



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

November 2, 2010

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Atlanta, GA 30303-8960

Mr. Stan Meiburg
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James Giattina
Director, Water Protection Division
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Dear Messrs. Giattina and Meiburg and Ms. Fleming:

Subject: Response to the Amended Determination filed September 3, 2010

The South Florida Water Management District (District) appreciates the opportunity to review the U.S. Environmental Protection Agency's (EPA) Amended Determination filed with Judge Alan Gold on September 3, 2010 as a part of the federal government's legal proceedings in Case No. 04-21448-CIV-GOLD (S.D. FLa). Although the District is not a party to this case, the outcome of these proceedings has substantial implications for the agency and the taxpayers of South Florida. While the District undertook as thorough an evaluation as possible within the 60-day timeframe provided, proffering an informed alternative proposal presented a considerable challenge given the limited data made available by EPA and the broad scope and significant level of scientific and technical analysis required to review the Amended Determination.

The water quality projects and schedules outlined in the Amended Determination by EPA are conservatively estimated to cost South Florida's taxpayers between \$1.5 and \$2 billion over the next nine years. Such a significant investment cannot be taken lightly, particularly when considering the number of technical issues we believe are associated with the Water Quality-Based Effluent Limits (WQBEL) proposed by EPA for the District's treatment facilities, the remedies associated with achieving these WQBELs and the nine-year implementation schedule, which is unrealistic when weighed against the District's current financial capabilities.

Today, under this current and challenging economic climate, the District is undertaking cost-cutting measures simply to ensure it can achieve its existing mission-critical responsibilities of flood control, water supply and environmental restoration, which extends far beyond the Amended Determination to include the Comprehensive Everglades Restoration Plan, Kissimmee River Restoration and the statutorily-mandated restoration of Lake Okeechobee and the St. Lucie and Caloosahatchee estuaries.

In the interest of fiscal prudence and accomplishing common-sense, achievable environmental solutions, the District must be realistic, reasonable and purposeful in balancing its statutory responsibilities with today's financial realities. For these reasons, the District is unable to commit to the Amended Determination as currently crafted and is also unable to submit an alternative that would comply with the criteria identified in the Amended Determination, which include "any alternative remedies that will achieve the WQBEL as soon as or sooner than the remedies identified by USEPA".

It is important to note, however, that despite the District's objections to the Amended Determination as proposed, the agency is firmly committed to realizing additional water quality improvements as evidenced by the \$350 million effort underway to expand the District's existing network of stormwater treatment areas (STAs) and the recent purchase of 42-square miles of additional lands for water quality projects. Beyond these significant actions and as further demonstration of this ongoing commitment, the District is also proposing an additional suite of projects (as described below) for short term implementation that are both within our financial capabilities and will bring about measureable progress toward our shared water quality goals for the Everglades.

Florida's Unmatched Experience in Improving Water Quality

The District maintains a technical staff comprised of some of the leading experts in Everglades Restoration. Our ecologists, water quality scientists, hydrologists and engineers possess a wealth of "hands-on" experience working in the unique Everglades ecosystem and are world-renowned experts in wetlands and water quality science and research and environmental engineering. At approximately 3,000 stations, the District also maintains and operates what is considered to be the most extensive water quality monitoring network in the nation, if not the world, as well as a state-of-the-art nationally-accredited and state-certified analytical laboratory that specializes in the analyses of phosphorus at very low levels.

Over the past ten years the District has become the leading expert utilizing constructed natural treatment wetlands for phosphorus removal in large-scale environmental restoration. No other entity has attempted an environmental restoration effort of this magnitude nor committed more resources to improve one single water body. With an

unprecedented investment of \$1.2 billion in taxpayer funds, the District is today operating 45,000 acres – more than 80 square miles – of treatment wetlands to clean water flowing into the Everglades. These specialized wetlands are performing better than expected, last year treating more than 1.4 million acre-feet of water and reducing the nutrient loads to the Everglades Protection Area by more than 76 percent. At nearly 17,000 acres STA 3/4 – the largest constructed wetland in the world – is discharging water with levels of phosphorus as low as 13 parts per billion (ppb). Ten years ago, before the implementation of these remedies, phosphorus discharges in the Everglades were as high as 300 ppb and averaged 170 ppb. Yet, during the past decade, constructed wetlands and improved farming practices have prevented more than 3,500 metric tons, or 160 truckloads, of phosphorus from entering the Everglades.

