

**MIAMI-DADE COUNTY
DEPARTMENT OF ENVIRONMENTAL RESOURCES MANAGEMENT**

Pursuant to your request dated August 11, 2006 the Department of Environmental Resources Management (DERM) staff reviewed the information contained in the ADA and found that the same is insufficient. More particularly, DERM will require that the information requested in the comments that follow be incorporated into the ADA.

Stormwater Management and Disposal

- 1. The property identified in this application is located outside of the Urban Development Boundary (UDB) where flood protection through the existing primary canal (C-1W) is insufficient to support a residential development. Any such development would have to comply with Cut and Fill Criteria by providing for its own on-site flood mitigation area, which Miami-Dade County presently is anticipating to be approximately 25% of the total site for residential development, and 34% of the total site for commercial and institutional developments. Table 10-2, Existing and Proposed Land Uses, shows proposed water management area set aside for flood protection through a lake system, to be 134 acres or only 14.10% of the total land area of 951 acres. Said deficit in the proposed flood protection level is unacceptable and must be corrected to meet above-mentioned standards, as well as to avoid any off-site discharge of the 100-year/ 3-day rainfall event, which is to be fully retained.**

The Project is not located within an existing cut and fill basin. For this project to move forward, the UDB boundaries will have to be moved to include the Project. The site will be designed to retain 100% of the 100 year - 3 day storm event with the design of a series of stormwater retention lakes. The lakes as designed are significantly smaller than the sizes recommended in the Department's comments. It appears that the percentages quoted in the comments are taken directly from the Bird Drive Cut and Fill Ordinance graphs. Historically, projects have been approved with much lower percentages of retention using site-specific information and calculations.

Revised Map I (Sheets 1-12) has been modified to include the information requested (See Revised Map I attached). Full sized drawings and calculations have been submitted to DERM and the SFWMD. Final details of the site plan may change prior to commencement, however, retention of the 100 year - 3 day storm will be retained. Any changes will be reviewed during permitting.

- 2. In Section 16 C Floodplains - it is proposed, "in order to minimize flood hazard, all buildings shall be on fill pads and shall have finished floor elevation meeting County's flood criteria." Said elevation for building finished floor would be in violation of the Federal Emergency Management Administration program, as well as state and county standards, which require building finished floor to be the highest of the following criteria: the elevation indicated by the Flood Insurance Rate Maps (FIRM) for the subject site, the stage generated by the retention of the 100-year/3- day rainfall event, or the County Flood Criteria, plus 8 inches for residential structures, and 4 inches for non-residential structures, or crown elevation of the road fronting the property, plus 8 inches for residential structures,**

and 4 inches for non-residential structures, or back of sidewalk elevation, plus 8 inches for residential structures, and 4 inches for non-residential structures.

Finished floor elevations will not be set at Miami-Dade County Flood Criteria. The minimum finished floor elevation will set at the highest of the following three criteria: the base flood elevation indicated on the FIRM map, the 100-year 3-day storm stage or 8-inches above the crown of road elevation fronting the property for residential properties and 4-inches above the crown of road elevation fronting the property for non-residential structures.

Revised Question 16 (attached) has been modified to correct the reference to finished first floor elevations in 16.C.

- 3. In Section 19 B Stormwater Management, it should be noted that the criteria to set the finished floor of structures are as established above.**

Revised Question 19 (attached) has been modified to correct the reference to finished first floor elevations in 16.C.

