

Southeast Florida Utility Council



PALM BEACH COUNTY
WATER TREATMENT
8100 W. U.S. 1
WEST PALM BEACH, FL 33413
1-800-343-8888

ATTENTION SEFLUC MEMBERSHIP

DATE: January 3, 2007
TO: Members – Southeast Florida Utility Council
FROM: Thomas H. Miller, Secretary
SUBJECT: Southeast Florida Utility Council January Meeting Agenda

The next meeting of the Southeast Florida Utility Council will be held **Monday, January 8, 2007 at 1:30p.m.** The meeting will be held in the Broward County Water and Wastewater Services (BCWWS); Operations Division Training Room, located at 2555 West Copans Road, Pompano Beach, Florida. The agenda is as follows:

1. Administration:

- a. Call to Order (Michael Bailey, CCU)
- b. Review/Approval of Minutes (Michael Bailey, CCU)
- c. Treasurer's Report (Brian Shields, PBCWU)

2. Topical Issues:

- a. **Presentation:** D²S² Regional Water Supply Planning Executive Decision Tool (Kathleen O'Neil, PBSJ)
- b. **Presentation:** L-40 Berm Enhancement Alternative Water Supply Conveyance Project (Erin Deady, Lewis, Longman & Walker)
- c. **Presentation:** Water For People (Robert Nelton, PBCWUD)

3. Standing Sub-Committee(s) Reports: (As Ready)

- a. SEFLUC Hurricane Sub-Committee (Brian Shields, PBCWUD)
- b. SEFLUC Bird Rule Sub-Committee (Chapter 62-555, F.A.C.) (Miguel Arroyo, FLWU)

Next Regularly Scheduled Meeting: February 12, 2007

Southeast Fla. Utility Council

1/8/07

| <u>Name</u> | <u>Phone</u> | <u>Agency</u> | <u>Email</u> |
|----------------------|-----------------------|-----------------------|----------------------------------|
| Tom Miller | 964-4257 | PBCWUD | tmiller@pbcwud.com |
| John Harvey | 954-597-3779 | CITY of TAMPA | Johnh@TAMPA.ORG |
| Jean Dupuis | 954-956-1489 | City of Coconut Creek | jdupuis@coconutcreek.com |
| Joe Patermiti | 305 308 0246 | Brown & Caldwell | jpatermiti@brownca.com |
| DAV BAYLER | 954/921/3522 | Hollywood | dbayler@hollywoodfl.com |
| Randy Beaman | 954-545-7044 | Pompano Beach | RandyBeaman@copbfl.com |
| James Clark | 954 545 7045 | Pompano Beach | james.clark@copbfl.com |
| Harold Aiken | 954-846-0401 | MWH | harold.aiken@mwhglobal.com |
| Cathy Vogel | 239-565-1429 | Catalina Group | catpg@aol.com |
| Steve Lamb | 561-689-1708 | MFC | lamb@mfl.org |
| Danna Ackerman White | 561-737-3835 ext 5576 | LWUD | dannaackermanwhite@lucddinet.com |
| LAURA CORRY | 561-966-4641 | SFWMD | Lcorry.e@sfwmd.gov |
| Carol Morris | 954-713-3200 x4987 | SFWMD | cmorris@sfwmd.gov |
| JOSE LOPEZ | 954-275-0646 | SFWMD | jlopez@sfwmd.gov |
| Peter Kwiatkowski | 561-682-2547 | SFWMD | pkwiat@sfwmd.gov |
| Francis Henderson | 954-821-0760 | RC WWS | fhenderson@brownandcaldwell.com |
| Tom NOGAS | 954-837-0030 | CAROLLO | tnogas@carollo.com |
| Jason Godin | 561-827-9535 | PBSJ | jgodin@pbsj.com |
| Kathleen O'Neil | 407-697-6794 | PBSJ | kmoneil@pbsj.com |
| Woody Wodwascha | 561 689-7275 | PBSJ | Woody@pbsj.com |
| Heidi Castro | 954-898-6055 | City of Sunrise | hcastro@cityofsunrise.org |
| PATRICK MULLEN | 954 205 4036 | MWH | patrick.mullen@mwhglobal.com |
| Patty Hant | 954-921-3524 | Hollywood | phant@hollywoodfl.com |
| JULIE LEONARD | 954-828-7802 | Fort Lauderdale | |
| MIKE BAILEY | 9-434-5519 | Cooper City | mibailey@coopercityfl.com |



