constitution. The definition has been interpreted to include virtually all surface waters in the United States, including wetlands and ephemeral streams. As a general matter, groundwater is not considered a water of the United States; therefore, discharges to groundwater are not subject to NPDES requirements. If, on the other hand, there is a discharge to groundwater that has a "hydrological connection" to a nearby surface water, the discharger may be required to apply for an NPDES permit because the discharge is then considered a water of the United States. States may choose to require NPDES permits for discharges to groundwater; jurisdiction over groundwater resources is maintained by States." (Note: FDEP regulates certain discharges to groundwater.)

B. LWDD Drainage Network

The LWDD consists of four basins (See Figure 1 in Appendix). Based on inventory information provided by LWDD, the system consists of 17 major discharge structures and 13 minor discharge structures. Maps and reports provided by the LWDD indicate the locations of the major control structures, the direction of flow within the canals, the major discharge canals for each basin, the water quality sampling locations, as well as the locations of 56 aluminum or wood risers/gates and 14 sheet pile weirs. The LWDD is bordered on the west by the SFWMD L-40 canal which separates the LWDD from Water Conservation Area 1 (WCA-1).

The basins are defined by the direction of water flow. Surface/stormwater is contained within each basin, directed toward canals and when necessary, discharged. Following is a brief overview of the LWDD

system by basin as described in the available mapping and the document entitled *Interbasin Study*, prepared by Mock, Roos & Associates, Inc., dated April 1992:

C-51 Basin – The C-51 canal (aka West Palm Beach Canal) is the major collector of flow for this basin. There are 12 main lateral canals (L-1 to L-12) and five equalizing canals (E-1, E-2E, E-2W, E-3 and E-4). Water is directed from the laterals to the equalizers to the C-51 which discharges into the Intracoastal Waterway (ICWW). There are three control structures south of the C-51 canal to discharge and maintain water levels:

- CS-2
- CS-4
- CS-6

The C-51 basin is approximately 65 square miles in size and is in the shape of an inverted L, where the vertical portion is a long, narrow band that parallels the SFWMD L-40 canal separating the LWDD from WCA-1. It is the northernmost basin in the LWDD. Along its western border with the L-40 canal, there is a (gravity-fed) culvert that connects the LWDD L-23W canal with WCA-1 at the SFWMD G94-C control structure. The L-23W canal flows east to the E-1 equalizing canal, then south into the L-30 lateral canal in the C-15 Basin from which water is discharged via control structure CS-11. See the C-15 Basin discussion below.

- **C-16 Basin** – There are 15 laterals (L-13 to L-27) and four equalizing (E-2W, E-2E, E-3 and E-4) canals. Flow in this basin is directed to the Boynton Canal, the L-14 or the E-4. The E-4 is a partially natural channel that runs through Lake Osborne. The L-14 discharges into the E-4. The E-4 and Boynton Canal discharge into the SFWMD C-16 canal which discharges into the ICWW. There are two control structures to discharge and maintain water levels:

- CS-8
- CS-9

The C-16 basin is approximately 65 square miles in size.

- **C-15 Basin** – There are 15 lateral (L-28 to L-42) and five equalizing (E-1, E-2W, E-2E, E-3 and E-4) canals. The L-30, L-38 and E-4 are major collectors. Flow from the L-30 is directed to the E-4, which is partially a natural channel that runs through Lake Ida. The E-4 and L-38 discharge to the ICWW through the SFWMD C-15 canal, which is the eastern extension of the L-38 canal. There are two major control structures to discharge and maintain water levels:

- CS-11
- CS-12

The C-15 basin is approximately 55 square miles in size.

- **Hillsboro Basin** – There are nine lateral (L-42 to L-50) and six equalizing (E-1W, E-1, E-2W, E-2E, E-3 and E-4) canals. The equalizing canals discharge to the SFWMD Hillsboro Canal, which discharges to the ICWW. There are ten control structures to discharge and maintain water levels:
 - CS-1
 - CS-3
 - CS-14
 - CS-15
 - CS-16
 - CS-17E
 - CS-17N
 - CS-17W
 - CS-19
 - CS-20

The Hillsboro basin is approximately 60 square miles in size.

WCA-1, located west of the LWDD is maintained at a surface water elevation of between 14.0 and 17.0 National Geodetic Vertical Datum of 1929 (NGVD) under the United States Army Corps of Engineers' (USCOE's) regulation schedule. According to LWDD personnel, the LWDD cannot pump water from the WCA-1 if the elevation is 14.0 NGVD or lower. The LWDD canals located just east of the L-40 levee that separates the LWDD from WCA-1 are maintained at 16.0 NGVD. The LWDD has two control structures at its western border with WCA-1 that pump water to the east from the WCA into the LWDD canals: CS-1 (located in close proximity to SFWMD G94-B control structure) and CS-3 (located in close proximity to SFWMD G94-A control structure). As mentioned above, there is a third connection between WCA-1 and the LWDD, a culvert located in the C-51 Basin (near the SFWMD G94-C control structure).

C. Potential Permits Required

In order to evaluate the type of permit or permits the LWDD may be required to obtain as a result of this litigation, a literature review and interviews were performed to determine whether permits have been issued to similar drainage or water control districts, and if so, what type of permits and under what circumstances.

According to FDEP records, EPA/FDEP has permitted the following water control and drainage districts as Municipal Separate Storm Sewer Systems (MS4s) in the State of Florida:

- Valencia Water Control District
- South Indian River Water Control District
- East County Water Control District
- East Mulloch Water Control District
- San Carlos Estates Drainage District

The criterion FDEP has used for requiring permits is based upon these districts owning stormwater treatment systems (treatment works). Those drainage districts that do own treatment works have been included as regulated co-applicants in large or medium MS4 permits, depending upon the county in which they are located. Drainage districts, such as LWDD, that contain only a network of canals and associated water control structures have been viewed as "Waters of the State" and have not been required to obtain permits. The fact that this determination has been made somewhat limits the state's ability to regulate these systems through the MS4 program, due to the inability to define them as both "waters" and storm sewers.

Systems such as the Stormwater Treatment Area 1 West (STA-1W) have been issued NPDES permits for discharges to surface waters. It was determined through discussions with FDEP staff and through review of the permits that these projects were authorized by Everglades Forever Act (EFA) permits, and NPDES permits. The STA-1W permits, which authorize construction, operation and maintenance of the system, include authorization of the discharges from the G-310 and G-251 pump stations. Specifically, the G-310 and G-251 pump stations have been permitted as authorized surface water discharges (outfalls) to the L-7 canal. At the time of this writing it has not been determined as to why the STAs were required to obtain NPDES permits for their discharges to surface waters.

The STAs operate similar to traditional stormwater treatment systems, only on a much larger scale. Their intended purpose is to remove pollutant loading to the downstream waters, through physical and biological processes. In the State of Florida, most surface water treatment systems are permitted in accordance with Chapter 373 F.S., whereby construction is authorized contingent upon meeting state water quality (treatment) and water quantity (attenuation) criteria. In "retrofit" cases like the STAs, criteria may vary because it may not be possible to meet the standard typically required for new development. Although the STA projects are on a relatively large scale, many similar surface water

treatment systems have been permitted by the state without the requirement of a NPDES permit for the discharge in the operation phase.

Total Maximum Daily Loads (TMDLs)

A TMDL is the total pollutant loading allowed into a water of the United States that will not cause the water body to violate water quality standards. Integral to the state's TMDL program is the requirement to address pollutant load reduction goals (PLRGs) through effluent limitations in NPDES permits. Should the LWDD be required to permit its drainage structures, it also follows that it will be forced to become a participant in the TMDL program. Therefore, the following discussion has been included to provide some background, and to outline the process through which the LWDD may face additional regulation.

The TMDL includes point and nonpoint source loading, natural background loading and a margin of error. The TMDL process includes not only the study and definition of the total load but also the allocation and distribution of the total load to point and nonpoint sources. Theoretically, if all sources met the allocated loading limitations, then the water body should achieve appropriate water quality standards.

The TMDL process started with the Federal Water Pollution Control Act of 1972, and was expanded by the CWA (1977) and the Water Quality Act (1987). In essence, these Acts required states to define state water quality standards for various designated uses and to identify water bodies for which the ambient water quality did not meet established standards (Subsection 303(d) standards). Water bodies that did not achieve water quality standards as a result of man-induced conditions are considered impaired. An updated list of impaired waterbodies is presented to the USEPA every two years showing which impaired water bodies will receive a TMDL study. The latest 303(d) list available for Florida is from 1998; however, the list for certain basins has been updated since then.

In Florida, the TMDL is a two-phased process authorized by the Florida Watershed Protection Act of 1999, and initiated as a result of a Consent Decree between USEPA and EarthJustice. The first phase involves identification, verification and listing of impaired waters in the state. This too is a multi-step process. A planning list of impaired waters is identified based on existing data. The Secretary of the FDEP then approves a verified list following the collection of additional corroborating water quality, biological or other data. If there is no water quality improvement plan being implemented for the pollutant sources in the watershed, then the second phase of the TMDL process, the development of a TMDL including the allocation of the load and development of an implementation plan, is initiated. The following five steps are part of Florida's approach:

- Step 1 Data Compilation and Assessment
- Step 2 Collection of Additional Data
- Step 3 Definition of Total Allowable Load
- Step 4 Development of Allocation and Implementation Plan
- Step 5 Initiation of Implementation

The preliminary impaired waters list is prepared during Step 1 and the verified list is defined after Step 2. This process for the definition of impaired waters is described in a recently adopted impaired waters rule, 62-303 FAC.

Once the TMDL is defined in Step 3, the available load is allocated to point and nonpoint sources including wastewater, septic tanks, industrial and urban stormwater, agricultural and urban point sources; atmospheric sources; and natural conditions. The implementation plan then defines how each source will achieve the allocated load. For sources with federal permits (NPDES), the allocation will be included as permit effluent limitations (Atkinson, Watson, Joyner, Fraxedas, 2003). The FDEP's 1998 303(d) list of potentially impaired waters includes four of the LWDD's canals and two SFWMD canals into which the system discharges. These listed segments are as follows:

- E-1 (LWDD),
- E-4, (LWDD)
- E-3 (LWDD),
- Boynton Canal (LWDD),
- Hillsboro Canal (SFWMD) and,
- C-51 West Palm Beach Canal (SFWMD).

The LWDD recently received an updated Planning List of Impaired Water Bodies in the Lake Worth Lagoon/Palm Beach Coast Basin. These segments were included on the list, but the parameters of concern changed. A discussion of the parameters of concern is provided in Section III.

To date, the LWDD has not been confronted with pollutant load reduction goals or effluent limitations. However, through the issuance of an NPDES permit, LWDD may easily be required to meet discharge standards consistent with the TMDLs yet to be established for these listed waters.

Pertinent Definitions

When evaluating whether the LWDD structures could be required to obtain a permit, it is helpful to review the CWA definitions considered for the S-9 pump station cases:

- Point source – any discernable, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit...from which pollutants are or may be discharged.
- Discharge – any addition of any pollutant to navigable waters.

The implications of the strict interpretation of these definitions could be formidable to the LWDD. The CWA prohibits the discharge of pollutants from a point source into navigable waters without a NPDES permit. Narrowly defined, all LWDD structures could meet the definition of a point source because any weir, gate or control structure could be described as discernable, confined and discrete. Further, the LWDD structures have the potential to discharge pollutants to navigable waters because:

- Any of these structures could theoretically separate waters of different quality. (ex: a weir can cause upstream water to be stagnant),
- There are a number of potential land sources of pollution (non-point sources) within LWDD that could contribute to the generation of pollutants, and
- For regulatory purposes the canals have been determined to be Waters of the U.S. (navigable waters).

Most surface waters (waters of the U.S.) contain pollutants. Simply passing that water through a drainage structure to another surface water could potentially be considered the “addition of pollutants”. However, within the context of the litigation wherein it has been stated that “the pumping station was a source of added pollutants, within the meaning of the CWA, and thus a NPDES permit was required” it is possible that most drainage control structures in the United States could be subject to permitting. Therefore, based on the strict definitions of the CWA, every LWDD structure could require permitting.

Basis for Requiring Permits

Based on the above conclusions, several assumptions can be made that are necessary to analyze the effort and cost associated with obtaining NPDES permits for the LWDD. These assumptions include:

1. All structures are point source discharges.

2. All LWDD canals are considered navigable waters of the US.
3. The CWA prohibits discharge of pollutants from a point source into navigable waters of the US.
4. Point source discharges to surface waters would be required to meet traditional criteria establishing a discharge standard for the particular system (this analysis does not investigate permitting as an MS4).
5. A permit would be issued per basin; thus for LWDD, four permits would be issued – this is based on permits for similar systems. See further discussion below.

Historically, the USEPA and the State of Florida have not required permits from systems such as the LWDD. However, it is clear that when drainage systems contain stormwater treatment, the state has required permitting either through the NPDES MS4 program or the NPDES industrial wastewater program.

Recently issued NPDES permits for projects such as STA-1W have permitted multiple discharge structures when those structures are associated with a single treatment system. Due to the interconnected nature of the LWDD system, and assuming a permitting effort would be focused on improving the quality of discharge, it is anticipated that permits would be issued for each of the four basins within LWDD. Each structure within the basin would be listed in the permit, and monitoring programs would likely be required for each major control structure where the LWDD outfalls (discharges) to a receiving water. The potential scenario, then, is that permits may be issued for the C-51, C-16, C-15 and Hillsboro Canal basins. Table 1 lists the major control structures and receiving water for each basin.

Table 1
 LWDD Basin Information

Permit/Basin	Control Structure	Canal	Receiving Water
C-51	CS-2	E-1	C-51/ICWW
	CS-4	E-2W	
	CS-6	E-3	
C-16	CS-8	L-14	C-16/ICWW
	CS-9	Boynton Canal	
C-15	CS-12	L-38	C-15/ICWW
	CS-11	L-30	
Hillsboro	CS-19	E-1	Hillsboro Canal/ ICWW
	CS-14	E-1	
	CS-17W	E-2W	
	CS-17N	E-2E	
	CS-17E	E-2E	
	CS-16	E-3	
	CS-1	L-30	
	CS-3	L-36-1/2	
	CS-20	E-1W-S	
	CS-15	E-4	

This approach would appear to be consistent with FDEP's watershed management approach to permitting and regional water quality improvement efforts.