Ecosystem Restoration and Planning

- 4. General. The information provided in the application is inadequate for a comprehensive review of the proposed project. The analysis of impacts to surface and groundwater and other natural resources is very limited and appears to be predicated on the incorrect assumption that agricultural lands have little or no natural resource value. It is not possible to evaluate whether sufficient capacity exists for potable water and wastewater treatment because the application is currently outside the UDB, and the Miami-Dade Water and Sewer Department (MDWASD) is not authorized to provide capacity for projects outside the UDB. However, it is recommended that the applicant provide additional information on how water supply and treatment is to be accomplished. In addition, the project is inside the footprint of several CERP and non-CERP Everglades restoration projects that are either still being finalized or being planned, therefore an evaluation of the suitability of this development project, in light of changes that may occur under these restoration projects, will require additional information.**

Attached is a revised letter from the Miami-Dade Water and Sewer Department (WASD) stating that if the UDB boundary is changed to include the Project within its limits, WASD would be the potable water service provider, subject to the conditions outlined in the letter. There is very little that individual developers can do to address the water supply issue in Miami-Dade County. It is in everyone's best interest to ensure compliance with the existing consent agreement and the development community will do its part to ensure that this goal is achieved. We do not believe the Project is located within the footprint of any CERP or non-CERP Everglades restoration projects. However, specific inquiries to the SFWMD and the ACOE project managers have been made to verify this.

The County's potable water demands are based on population projections. Moving the UDB will not increase population; it only affects the distribution of that population within the County.

The Applicant proposes Development Order (DO) conditions linking the number of units to available and permittable water supply. A DO condition is also proposed that would ensure that prior to authorizing certificates of occupancy for this Project, Miami-Dade County shall have completed its consumptive use permitting and ensure that the required potable water treatment plant capacity is available to serve the Project, pursuant to Section 163.3180(2)(a) F.S. Another DO condition is proposed which will commit the Applicant to the funding and implementation of on-site reuse to satisfy a portion of the Project's non-potable water demand.

5. **Surface and Groundwater Impacts.** This region is entirely within the project area for two projects that are related to restoration of Everglades National Park: The Combined Structural and Operational Plan for Modified Water Deliveries to Everglades National Park (CSOP) and the L-31E Seepage Management Project under CERP. Both projects have the potential to affect groundwater levels within their respective project footprints. CSOP has recently developed a Tentatively Selected Plan (TSP) and is closest to implementation. Since the Parkland DRI, if approved, is likely to begin construction after implementation of CSOP, the information provided in all floodplain and stormwater management sections of this document should provide information on how project features will take into account, any projected changes to groundwater levels under implementation of CSOP's TSP.

The Applicant does not believe the Project is located within the footprint of any CERP or non-CERP Everglades restoration projects. However, specific inquiries to the SFWMD and the ACOE project managers have been made to verify this. As part of the Project's final drainage design, any modified or altered groundwater elevations would be accounted for at that time and be made part of the permit application submittals to the appropriate agencies. It is our understanding that groundwater levels east of the levee will not be increased as a result of either of the two Everglades restoration projects.

6. **Natural Resource Impacts.** Miami-Dade County is located on the migratory pathway for birds that seasonally move between the northeastern United States and Central and South America. Seasonal farming practices are compatible with provision of food for migrating shorebirds, songbirds, plus some wading birds, many of which are either listed as threatened or endangered at the state or federal level, or protected under the federal Migratory Bird Act. As lands in South Florida convert to urban uses, agricultural lands have been providing a larger proportion of the available foraging habitat for migrating birds. In addition, agricultural lands provide an important buffer for and extension of foraging habitat out from the national park lands. Wide-ranging species, such as hawks, eagles, bobcats, and Florida panthers that originate in the park, can forage in these buffer lands, as well. Agricultural lands often support large populations of small mammals, reptiles, and amphibians that are food for these large mobile hunters. The DRI application does not provide sufficient information on wildlife utilization to enable a determination of whether these particular agricultural lands provide important foraging habitat.

The pre-application methodology for Question 12 - Vegetation and Wildlife, recognizing the lack of ecologically significant habitat for listed species on this property, limited the extent of ecological surveying to a single visual survey mapping and description. That survey was conducted on August 4, 2005. Nevertheless, during the course of this DRI

review, many site inspections will be made. Should any listed species be encountered, we will bring this to the attention of the agencies.

Every effort will be made to design portions of the lake edges and open spaces as environmental enhancement areas, so as to encourage wildlife utilization. If and when possible and feasible, the Applicant will make every effort to design its linear park system to connect these areas to the County's Greenways Network.