**Water Utilities Department
Engineering**

P.O. Box 16097
West Palm Beach, FL 33416-6097
(561) 493-6000
Fax: (561) 493-6113
www.pbcwater.com



**Palm Beach County
Board of County
Commissioners**

Addie L. Greene, Chairperson
Jeff Koons, Vice Chair
Karen T. Marcus
Warren H. Newell
Mary McCarty
Burt Aaronson
Jess R. Santamaria

County Administrator

Robert Weisman

TREASURER'S REPORT

Opening Balance: December 1, 2006 \$66,813.39

Deposits: 12/01/06 Total \$ 2,300.00

Disbursements: \$ 3,231.42

Closing Balance: December 29, 2006 \$65,881.97

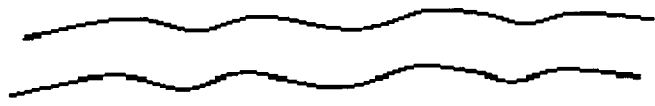
Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Brian A. Shields".

Brian A. Shields, P.E.

*"An Equal Opportunity
Affirmative Action Employer"*

Southeast Florida Utility Council



SEFLUC Meeting Minutes

January 8, 2007
1:35 PM
BCWWS Training Room

| | | | |
|---------------------------|-------------------|-------------------------|---------------|
| Meeting called by: | Michael Bailey | Type of meeting: | Regular |
| Facilitator: | Michael Bailey | Note taker: | Thomas Miller |
| Attendees: | See Attached List | | |

Minutes

| | | | |
|---------------------|---|-------------------|----------------|
| Agenda item: | Minutes Approval | Presenter: | Michael Bailey |
| Discussion: | None | | |
| Conclusions: | Motion By: Plantation Approved By: Hollywood Unanimous Approval: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | |

| | | | |
|---------------------|--|-------------------|----------------|
| Agenda item: | Treasurer's Report | Presenter: | Michael Bailey |
| Discussion: | Closing balance on December 29, 2006 was reported as \$65,881.97. See Attached Treasurers Report | | |
| Conclusions: | | | |

| | | | |
|----------------------|--|---------------------|---|
| Agenda item: | D2S2 Regional Water Supply Planning Tool | Presenter: | Kathleen O'Neil, PBSJ |
| Discussion: | <p>Mr. Thomas Miller introduced the topic and Ms. Kathleen O'Neil who provided a presentation overview of a new Regional Water Supply Planning Tool, a <i>Dynamic Decision Support System</i>. The tool is presently being developed as a Tailored Collaboration Project with the American Water Works Association Research Foundation (AwwaRF) and Palm Beach County Water Utilities. Ms. O'Neil related that the tool is intended to integrate hydrologic and economic issues into capital improvement alternatives, providing a defensible method of prioritizing those alternatives to achieve maximum public benefit. After the presentation was concluded, Ms. O'Neil requested feedback from the Council membership, and in particular, requested ideas on how this tool might be useful in partnership with other utilities in the Lower East Coast.</p> <p>Mr. Bailey suggested that if anyone wants to discuss the opportunity of partnering with Kathleen O'Neil on this project further, or if utility members want to discuss ways that the Council might become involved, to let him know.</p> | | |
| Conclusions: | No motions were offered by Council Members. | | |
| | Motion By: | Approved By: | Unanimous Approval: Yes <input type="checkbox"/> No <input type="checkbox"/> |
| Action Items: | Person Responsible: | Deadline: | |