D. Permit Requirements

The FDEP NPDES Industrial program (as opposed to its MS4 program) issues two types of permits: Generic and Individual. To qualify for a Generic permit, the FDEP has defined 30 sectors of industrial activities into which a majority of industrial activities fall. The permit for these common activities, defined in Rule 62-621.300(5)(a), Florida Administrative Code (F.A.C.), is called a State of Florida Multi-Sector Permit for Stormwater Discharge Associated with Industrial Activity (MSGP). The LWDD discharge does not meet any of the MSGP definitions. Therefore it would be subject to the Individual Permit requirements, and submittal of the following permit applications:

- Wastewater Facility or Activity Permit Application Form 1 General Information (FDEP Form 62-620.910(1), Revised 10/23/00)
- Permit to Discharge Stormwater Associated with Industrial Activity Application Form 2F (FDEP Form 62-620.910(8), Revised 10/23/00)

Copies of these forms are provided in the Appendix.

The permit will require general information (location, latitude and longitude of each structure, maps, and information that will be used to establish collection and reporting data). As discussed in the previous section, LWDD structures are point source discharges. Point source discharges to surface waters would be required to meet traditional criteria establishing a discharge standard for the particular system. Dischargers must meet water quality based effluent limitations, as well as meet the standards required for a cause or contribute analysis and antidegradation factors, as explained below. The following discussion outlines the processes involved with establishing a discharge standard for a point source. Specific information about LWDD's existing sampling program and its applicability to the NPDES is discussed in Section III.

Water Quality Based Effluent Limitations (WQBELs)

WQBELs are effluent limits that a discharger must meet to protect the water quality of the receiving waterbody. The WQBEL process is defined in Chapter 62-650, F.A.C. In developing WQBELs, the FDEP specifically evaluates the impact of the discharger during the period when the impact is expected to be the most severe relative to the waterbody for which the water quality criteria must be met. This period is usually synonymous with "worst case" conditions. Water quality criteria are expected to be met in state waters at all times including worst case occurrences.

WQBELs may be developed through either a Level I or Level II process. In either case, the goal is to establish the quality of discharge necessary to protect the receiving waterbody. This effluent limit is based on protecting the surface water rather than being a level of treatment that technology can readily meet.

The WQBEL process is intended to establish effluent limits for existing facilities applying for renewal of permits and for facilities applying for new permits. Differences between Level I and Level II processes have to do with the complexity of the discharge evaluation and the amount of data that already exists.

The Level I process is intended to be used when existing data are adequate to provide reasonable assurance that the discharge will not cause or contribute to violations of water quality criteria in the receiving water. Some additional data collection may be required and limited calculations and evaluations may be performed. The applicant is responsible for providing these data, calculations, evaluations, etc. The final assessment and approval of the effluent limit is performed by the FDEP, usually in the local district offices.

The Level II WQBEL process applies to situations where existing data are insufficient to evaluate expected water quality impacts. This may be due to an inadequate database but is more likely due to the complexity of the analysis needed to assess the impact of the discharge. Computer modeling is often necessary in a Level II analysis. Level II WQBELs are developed under direction of the Watershed Assessment Section (WAS) in Tallahassee. An approved plan of study, including an approved quality assurance plan, is required and must be noticed in The Florida Administrative Weekly before the study begins. In most cases, the applicant has the responsibility for the data collection, analysis, and modeling necessary to develop the WQBEL. However, the actual WQBEL is established by the FDEP. The Level II process constitutes what was historically the wasteload allocation process.

The determination whether a Level I or Level II process is needed is typically made in the local districts although consultation with the Watershed Assessment Section (WAS) may occur. The decisions are made on a case-by-case basis that considers volume of the discharge, frequency of the discharge, characteristics of the discharge, receiving waterbody size, receiving waterbody characteristics, existing data, and other dischargers with potentially overlapping impacts. Additional considerations include whether the application is for renewal of an existing permit (WQBEL previously developed), discharge is to a free-flowing stream, and bioassay or toxicity data is available. The above considerations are also involved in determining the amount and type of information needed to develop an effluent limit. At this time it is not known whether the LWDD would be required to follow the Level I or Level II process.

Cause or Contribute Analysis

Many, if not most, of the surface water discharges, both existing and proposed, are located in surface waters that do not meet all water quality criteria at all times. If the discharge under consideration does not cause or contribute to this failure to meet criteria, a permit may be issued. In addition, the discharge must have no significant cumulative impact and not otherwise cause a violation of FDEP rules. The key to

implementing this policy is that a permit should not be denied solely because the receiving water does not meet criteria. The emphasis is that the discharge will not worsen the existing situation. A similar EPA policy was recently discussed approvingly by the U.S. Supreme Court referencing that the impact must be measurable.

Antidegradation Factors

All applicants for new or expanded discharges to surface waters are required to comply with the antidegradation requirements of Rule 62-302.300, and Rule 62-4.242, F.A.C. These rules prohibit the lowering of water quality that is above criteria unless a proposed discharge is necessary or desirable under federal standards and are clearly in the public interest. Lowering of water quality below applicable criteria is deemed to not be in the public interest and will not be permitted.

An expanded discharge can be either an increase in pollutant loadings or in discharge volumes, or both. Existing discharges are generally exempt from the antidegradation analysis requirements. However, Rule 62-302.300(8), F.A.C., requires existing discharges that are not being expanded to meet antidegradation requirements if:

- 1) it has been demonstrated that degradation of water quality beyond that expected in the existing permit is occurring due to the discharge; or
- 2) an antidegradation analysis was not conducted for a new or expanded discharge that was initially permitted by the Department on or after October 4, 1989.

The antidegradation review process can be summarized as follows:

1. Determine whether existing uses will be maintained with the proposed discharge.
 - A. If existing uses will not be maintained, the discharge is not permissible.
 - B. If they will be maintained, proceed with step 2.
2. Determine whether the expected degradation is necessary or desirable under federal standards and under circumstances which are clearly in the public interest. This requires consideration of a balancing test AND an options review.

A. For the balancing test, determine if the degradation is important to and beneficial to public health, safety, and welfare, and whether this benefit is outweighed by adverse impacts on fish and wildlife or recreation.

- 1) If the discharge is not clearly in the public interest, the discharge is not permissible.
- 2) If the degradation is in the public interest, then proceed to options review.

B. For the options review, determine if reuse or other options are available that would minimize or eliminate the need to lower water quality.

- 1) If reuse or other options are available, the applicant must demonstrate they are not economically and technologically reasonable.
- 2) If other options are not reasonable, then antidegradation requirements have been met.
- 3) If reuse is determined to be reasonable, the requested new or expanded discharge to surface water should not be permitted.

In addition to the above, the discharger must demonstrate that reuse or other discharge locations are not economically and technologically reasonable (Atkinson, Watson, Joyner, Fraxedas, 2003).

TMDLs

As discussed in the previous section, once a TMDL is defined, the available load is allocated to point and nonpoint sources including wastewater, septic tanks, industrial and urban stormwater, agricultural and urban point sources; atmospheric sources; and natural conditions. For sources with federal permits (NPDES), the allocation will be included as permit effluent limitations.

III. WATER QUALITY MONITORING PROGRAM

A. Land Use

Land uses in the LWDD directly affect the quality and quantity of water discharged from its canals. Using the Florida Land Use Cover and Forms Classification System, the amount of land (as a percentage of the total LWDD acreage) for several pertinent land use categories was obtained. These categories are similar to those addressed in USEPA's publication "Management Measures for Urban Areas":

Table 2
Percentage of Land Use in LWDD by Category

Land Use Description	Percent in LWDD
Residential, educational, religious, and recreational	46.70
Agricultural	17.93
Open	12.61
Waterways and wetlands	10.55
Commercial, industrial, wastewater treatment, and solid waste disposal	7.01
Roads, highways, bridges and airports	3.98
Construction	1.22

Many of the categories listed can generally be described as urbanized areas, i.e., those areas where the presence of "man-made" impervious surfaces results in increased peak runoff volumes and pollutant loadings. According to the USEPA document, protection of water quality in urbanized areas is difficult because of a range of factors, which include diverse pollutant loadings, large runoff volumes, limited areas suitable for surface water runoff treatment systems, high implementation costs associated with structural controls, and the destruction or absence of buffer zones that can filter pollutants.

Land use would be taken into consideration in developing the monitoring and reporting program for the NPDES permit.

B. Existing Monitoring Program

The LWDD has an established water quality monitoring program that is used to collect baseline data. This program has been in place for approximately 20 years, with some minor modifications to parameters and locations. As shown on Table 3, there are presently nine water quality monitoring locations:

Table 3
 Existing Water Quality Monitoring Stations

Sample Number	Sample Name
1	L-30 @ Bean Farm
2	E2W @ Boca Rio Road
3	Boynton Beach Mall
4	Benoist Farms Road
5	E3 @ SW 18 th Street
6	E4 @ FAU
7	L-30 @ Military Trail
8	L-30 @ El Clair Ranch Road
9	L-30 @ Lake Ida Road

As noted in Section II.A above, there are four basins within LWDD, with a total of 17 major control structures that, when needed, discharge water from the LWDD system. Since these locations represent discharges from the system, they would likely be identified as monitoring points for the NPDES permit. Table 4 lists major control structures and the sampling location, if any, associated with that structure:

Table 4
 Sampling Locations at Major Control Structures

Control Structure	Canal	Basin	Existing Sampling Location
CS-2	E-1	C-51	
CS-4	E-2W	C-51	#4: Benoist Farms Road ^a
CS-6	E-3	C-51	
CS-8	L-14	C-16	
CS-9	Boynton Canal	C-16	#3: Boynton Beach Mall ^b
CS-12	L-38	C-15	
CS-11	L-30	C-15	#7: L-30 @ Military Trail ^b
CS-19	E-1	Hillsboro	
CS-14	E-1	Hillsboro	
CS-17W	E-2W	Hillsboro	
CS-17N	E-2E	Hillsboro	
CS-17E	E-2E	Hillsboro	
CS-16	E-3	Hillsboro	#5: E3 @ SW 18 th Street
CS-1	L-30	Hillsboro	
CS-3	L-36-1/2	Hillsboro	
CS-20	E-1W-S	Hillsboro	
CS-15	E-4	Hillsboro	

^a Based on map provided by the LWDD, this sampling location appears to be just upstream from the control structure.

^b Based on map provided by the LWDD, this sampling location appears to be just downstream from the control structure.

The present water quality monitoring program sampling locations would likely need to be expanded to correspond with "discharge locations".

C. Review of Pollutant Parameters Present in the Effluent

Presently the LWDD collects samples for both in-situ (field) and laboratory analysis. Samples are collected and analyzed by Everglades Laboratories, Inc. in West Palm Beach. Parameters for all the stations in the water quality monitoring program, except Station #9, include:

Physical parameters:

- pH
- turbidity
- total suspended solids (TSS)
- hardness
- dissolved oxygen (DO)
- biochemical oxygen demand (BOD)
- alkalinity

Inorganics:

- calcium
- copper
- magnesium
- sodium

Other:

- organochlorine pesticides and herbicides
- total and fecal coliform

The parameters at Station #9 include the same physical, inorganic and coliform parameters as the other eight stations, as well as cadmium and lead, but none of the organochlorine pesticides or herbicides. In addition, chloride, sulfate, ammonia – N (a measure of nitrogen), total Kjeldahl nitrogen (TKN) and total phosphorus are collected at Station #9.

A review of the last 12 months of data available (March 2002 to February 2003) indicates the following:

- No pesticides or herbicides were detected.
- The pH range was within Chapter 62-302 standards; readings were between 6.55 and 8.04.

- Not all inorganics have surface water regulatory criteria; however, for those that do, significantly elevated concentrations were generally not noted. The exception was copper, which exceeded Chapter 62-302 Class III waters regulatory criteria on a few occasions.
- DO fell below the Chapter 62-302 standard of 4.0 milligrams per liter (mg/L) on a few occasions; the range was between 14.7 and 1.44 mg/L.
- BOD was occasionally elevated; the range was between 12 mg/L and undetected, but was generally between 5 and 3 mg/L.
- Total coliform exceeded Chapter 62-302 standards at one or more stations nearly every month.
- Phosphorus ranged from 0.205 to 0.065 mg/L, which is close to the Chapter 62-302 standard of 0.1 mg/L for elemental phosphorus.
- Nitrogen can be measured using a number of different methods. At Station #9, two forms of nitrogen were measured: TKN and ammonia. The only nitrogen regulatory criterion for Class III waters is the un-ionized form of ammonia, which is calculated from the ammonia concentration. Based on the highest reading of ammonia in the 12 months reviewed (0.329 mg/L) it is possible that the un-ionized concentration approached the regulatory criteria of less than 0.02 mg/L, but only if the water temperature exceeded approximately 25 degrees Celsius. Water temperatures were not reported. The presence of unionized ammonia increases as water temperature and pH increases.

As noted earlier, several LWDD canals are presently on the draft TMDL 303(d) list of potentially impaired waters. The parameters of concern for the listed canals included DO, nutrients, coliforms, mercury, BOD, unionized ammonia, turbidity, and TSS. LWDD presently samples for DO, BOD, coliforms, turbidity and TSS, but not for mercury, and only has limited nutrient data. However, on a draft 2002 impaired waters list, only DO was included as being a verified parameter in the canals; while DO, iron, mercury, chlorophyll, fish and lead were listed for Boynton, the C-51 and Hillsboro canals.

D. Review of Processes Generating Wastewater

Traditional NPDES permitting requires a review of the industrial process involved in the generation of the discharge. This component of the review is not suited to the non-point discharges that would contribute pollutants to the LWDD system. In fact, it may be argued that there is no industrial process occurring in the LWDD and traditional NPDES permitting is not necessary or appropriate. The LWDD's canal system is actually the receiving waters for much of Palm Beach County, which is a regulated Phase I MS4. As

required in the Phase I permit, all outfalls to Waters of the U.S. have been identified, and both structural and non-structural BMPs have been implemented for the purpose of improving the water quality of the receiving waters.

Pollutant generation within the LWDD is likely dependent upon land use which generally consists of mixed residential, including high density properties such as apartments, commercial and some rural property (see Table 2 above). Residential properties can contribute significantly to non-point source pollution through stormwater runoff from yards that can include vegetation (ex: grass clippings), herbicides, pesticides, fertilizers and general debris (e.g. plastic cups, paper). Commercial property can be a source of both point and non-point source pollution; however, most point sources would be expected to be regulated under NPDES. Non-point sources include oil and grease from roads and parking lots, pesticides, herbicides, fertilizers and general debris. Rural areas can be a significant source of nutrients from agricultural operations.

E. Review of Receiving Water Quality with Respect to Parameters Present in the Effluent

The ultimate receiving water for the LWDD canals is the ICWW. Several segments of the ICWW are on the 1998 303(d) list. Parameters of concern included DO, coliforms, and nutrients. Verified parameters of concern on the 2002 list included copper and DO, both of which either exceeded or did not meet regulatory criteria for the period of laboratory data reviewed in one or more canals.