Specific Comments.

- 7. Question 12 B. Vegetation and Wildlife. Miami-Dade County is located on the migratory pathway for birds that seasonally move between the northeastern United States and Central and South America. Agricultural activities for seasonal row crops are compatible with seasonal use of this land by a variety of wildlife, including migratory bird species and species listed as threatened or endangered at the state or federal level. In addition, the project area is located 1.1 miles from two Miami-Dade County-owned hardwood hammocks that provide important bird roosting habitat, particularly for migrating songbirds and the American kestrel, which is listed by the State of Florida as 'Threatened'. These hammocks have become completely surrounded by residential development in recent years, therefore, additional foraging habitat nearby is needed to support these bird species. The single visual wildlife survey mentioned is insufficient to provide information that would enable appropriate evaluation of the effects of converting this large agricultural area to mixed use urban. Please provide an answer to this question, based upon the results of a comprehensive bird survey for the entire application site that has been conducted over, at least, a year's time, using professionally accepted methodology for quantifying bird utilization, a comprehensive mammal survey, using professionally accepted methodology for quantifying mammal utilization, and a comprehensive herpetological survey, using professionally accepted methodology for quantifying utilization of the project area by reptiles and amphibians.**

The pre-application methodology for Question 12 - Vegetation and Wildlife, recognizing the lack of ecologically significant habitat for listed species on this property, limited the extent of ecological surveying to a single visual survey mapping and description. That survey was conducted on August 4, 2005. Nevertheless, during the course of this DRI review, many site inspections will be made. Should any listed species be encountered, we will bring this to the attention of the agencies.

Every effort will be made to design portions of the lake edges and open spaces as environmental enhancement areas, so as to encourage wildlife utilization. If and when possible and feasible, the Applicant will make every effort to design its linear park system to connect these areas to the County's Greenways Network.

- 8. Question 12 C. Vegetation and Wildlife. The single visual survey mentioned in 12B is insufficient to evaluate the effects on protected wildlife of converting this large agricultural area to mixed use urban. Please provide an answer to this question based upon the results of a comprehensive bird survey for the entire application site that has been conducted over, at least, a year's time, using professionally accepted methodology for quantifying bird utilization, a comprehensive mammal survey, using professionally accepted methodology for quantifying mammal**

utilization, and a comprehensive herpetological survey, using professionally accepted methodology for quantifying utilization of the project area by reptiles and amphibians.

The pre-application methodology for Question 12 - Vegetation and Wildlife, recognizing the lack of ecologically significant habitat for listed species on this property, limited the extent of ecological surveying to a single visual survey mapping and description. That survey was conducted on August 4, 2005. Nevertheless, during the course of this DRI review, many site inspections will be made. Should any listed species be encountered, we will bring this to the attention of the agencies.

Every effort will be made to design portions of the lake edges and open spaces as environmental enhancement areas, so as to encourage wildlife utilization. If and when possible and feasible, the Applicant will make every effort to design its linear park system to connect these areas to the County's Greenways Network.

9. **Question 12 D. Vegetation and Wildlife. The single visual survey mentioned in 12B is insufficient to provide information that would enable appropriate evaluation of the effects of converting this large agricultural area to mixed use urban. Please provide an answer to this question based upon the results of a comprehensive bird survey for the entire application site that has been conducted over, at least, a year's time, using professionally accepted methodology for quantifying bird utilization, a comprehensive mammal survey, using professionally accepted methodology for quantifying mammal utilization, and a comprehensive herpetological survey, using professionally accepted methodology for quantifying utilization of the project area by reptiles and amphibians.**

The pre-application methodology for Question 12 - Vegetation and Wildlife, recognizing the lack of ecologically significant habitat for listed species on this property, limited the extent of ecological surveying to a single visual survey mapping and description. That survey was conducted on August 4, 2005. Nevertheless, during the course of this DRI review, many site inspections will be made. Should any listed species be encountered, we will bring this to the attention of the agencies.