Agenda item: L-40 Berm Enhancement AWS **Presenter:** Michelle Diffenderfer

Discussion: Ms. Diffenderfer introduced Ms. Ackerman-White from the Lake Worth Drainage District (LWDD). Ms. Diffenderfer introduced her presentation entitled "*LEC Sub-Regional Water Supply Conveyance Solution-L-40 Berm*" to the Council. During her presentation, she discussed the background of the LWDD and the need for this project, particularly in delivering water south from Lake Okeechobee to meet water supply needs without compromising the water quality in Water Conservation Area No. 1. She also related the linkage between the proposed L-40 Berm Enhancement Project and that of the Sub-Regional Lower East Coast Water Supply Solution (L-8 Basin) Project now being considered by a coalition of utilities with the City of Ft. Lauderdale. Ms. Diffenderfer related the benefits of the L-40 Berm Project and noted that to date, the South Florida Water Management District (SFWMD) has allocated \$600,000 for a feasibility study. She concluded her remarks by indicating that the LWDD intends to seek \$1.4 Million from the Florida Legislature for design and construction plans for the L-40 Berm Project, and requested support from the SEFLUC in that effort.

Ms. Diffenderfer addressed numerous questions from the Council. In response to a question on schedule, she stated that LWDD's request for funding was going to the Legislature this week. She would like to include language in that submittal of Council support. The Council could include language that their support would be contingent upon adequate feasibility outcome. Another question, asked if this project would become an Acceler8 project? Ms. Diffenderfer indicated that had been discussed with the District, but at this time, it was not clear if the project would go through Acceler8 or any other groups. There were questions related to U.S. Army Corps of Engineers permitting, the planned construction foot-print, and water quality. Ms. Diffenderfer, in response to the question on water quality did indicate that water quality could become concern, particularly for eastern chain of lakes that are now setting TMDL's. These would be topics though that would be addressed through the project feasibility study.

Conclusions: No motions were offered by Council Members.

Motion By: **Approved By:** **Unanimous Approval:** Yes No

Action Items: **Person Responsible:** **Deadline:**

Agenda item: Water For People **Presenter:** Robert Nelton, PBCWUD

Discussion: Postponed

Conclusions: **Motion By:** **Approved By:** **Unanimous Approval:** Yes No

Action Items: **Person Responsible:** **Deadline:**

Other Information

Special Notes:

Water availability rule: Mr. Mike Bailey related his attendance at the Water Resources Advisory Committee (WRAC) meeting last week, intent on presenting the concerns of the Council for the Draft Regional Water Supply Availability Rule. The Council had developed a letter in response to the District's proposed rule, but did not send it out before the meeting. Mr. Bailey indicated that at the last minute, before he spoke with the WRAC, he met with Mr. Steve Lamb who related new information that neither he nor the Council were aware of. In order to preserve the Council's options, Mr. Bailey elected not to introduce our position to the WRAC, at that time. With that said, Mr. Bailey introduced Mr. Steve Lamb to discuss with the Council, his concerns as related earlier to Mr. Bailey.

Mr. Lamb discussed what he related earlier to Mr. Bailey regarding minimum flows and levels (MFL) rules found in the District's Basis of Review. He indicated that by all indicators, the regional system was exceeding the MFL level and if that trend were to continue, there could be significant harm done to the environments in south Florida. The

District is responsible for ensuring that doesn't happen, in part through water shortage declarations. The District has us now in Water Shortage Warnings. When the MFL level was exceeded, the District said no more water. Mr. Lamb expressed concern over allowing the District to quantify water levels at the 2006 level, but suggested that he didn't know what would be gained by challenging rule. The District agreed we can come back with recommendations for change; they further agreed to work out language.

Mr. Bailey indicated that the SEFLUC came up with language that considered per capita population and believed that would eliminate our concerns over the April 1st being rather arbitrary. The new method would be a straight calculation and would make sense. Mr. Lamb agreed that if the SEFLUC came back with some language like that, the District would consider it. Besides, the new rule could always be administratively challenged. Mr. Bailey related that he informed the WRAC that the Council applauded their efforts, but still had some concerns and would like to meet with Staff to work out those issues. He indicated that a subcommittee could be created to work through the issues or schedule another meeting with Staff or prepare a letter with proposed language, or both; otherwise, the Council could just leave it up to each utility.