F. Proposed Sampling Program

Assuming that the LWDD and FDEP through the TMDL program have sufficient data for establishing effluent monitoring under a Level I WQBEL determination, and that a NPDES permit will be required for the LWDD, there are two possible monitoring scenarios:

- Scenario A – FDEP will use the TMDL impaired waters list verified parameters for the LWDD canals and the ICWW and only require DO and copper to be monitored.
- Scenario B – FDEP will require monitoring for all parameters that exceeded criteria as well as parameters on the 1998 303(d) list. These are copper, phosphorus, DO, un-ionized ammonia, ammonia-N, nitrite, nitrate, TKN, mercury, BOD, turbidity, TSS and coliforms.

Typical NPDES permit monitoring would occur on a set schedule, such as monthly or quarterly, assuming that the discharge is somewhat continuous. However, according to LWDD personnel, discharge occurs infrequently. It then follows that the permit conditions would require that samples be collected only when discharges occur and would be targeted at worst case scenarios. For example, the LWDD may be required to obtain the sample within a certain time frame (typically 30 minutes to 2 hours) of initiation of the discharge, because after several hours, potential pollutants may be significantly diluted or already flushed through the system. For estimating purposes, it is assumed that discharges occur approximately once per month between May and October (rainy season), or an approximate total of 6 times per year. This would be expected to fluctuate widely. Typical permits have required sampling after 0.1 inches of rain with events at least 72 hours apart; however, it is not anticipated that the LWDD would discharge after each storm event.

The locations that would be monitored would be the 17 control structures at the discharge locations listed above in Table 4.

G. Monitoring Costs

The monitoring costs are based on the following typical NPDES permit requirements:

- Samples will be collected in accordance with Chapter 62-160, FAC and FDEP standard operating procedures.
- Results will be reported in both concentration and mass.

Following are assumptions for two possible scenarios which are designed to illustrate possible "best case" and "worst case" scenarios.

Scenario A Costs:

1. Parameters to be monitored are DO and copper.
2. Monitoring will be performed at 17 locations.
3. Samples will be collected within 2 hours of initiation of discharge, estimated to occur 6 times per year.

Table 5
 Scenario A Monitoring Costs

Parameter	Cost	# Stations	# Events/Year	Cost/Year
DO	\$20	17	6	\$2,040
copper	\$25	17	6	\$2,550

Analytical costs per year: = \$4,590

Sample collection cost per year (@\$500/event): = \$3,000

Reporting per year (two reports/year @ \$500/ report): = \$1,000

Total cost per year: = \$8,590

Scenario B Costs:

1. Parameters to be monitored are DO, ammonia-N, nitrite, nitrate, TKN, phosphorus, mercury, BOD(5), turbidity, TSS, copper, and total and fecal coliform.
2. Monitoring will be performed at 17 locations.
3. Samples will be collected within 2 hours of initiation of discharge, estimated to occur 6 times per year.

Table 6
 Scenario B Monitoring Costs

Parameter	Cost	# Stations	# Events/Year	Cost/Year
DO	\$20	17	6	\$2,040
Total and fecal coliform	\$35	17	6	\$3,570
Ammonia -N	\$20	17	6	\$2,040
Nitrite	\$20	17	6	\$2,040
Nitrate	\$20	17	6	\$2,040
TKN	\$25	17	6	\$2,550
Total phosphorus	\$20	17	6	\$2,040
Mercury	\$50	17	6	\$5,100
BOD(5)	\$50	17	6	\$5,100
Turbidity	\$20	17	6	\$2,040
TSS	\$20	17	6	\$2,040
Copper	\$25	17	6	\$2,550

Analytical costs per year: = \$33,150

Sample collection cost per year (@\$1500/event): = \$9,000

Reporting per year (two reports/year @ \$1,000/ report): = \$2,000

Total cost per year: = \$44,150

IV. LWDD INFRASTRUCTURE MAPPING/INFORMATION MANAGEMENT

A cursory review was performed of LWDD's, mapping, information management and GIS capabilities to evaluate potential improvements to facilitate permit tracking and reporting. The following paragraphs provide information related to existing capabilities, recommendations, and potential costs.

A. Review of Existing Mapping/Database

The LWDD's existing mapping and database capabilities consist primarily of paper maps with some infrastructure mapping in digital (CADD) format. The drainage network is well mapped with system linkages and most control structures having been inventoried. Water quality sampling locations are also indicated on the existing maps.

Water quality data is largely maintained in paper format. However, electronic copies are likely available through the sampling laboratory.

B. Recommendations to Support NPDES Program

In the event that the LWDD is regulated under the NPDES program, we recommend migrating to some form of geographic information system (GIS). A GIS would provide for accurate and geographically referenced mapping of the drainage network. System structures and associated attribute information would be easily accessed and tracked. Some of the benefits to be realized through the implementation of a GIS include:

- Extensive mapping abilities and compatibility with other data sources (i.e. Palm Beach County parcel, land use and drainage information)
- Drainage structure inventory tracking
- Maintenance and inspection histories and activity tracking
- Connection permit tracking
- Water quality data tracking
- Geospatial analysis of data, including hydraulic modeling applications.

Off the shelf software may be purchased to accomplish many of these activities and some package software is available for asset management and reporting.

C. Enhanced Data Management Costs

GIS and data management systems vary widely in cost and sophistication. The development of some custom applications may cost more than \$1,000,000. However, many applications are developed for relatively modest costs and these costs continue to decline as more datasets become available for public use. The following table provides some indication of the retail costs for software and projected costs for infrastructure mapping. These costs are based upon similar infrastructure mapping activities utilizing submeter accuracy GPS units to collect location information. Software customization, data entry, and operational staffing costs are not included.

Table 7
Enhanced Data Management Costs

Item	Cost	Quantity	Extended Cost	Cost/Year
ARCGIS version 8.0	\$1500/license	2	\$3000	
Annual license	\$300	2	\$600	\$600
Structure inventory	\$300/structure	90	\$27,000	
Total			\$30,600	\$600

V. EVALUATION OF NPDES PERMIT PROCESS

This section provides a general discussion of the permitting fees, time required to obtain permits, and specific items considered in the review process.

A. Permit Application Fees

The costs associated with the preparation of a permit application vary significantly depending upon such factors as the type of permit required, the complexity of the system to be permitted, and the amount of existing information available. Table 8 provides a very general estimate of costs which may be encountered in the permitting process. NPDES permit application fees are structured dependent upon the type of discharge proposed, and an equivalent review fee is generally assessed at the time of application submittal.

B. Timeline

Permit processing times are regulated through Chapter 120 F.S., wherein timeframes are established for agency review and permit issuance. Timeframes for agency review are typically limited to thirty (30) days, and individual permits typically must be issued within ninety (90) days of an application being deemed complete. It is reasonable to assume that, unless a general permit was developed, individual permits issued to the LWDD would take a similar amount of time to process as the projects (STA-1W or MS4 permits) referenced in this report. In those cases, permits were issued approximately two years after the submittal of the applications.

C. Review and Development of Permit Conditions

The application for a discharge permit has to be completed in accordance with all applicable state and federal requirements prior to being submitted to FDEP for review and approval. It is the responsibility of the permit applicant to ensure that the application is complete and required information is included. The permit application review entails an evaluation of the discharge of the wastewater characteristics, its variability and the ability of the treatment system to maintain the efficiency required to meet the WQBEL limits at all times, particularly at peak flows. The review includes, but is not necessarily limited to the following:

- Review of pollutant parameters present in the effluent and their variability.
- Review of processes generating wastewater.
- Review of receiving water quality with respect to parameters present in the effluent.
- Evaluation of WQBEL. If WQBEL is required, the application is incomplete until a WQBEL determination is made and approved by FDEP. In some cases, this determination may not be done in the initial 30 day completeness period.
- Treatment system capability to handle peak hydraulic flows including storm events.
- Adequacy of the system design including primary/secondary clarifiers, aeration systems, chemical additions, sludge treatment and disposal units.
- Equipment reliability such as power pumps, excess wastewater storage capacity, etc.
- Operation and maintenance including operator training.

The applicant will be required to develop a best management practices (BMP) plan which is intended to include schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the US.

Permit Conditions

General permit conditions for all permits issued by FDEP are presented in Section 62-620.610, F.A.C. It is important to realize that the permits are the vehicles for enforcement of water quality standards. For this reason, specific parameters and their effluent limits are spelled out in the permit as daily maximum and monthly average levels. In some cases, a seasonal or annual load limitation may also be imposed. Sampling locations and frequencies are also specified. The permit may include effluent toxicity testing requirement and identify the frequency and species for toxicity evaluation (bioassay). Ambient water quality monitoring may also be specified to determine whether water quality standards for the receiving waterbody is met in the vicinity of discharge. Section 403.088(2)(b), F.S., requires FDEP to deny an application for a permit if the proposed discharge will reduce the quality of receiving waters below the classification established.

Unless requested by the discharger, the permit will not specify mixing zones. If a mixing zone is not specified, the effluent may be required to meet the water quality criterion at the point of discharge. Mixing zones are not automatically granted by the FDEP. The applicant must propose the spatial limitations of the mixing zone and provide reasonable assurance that the activity to be permitted will meet

FDEP rules. In particular, the applicant must show that for the pollutant in question, ambient standards will be met by the time the discharge plume reaches the boundary of the mixing zone.

Relief Mechanisms

The following relief mechanisms provide an indication of the flexibility incorporated in the permitting program. It is important to note that the following methods do not typically relieve the discharger of the responsibility of controlling pollutants. However, they may provide some temporary relief from the typical permitting and compliance schedules.

State of Florida Relief Mechanisms

There are several statutory and regulatory relief mechanisms for making adjustments to the requirements that apply to a particular source. Each has its own criteria which must be examined for the particular situation. Following are the State of Florida relief mechanisms.

Variations

The FDEP is authorized to grant variances from any FDEP rule after notice and opportunity for hearing, in situations where 1) there is no practicable means known or available to control the pollutant involved; 2) compliance with the particular requirement will take time or money and a compliance schedule would be appropriate, and 3) to prevent hardship. Variances granted for either of the first two reasons can extend for up to five years, whereas variances granted under the third are limited to a period of 24 months (with the exception of power plant site certifications). Variances may be renewed (Section 403.201, F.S.).

Reclassification of Waterbodies

Waterbodies may be reclassified. Such reclassifications must be approved by the Environmental Regulation Commission (ERC) upon a showing that the reclassification will establish the present and future most beneficial use of the waters and is clearly in the public interest. Reclassification of waterbodies is difficult to obtain and requires a Use Attainability Analysis.

Exemptions

Exemptions from water quality criteria are potentially available to certain specific portions of the regulations. These include exemptions for artificial waterbodies classified for agricultural water supply, exemptions to provide for experimental use of wetlands for lower energy water and

wastewater recycling, exemptions for artificial systems used for urban stormwater conveyance or renovation and exemptions for waterbodies classified for navigation, utility and industrial use (Rule 62-4.243, F.A.C.). The LWDD does not meet the necessary criteria to qualify for an exemption.

Order Establishing Compliance Schedule

The Legislature standardized the Temporary Operation Permit (TOP) process with a similar process utilizing an order establishing a compliance schedule. It is to be used in situations where additional time is required to meet statutory or rule requirements. It is issued in conjunction with the initial issuance of a NPDES permit or a renewal.

Federal Relief Mechanisms

Reclassification of waterbodies and Site Specific Alternative Criteria, upon approval by EPA, constitute revised water quality standards. EPA's variance criteria are somewhat different from the state's. Additionally, variances from toxicity water quality standards are limited to five years even if the maximum degree of control is achieved and reasonable further progress is being made towards complying with water quality standard (Atkinson, Watson, Joyner, Fraxedas, 2003).

D. Costs for Permitting Process

The permitting process involves the preparation of a complete application package, and an iterative review process that varies significantly in complexity and duration. According to FDEP, permitting the STAs took more than two years, and involved substantial effort on behalf of the applicant. Federal and state permitting is a public process with specific noticing requirements, and solicitation of input from affected parties or cooperating agencies. The length of time and effort necessary to secure permits is greatly affected by third party challenges, and may in fact cause the project to not be permitted at all. The following table provides an estimate of potential activities and costs to obtain NPDES permits for the LWDD.

Table 8
Permitting Costs

Activity	Cost	Quantity	Extended Cost	Cost/Year
Application development	\$20,000	4	\$80,000	
Application fee	\$5,000	4	\$20,000	
Review fee	\$5,000	4	\$20,000	
Processing (RAIs)	\$15,000	4	\$60,000	
Renewal fees	\$5000	4	\$20,000/5 yr	\$4000
Total			\$180,000	\$4,000

VI. PERMIT IMPLEMENTATION

While it is acknowledged that the process for obtaining permits for each structure in the LWDD has yet to be established, and the actual mechanisms and review criteria would require development, it must be assumed that the process would require meeting state water quality criteria. The full magnitude of that effort cannot be realized until the actual cost of compliance is determined. As discussed in the introduction, the LWDD is approximately 300 square miles in size, encompassing a large portion of Palm Beach County, and provides water quantity control only. The prospect of requiring water quality treatment through an NPDES permit is, in effect, to require the wholesale retrofit of much of Palm Beach County.

The following cost analysis is intended only to provide an order of magnitude estimate of achieving permit compliance, presuming the LWDD is forced to obtain NPDES permits for drainage structures. It should be understood that the total cost for compliance could be shared with the permitted MS4, as well as other point source dischargers to the system. However, within the scope of this analysis it is not possible to distinguish between those sources for the determination of a pro-rata share.

A. Preliminary Cost Analysis for Providing Stormwater Treatment for the LWDD

Introduction

This assessment parallels an assessment performed for the City of Tallahassee regarding a cost analysis to determine the potential financial impact associated with the implementation of TMDLs. The original assessment was based specifically on meeting TMDL criteria. However, it can reasonably be assumed that by obtaining NPDES permits for LWDD structures, the requirement in those permits to meet the "discharge standard" would in fact require LWDD to meet the TMDLs for their receiving waters, at a minimum.

This evaluation assumes that water bodies and watershed segments included on the current (1998) list of impaired waters would remain on the verified list and require TMDL development. Though the 1998 list will undergo reevaluation as dictated by the Impaired Waters Rule (IWR) 62-303 F.A.C., it is our understanding that the EPA has challenged the removal of many segments, and maintains that many of these segments must remain on the impaired waters list.