In this specialized discipline of water quality improvement using large-scale green technology, significant and documented scientific and engineering progress has been realized by the District's team of experts. It is this same group of highly qualified and experienced District staff that has reviewed all aspects of the Amended Determination, including the methodology used to calculate the WQBEL and the modeling that was used to size the remedies. Based on their review, District staff has identified a number of procedural and technical concerns that should not be overlooked.

Technical and Procedural Concerns with the Amended Determination

Respectfully, the District is concerned with the appropriateness of the procedural and legal process along with the purview of EPA's authority in preparing and issuing the Amended Determination. Our concerns include issues such as the limits of EPA's authority to develop permits and permit limits in the State of Florida; inconsistency with National Pollutant Discharge Elimination System (NPDES) regulations and guidance documents; blurring the required divide between regulatory and enforcement staff; failure to ensure an open and transparent process through public participation; inability to produce the administrative record that provides the basis for the Amended Determination; and delayed response to the District's Freedom of Information Act requests, which hindered our ability to adequately evaluate the Amended Determination within the timeframe provided. *More detail regarding these concerns can be found in Attachments A through D.*

In addition to these procedural concerns, the District has identified several technical concerns with the methodology EPA used to derive the WQBEL that warrant further review. The first set of concerns relate to whether the Everglades phosphorus water quality standard has been accurately translated. For example, a three year compliance assessment period was used for the WQBEL rather than the five years defined in the State of Florida's phosphorus rule. In addition, the WQBEL uses a long-term 10 ppb Geometric Mean versus a properly translated Flow-Weighted Mean, which would better account for the amount of phosphorus discharged to the Everglades and the month to

month variability in STA outflows during the year. While we appreciate the steps taken by EPA in providing guidance in the form of formal documents outlining the methodology for establishing WQBELs and the NPDES permit, the District is concerned that there may have been a departure from these guidance documents in the derivation of the WQBEL and in the preparation of the NPDES permit. Recognizing EPA was working under a tight court-required deadline to complete the Amended Determination, the District would respectfully point out that it does not appear that a Waste Load Allocation was performed when establishing the WQBEL. Also, the District prepared and provided EPA with a complete dataset to use in the WQBEL calculation. However, we have concerns that the data screening methods were inconsistently applied to historic STA data, i.e. the inclusion of Everglades Nutrient Removal data, which was a controlled experimental STA and the exclusion of extreme droughts, hurricanes, start-up data and vegetation issues. Additionally, a very restrictive 90th percentile probability level was used versus the more common 95th percentile for deriving the maximum effluent limit. This 95th percentile was used when deriving the State's phosphorus criterion and would have been more appropriate to use for the WQBEL derivation than the 90th percentile. *More detail regarding these concerns can be found in Attachment E.*

These technical issues are not insignificant and have considerable implications for South Florida's taxpayers. EPA's ultra-conservative approach to the WQBEL calculation leads to the over-sizing of treatment facilities that in turn translates to hundreds of millions of dollars in unnecessary construction costs. While the numbers are small indeed (1 ppb is equal to one person out of the entire population of North America and the European Union combined), a mere several parts per billion difference in the established discharge limit can result in sizeable cost and acreage ramifications that should be seriously considered. For example, to reduce the STA outflow from 12 ppb to 11 ppb for each STA complex could require an increase of approximately 3,000 acres or more of effective treatment area at an additional cost of \$135 million. Because these minute differences in concentrations of phosphorus can have major implications for the size and cost of the remedies required, it is critical to ensure the technical basis for the WQBEL is sound.