The Council agreed that Mr. Bailey did the right thing, that he got the issue on table for further discussion while maintaining a united utility front. Mr. Bailey asked the Council how they'd like to proceed at this point, ensuring that the SEFLUC remains cohesive and responsive to the District. He offered to use existing submittals as a starting point and asked that all Member Utilities that have already responded to the District forward their positions to him and he would compile a unified response. The next workshop is on January 19th and he believed that we would end up with a compromise, but we don't want to say prove it without hurting ourselves. Mr. Bailey asked that all letters be submitted to him by Friday, January 12th.

Standing Sub-Committees:

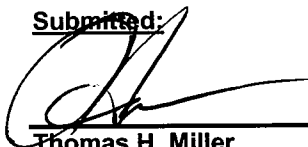
1. **Hurricane Sub-Committee:** No Comments
2. **Bird Rule Sub-Committee:** No Comments

Announcements:

Jose Lopez announced that the meeting in West Palm Beach to see their new wastewater treatment plant will be hosted by CDM. Jose will send an email to all. He also confirmed that a Florida Chapter of the Water Reuse & Desalination Foundation is being established. There will be a meeting May 24-26 in Ft. Lauderdale. Sponsors are needed. The third day will be a tour of a golf course using reclaimed water.

Meeting Adjourned: 3:05 PM

Submitted:



Thomas H. Miller

2-7-07

Date:

Approved:



Michael F. Bailey, P.E.

Date: 2/12/07

Executive Decision Support System for Integrated Water

AwwaRF Proposal
Dynamic Decision Support System
(Dynamic DSS or D2S2)

Tool for Integrated Resource Management & Risk Analysis

Systematic & Analytical Method of Stakeholder Facilitation

Tool for Evaluating Equity, Optimal Distributions, and Maximum Public Benefit

Systematic and Defensible method of demonstrating evaluation process and full optimization

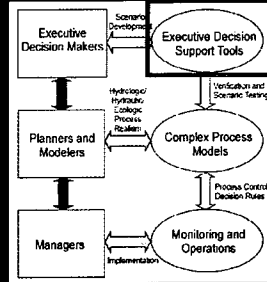
Combination of Two Mathematical Approaches
that are Both Stakeholder and Data Driven:

•AwwaRF Independent Peer Review and Project Advisory Committee

- Bill Belamy, Director Water Supply, CH2MHill
- Scott Kelly, VP Water and Wastewater, Jacksonville Electric Authority (JEA)
- Jerri Russell, Watershed Manager, City of Atlanta
- Grace Chan, VP Water, Metropolitan Water District

D2S2 is Uniquely Designed to Offer:

- Integration of Hydrology, Economics, and Policy Options
- Water Balance Based Investment Risk Planning
- Estimation of Model Sensitivities and Uncertainties
- Visual Desk-top Scenario Testing
- Systematic Method of Stakeholder Mediation Dynamically Linked to Visualization Tool



Directly Addresses the Need for:

DWR White Paper

- Cumulative and Feedback effects of supply decisions are not known
- Optimum Mix and Timing of Alternatives is complex
- Economics, Land Use & Policy Changes, and Public Risks must be quantified
- Alternative sources require SS capital improvements and risk mgmt planning
- Prioritization of alternatives must represent maximum public & natural resource benefit

A tool integrating hydrologic and economic dynamics in capital improvement planning.

A defensible method of prioritizing alternatives to achieve maximum public benefit.

Comparing apples and oranges

- How do you weight criteria? How do you compare alternatives?
 - Levee repair 1:200 year protection urban and 1:100 year agriculture
 - With Levee set-back 1& Reservoir management scenario
 - With Levee set-back 2 + Reservoir management 1
 - With Conservation assumptions 1 + Reservoir management 1
- Rank alternatives using MCDA
 - Scenarios are not single points, but represent distributions.
 - MCDA examines these distributions and helps formally discriminate.