According to the 1998 303(d) list three of LWDD's four basins discharge to impaired waters. The 4th basin (C-15) has three listed lateral canals and due to the interconnected nature of the system would likely need to meet established TMDLs as well. If the LWDD must obtain NPDES permits for each of its structures, then as part of that permitting process the antidegradation factors must be met. All applicants for new or expanded discharges to surface waters are required to comply with the anti-degradation requirements of Rule 62-302.300, and Rule 62-4.242, F.A.C. These rules prohibit the lowering of water quality that is above criteria unless a proposed discharge is necessary or desirable under federal standards and is clearly in the public interest. Lowering of water quality below applicable criteria is deemed to not be in the public interest and will not be permitted.

The specific details of the TMDL allocation procedure are outlined in the document prepared by the FDEP titled *A Report to the Governor and the Legislature on the Allocation of Total Maximum Daily Loads in Florida*, date February 1, 2001. The document outlines the following process:

7) The initial allocation process should generally take the following steps:

Step 1: Calculate the amount of pollutant reductions that would be achieved if a) 45% of all agricultural and silviculture operations in the basin and in upstream watersheds implemented the appropriate BMPs for their specific type of operation, b) 45% of all urban areas met stormwater treatment requirements for new construction, and c) 45% of the homes with septic tanks within the 100-year floodplain or that were documented to be contributing to the impairment were hooked up to a regional sewer system.

Step 2: If the reductions projected for step 1 were not sufficient to meet the TMDL, calculate the amount of additional reduction in pollutant loading that would be achieved if a) 90% of all agricultural and silviculture operations in the basin and in upstream watersheds implemented the BMPs for their specific type of operation, b) 90% of all urban areas met stormwater treatment requirements for new construction, and c) 90% of the homes with septic tanks within the 100-year floodplain or that were documented to be contributing to the impairment were hooked up to a regional sewer system.

Step 3: If the reductions for step 2 were not sufficient to meet the TMDL, the third recommended step is to allocate reductions to all sources except those where loading is

at background levels or those that have provided treatment beyond BAT levels, in increments of 10% until the TMDL is met.

Methods

1. Land Use Information

1995 Land use information was obtained from SFWMD in ArcGIS GIS 8.0 format (see appendix). Since all of the contributing watershed area drains to a 303(d) listed water, it was not necessary to further divide the LWDD into sub basins. Total acreages for developed lands were tabulated, excluding open land, undeveloped land, and open water. The LWDD is approximately 195,539 acres in size. The developed land area was used to generate the percentage developed, which in this case was determined to be approximately 71%, or 139,743 acres.

2. Level of Existing Stormwater Treatment

The determination of actual treatment levels within the LWDD was beyond the scope of this analysis. However, based upon information compiled by Environmental Research and Design in Orlando, it has been estimated that a total of 10% of a developed area would normally be presumed to have treatment as a result of Florida's statewide stormwater regulations in effect since 1982. Using this number, the remaining area within LWDD requiring stormwater treatment would be approximately 125,769 acres.

3. Unit Cost of Stormwater Treatment

The analysis utilizes values converted from a cost per unit storage volume basis to a cost per acre treated. According results derived from the City of Tallahassee report, three separate approaches and references were averaged to produce the final unit cost value of \$7500 per acre. These sources and associated unit costs included: American Public Works Association Report by James Montgomery Engineers, \$8,150/Ac.; Northwest Florida Water Management District Method, \$7,920/Ac.; and Urban BMP Cost & Effectiveness \$6,423/Ac. Watershed (Assumes land cost = \$40,000/ac. Construction Cost = \$0.501 cu. ft. for permanent pool and water quality pool).

4. Stormwater Treatment

Once the developed area was determined, it was assumed that 90% of that area was untreated (10% had existing treatment). To determine the 90% and 45% levels dictated in the state allocation method, the total developed acreage without stormwater treatment is multiplied by 0.9 and 0.45 respectively. The

result provided the total area requiring treatment necessary to comply with the allocation method required by the state.

5. Total Capital Cost of Compliance

Costs for compliance were obtained by simply multiplying the acreage requiring treatment to achieve either the 45% or 90% treatment standard, by the cost of treatment per unit area.

Results

Costs of providing stormwater treatment for the LWDD vary depending upon the existing level of treatment in the basins and the level of treatment provided. The costs for providing stormwater treatment through wet detention as determined through the methods described above are as follows:

- Cost to meet the recommended 45% level of treatment is \$424,470,000.
- Cost to meet the recommended 90% level of treatment is \$848,940,000.

Though the costs provided are approximate and based upon several assumptions, it should also be noted that costs would increase should the described level of treatment in the first two steps not be adequate to achieve the desired result. As discussed previously, the state allocation method requires that "the third recommended step is to allocate reductions to all sources except those where loading is at background levels or those that have provided treatment beyond BAT levels, in increments of 10% until the TMDL is met".

VII. SUMMARY

This report provides an analysis of the potential costs and efforts associated with the LWDD obtaining a NPDES permit for discharges to Waters of the U.S. The analysis has been undertaken to estimate the potential fiscal impact to the LWDD, based upon the state's existing permitting process.

A literature review and interviews determined that the EPA/FDEP has permitted several water control and drainage districts as MS4s in the State of Florida. Additionally, surface water systems such as the STA-1W have been issued NPDES permits for surface water discharges to surface waters. In the State of Florida, many similar surface water treatment systems have been permitted by the state (Chapter 373 F.S) without the requirement of a NPDES permit for the discharge in the operation phase. However, based upon the STA permits, EPA has demonstrated the ability to require NPDES permits for discharges from surface water treatment systems.

Due to the interconnected nature of the LWDD system, and assuming a permitting effort would be focused on improving the quality of discharge, it is anticipated that permits would be issued for each of the four basins within LWDD. Each structure within the basin would be listed in the permit, and monitoring programs would likely be required for each major control structure where the LWDD outfalls (discharges) to a receiving water.

An estimate of potential costs has been developed for monitoring programs, data management, the permitting process, and permit compliance. The total potential costs have been summarized for the monitoring programs, data management, the permitting process, and permit compliance. These costs are illustrated in Table 9.

Table 9
 Summary of Potential Costs

Program	Description of Costs	Lower Range	Upper Range
Water Quality Monitoring	Monitor two parameters	\$8,590	
	Monitor 12 parameters		\$44,150
Upgrade Data Management	ARCGIS version 8.0 (2 copies)	\$3,000*	\$3,000*
	Annual license (2 copies)	\$600	\$600
	Structure inventory (inventory 90 structures)	\$27,000*	\$27,000*
Permit Preparation Application and Renewal Fees	Application development (4 applications, i.e. one/basin)	\$80,000*	\$80,000*
	Application fee (4 applications)	\$20,000*	\$20,000*
	Review fee (4 applications)	\$20,000*	\$20,000*
	Processing RAI (4 applications)	\$60,000*	\$60,000*
	Renewal fees (4 permits) (\$20,000 prorated over 5 years)	\$4,000	\$4,000
Implementation of Stormwater Treatment Systems	Implementation of Treatment to Meet 45% Level	\$424,470,000	
	Implementation of Treatment to Meet 90% Level		\$848,940,000
Total		\$424,693,190	\$849,198,750

* one time cost

APPENDIX A

Figures

CONSERVATION AREA
No. 1

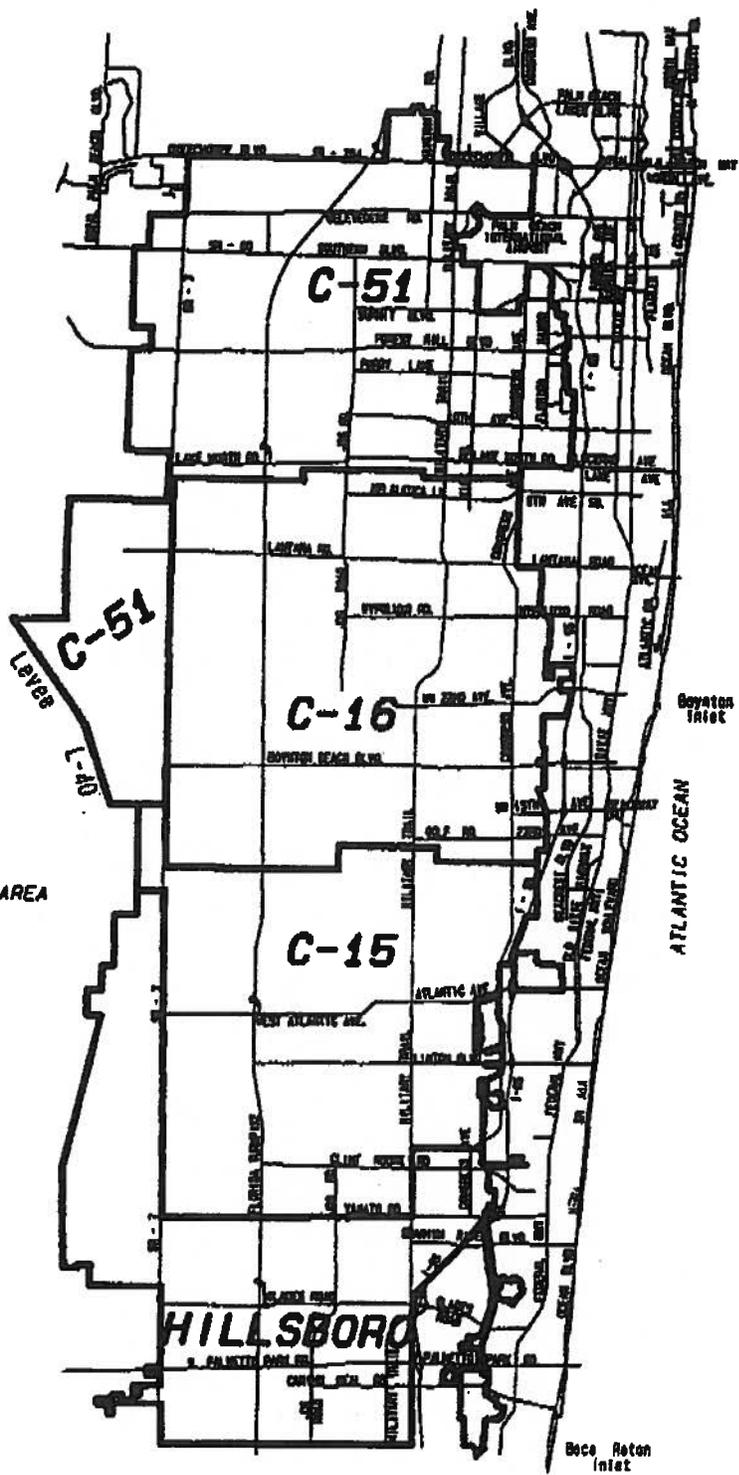
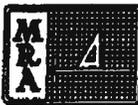


FIGURE 1

MOCK, ROOS & ASSOCIATES, INC.
ENGINEERS • SURVEYORS • PLANNERS
5720 CORPORATE WAY
WEST PALM BEACH, FLORIDA 33407
Phone: 407 683-3113 Fax: 407 478-7248



LAKE WORTH DRAINAGE DISTRICT
MAJOR DRAINAGE BASIN BOUNDARIES

FIGURE No. 3

APPENDIX B

Forms



WASTEWATER FACILITY OR ACTIVITY PERMIT APPLICATION FORM 1 GENERAL INFORMATION

This form must be completed by all persons applying for a permit for a wastewater facility or activity under Chapter 62-620, F.A.C..
See Form 1 to determine which other application forms you will need.

DESCRIPTION OF PERMIT APPLICATION FORMS

Form 1 - General information. This booklet includes general information on applying for a permit for a wastewater facility or activity under Chapter 62-620, Florida Administrative Code (F.A.C.). **Form 1 is required for all permit applications.**

Form 2 - Specific information. This group of forms includes the specific information required for the type of wastewater facility or activity for which a permit is needed. Select the appropriate form(s) to be submitted with Form 1.

Form 2A - Domestic Wastewater Facilities.

Form 2B - Concentrated Animal Feeding Operations and Aquatic Animal Production Facilities.

Form 2CS -Industrial Wastewater Facilities (discharging process wastewater to surface waters).

Form 2CG -Industrial Wastewater Facilities (discharging process wastewater to ground water).

Form 2ES -Industrial Wastewater Facilities (discharging non-process wastewater to surface waters).

Form 2EG -Industrial Facilities (discharging non-process wastewater to ground water).

Form 2F - Stormwater Discharge Associated with Industrial Activity

Form 2CR -Non-Discharging/Closed Loop Recycle System.

SECTION A - GENERAL INSTRUCTIONS

Who Must Apply:

Persons who are or are going to discharge wastewater to waters of Florida or the United States must file for and be granted a permit under Sections 403.087, 403.088, or 403.0885, Florida Statutes (F.S.). Persons that discharge stormwater associated with industrial activity to surface waters of the state must file for and be granted a permit under Section 403.0885, F.S. There are severe penalties for discharging without a permit.

There are some exceptions to this requirement. Discharges of domestic sewage from vessels and discharges from properly operating marine engines are not required to have a permit under the laws listed above. However, discharges of rubbish, trash, garbage or other such materials discharged overboard do require permits. Vessels operated in a capacity other than as a means of transportation are required to have a permit if they are discharging to waters. These types include vessels used as an energy or mining facility, a storage facility, a seafood processing facility, or an anchored facility for the purpose of mineral or oil exploration or development.

The introduction of sewage, industrial wastes, or other pollutants into a domestic wastewater treatment facility does not need a permit under Sections 403.087, 403.088 or 403.0885, F.S. Persons discharging to permitted wastewater treatment facilities must comply with all applicable pretreatment standards. If a person has a plan or an agreement to switch from direct discharge into waters of the state to discharge to a domestic treatment facility, it does not relieve the person from obtaining a permit for the discharge until such time as the connection is made and the discharge is stopped.

Most discharges from agricultural and silvicultural activities to waters of the state do not require a permit under Sections 403.087, 403.088, or 403.0885, F.S. However, permits under those sections are required for discharges from concentrated animal feeding operations, concentrated aquatic animal production facilities, activities associated with approved aquaculture projects, and silvicultural point sources.