Preparation of a comprehensive watershed plan, particularly with consequences as substantial as those in the Amended Determination, usually takes considerable time to complete. Previous experience with these type of efforts in the Everglades have indicated that at least a year of comprehensive planning - preferably with the involvement of affected stakeholders - is necessary to ensure a quality plan that is scientifically-sound and truly implementable. The District understands that under the circumstances, EPA was not provided sufficient time to perform a comprehensive planning process appropriate for an undertaking of this scope and, therefore, we respectfully encourage EPA to allow for flexibility and adaptive management so that additional and appropriate planning and modifications can be made over time. It is

possible that new technology, partnering opportunities or other optimization efforts will be identified in the future that would warrant plan adaptation.

Additional challenges in achieving water quality requirements for the Everglades are presented by the 5,350-acre STA-1 East facility built by the U.S. Army Corps of Engineers (Corps) that has been impacted by design and construction deficiencies and has performed far below its design objectives to reduce phosphorus discharges into the Loxahatchee National Wildlife Refuge to 50 parts per billion or less. There are several outstanding issues and responsibilities that need to be resolved by the Corps as outlined by EPA in the Amended Determination so that STA-1E can function at its full capacity. Additionally, once WQBELs are finalized for the Everglades Protection Area, the Corps and the District will need to work together to determine the best course of action so that STA-1E outflow concentrations will meet the WQBEL as required by the Project Cooperation Agreement (PCA) executed by the two agencies. The District is committed to working cooperatively to assist the Corps in this effort, and it should be noted that the District has recently contacted the Corps to request that the dispute resolution process envisioned by the PCA be initiated. Per the PCA process, this dispute resolution process should be complete within 60 days.

We believe these procedural and technical issues with the Amended Determination, along with the design and operational issues with STA-1E, should be discussed and resolved prior to any official action, including the issuance of NPDES permits for treatment facilities. These issues have the potential to have a significant impact on the roles and responsibilities of the District and Corps, and are therefore very relevant to our financial and schedule concerns.

U.S. EPA's Schedule for Implementation and Associated Financial Constraints

In considering the needs for additional water quality improvements, the District worked in good faith with state and federal regulators to define commonsense solutions that meet the needs of the Everglades Protection Area. As we have previously expressed, however, the EPA's Amended Determination proposes an unrealistic implementation schedule when weighed against the District's current financial capabilities.

The collapse of Florida's property values has reduced the *ad valorem* revenue available for accomplishing mission-critical work by 30 percent over the past three years. For Fiscal Year 2011, the District's *ad valorem* budget - which is the agency's only discretionary funding source - has fallen by more than 12 percent, or \$61 million, compared to the previous year. Not only are we challenged financially at the local level, but continuous declines in state revenues are also impacting the ability of the State of Florida to further invest in the Everglades. To date, the District retains \$90 million in reserves that has the potential to be used to realize water quality projects. This is a

one-time commitment, however, with no recurring revenue stream to replace it once utilized.

At an estimated cost of between \$1.5 and \$2 billion over the next nine years, the projects and schedules put forward by the EPA are not attainable within our existing revenue streams. Additionally, our experience has demonstrated that from the time of inception, it can take up to 12 years to properly construct, complete and stabilize an STA. It is important to note that a directive to implement these far-reaching solutions within EPA's proposed timeframe could necessarily come at the expense of all other critical and ongoing restoration projects, including the Comprehensive Everglades Restoration Plan, Kissimmee River restoration and the statutorily mandated Northern Everglades Program.

The District is Moving Ahead with Additional Water Quality Remedies

Irrespective of our procedural, technical or financial concerns with the Amended Determination, we fully recognize that there is more work to be done. The District has demonstrated an ongoing commitment to water quality improvement, investing \$160 million since 2006 alone to build an additional 17,000 acres of treatment wetlands, 5,270 acres of which are complete with another 11,500 acres under way.

To further solidify this progress, the District recently invested another \$194 million to acquire 26,800 acres of strategically located land south of Lake Okeechobee for additional water quality projects. In identifying two parcels for acquisition (8,900 acres and 17,900 acres in the Everglades Agricultural Area and C-139 basin, respectively), the District evaluated scientific and engineering factors as well as its existing legal requirements and mandates, including those under consideration by Judge Gold's court. This acquisition, together with another 16,000 acres, known as the Talisman lands, which were previously acquired for restoration, provides the District access to more than 40,000 acres needed for project construction that could, given adequate time and funding, bring meaningful water quality improvements to the Everglades.