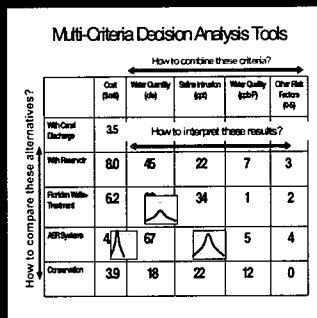


Figure 10.10. Multi-criteria decision analysis tool for comparing alternatives. (Source: DWR, 2008)

Source: Dr. Gregory Kiker, UF, 2008

- Hydrologic, Water Quality, and Cost/Valuation Enhancements to WEAP
- Building a Dynamic Link to Stakeholder Weighting & Alternative Ranking
- Tracking and Providing Uncertainty Estimates Associated with Outcomes and Alternatives
- Building Alternative Water Supply and Cost Sharing Scenarios
- Leading Stakeholder Groups through Alternative Analysis

A DSS for Long-Term Water Utility Planning

Researchers worked with municipalities to develop this general DSS that allows customers to evaluate future water management scenarios and support the social, financial, and economic analyses needed for strategic planning.

Colorado DSS Provides a Statewide Water Management Tool *Ray Alvarado and Lavanya Guillard*

Colorado agencies are building comprehensive DSSs for seven major river basins, which will provide statewide coverage when complete. Users already are taking advantage of the DSS website to review data and maps and analyze potential impacts of policy decisions for the completed basins.

Peruvian Mine Operation Using Dynamic System Modeling *Charles Viss and Henri Leleut*

Antamina Corporation in the Peruvian Andes is using a dynamic system model to manage water for all its day-to-day operations and for long-range planning. The model simulates the behavior of the system under different climate conditions and operational rules.

Participatory Learning on the San Pedro: Designing the Crystal Ball Together *Holly E. Richter*

Working closely with a university modeling team, the diverse members of the Upper San Pedro Partnership in southern Arizona are building a DSS to gain insight into the complex interactions of the ecosystem and evaluate water management alternatives.

Collaborative Modeling for Water Management

The Army Corps of Engineers' Shared Vision Planning approach involves stakeholders in the development and design of decision support models. This collaborative modeling helps tease apart factual conflicts from value conflicts to solve water management challenges.

Cooperative Decision Support Modeling for Water Planning in the Middle Rio Grande *Vincent C. Tidwell and Howard D. Passell*

Sanja's National Laboratories worked with government organizations in the Middle Rio Grande area to develop a comprehensive decision support model for water management. The resulting working model has proven its value in developing solutions to complex public policy issues and to educate and engage the public in the process.

Source: <http://www.sanjas.com/Products/Products.cfm?ID=4>, July 4, 2004

– Trade-offs Between Various Combinations of Alternative Water Strategies and Capital Improvement Projects

– Sensitivity of Timing on Investment in Capital Improvements

– Cumulative Impacts to Water Budget Components, Short and Long Term

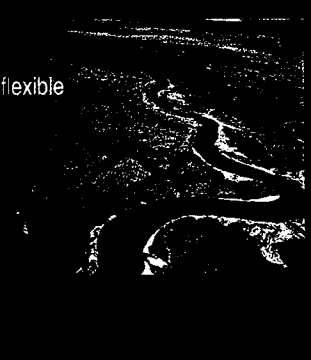
– Demonstration of Benefits of Policy and Other Regulatory Changes

Nothing in the world
Is as soft and yielding as water.

Yet for dissolving the hard and inflexible
Nothing can surpass it.

The soft overcomes the hard;
The gentle overcomes the rigid.

Everyone knows this is true.
But few can put it into practice.



LEC Sub-Regional Water Supply Conveyance Solution-L-40 Berm

Southeast Utility Council
January 8, 2007
Presented By:
Michelle Diffenderfer
Danna Ackerman-White

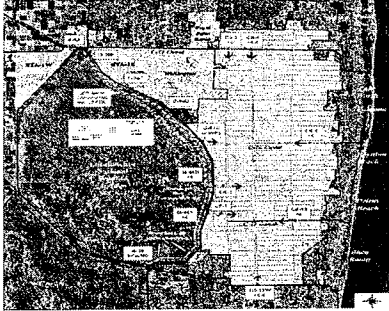
Lake Worth Drainage District Background

- The LWDD was established in 1915 and covers 218 square miles in Central and Southeast Palm Beach County.
- The LWDD contains 511 miles of Canals and has a consumptive use permit for 61 billion gallons per year supplying water for 750,000 residents and 15,000 acres of agricultural land.
- 60% of the LWDD's water comes from the Loxahatchee National Wildlife Refuge (WCA 1) and 40% comes from the C-51 or Hillsboro Canals.