Every effort will be made to design portions of the lake edges and open spaces as environmental enhancement areas, so as to encourage wildlife utilization. If and when possible and feasible, the Applicant will make every effort to design its linear park system to connect these areas to the County's Greenways Network.

10. **Question 12 E. Vegetation and Wildlife. The single visual wildlife survey mentioned in 12B is insufficient to provide information that would enable appropriate evaluation of the effects of converting this large agricultural area to mixed use urban, and therefore, is also insufficient for making a determination of the need for habitat mitigation. Please provide an answer to this question based upon the results of a comprehensive bird survey for the entire application site that has been conducted over, at least, a year's time, using professionally accepted methodology for quantifying bird utilization, a comprehensive mammal survey, using professionally accepted methodology for quantifying mammal utilization, and a comprehensive herpetological survey, using professionally accepted methodology for quantifying utilization of the project area by reptiles and amphibians.**

The pre-application methodology for Question 12 - Vegetation and Wildlife, recognizing the lack of ecologically significant habitat for listed species on this property, limited the extent of ecological surveying to a single visual survey mapping and description. That survey was conducted on August 4, 2005. Nevertheless, during the course of this DRI review, many site inspections will be made. Should any listed species be encountered, we will bring this to the attention of the agencies.

Every effort will be made to design portions of the lake edges and open spaces as environmental enhancement areas, so as to encourage wildlife utilization. If and when possible and feasible, the Applicant will make every effort to design its linear park system to connect these areas to the County's Greenways Network.

11. Question 14 B. Water. Please provide the metadata for Table 14-1.

Metadata for the water quality data provided for Station BL12 in the ADA are attached.

12. Question 14 C. Water. Please describe what measures will be taken to protect the water quality in the on-site lakes, which will have a direct connection to the Biscayne Aquifer, from impacts that may occur, due to immediately surrounding land uses.

No direct runoff into the lakes is proposed. Prior to any discharge, the first inch of runoff will be treated through a French drain system as per Miami-Dade DERM Water Control and SFWMD ERP standards.

13. Question 16 C and D. Floodplains. This area is close to the project areas for two Everglades Restoration Projects: the CSOP for Everglades National Park, and L-31E Seepage Management. CSOP, in particular, has identified a Tentatively Selected Plan and is close to implementation. Each of these projects could result in changes to the groundwater table in this area that could affect the characteristics of the floodplain. Please provide information on how project features will take into account, any projected changes to groundwater levels under implementation of CSOP's TSP.

The Applicant does not believe the Project is located within the footprint of any CERP or non-CERP Everglades restoration projects. However, specific inquiries to the SFWMD and the ACOE project managers have been made to verify this. As part of the Project's final drainage design, any modified or altered groundwater elevations would be accounted for at that time and be made part of the submittals to the appropriate agencies. It is our understanding that groundwater levels east of the levee will not be increased as a result of either of the two Everglades restoration projects.

14. Question 16 D. Floodplains. Please explain, in a quantitative manner, the meaning of the word "minimized" in the proffered answer to this question. Please provide flood routing calculations as part of the analysis of the potential for off-site flooding, and please include information on how project features will take into account, any projected changes to groundwater levels under implementation of CSOP's TSP. Please provide an analysis of any changes in the potential for off-site flooding that would take place if a 1% chance storm were to occur, with and without implementation of the CSOP project.

It is proposed to contain 100% of the 100-year, 3-day storm event onsite without any off-site discharge. As such, the Project will not contribute to any off-site flooding. Once final groundwater elevations from CSOP are known, the Project flood routing and drainage calculations can be adjusted to include this information. The design will be modified accordingly.

Question 16 (attached) has been revised to explain the reference to minimization of off-site flooding in 16.D.