Where to Apply:

Permit applications must be filed with the Department of Environmental Protection (DEP) district office shown in Figure 1 for the county in which the wastewater facility or activity is located, except for permit applications for steam electrical generating power plants which are filed with the DEP office in Tallahassee. DEP offices are located at

Figure 1. State Map Showing DEP District Offices



NORTHWEST DISTRICT

160 Government Center, Ste 308
Pensacola, Florida 32501-5794
Phone No. (850) 585-8300

NORTHEAST DISTRICT

7825 Baymeadows Way, Suite B-200
Jacksonville, Florida 32256-7577
Phone No. (904) 448-4300

SOUTHWEST DISTRICT

3804 Coconut Palm Drive
Tampa, Florida 33619-8318
Phone No. (813) 744-6100

CENTRAL DISTRICT

3319 Maguire Boulevard, Suite 232
Orlando, Florida 32803-3767
Phone No. (407) 894-7555

SOUTH DISTRICT

2295 Victoria Avenue, Suite 364
Fort Myers, Florida 33901
Phone No. (941) 332-6975

SOUTHEAST DISTRICT

400 North Congress Avenue
West Palm Beach, Florida 33401
Phone No. (561) 681-6600

When to Apply:

Applications must be filed with the appropriate DEP office 180 days before your current permit expires or 180 days before startup of a new or modified facility. If the submitted application is for a new facility or for a modification of an existing facility, the information required for describing the construction must be filed at least 90 days before construction begins. The DEP encourages applicants to file the materials describing the construction of a new facility or the modification of an existing facility as early as possible to avoid problems with delays in startup or facility redesign to achieve effluent limitations.

Federal regulations provide that a new source in the NPDES program may not be constructed or started to be constructed before the issuance of an operation permit. Because of this regulation, a permit application for a new source may need to be submitted well in advance of the required 180 days.

Fees:

Application fees are listed in Section 62-4.050, Florida Administrative Code (F.A.C.). An application will not be processed until the application fee has been paid. If the DEP determines that a permit should be issued for less than five years duration, the application fee will be pro rated.

If a permit is issued for a surface water discharge, the permittee will be assessed a regulatory and surveillance program fee annually. Those fees are listed in Section 62-4.052, F.A.C. Failure to pay the annual fee may result in revocation of the permit.

Availability of Information to the Public:

Information contained in these applications forms will, upon request, be made available to the public for inspection and copying. However, you may request confidential treatment for certain information which you may submit to supplement the information requested on these forms. Section 62-620.302, F.A.C., and 40 CFR 2 provide set forth the procedures for making the claim. No information on Forms 1 and 2A through 2EG may be claimed as confidential.

Completion of Forms:

Unless otherwise specified in instructions to the forms, each item in each form must be answered. To indicate that each item has been considered, enter "NA", for not applicable, if a particular item does not fit the circumstances or characteristics of your facility or activity.

If you have previously submitted information to the DEP which answers a question, you may either repeat the information in the space provided or attach a copy of the previous submission. DO NOT WRITE "ON FILE". Some items in the form require narrative explanation. If more space is necessary to answer a question, attach a separate sheet entitled "Additional Information."

SECTION B - FORM 1 LINE-BY-LINE INSTRUCTIONS

This form must be completed by all applicants.

Completing This Form:

Please type or print in the underlined areas only. Some items have a limited number of spaces or characters so that your response may be entered into a computer program. Please do not exceed this maximum number with your response. Abbreviate if necessary to stay within the number of characters allowed for each item. Use one space for breaks between words, but not for punctuation marks unless they are needed to clarify your response.

Item I

Space is provided at the upper right hand corner of Form 1 for insertion of your Facility Identification Number. If you have an existing facility, enter your identification number. If you don't know your identification number, please contact the appropriate DEP office which will provide you with your number. If your facility is new (not yet constructed), leave this item blank.

Item II

Answer each question to determine which supplementary forms you need to fill out. Be sure to check the glossary in Section C of these instructions for the legal definitions of any words you are not certain of their meaning.

If you answer "no" to every question, then you may not need a permit. However, you should call the appropriate district office to determine if you have made a correct determination. If you answer "yes" to any question, then you must complete and file the supplementary form by the deadline listed in Section A along with this form.

Item III

Enter the facility's official or legal name. Do not use a colloquial name.

Item IV

Give the name, title, and work telephone number of a person who is thoroughly familiar with the operation of the facility, with the facts reported in this application, and who can be contacted by reviewing offices if necessary.

Item V

Give the complete mailing address of the office where correspondence should be sent. This often is not the address used to designate the location of the facility or activity.

Item VI

Give the address or location of the facility identified in Item III of this form. If the facility lacks a street name or route number, give the most accurate alternative geographic information (for example, section number or quarter section number from county records or at intersection of Rts 426 and 22).

Item VII

List four, in descending order of significance, 4-digit standard industrial classification (SIC) codes which best describe your facility in terms of the principal products or services you produce or provide. Also, specify each classification in words. These classifications may differ from the SIC codes describing the operation generating the discharge from the facility.

SIC code numbers are descriptions which may be found in the "Standard Industrial Classification Manual" prepared by the Executive Office of the President, Office of Management and Budget, which is available from the Government Printing Office, Washington, D.C. Your local library may have a copy of this publication which you may use. Use the current edition of the manual. If you have any questions concerning the appropriate SIC code for your facility, please contact the appropriate DEP district office.

Item VIII-A

Give the name, as it is legally referred to, of the person, firm, public organization, or any other entity which operates the facility described in this application. This may or may not be the same name as the facility. The operator of the facility is the legal entity which controls the facility's operation rather than the plant or site manager. Do not use a colloquial name.

Item VIII-B

Indicate whether the entity which operates the facility also owns it by marking the appropriate box.

Item VIII-C

Enter the appropriate letter to indicate the legal status of the operator of the facility. Indicate "public" for a facility solely owned by a local government, such as a city, town, county, etc.

Items VIII-D through H

Enter the telephone number and address of the operator identified in Item VIII-A.

Item IX

Indicate whether the facility is located on Indian Lands.

Item X

Give the number of each presently effective wastewater and stormwater permit issued to the facility listed in this application. List relevant federal, state, and local permits. DO NOT LIST ALL YOUR PERMITS. LIST ONLY CURRENT ENVIRONMENTAL PERMITS RELATING TO THIS PROJECT.

Item XI

Provide a topographic map or maps of the area extending at least to one mile beyond the property boundaries of the facility which clearly show the following:

The legal boundaries of the facility;

The location and serial number of each of your existing and proposed intake and discharge structures;

All hazardous waste management facilities;

Each well where you inject fluids underground; and

All springs and surface water bodies in the area, plus all drinking water wells within 1/4 mile of the facility which are identified in the public record or otherwise known to you.

If an intake or discharge structure, hazardous waste disposal site, or injection well associated with the facility is located more than one mile from the plant, include it on the map, if possible. If not, attach additional sheets describing the location of the structure, disposal site, or well, and identify the U.S. Geological Survey (or other) map corresponding to the location.

On each map, include the map scale, a meridian arrow showing north, and latitude and longitude at the nearest whole second. On all maps of rivers, show the direction of the current, and in tidal waters, show the directions of the ebb and flow tides. Use a 7-1/2 minute series map published by the U.S. Geological Survey. If a 7-1/2 minute series map has not been published for your facility site, then you may use a 15 minute series map from the U.S. Geological Survey. If neither a 7-1/2 nor 15 minute series map has been published for your facility site, use a plat map or other appropriate map, including all the requested information; in this case, briefly describe land uses in the map area (for example, residential, commercial).

You may trace your map from a geological survey chart, or other map meeting the above specifications. If you do, your map should bear a note showing the number or title of the map or chart from which it was traced. Include the names of nearby towns, water bodies, and other prominent points.

You may obtain a topographic map from:

Eastern Mapping Center
National Cartographic Information Center
U.S. Geological Survey
536 National Center
Reston, VA 22092

Item XII

Briefly describe the nature of your business (for example, products produced or services provided).

Item XIII

Section 403.161, F.S., provides severe penalties for submitting false information on this application form or any reports or records required by a permit, if issued. There are both civil and criminal penalties, in addition to the revocation of the permit.

Rule 62-620.305, F.A.C., requires that the application and any reports required by the permit, if issued, to be signed as follows:

- A. For a corporation, by a responsible corporate officer as described in Rule 62-620.305, F.A.C.;
- B. For partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
- C. For a municipality, state, federal or other public facility, by a principal executive officer or elected official.

SECTION C - GLOSSARY

NOTE: This Glossary includes terms used in the instructions and in Forms 1, 2A through 2EG. If you have any questions concerning the meaning of any of these terms, please contact your DEP district office.

Activity means any action which results in a discharge of wastes into waters of the State or that is reasonably expected to be a source of water pollution.

Aliquot means a sample of specified volume used to make up a total composite sample.

Animal Feeding Operation means a lot or facility (other than an aquatic animal production facility) where the following conditions are met:

A. Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12 month period; and

B. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

Two or more animal feeding operations under common ownership are a single animal feeding operation if they adjoin each other or if they use a common area or system for the disposal of wastes.

Animal Unit means a unit of measurement for any animal feeding operation calculated by adding the following number: The number of slaughter and feeder cattle multiplied by 1.0; plus the number of mature dairy cattle multiplied by 1.4; plus the number of swine weighing over 25 kilograms (approximately 55 pounds) multiplied by 0.4; plus the number of sheep multiplied by 0.1; plus the number of horses multiplied by 2.0.

Application means the approved DEP standard forms for applying for a permit, including any approved additions, revisions, or modifications to the forms. Approved forms are numbered, Form 62-620.910, and have an effective date of October 1, 1994, or later.

Aquifer means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

Best Management Practices (BMP) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs include treatment requirements, operation procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Biological Monitoring Test means any test which include the use of aquatic algal, invertebrate, or vertebrate species to measure acute or chronic toxicity, and any biological or chemical measure of bioaccumulation.

Bypass means the intentional diversion of wastes from any portion of a treatment facility.

Concentrated Animal Feeding Operation means an animal feeding operation which meets the criteria set forth in Chapter 62-670, F.A.C.

Concentrated Aquatic Animal Production Facility means a hatchery, fish farm, or other facility which contains, grows or hold aquatic animals as set forth in Chapter 62-660, F.A.C.

Contact Cooling Water means water used to reduce temperature which comes into contact with a raw material, intermediate product, waste product other than heat, or finished product.

CWA means the Clean Water Act as amended, 33 U.S.C. 1251 et seq.

Dike means any embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

Discharge (of a Pollutant) means any addition of any pollutant or combination of pollutants to waters of the State from any point source; or any addition of any pollutant or combination of pollutants to the marine waters of the State from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes discharges into waters of the State from surface runoff which is collected or channelled by man; discharges through pipes, sewers, or other conveyances owned by the State, a municipality, or other person which do not lead to POTWs; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any indirect discharge.

Effluent Limitation mean any restriction imposed by the DEP on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the State.

Effluent Limitation Guideline means a regulation published under Section 304(b) of the Clean Water Act to adopt or revise effluent limitations.

EPA means the United States Environmental Protection Agency.

Existing Source or Existing Discharger means any source which is not a new source or a new discharger.

Facility or wastewater facility means any facility which can reasonably be expected to be a source of pollution and includes any or all of the following: a collection and transmission system, a wastewater treatment works, a reuse or disposal system, and a residuals management facility.

Ground Water means water below the land surface in a zone of saturation.

Indirect Discharger means an industrial discharger introducing pollutants to a publicly owned treatment works.

Injection Well mean a well into which fluids are injected.

MGD means millions of gallons per day.

Municipality means a city, village, town, borough, county, district, association, or other public body created by or under State law and have jurisdiction over disposal of sewage, industrial wastes, or other wastes.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, termination, monitoring and enforcing permits and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the CWA. The term includes a State program which has been authorized by EPA under 40 CFR Part 123.

New Discharger mean any building, structure, facility, or installation: (A) from which there is or may be a new or additional discharge of pollutants at a site at which on October 18, 1972, it had never discharged pollutants; (B) which has never received a finally effective NPDES permit for discharges at that site; and (C) which is not a "new source." This definition includes an indirect discharger which commences discharging into water of the State. It also includes any existing mobile point source, such as an offshore oil drilling rig, seafood processing vessel, or aggregate plant that begins discharging at a location for which it does not have an existing permit.

New Source means any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced: (A) after promulgation of standards of performance under Section 306 of the CWA which are applicable to such source; or (B) after proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

Non-Contact Cooling Water means water used to reduce temperature which does not come into direct contact with any raw material, intermediate produce, waste product (other than heat), or finished product.

Off-Site means any site which is not "on-site."

On-Site means on the same or geographically contiguous property which may be divided by public or private right(s)-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right(s)-of-way. Non-contiguous properties owned by the same person, but connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property.

Operator means the person responsible for the overall operation of a facility.

Outfall means a point source.

Owner means the person who owns a facility or part of a facility.

Permit means an authorization, license, or equivalent control document issued by the State to implement the requirements of 40 CFR 122, 123, and 124 and Chapter 403, F.S.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical waste, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended), heat, wrecked or discarded equipment, rocks, sand, cellar dirt and industrial, municipal, and agriculture waste discharged into water. It does NOT mean: (A) sewage from vessels; or (B) water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well used either to facilitate production or for disposal purposes is approved by authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Privately Owned Treatment Works means any device or system which is used to treat domestic wastewater from any facility which is not a POTW.

Process Wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly Owned Treatment Works (POTW) means any device or system used in the treatment (including recycling and reclamation) of domestic sewage or industrial wastes of a liquid nature which is owned by a State or municipality. This definition includes any sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Residuals means the solid, semisolid, or liquid residue generated during the treatment of domestic wastewater. Not included are solids removed from pump stations and lift stations, and screenings and grit removed from the headworks of domestic wastewater treatment facilities. Also not included are other solids removed prior to treatment of the residuals to meet the stabilization standards of Chapter 62-640, F.A.C., or ash generated during the incineration of residuals.

Sewage From Vessels means human body wastes and the wastes from toilets and other receptacles intended to receive or retain body wastes that are discharged from vessels and regulated under Section 312 of the CWA.

Sewage Sludge means residuals.

Silvicultural Point Source means any discernable, confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into water of the State.

Stormwater Discharge Associated with Industrial Activity is as defined in 40 CFR 122.26(b)(14).

Surface Impoundment or Impoundment means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Toxic Pollutant means any pollutant listed as toxic under Section 307(a)(1) of the CWA.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

Waters of the State means the waters defined in Section 403.031, F.S., and including waters of the United States to the seaward boundaries of the State.



WASTEWATER FACILITY OR ACTIVITY PERMIT APPLICATION FORM 1 GENERAL INFORMATION

I IDENTIFICATION NUMBER:

Facility ID _____

II CHARACTERISTICS:

INSTRUCTIONS: Complete the questions below to determine whether you need to submit any permit application forms to the Department of Environmental Protection. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the blank in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements. See Section B of the instructions. See also, Section C of the instructions for definitions of the terms used here.