Background on the Need for the Project

- Prior to releasing water for water supply from Lake Okeechobee to WCA 1, water must be treated in Stormwater Treatment Areas ("STAs") 1 East or 1 West.
- These STAs were not sized to treat for water supply and are not always reliable to treat the water due to periodic maintenance, damage from hurricanes and the constraints of Regulation Schedules.
- A new method of delivering water south could meet water supply needs without compromising the water quality of WCA 1.

What the L-40 Berm Project Does



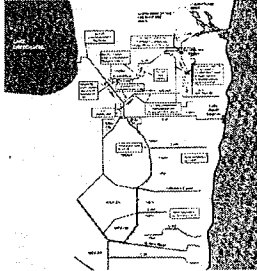
What the L-40 Berm Project Does

- The L-40 Berm is located on the east side of the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Water Conservation Area "WCA" 1).
- The project proposes construction of 17.35 miles along the interior of the L-40 canal
- The project provides a method of conveyance to move water south from Lake Okeechobee during low water times to meet water supply needs without compromising water quality in the Refuge.

The Berm and Rim Canal



Linkage between L-40 project and L-8 Project



- Conveyance of the additional water from the L-8 Basin to meet water supply needs for Palm Beach and Broward Counties.

Benefits of the L-40 Berm Project

- Water can be delivered south during low water times (January to June) to meet needs without adversely affecting water quality in WCA 1.
- Excess water from Lake Okeechobee can be sent south instead of being discharged to the Caloosahatchee and St. Lucie Estuaries.
- Decrease the overburdening of the stormwater treatment areas which can be better focused on water quality treatment for environmental areas.
- Protect the WCA 1 interior marsh from undesired marsh draw downs during low water events

What are the Next Steps for Project Development?

The SFWMD has allocated \$600,000 for a Feasibility Study to address unknowns such as:

- The physical features of the berm;
- What materials would be used to construct the berm;
- What environmental impacts might occur;
- What mitigation could offset those impacts;
- What the permitting process will be; and,
- What the cost will be.