With \$90 million in available, one-time revenues and to demonstrate the District's commitment to additional remedies, we are proposing an initial, affordable suite of projects. These projects include planning, design, and construction efforts that can provide significant water quality improvements for all areas flowing into the Everglades Protection Area in the near term and are within the District's financial capabilities.

Subject to Governing Board approval, the District proposes to:

- Complete construction of STA Compartments B and C, which will further reduce the concentration of total phosphorus flowing into the Everglades Protection Area.

- Initiate design and construction of an Everglades Agricultural Area A-1 Flow Equalization Basin that will better manage the flows into STA 3/4 and STA 2/Compartment B, improving treatment capability and further reducing total phosphorus concentrations flowing into Water Conservation Area (WCA) 2A and WCA 3A.
- Continue the public planning process to evaluate a multi-purpose C-51 Reservoir that could better manage flows into and enhance the treatment capacity of STA 1East and 1West leading to a further reduction in total phosphorus levels flowing into the Loxahatchee National Wildlife Refuge (WCA 1).
- Initiate planning efforts for the eastern flow way and western flow way in the EAA to further refine projects that will lead to a greater reduction in total phosphorus concentrations flowing into the Everglades Protection Area.
- Evaluate the expansion of Periphyton-based STAs (PSTA) in STA 3/4, which could further reduce total phosphorus concentrations flowing into WCA 3A.
- Evaluate automating the operation of the S-10 structures to enhance hydro period management and reduce the phosphorus loading to the Loxahatchee National Wildlife Refuge (WCA 1).
- Evaluate and implement additional targeted source controls and sub regional projects.
 - Finalize implementation of the revised C-139 Basin Regulatory Rule, which will reduce concentrations of total phosphorus in the C-139 Basin.
 - Evaluate the potential implementation of sub-regional projects leading to a reduction in concentration of total phosphorus flowing into STA 1East and 1West based on recommendations resulting from the ongoing S-5A and C-51E/L-8 source control studies.

Although the challenges of improving water quality in the Everglades are great, the District is directing all of its expertise and experience to make the right decisions for the natural system, to advance scientifically sound restoration strategies and to demonstrate continued and measurable progress. While we recognize the seriousness of the water quality challenges in the Everglades, we also recognize that water quantity is a critical factor in restoring the Everglades. Water quality and quantity should be considered collectively when trying to reverse ecological damage in the Everglades. Focusing solely on water quality issues, at the expense of addressing water quantity issues in the near term, has the potential to result in long term, potentially devastating

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damages to the Everglades. This realization was recognized by the National Academy of Sciences in their latest report to the U. S. Congress (3rd Biennial Review-2010).

While the District is unable to submit a remedies alternative that would comply with the criteria identified in EPA's Amended Determination, we believe our proposed complement of projects will go a long way to achieving our shared objectives for water quality in the Everglades and, importantly, will do so in a reasonable and realistic way that eases the financial burden on South Florida's taxpayers. Our procedural and technical concerns with the Amended Determination - coupled with the current economic realities - warrant a thorough and inclusive planning process that incorporates the concepts of adaptive management and phased implementation. A restoration effort of this magnitude, with such significant implications both to the natural system and the residents of Florida, requires a judicious approach that ensures both technical rigor and economic realism. If you have any questions regarding this letter or would like to schedule a meeting to further discuss our concerns or restoration approach, please contact me or Tom Teets, Assistant Deputy Executive Director for Everglades Restoration and Capital Projects, at 561-682-6993.

Sincerely,



Carol Ann Wehle
Executive Director
South Florida Water Management District

CAW/tm

Attachments: Attachment A through Attachment E

c: Kenneth G. Ammon, SFWMD
Secretary Mimi Drew, DEP
David M. Moore, Balch & Bingham, LLP
Tom Teets, SFWMD
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