- 15. Question 17 B. Water Supply. At present, the MDWASD is unable to provide information on the availability of water or wastewater treatment services for this project because the project is outside the UDB, therefore, it is not possible, with the information provided, to determine if capacity exists to serve this project. Please provide information on which MDWASD water treatment plant is expected to provide potable water for this project, and how the demand will be met by the facility (i.e. existing capacity vs. future capacity development). If demand is to be met via future capacity, how will that future capacity be developed and at what cost, and how will the cost be funded? Please provide details on the proposed wastewater reuse treatment facility. Please describe the projected plant capacity and expected percentage of non-potable demand that the plant will meet, indicate the location on Map H, and provide details on how the facility will acquire treated wastewater for treatment. Please also provide the projected cost and how the facility will be funded, and provide operational rules for the facility that take into account, the seasonal demand for irrigation water. What will be the contingency plan for providing irrigation water for this project if either the wastewater treatment facility and/or on-site irrigation wells are not approved?**

Attached is a revised letter from the Miami-Dade Water and Sewer Department (WASD) stating that if the UDB boundary is changed to include the Project within its limits, WASD would be the potable water service provider, subject to the conditions outlined in the letter. There is very little that individual developers can do to address the water supply issue in Miami-Dade County. It is in everyone's best interest to ensure compliance with the existing consent agreement and the development community will do its part to ensure that this goal is achieved.

The County's potable water demands are based on population projections. Moving the UDB will not increase population; it only affects the distribution of that population within the County.

The Applicant proposes Development Order (DO) conditions linking the number of units to available and permittable water supply. A DO condition is also proposed that would ensure that prior to authorizing certificates of occupancy for this Project, Miami-Dade County shall have completed its consumptive use permitting and ensure that the required potable water treatment plant capacity is available to serve the Project, pursuant to Section 163.3180(2)(a) F.S. Another DO condition is proposed which will commit the Applicant to the funding and implementation of on-site reuse to satisfy a portion of the Project's non-potable water demand.

It is proposed to capture approximately 25% of the wastewater stream for use within the Project. Wastewater flow is estimated at 1.86 MGD. Therefore, approximately 0.5 MGD

is proposed for non-potable uses (irrigation). The estimated irrigation demand is 1.4 MGD. The deficit will be made up with the use of on-site wells and withdrawals from the lake. It is understood that a Consumptive Use Permit (CUP) will be required for these uses. Based on our discussions with the SFWMD staff, it is our understanding that withdrawals from wells and lakes is preferable to using treated potable water from the utility company.

- 16. Question 17 D. Water Supply. Please provide detailed information regarding the wastewater that is expected to be available for wastewater reuse treatment and how this water will be collected, treated, and distributed for irrigation. Please include, at a minimum, detailed information on the type of satellite treatment facility proposed, including treatment technology, the amount of land necessary and location of the facility, plant operators, the level of treatment and projected quality of the treated reuse water, details on conveyance of the wastewater to the reuse facility, details on the intended final destination(s) for the treated wastewater, details on the distribution network within the project area, and details on the expected cost of each major component of this system including operational costs (e.g. treatment plant, conveyance to the plant, distribution network within the project area) and how these costs will be funded. What will be the contingency plan if any of the components of this system that are to be either funded or constructed by this development, cannot be permitted? What is the basis for the projection that 25% of the wastewater generated by the proposed development is anticipated to be available to irrigation demand?**

The proposed satellite treatment facility will be located in close proximity to the manifold force main through which the Project's wastewater flow will be transmitted to existing WASD treatment facilities. The location of this manifold force main has not yet been determined. It is anticipated that the site will be approximately one half acre in size and the proposed technology will be membrane filtration. The 25% is a working percentage that is being used at this time in the absence of a preliminary design and/or local permitting requirements. Final design will occur during the permitting process.

Although the operating entity for the satellite facility has not yet been determined, it is proposed that the facility will be built by the developer and operated by WASD as part of their regional facility, thereby providing WASD with reuse credits for their system. It is anticipated that details of ownership, operation and maintenance will be included in the developer's service agreement with WASD. It is premature at this time to estimate the staffing requirements for the operation of the plant.