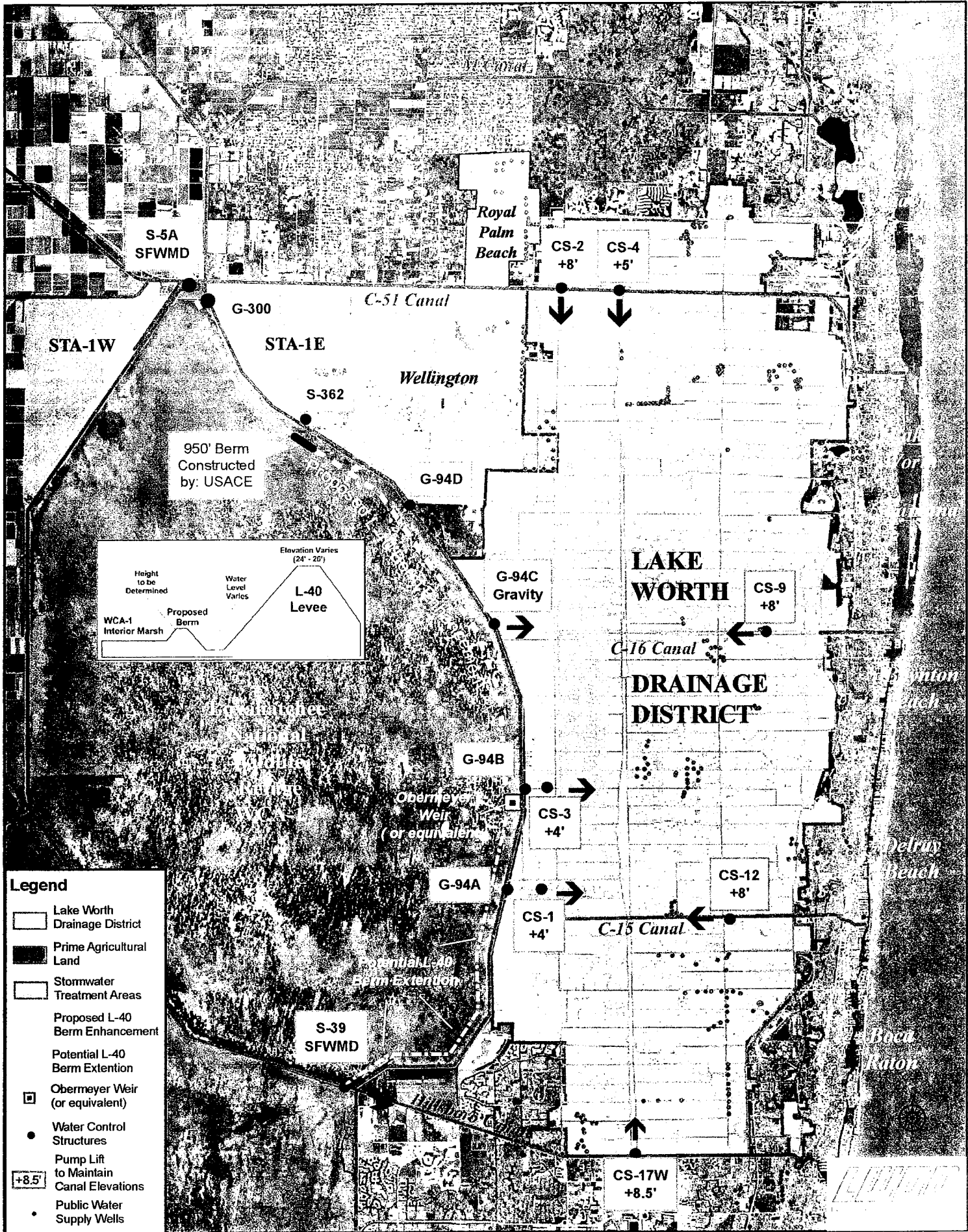
Briefings to Date

- Palm Beach County Water Utilities Department;
- Palm Beach County Water Issues Group;
- City of Delray Beach Water Utilities;
- City of Delray Beach Commission;
- City of Boca Raton Water Utilities Department;
- City of Boynton Beach
- Broward County Water Management Division;
- The Everglades Law Center (formerly ELULC); and,
- 1,000 Friends of Florida.

The Request Today

The LWDD is asking for support in seeking \$1.4 million from the Florida Legislature for design and construction plans for the L-40 Berm project





S-5A
SFWMD

Royal
Palm
Beach

CS-2
+8'

CS-4
+5'

G-300

C-51 Canal

STA-1W

STA-1E

Wellington

S-362

G-94D

950' Berm
Constructed
by: USACE

LAKE
WORTH

CS-9
+8'

G-94C
Gravity

C-16 Canal

DRAINAGE
DISTRICT

G-94B

CS-3
+4'

Obermeyer
Weir
(or equivalent)

G-94A

CS-1
+4'

C-15 Canal

CS-12
+8'

S-39
SFWMD

Potential L-40
Berm Extension

CS-17W
+8.5'

Billboard Canal

Boca
Raton



LAKE WORTH DRAINAGE DISTRICT

LWDD was established in 1915

LWDD covers 218 square miles in Central and Southeast Palm Beach County

LWDD maintains 511 miles of Canals

LWDD has a 61 BGY Consumptive use permit

Numerous municipal well fields depend on LWDD for aquifer recharge (deliveries to 750,000 residents)