SPECIFIC QUESTIONS	YES	NO	FORM ATTACHED
A. Is this facility a domestic wastewater facility which results in a discharge to surface or ground waters?			
B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters?			
C. Does or will this facility (other than those describe in A. or B.) discharge process wastewater, or non-process wastewater regulated by effluent guidelines or new source performance standards, to surface waters?			
D. Does or will this facility (other than those described in A. or B.) discharge process wastewater to ground waters?			
E. Does or will this facility discharge non-process wastewater, not regulated by effluent guidelines or new source performance standards, to surface waters?			
F. Does or will this facility discharge non-process wastewater to ground waters?			
G. Does or will this facility discharge stormwater associated with industrial activity to surface waters?			
H. Is this facility a non-discharging/closed loop recycle system?			

III NAME OF FACILITY: (40 characters and spaces)

Facility ID _____

IV FACILITY CONTACT: (A. 30 characters and spaces)

A. Name and Title (Last, first, & title)	B. Phone (area code & no.)

V FACILITY MAILING ADDRESS: (A. 30 characters and spaces; B. 25 characters and spaces)

A. Street or P.O. Box:			
B. City or Town:	State:	Zip Code:	

VI FACILITY LOCATION: (A. 30 characters and spaces; B. 24 characters and spaces; C. 3 spaces (if known); D. 25 characters and spaces; E. 2 spaces; F. 9 spaces)

A. Street, Route or Other Specific Identifier:			
B. County Name:	C. County Code (if known):		
D. City or Town:	E. State:	F. Zip Code:	

VII SIC CODES: (4-digit, in order of priority)

1. Code #:	(Specify)	2. Code #:	(Specify)
3. Code #:	(Specify)	4. Code #:	(Specify)

VIII OPERATOR INFORMATION: (A. 40 characters and spaces; B. 1 character; C. 1 character (if other, specify); D. 12 characters; E. 30 characters and spaces; F. 25 characters and spaces; G. 2 characters; H. 9 characters)

A. Name:		B. Is the name in VIII A. the owner? <input type="checkbox"/> Yes <input type="checkbox"/> No	
C. Status of Operator: F = Federal; S = State; P = Private; O = Other; M = Public (other than F or S)	(code)	(specify)	D. Phone No.:
E. Street or P. O. Box:			
F. City or Town:	G. State:	H. Zip Code:	

IX INDIAN LAND: Is the facility located on Indian lands? Yes No

Facility ID _____

X EXISTING ENVIRONMENTAL PERMITS:

A. NPDES Permit No.	B. UIC Permit No.	C. Other (specify)	D. Other (specify)

XI MAP: Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII NATURE OF BUSINESS (provide a brief description)

XIII CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. Name (type or print)

B. Signature

Official Title (type or print)

C. Date Signed



APPLICATION FORM 2F

PERMIT TO DISCHARGE STORMWATER ASSOCIATED WITH
INDUSTRIAL ACTIVITY

INSTRUCTIONS FOR FORM 2F

Who Must File Form 2F

DEP Form 62-620.910(8) (Form 2F) must be completed by owners or operators of facilities or activities that have stormwater discharge associated with industrial activity to surface waters of the state and for which such discharge is not otherwise covered by a State of Florida generic permit.

In addition to Form 2F,

- a. owners or operators that have stormwater discharge associated with industrial activity at a facility which discharges process wastewater to surface water must complete and submit DEP Forms 62-620.910(1) and (5) (Forms 1 and 2CS). (See Rule 62-620.200, F.A.C., for a definition of process wastewater.)
- b. owners or operators that have stormwater discharge associated with industrial activity at a facility which discharges process wastewater to ground water must complete and submit DEP Forms 62-620.910(1) and (4) (Forms 1 and 2CG).
- c. owners or operators that have stormwater discharge associated with industrial activity at a facility which discharges non-process wastewater to surface water must complete and submit DEP Forms 62-620.910(1) and (7) (Forms 1 and 2ES). (See Rule 62-620.200, F.A.C., for a definition of non-process wastewater.)
- d. owners or operators that have stormwater discharge associated with industrial activity at a facility which discharges non-process wastewater to ground water must complete and submit DEP Forms 62-620.910(1) and (6) (Forms 1 and 2EG).
- e. owners or operators that have stormwater discharge associated with industrial activity from a domestic wastewater facility must complete and submit DEP Forms 62-620.910(1) and (2) (Forms 1 and 2A). (See Rule 62-620.200, F.A.C., for a definition of domestic wastewater facility.)

Where to File Applications

The application forms should be sent to the appropriate Department office listed in Form 1.

Completeness

Your application will not be considered complete unless you answer every question on this form and the other forms listed above. If an item does not apply to you, enter "NA" (for not applicable) to show that you considered the question.

Public Availability of Submitted Information

You may not claim as confidential any information required by this form or the other required forms, whether the information is reported on the forms or in an attachment. Chapter 119, F.S., requires that all permit applications be made available to the public upon request. Any information, except effluent data, you submit to the Department which goes beyond that required by the forms listed above may be claimed as confidential if the requirements of 40 CFR 2 are met. If you do not assert a claim of confidentiality at the time of submitting the information, the Department may make the information public without further notice to you.

Definitions

"Stormwater discharge associated with industrial activity" is as defined in 40 CFR 122.26(b)(14).

"Material handling activities" means the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate

from the industrial activities as long as the drainage from the excluded areas is not mixed with stormwater drained from the described areas.

"Significant materials" means raw materials, fuels, solvents, detergents, plastic pellets, finished materials, metallic products, raw materials used in food processing or production, hazardous substances designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to section 313 of title III of SARA, fertilizers, pesticides, waste products, ashes, slag and sludge that have the potential to be released with stormwater discharges.

Additional significant terms used in these instructions and in the form are defined in the glossary found in Form 1 or in Chapters 62-600, 62-620, or 62-660, F.A.C.

ID Number

Fill in your identification number at the top of each odd-numbered page of Form 2F. You may copy this number directly from Form 1. If you are applying for the initial permit for your facility or activity and do not have an identification number, leave this item blank and the Department will assign a number.

Item I

Determine the latitude and longitude of each of your outfalls and the name of the receiving water. If your stormwater is combined with domestic, process or non-process industrial wastewater, indicate which of the outfalls identified on Form 2A, 2CS or 2ES will contain the combined wastewater.

Item II-A

If the answer to this question is yes, complete all parts of the chart, or attach a copy of any previous submission you have made to the Department containing the same information.

Item II-B

You are not required to submit a description of future pollution control projects if you do not wish to or if none is planned.

Item III

Attach a site map showing topography depicting the facility including:

each of its drainage and discharge structures;

the drainage area of each stormwater outfall;

paved areas and buildings within the drainage area of each stormwater outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in stormwater runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied;

each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste for less than 90 days);

each well where fluids from the facility are injected underground; and

springs, and other surface water bodies which receive stormwater discharges from the facility.

Item IV-A

For each outfall, provide an estimate of the area drained by the outfall which is covered by impervious surfaces. For the purpose of this application, impervious surfaces are surfaces where stormwater runs off at rates that are significantly higher than background rates (for example, pre-development levels) and include paved areas, building roofs, parking lots, and roadways. Include an estimate of the total area, including all impervious and pervious areas, drained by each outfall. The site map required under Item III can be used to estimate the total area drained by each outfall.

Item IV-B

Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored, or disposed in a manner to allow exposure to stormwater; method of treatment, storage or disposal of these materials; past and present materials management practices employed, in the last three years, to minimize contact by these materials with stormwater runoff; materials loading and access areas and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied. Significant materials should be identified by chemical name, form (powder, liquid, etc.), and type of container or treatment unit. Indicate any materials treated, stored, or disposed of together.

Item IV-C

For each outfall, structural controls include structures which enclose material handling or storage areas covering materials, berms, dikes, or diversion ditches around manufacturing, production, storage or treatment units, retention ponds, etc. Non-structural controls include practices such as spill prevention plans, employee training, visual inspections, preventive maintenance, and housekeeping measure that are used to prevent or minimize the potential for releases of pollutants.

Item V

Provide a certification that all outfalls that should contain stormwater discharge associated with industrial activity have been tested or evaluated for the presence of non-stormwater discharges which are not covered by an wastewater permit under Rule 62-620, F.A.C. Tests for such non-stormwater discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. Part B must include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test. All non-stormwater discharges must be identified in the appropriate form from the "Form 2" series which must accompany this application.

Item VI

Provide a description of existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years.

Item VII-A, B, and C

These items require you to collect and report data on the pollutants discharged for each of your outfalls. Each part of this item addresses a different set of pollutants and must be completed in accordance with the specific instructions for that part. The following general instructions apply to the entire item.

General Instructions for Item VII-A, B, and C

Part A requires you to report at least one analysis for each pollutant listed. Parts B and C requires you to report analytical data in two ways. For some pollutants addressed in Parts B and C, if you know or have reason to know that the pollutant is present in your discharge, you may be required to list the pollutant and test (sample and analyze) and report the levels of the pollutants in your discharge. For all other pollutants addressed in Parts B and C, you must list the pollutant if you know or have reason to know that the pollutant is present in the discharge, and either report quantitative data for the pollutant or briefly describe the reasons the pollutant is expected to be discharged. (See specific instructions on the form and below for Parts A through C.) Base your determination that a pollutant is present in or absent from your discharge on your knowledge of your

raw materials, material management practices, maintenance chemicals, history of spills and releases, intermediate and final products and by-products, and any previous analyses known to you of your effluent or similar effluent.

A. Sampling: The collection of the samples for the reported analyses shall be in accordance with 40 CFR 136 and Rule 62-160, F.A.C. Any specific requirements contained in the applicable analytical methods should be followed for sample containers, sample preservation, holding times, the collection of duplicate samples, etc. The time when you sample should be representative, to the extent feasible, of your treatment system operating properly with no system upsets. Samples should be collected from the center of the flow channel, where turbulence is at a maximum, at a site specified in your present permit, or at any site adequate for the collection of a representative sample.

For pH, temperature, cyanide, total phenols, residual chlorine, oil and grease, and fecal coliform, grab samples taken during the first 30 minutes, or as soon thereafter as practicable, of the discharge must be used. For all other pollutants both a grab sample collected during the first 30 minutes, or as soon thereafter as practicable, of the discharge and a flow-weighted composite sample must be analyzed. However, a minimum of one grab sample may be taken for effluents from holding ponds or other impoundments with a retention period of greater than 24 hours.

All samples shall be collected from the discharge resulting from a storm event that is greater than 0.1 inches and at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. Where feasible, the variance in the duration of the event and the total rainfall of the event should not exceed 50 percent from the average or median rainfall event in that area.

A grab sample shall be taken during the first 30 minutes, or as soon thereafter as practicable, and a flow-weighted composite shall be taken for the entire event or for the first three hours of the event.

Grab and composite samples are defined as follows:

Grab sample: An individual sample of at least 100 milliliters collected during the first 30 minutes, or as soon thereafter as practicable, of the discharge. This sample is to be analyzed separately from the composite sample.

Flow-Weighted Composite sample: A flow-weighted composite sample may be taken with a continuous sampler that proportions the amount of sample collected with the flow rate or as a combination of a minimum of three sample aliquots taken in each hour of discharge for the entire event or for the first three hours of the event, with each aliquot being at least 100 milliliters and collected with a minimum period of 15 minutes between aliquot collections. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically. Where GC/MS Volatile Organic Analysis (VOA) is required, aliquots must be combined in the laboratory immediately before analysis. Only one analysis for the composite sample is required.

Data from samples taken in the past may be used, provided that all data requirements are met; sampling was done no more than three years before submission; and all data are representative of the present discharge.

Among the factors which would cause the data to be unrepresentative are significant changes in production level, changes in raw materials, processes, or final products, and changes in stormwater treatment. The Department may request additional information, including current quantitative data, if it is necessary to assess your discharges. The Department may allow or establish appropriate site-specific sampling procedures or requirements, including sampling locations, the season in which the sampling takes place, the minimum duration between the previous measurable storm event and the storm event sampled, the minimum or maximum level of precipitation required for an appropriate storm event, the protocols for collecting samples under 40 CFR 136 or Rule 62-160, F.A.C., and additional time for submitting data on a case-by-case basis.

B. Reporting: All levels must be reported as concentration and mass. Grab samples are reported in terms of concentration. You may report some or all of the required data by attaching separate sheets of paper instead of filling out pages VII-1 and VII-2 if separate sheets contain all the required information in a format which is consistent with pages VII-1 and VII-2 in spacing and identification of pollutants and columns. Use the abbreviations listed below in the columns headed "Units."

Concentration

ppb	parts per billion
ppm	parts per million
mg/L	milligrams per liter
ug/L	micrograms per liter

Mass

lbs	pounds
ton	tons (English tons)
mg	milligrams
g	grams
kg	kilograms
T	tonnes (metric tons)

All reporting of values for metals must be in terms of "total recoverable metal," unless

- (1) An applicable, promulgated effluent limitation or standard specifies the limitation for the metal in dissolved, valent, or total form; or
- (2) All approved analytical methods for the metal inherently measure only its dissolved form; or
- (3) The Department has determined that in establishing case-by-case limitations it is necessary to express the limitations on the metal in dissolved, valent, or total form to carry out the provision of the CWA. If you measure only one grab sample and one flow-weighted composite sample for a given outfall, complete only the "Maximum Values" columns and insert "1" into "Number of Storm Events Sampled" column. The Department may require you to conduct additional analyses to further characterize your discharges.

If you measure more than one value for a grab sample or a flow-weighted composite sample for a given outfall and those values are representative of your discharge, you must report them. You must describe your method of testing and data analysis. You also must determine the average of all values within the last year and report the concentration and mass under the "Average Values" columns, and the total number of storm events samples under the "Number of Storm Events Sampled" columns.

C. Analysis: You must use test methods promulgated in 40 CFR 136 or Rule 62-160, F.A.C.; however, if none has been promulgated for a particular pollutant, you may use any suitable method for measuring the level of pollutant in your discharge provided that you submit a description of the method or a reference to a published method. Your description should include the sample holding time, preservation techniques, and the quality control measures which you used. If you have two or more substantially identical outfalls, you may request permission to sample and analyze only one outfall and submit the results of the analysis for other substantially identical outfalls. If your request is granted by the Department, on a separate sheet attached to the application form, identify which outfall you did test, and describe why the outfalls which you did not test are substantially identical to the outfall which you did test.

Part VII-A

Part VII-A must be completed by all applicants for all outfalls who must complete Form 2F.

