

Demonstration Project (overall)

Objective

- Determine what levels the advanced wastewater treatment and associated technologies can be achieved compared to the goals established in the PDT
- Evaluate the potential ecological impacts of rehydration of freshwater wetlands with reuse water to ensure that there is no degradation
- Develop the data necessary in order to assess the technological feasibility and cost effectiveness of a larger scale reuse project to rehydrate Biscayne Bay coastal wetlands.

Critical Success Factors

1. Baseline Sampling

Objective

- To determine existing water quality in the test site and in the surrounding wetland and surrounding water bodies
- To confirm anti-degradation baseline

Critical Success Factors

2. Data Analysis

Decisions:

- What is baseline?
- Is additional testing necessary?

3. Construction and operation of plant during testing phase

Objective

- Determine the water quality that can be attained on a reliable basis
 - To test the performance of advanced treatment technologies in reference to reduction of nutrients and other water quality parameters of interest in the SDWWTP effluent
 - Test the added treatment capabilities and benefits of the sidestream processes

Critical Success Factors

4. Data Analysis (water quality and toxicity testing)

- What is the level that can be attained
- Is modification of the process necessary
- Determining factors need to be established

5. Constructed Wetlands construction

Objective

- Successful growing in and monitoring of selected plants
- Create habitat for testing species

Critical Success Factors

6. Microcosm / Mesocosm Studies

Objective

- Evaluate the ecological impact of the reclaimed water

Critical Success Factors

7. Data Analysis

Decisions:

- Proceed to constructed wetland
- Proceed to full scale project
- Modify the treatment
- Modify the constructed wetland plan

Critical Success Factors

8. Incorporation of Stakeholders Input

Objective

- Obtain agreement to proceed to constructed wetlands operation
- Obtain concurrence on level of water quality

Critical Success Factors

9. Constructed Wetlands operation

Objective

- Demonstrate that highly treated reclaimed water is desirable and does not cause degradation
- Demonstrate that flooding in surrounding areas will not occur
- Determine hydraulic loading rate
- Determine if there is a positive water balance
- Determine the inundation level and residence in each cell
- Determine hydroperiods

Critical Success Factors

10. Data Analysis

Decisions:

- Modification to the treatment
- Modification to the constructed wetland
- Further testing may be needed
- Proceed to the full scale project

11. Stakeholders Input

Objective

- Development of full scale project

Critical Success Factors