15,000 +/- acres of prime agricultural land depend on LWDD for irrigation

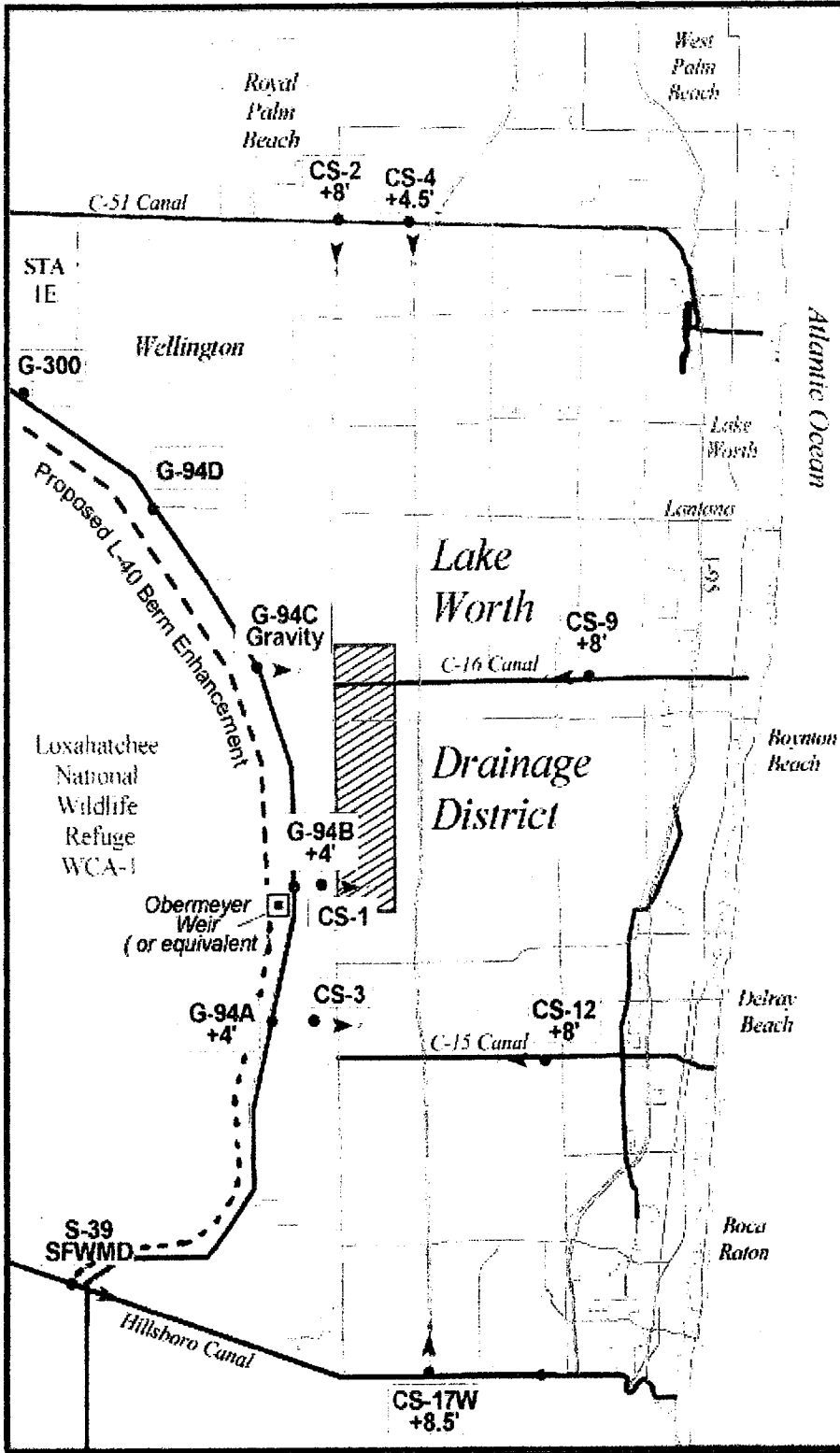
60% of LWDD's water supply comes from Loxahatchee National Wildlife Refuge (WCA 1)

40% of LWDD's water supply comes from C-51 or Hillsboro Canal (ultimately from Lake Okeechobee)

WCA 1 depends on STA 1W & STA 1E for water supply deliveries that meet state water quality standards prior to releasing water for regional water supply needs.

STA's are not always reliable for clean water deliveries, due to regulation schedule and damage from hurricanes & nesting migratory birds

STA's were only designed to clean local storm water, not Lake Okeechobee water



Proposed L-40 Berm Enhancement

Water Supply Structures

● Source: Loxahatchee National Wildlife Refuge (WCA-1)

● Source: C-51 or Hillsboro Canals (Lake Okeechobee)

[-8.5'] Pump Lift to Maintain Canal Elevations

Prime Agricultural Land

Obermeyer Weir (or equivalent)

Stormwater Treatment Area 1-East (STA-1E)