Analyze a grab sample collected during the first 30 minutes, or as soon thereafter as practicable, of the discharge and flow-weighted composite samples for all pollutants in this Part, and report the results except use only grab samples for pH and oil and grease. See discussion in General instructions to Item VII for definitions of grab sample collected during the first 30 minutes of discharge and flow-weighted composite sample. The "Average Values" column is not compulsory but should be filled out if data are available.

Part VII-B

List all pollutants that are limited in an effluent guideline which the facility is subject to or any pollutant listed in the wastewater permit for the facility if the facility is operating under an existing wastewater permit. Complete one table for each outfall. The "Average Values" column is not compulsory but should be filled out if data are available. Analyze a grab sample for all pollutants in this Part, and report the results, except as provided in the General Instructions.

Part VII-C

Part VII-C must be completed by all applicants for all outfalls which discharge stormwater associated with industrial activity. Use both a grab sample and a composite sample for all pollutants you analyze for in this part except use grab samples for residual chlorine and fecal coliform. The "Average Values" column is not compulsory but should be filled out if data are available. Part C requires you to address the pollutants in Table 2F-2, 2F-3, and 2F-4 for each outfall. Pollutants in each of these Tables are addressed differently.

Table 2F-2: For each outfall, list all pollutants in Table 2F-2 that you know or have reason to believe are discharged, except pollutants previously listed in Part VII-B. If a pollutant is limited in an effluent guideline limitation for the facility, the pollutant must be analyzed and reported in Part VII-B. If a pollutant in Table 2F-2 is indirectly limited by an effluent guideline limitation through an indicator (e.g., TSS used as an indicator to control the discharge of iron and aluminum), you must analyze for it and report the data in Part VII-B. For other pollutants listed in Table 2F-2, those not limited directly or indirectly by an effluent limitation guideline, that you know or have reason to believe are discharged, you must either report quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Table 2F-3: For each outfall, list all pollutants in Table 2F-3 that you know or have reason to believe are discharged. For every pollutant in Table 2F-3 expected to be discharged in concentrations of 10 ppb or greater, you must submit quantitative data. For acrolein; acrylonitrile; 2,4 dinitrophenol; and 2-methyl-4, 6 dinitrophenol, you must submit quantitative data if any of these four pollutants is expected to be discharged in concentrations 100 ppb or greater. For every pollutant expected to be discharged in concentrations less than 10 ppb (or 100 ppb for the four pollutants listed above), then you must either submit quantitative data or briefly describe the reasons the pollutant is expected to be discharged.

Table 2F-4: For each outfall, list any pollutant in Table 2F-4 that you know or believe to be present in the discharge and explain why you believe it to be present. No analysis is required, but if you have analytical data, you must report them. Certain discharges of hazardous substances may be exempted from the requirements of section 311 of the CWA which establishes reporting requirements. Please contact the Department for further information.

Part VII-D

If sampling is conducted during more than one storm event, you only need to report the information requested in Part VII-D for the storm event(s) which resulted in any maximum pollutant concentration report in Part VII-A, VII-B, or VII-C.

Provide flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, the method of flow measurement, or estimation. Provide the data and duration of the storm event(s) sampled, rainfall measurement, or estimates of the storm event which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event.

Part VII-E

List any toxic pollutant listed in Tables 2F-2, 2F-3, or 2F-4 which you currently use or manufacture as an intermediate or final product or by-product. In addition, if you know or have reason to believe that 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD) is discharged, or if you use or manufacture 2,4,5-trichlorophenoxy acetic acid (2,4,5,-T); 2-(2,4,5-trichlorophenoxy) propanoic acid (Silvex, 3,4,5,-TP); 2-(2,4,5-trichlorophenoxy) ethyl, 2,2-dichloropropionate (Erbon); O,O-dimethyl O-(2,4,5-trichlorophenyl) phosphorothic acid (Ronnel); 2,4,5-trichlorophenol (TCP); or hexachlorophene (HCP); then list TCDD. The Department may waive or modify the requirement if you demonstrate that it would be unduly burdensome to identify each

toxic pollutant and the Department has adequate information to issue your permit. You may not claim this information as confidential; however, you do not have to distinguish between use or production of the pollutants or list the amounts.

Item VIII

Self explanatory. The Department may ask you to provide additional details after your application is received.

Item X

Chapter 403, F.S., provides for severe penalties for submitting false information on this application form. Rule 62-620.305, F.A.C., requires the certification in this item to be signed by an appropriate and responsible authority. If the certification is not signed in accordance with this rule, the application will be deemed incomplete and returned.

**TABLE 2F-1
CODES FOR TREATMENT UNITS**

Physical Treatment Processes

1-A Ammonia Stripping	1-N Microstraining
1-B Dialysis	1-O Mixing
1-C Diatomaceous Earth Filtration	1-P Moving Bed Filters
1-D Distillation	1-Q Multimedia Filtration
1-E Electrodialysis	1-R Percolation Pond
1-F Evaporation	1-S Rapid Sand Filtration
1-G Flocculation	1-T Reverse Osmosis (Hyperfiltration)
1-H Flotation	1-U Screening
1-I Foam Fractionation	1-V Sedimentation (Settling)
1-J Freezing	1-W Slow Sand Filtration
1-K Gas-Phase Separation	1-X Solvent Extraction
1-L Grinding (Comminutors)	1-Y Sorption
1-M Grit Removal	

Chemical Treatment Processes

2-A Carbon Adsorption	2-G Disinfection (Ozone)
2-B Chemical Oxidation	2-H Disinfection (Other)
2-C Chemical Precipitation	2-I Electrochemical Treatment
2-D Coagulation	2-J Ion Exchange
2-E Dechlorination	2-K Neutralization
2-F Disinfection (Chlorine)	2-L Reduction

Biological Treatment Processes

3-A Activated Sludge	3-E Pre-Aeration
3-B Aerated Lagoons	3-F Spray Irrigation/Land Application
3-C Anaerobic Treatment	3-G Stabilization Ponds
3-D Nitrification-Denitrification	3-H Trickling Filtration

Other Processes

4-A Discharge to Surface Water	4-C Reuse/Recycle of Treated Effluent
4-B Ocean Discharge Through Outfall	4-D Underground Injection

Sludge Treatment and Disposal Processes

5-A Aerobic Digestion	5-M Heat Drying
5-B Anaerobic Digestion	5-N Heat Treatment
5-C Belt Filtration	5-O Incineration
5-D Centrifugation	5-P Land Application
5-E Chemical Conditioning	5-Q Landfill
5-F Chlorine Treatment	5-R Pressure Filtration
5-G Composting	5-S Pyrolysis
5-H Drying Beds	5-T Sludge Lagoons
5-I Elutriation	5-U Vacuum Filtration
5-J Flotation Thickening	5-V Vibration
5-K Freezing	5-W Wet Oxidation
5-L Gravity Thickening	

TABLE 2F-2

CONVENTIONAL AND NON-CONVENTIONAL POLLUTANTS REQUIRED TO BE TESTED BY EXISTING DISCHARGER IF EXPECTED TO BE PRESENT

Aluminum, Total	Manganese, Total
Barium, Total	Nitrate-Nitrite
Boron, Total	Nitrogen, Total Organic
Bromide	Oil and Grease
Chlorine, Total Residual	Phosphorus, Total
Cobalt, Total	Radioactivity
Color	Sulfate
Fecal Coliform	Sulfide
Fluoride	Sulfite
Iron, Total	Surfactants
Magnesium, Total	Tin, Total
Molybdenum, Total	Titanium, Total

**TABLE 2F-3
TOXIC POLLUTANTS REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT**

Toxic Pollutants and Total Phenol

Antimony, Total
Arsenic, Total
Beryllium, Total
Cadmium, Total
Chromium, Total

Copper, Total
Cyanide, Total
Lead, Total
Mercury, Total
Nickel, Total

Phenols, Total
Selenium, Total
Silver, Total
Thallium, Total
Zinc, Total

GC/MS Fraction Volatiles Compounds

Acrolein
Acrylonitrile
Benzene
Bromoform
Carbon Tetrachloride
Chlorobenzene
Chlorodibromomethane
Chloroethane
2-Chloroethylvinyl Ether

Chloroform
Dichlorobromomethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
1,2-Dichloropropane
1,3-Dichloropropylene
Ethylbenzene
Methyl Bromide
Methyl Chloride

Methylene Chloride
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Toluene
1,2-Trans,Dichloroethylene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Vinyl Chloride

Acid Compounds

2-Chlorophenol
2,4-Dichlorophenol
2,4-Dimethylphenol
4,6-Dinitro-O-Cresol

2,4-Dinitrophenol
2-Nitrophenol
4-Nitrophenol
p-Chloro-M-Cresol

Pentachlorophenol
Phenol
2,4,6-Trichlorophenol

Base/Neutral

Acenaphthene
Acenaphthylene
Anthracene
Benzidine
Benzo(a)anthracene
Benzo(a)pyrene
3,4-Benzofluoranthene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Bis(2-chloroethoxy)methane
Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl)ether
Bis(2-ethylhexyl)phthalate
4-Bromophenyl Phenyl Ether
Butylbenzyl Phthalate

2-Chloronaphthalene
4-Chlorophenyl Phenyl Ether
Chrysene
Dibenzo(a,h)anthracene
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
3,3-Dichlorobenzidine
Diethyl Phthalate
Dimethyl Phthalate
Di-N-Butyl Phthalate
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-N-Octylphthalate
1,2-Diphenylhydrazine (as
Azobenzene)

Fluoroanthene
Fluorene
Hexachlorobenzene
Hexachlorobutadiene
Hexachloroethane
Indeno(1,2,3-cd)pyrene
Isophorone
Naphthalene
Nitrobenzene
N-Nitrosodimethylamine
N-Nitrosodi-N-Propylamine
N-Nitrosodiphenylamine
Phenanthrene
Pyrene
1,2,4-Trichlorobenzene

Pesticides

Aldrin	Dieldrin	PCB-1242
Alpha-BHC	Alpha-Endosulfan	PCB-1254
Beta-BHC	Beta-Endosulfan	PCB-1221
Gamma-BHC	Endosulfan Sulfate	PCB-1232
Delta-BHC	Endrin	PCB-1248
Chlordane	Endrin Aldehyde	PCB-1260
4,4'-DDT	Heptachlor	PCB-1016
4,4'-DDE	Heptachlor Epoxide	Toxaphene
4,4'-DDD		

TABLE 2F-4 HAZARDOUS SUBSTANCES REQUIRED TO BE IDENTIFIED BY APPLICANT IF EXPECTED TO BE PRESENT

Toxic Pollutant

Asbestos

Hazardous Substances

Acetaldehyde	Dinitrobenzene	Parathion
Allyl alcohol	Diquat	Phenolsulfonate
Allyl chloride	Disulfoton	Phosgene
Amyl acetate	Diuron	Progargite
Aniline	Epichlorohydrin	Propylene oxide
Benzonitrile	Ethion	Pyrethrins
Benzyl chloride	Ethylene diamine	Quinoline
Butyl acetate	Ethylene dibromide	Resorcinol
Butylamine	Formaldehyde	Stronthium
Carbaryl	Furfural	Strychnine
Carbofuran	Guthion	Styrene
Carbon disulfide	Isoprene	2,4,5-T (2,4,5- Trichlorophenoxyacetic acid)
Chlorpyrifos	Isopropanolamine	TDE (Tetrachlorodiphenyl ethane)
Coumaphos	Kelthane	2,4,5-TP (2-(2,4,5- Trichlorophenoxy)propanoic acid)
Cresol	Kepone	Trichlorofan
Crotonaldehyde	Malathion	Triethylamine
Cyclohexane	Mercaptodimethur	Trimethylamine
2,4-D (2,4- dichlorophenoxyacetic acid)	Methoxychlor	Uranium
Diazinon	Methylmercaptan	Vanadium
Dicamba	Methyl methacrylate	Vinyl acetate
Dichlobenil	Methyl parathion	Xylene
Dichlone	Mevinphos	Xylenol
2,2-Dichloropropionic acid	Mexacarbate	Zirconium
Dichorvos	Monoethyl amine	
Diethyl amine	Monomethyl amine	
Dimethyl amine	Naled	
	Napthenic acid	
	Nitrotoluene	

FORM 2F



APPLICATION FOR PERMIT FOR STORMWATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY

Facility I.D. Number: _____

Please type or print in black ink. If additional space is needed for your answer, use plain sheets and attach to the application form.

I. Outfall Location:

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number (list)	B. Latitude		C. Longitude		D. Receiving Water (Name)

II. Improvements:

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of stormwater or wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions?

1. Identification of Conditions, Agreements	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	No.	Source of Discharge		a. required	b. projected

B. You may attach additional sheets describing any additional water pollution or other environmental projects which may affect your discharge that you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map:

Attach a site map showing topography depicting the facility including each of its intake and discharge structures; the drainage area of each stormwater outfall; paved areas and buildings within the drainage area of each stormwater outfall; each known past or present areas used for outdoor storage or disposal of significant materials; each existing structural control measure to reduce pollutants in stormwater runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units; each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive stormwater discharges from the facility. Show hazardous waste storage or disposal areas that do not require a RCRA permit separate from those which do require a permit.

IV. Narrative Description of Pollutant Sources:

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces, including paved areas and building roofs, drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall No.	Area of Impervious Surface (units)	Total Area Drained (units)	Outfall No.	Area of Impervious Surface (units)	Total Area Drained (units)

B. Provide a narrative description of significant materials that are currently, or in the past three years have been, treated, stored or disposed in a manner that allows exposure to stormwater; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact with stormwater runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in stormwater runoff; and a description of the treatment the stormwater receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall No.	Treatment	Table 2F-1 Code

V. Non-stormwater Discharges:

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of non-stormwater discharges, and that all non-stormwater discharges from these outfall(s) are identified in either an accompanying DEP Form 62-620.910(5) or (7) (Forms 2CS or 2ES) application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

Facility I.D. Number: _____

VI. Significant Leaks or Spills:

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

VII. Discharge Information:

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided. Tables VII-A, VII-B, and VII-C are included on separate sheets numbered VII-1 and VII-2.

E. Potential discharges not covered by analysis - is any toxic pollutant listed in Table 2F-2, 2F-3, or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or by-product?

Yes (list all such pollutants below) No (go to section VIII)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

Yes (list results below) No (go to Section IX)

IX. Contract Analysis Information

Were any of the analysis reported in item VII performed by a contract laboratory or consulting firm?

Yes (list the name, address, and telephone number of, and pollutants analyzed by each such laboratory or firm below) No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed

X-A. CERTIFICATIONS FOR NEW OR MODIFIED FACILITIES

I certify that the engineering features of this pollution control project have been designed by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department. It is also agreed that the undersigned, if authorized by the owner, will furnish the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signature	Company Name:
Name (please type):	Address: _____
(Affix Seal)	Florida Registration No.: _____
	Telephone No.: _____
	Date: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name & Official Title (type or print)	Signature
Telephone No. (area code & no.)	Date Signed

X-B. CERTIFICATIONS FOR PERMIT RENEWALS

I certify that the engineering features of this pollution control project have been examined by me and found to be in conformity with sound engineering principles, applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules of the Department.

Signature	Company Name:
Name (please type):	Address: _____
(Affix Seal)	Florida Registration No.: _____
	Telephone No.: _____
	Date: _____

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name & Official Title (type or print)	Signature
Telephone No. (area code & no.)	Date Signed

APPENDIX C

Land Use Table

1995 Land Use Summary
 Lake Worth Drainage District
 Palm Beach County, FL
 Project Number 2-134

FLUCFCS	FLUCFCS	Total Acres	Percentage	Land Use Code Description
1000	1009	3997.07	2.04%	1000 URBAN AND BUILT-UP
1100	1110	9495.75	4.86%	1100 Residential, Low Density - Less than two dwelling units per acre.
1100	1190	266.59	0.14%	1190 Low Density Under Construction
1200	1210	34280.98	17.53%	1210 medium density - Fixed single family units
1200	1230	2729.45	1.40%	1230 Residential, Med. Density - mixed units - fixed and mobile home units
1200	1290	1744.23	0.89%	1290 Residential, Med. Density - medium density under construction
1300	1310	8561.94	4.38%	1310 Residential, High Density - fixed single family units
1300	1330	12786.55	6.54%	1330 Residential, High Density-multiple dwelling units low rise
1300	1340	2995.1	1.53%	1340 Residential, High Density-multiple dwelling units-high rise
1300	1350	45.11	0.02%	1350 Residential, High Density- mixed units
1300	1390	326.64	0.17%	1390 Residential, High Density-underconstruction
1400	1410	1142.81	0.58%	1410 Commercial and Services. Retail Sales and Service
1400	1411	1538.58	0.79%	1410 Commercial and Services. Retail Sales and Service
1400	1420	195.63	0.10%	1420 Commercial and Services. Wholesale and services
1400	1423	27.9	0.01%	1420 Commercial and Services. Wholesale and services
1400	1430	1550.72	0.79%	1430 Commercial and Services. Professional services
1400	1440	12.52	0.01%	1440 Commercial and Services. Cultural and entertainment
1400	1450	11.37	0.01%	1450 Commercial and Services. Tourist services
1400	1470	4462.05	2.28%	1450 Commercial and Services. Mixed commercial services
1400	1480	134.38	0.07%	1480 - cemeteries
1400	1490	34.38	0.02%	1490 Commercial and Services. Under construction
1500	1550	2192.41	1.12%	1550 - other light industry
1500	1560	462.98	0.24%	1560 - other heavy industrial
1500	1590	80.28	0.04%	1590 - industrial under construction
1600	1620	176.19	0.09%	1620 - sand and gravel pits
1700	1710	2464.48	1.26%	1710 - educational facilities
1700	1720	197.47	0.10%	1720 - religious facilities
1800	1820	11478.31	5.87%	1820 - golf course
1800	1830	95.89	0.05%	1830 - race tracks
1800	1850	1084.32	0.55%	1850 - parks and zoos
1800	1860	558.9	0.29%	1860 - community recreational facilities
1800	1870	65.64	0.03%	1870 - stadiums: those facilities not associated with high schools,
1800	1890	474.26	0.24%	1890 - other rec facilities
1900	1910	1725.85	0.88%	1910 - undeveloped land within urban areas

1995 Land Use Summary
 Lake Worth Drainage District
 Palm Beach County, FL
 Project Number 2-134

FLUCFCS	FLUCFCS	Total Acres	Percentage	Land Use Code Description
1900	1920	2541.27	1.30%	1920 - inactive land with street pattern but without structures
1900	1930	2149.83	1.10%	1930 - urban land in transition without positive indicators of intended activity
1900	1940	1656.06	0.85%	1940 - other open land
2100	2110	4859.88	2.49%	2110 - improved pastures
2100	2120	1956.46	1.00%	2120 - unimproved pastures
2100	2130	4.68	0.00%	2130 - woodland pastures
2100	2140	16959.51	8.67%	2140 - row crops
2100	2150	319.59	0.16%	2150 - field crops
2200	2210	1311.88	0.67%	2210 - citrus groves
2200	2220	160.38	0.08%	2220 - fruit orchards
2200	2230	32.91	0.02%	2210 - other groves
2400	2410	819.36	0.42%	2410 - tree nurseries
2400	2420	5.99	0.00%	2420 - sod farms
2400	2430	4164.7	2.13%	2430 - ornamentals
2500	2510	1620.43	0.83%	2510 - horse farms
2500	2520	136.29	0.07%	2520 - dairies
2500	2540	135.55	0.07%	2540 - aquaculture
2500	2590	198.94	0.10%	2590 -
2600	2610	2382.49	1.22%	2610 - fallow cropland
3100	3100	460.33	0.24%	3100 - Herbaceous
3200	3290	1167.54	0.60%	3200 - Shrub and Brushland
4100	4110	1399.15	0.72%	4110 - pine flatwoods
4100	4119	2699.3	1.38%	4119 - other pine
4100	4120	10.59	0.01%	4120 - longleaf pine - xeric oak
4100	4130	1257.05	0.64%	4130 - sand pine
4200	4220	2692.9	1.38%	4220 - brazilian pepper
4200	4240	977.82	0.50%	4240 - melaleuca
4200	4270	264.28	0.14%	4270 - live oak
4300	4320	368.39	0.19%	4320 - sand live oak
4300	4340	900	0.46%	4340 - upland mixed coniferous/hardwood
4300	4370	1112.64	0.57%	4370 - australian pine
4300	4380	187.74	0.10%	4380 - mixed hardwood
4300	4390	36.62	0.02%	4390 - other hardwood
4400	4430	8.29	0.00%	4400 - Tree Plantations

1995 Land Use Summary
 Lake Worth Drainage District
 Palm Beach County, FL
 Project Number 2-134

FLUCFCS	FLUCFCS	Total Acres	Percentage	Land Use Code Description
5100	5100	1398.74	0.72%	5100 - streams and waterways
5200	5220	443.96	0.23%	5220 - lakes larger than 100 acres
5200	5240	125.36	0.06%	5240 - lakes less than 100 acres
5300	5320	464	0.24%	5320 - reservoirs large than 100 acres
5300	5330	3504.85	1.79%	5330 - reservoirs large than 10 acres but less than 100 acres
5300	5340	4956.54	2.53%	5340 - reservoirs less than 10 acres (4 hectares) which are
6100	6110	6.23	0.00%	6110 - bay swamps
6100	6120	32.06	0.02%	6120 - mangrove swamps
6100	6170	973.51	0.50%	6170 - mixed wetland hardwoods
6100	6171	15.95	0.01%	6170 - mixed wetland hardwoods
6100	6172	2316.91	1.18%	6170 - mixed wetland hardwoods
6200	6210	2063.77	1.06%	6210 - cypress
6200	6218	438.9	0.22%	6210 - cypress
6300	6300	1814.5	0.93%	6300 - wetland forested mixed
6400	6410	1044.3	0.53%	6410 - freshwater marshes
6400	6411	125.42	0.06%	6411 - sawgrass marshes
6400	6412	501.14	0.26%	6411 - cattail marshes
6400	6430	402.31	0.21%	6430 - wet prairies
6400	6439	9.1	0.00%	6430 - wet prairies
7400	7410	222.18	0.11%	7410 - rural land in transition without positive indicators
7400	7420	1264.87	0.65%	7420 - borrow areas
7400	7430	1381.28	0.71%	7430 - spoil areas
8100	8110	1932.5	0.99%	8110 - airports
8100	8140	5345.17	2.73%	8140 - roads and highways
8100	8160	486.62	0.25%	8160 - canals and locks
8100	8180	15.03	0.01%	8180 - auto parking facilities - when not directly related to other
8100	8190	4.55	0.00%	8190 - Transportation Facilities Under Construction
8200	8210	42.02	0.02%	8200 - Communications
8300	8310	62.52	0.03%	8310 - Electrical Power Facilities
8300	8320	983.94	0.50%	8320 - Electrical Power Transmission Lines
8300	8330	43.75	0.02%	8330 - Water Supply Plants
8300	8340	338.05	0.17%	8340 - Sewage Treatment Plants
8300	8350	423.41	0.22%	8350 - Solid Waste Disposal
	Total	195539.01	100%	

Attachment “E”



LAKE WORTH DRAINAGE DISTRICT

13081 MILITARY TRAIL
DELRAY BEACH, FLORIDA 33484 -1105

Board of Supervisors
James M. Alderman
C. David Goodlett
Joyce D. Haley
Murray R. Kalish
John I. Whitworth III
Manager/Secretary
Ronald L. Crone
Assistant Managers
Carol W. Connolly
Michael D. Baker
Attorney
Perry & Kern, P.A.

Sent via E-Mail
jcharles@llw-law.com

April 28, 2010

Mr. James E. Charles
Lewis, Longman and Walker, P.A.
515 North Flagler Drive, Suite 1500
West Palm Beach, Florida 33401

Re: Nutrient Criteria

Dear Mr. Charles:

Pursuant to our conversation, attached please find a copy of the data obtained regarding Chlorophyll A, Total Nitrogen and Total Phosphorus from four sample sites in the LWDD service area. The stations are as follows:

- Station 2 - State Road 7 (E-1) and two miles north of Atlantic Avenue (L-30 and Bob West Road)
- Station 3 - State Road 7 (E-1) at Boynton Beach Blvd (north side)
- Station 8 - Ridgewood Road East (L-30) and Barwick Road
- Station 9 - Military Trail and one mile north of Old Boynton Road (C. Stanley Weaver)

Thank you for your attention to this matter.

Sincerely,

LAKE WORTH DRAINAGE DISTRICT

Ronald L. Crone
District Manager

Enclosure

mawrlcLetter to James Charles regarding nutrient criteria data.doc

LWDD CANALS

REVISED

STATION	DESCRIPTION	ANALYTE	UNITS	RESULT									
LWDD #2	LWDD L-30 CANAL AT SR7	CHLOROPHYLL a	mg/L	142349	142930	143285	143720	143902	144086	144382	144730	144910	
LWDD #2	LWDD L-30 CANAL AT SR7	TOTAL NITROGEN	mg/L	0.032	0.036	0.067	0.06	0.029	0.017	0.059	0.036	0.014	
LWDD #2	LWDD L-30 CANAL AT SR7	TOTAL PHOSPHORUS	mg/L	0.755	2.587	2.46	2.74	1.14	0.752	1.221	1.377	0.988	
LWDD #3	LWDD S-9 CANAL AT SR7 & BOYNTON BEACH BLVD	CHLOROPHYLL a	mg/L	0.405	0.302	0.913	0.252	0.138	0.102	0.271	0.284	0.446	
LWDD #3	LWDD S-9 CANAL AT SR7 & BOYNTON BEACH BLVD	TOTAL NITROGEN	mg/L	142350	142931	143286	143721	143903	144087	144383	144731	144911	
LWDD #3	LWDD S-9 CANAL AT SR7 & BOYNTON BEACH BLVD	TOTAL PHOSPHORUS	mg/L	0.035	0.026	0.038	0.014	0.014	0.01	0.025	0.013	0.0093	
LWDD #8	LWDD L-30 CANAL MILITARY TRAIL	CHLOROPHYLL a	mg/L	0.416	2.798	0.85	3.53	1.06	0.471	1.362	1.432	0.894	
LWDD #8	LWDD L-30 CANAL MILITARY TRAIL	TOTAL NITROGEN	mg/L	0.401	0.239	0.336	0.121	0.066	0.049	0.271	0.033	0.301	
LWDD #8	LWDD L-30 CANAL MILITARY TRAIL	TOTAL PHOSPHORUS	mg/L	142355	142936	143291	143726	143908	144092	144388	144736	144916	
LWDD #9	LWDD C STANLEY WEAVER CANAL	CHLOROPHYLL a	mg/L	0.032	0.04	0.04	0.0085	0.01	0.0044	0.017	0.0029	0.0057	
LWDD #9	LWDD C STANLEY WEAVER CANAL	TOTAL NITROGEN	mg/L	0.466	0.164	1.11	0.763	0.703	0.394	1.117	1.547	0.809	
LWDD #9	LWDD C STANLEY WEAVER CANAL	TOTAL PHOSPHORUS	mg/L	0.115	0.143	0.26	0.031	0.054	0.058	0.214	0.075	0.095	
LWDD #9	LWDD C STANLEY WEAVER CANAL	CHLOROPHYLL a	mg/L	142356	142937	143292	143727	143909	144093	144389	144737	144917	
LWDD #9	LWDD C STANLEY WEAVER CANAL	TOTAL NITROGEN	mg/L	0.043	0.018	0.057	0.044	0.023	0.02	0.053	0.02	0.013	
LWDD #9	LWDD C STANLEY WEAVER CANAL	TOTAL PHOSPHORUS	mg/L	0.543	1.97	1.05	2.96	0.635	0.323	0.983	1.636	1.152	
LWDD #9	LWDD C STANLEY WEAVER CANAL		mg/L	0.174	0.084	0.245	0.029	0.035	0.047	0.078	0.048	0.354	

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You are commenting on a **PROPOSED RULES:**

Water Quality Standards for the State of Florida's Lakes and Flowing Waters (EPA-HQ-OW-2009-0596-0179)

INFORMATION

Organization Name: Florida Association of
Special Districts
Organization's Representative: Lewis, Longman & Walker,
P.A.
Government Agency Type:
Government Agency:
Government Agency:

COMMENT

See attached file(s)

Attachments:
NNC EPA Comment Ltr 4-28-
10.pdf (4476k)

Submit a Comment

Success! Your Comment Has Been Submitted

Comment Tracking Number: 80ae2e68

Thank you for submitting a comment on the following PROPOSED RULES

Document ID: EPA-HQ-OW-2009-0596-0179: Water Quality Standards for the State of Florida's Lakes and Flowing Waters

Your attached files:

NNC EPA Comment Ltr 4-28-10.pdf

✓ Successfully uploaded

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Your comment has been sent to the agency and will be available on Regulations.gov once it has been processed. Given certain regulations may have thousands of comments, processing may take several weeks before it can be viewed online. We value your comment, and encourage you to contact the agency directly for additional questions related to your specific comment.

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