

Section 3.3.4. Wastewater Treatment Element

Pursuant to Section 163.3177(3), Florida Statutes.

Background Discussion

The data and analyses for this element of the *Sanibel Plan*, pursuant to *Section 163.3177(6)(c), Florida Statutes* is summarized in this subsection.

The collection, treatment and disposal of generated sewage in Sanibel are handled by the City. The owners of the few remaining individual septic tank systems continue to treat and dispose of a small percentage of the sewage in the City.

The City government supplements the efforts of other public agencies to protect the health, safety and welfare of its citizens from the impacts of wastewater disposal.

Municipal Sewer Service: the Sanibel Sewer System

The City of Sanibel is served by two major wastewater treatment plants that are owned by the City: the Donax Water Reclamation Facility (WRF) and the Wulfert Water Reclamation Facility. The Donax WRF has a capacity of 2.375 million gallons per day. The Wulfert WRF currently has a capacity of an additional 125,000 gallons per day. The Donax WRF and the Wulfert WRF are physically connected and capable of working together to treat wastewater. The combined capacity of these two plants is designed to serve the City at “build-out”, or for 10,000 equivalent residential connections.

Golf courses are currently used for effluent disposal and a system to reuse treated effluent for other irrigation purposes is

in place. The Island Water Association’s injection well is available for wet weather disposal of treated effluent.

Package Treatment Plants

There are no package treatment plants remaining in the City.

Septic Tank Systems

Septic tank systems continue to provide on-site waste-water treatment for a small percentage of residential and small-scale commercial development.

With the planned expansion of the service areas for the Sanibel Sewer System, in accordance with the Master Plan for Wastewater Treatment, approximately 100 developed land uses in the City still use septic systems. Approximately 50 will be unserved by the Sanibel Sewer System with the completion of the Phase 4 expansion.

Level of Service

The level of service standard for wastewater treatment service is based on an equivalent residential connection (ERC) flow rate of 240 gallons per day of average sewage generation. This ERC flow rate is based on historical peak flow data for the Sanibel Sewer System and incorporates residential, commercial, and infiltration/inflow factors, as well as seasonal fluctuations in the functional population. The average per capita daily flow (2.2 persons per ERC) is 109 gallons per person.

Master Plan for Wastewater Treatment

In 2000, the City updated the adopted 1994 Islandwide Master Plan for Wastewater Treatment. The implementation of the Master Plan is in its final phases.

Impact on the Quality of Surface and Ground Waters

The significant effort and investment the City has put into wastewater treatment facilities, including a collection system for virtually all land uses within the City, was made to improve the quality of surface and ground waters in and around Sanibel. As the City eliminates the nonpoint source of pollution associated with active septic systems, it is also exploring the possibility of regulating the use of pesticides and fertilizers to address another nonpoint source of pollution. Unfortunately, efforts and investments to improve water quality have not been as extensive in other areas within the watershed of the Caloosahatchee River. Continued surface water runoff within the watershed of the Caloosahatchee River containing non-point source pollution contributes to the further degradation of the quality of the waters surrounding the City. This degradation of waters surrounding the City is exacerbated by the water releases from Lake Okeechobee.

Plan for Wastewater Treatment

1. Continue to regulate all sewage collection, treatment and disposal systems to ensure that the fragile environment of the Island remains protected.
2. Implement the updated Island-wide Master Plan for Wastewater Treatment.

- If financially feasible, continue to bring unserved developed properties onto the Sanibel Sewer System
- Prohibit, to the extent possible, the construction of new package treatment plants

3. Continue to monitor the availability of reuse water for potential expansion of the reclaimed water distribution system. If opportunities arise in the future, consideration of the reuse of treated effluent for irrigation of residential homes and green areas should be used.
4. Sludge disposal through contract haulers to approved sludge disposal sites is recommended as the only alternative available.
5. A level of service standard for wastewater treatment, based on historic operating data, of 240 gallons per day per equivalent residential connection is recommended.

Goals, Objectives and Policies

Goal Statement A

Ensure that water reclamation facilities or septic systems provide a high degree of wastewater treatment in order to protect the environment and the health of the community for the residents and land uses of the City of Sanibel.

Objective A1

The City will use procedures ensuring that prior to issuance of a development permit, an adequate level of service for wastewater treatment capacity is available or will be available or that an approved septic system can be installed at the time of development through implementation of the City’s Land Development Code section requiring wastewater disposal permits.

Policy A1.1. Provide adequate wastewater treatment facilities in compliance with State regulations and the requirement of the Land Development Code. At a minimum, wastewater treatment facilities will be provided in accordance with the following level of service standards.

Standard for Wastewater Treatment Facilities		
Type	Use	Gallons Per Day Per Unit
Sanibel Sewer System	All	240

Policy A1.2. Improvements of the wastewater facilities for replacement, expansion or increase in capacity will be consistent with the adopted level of service.

Objective A2

Provide an efficient, cost-effective and environmentally safe wastewater collection, treatment and effluent disposal system for residents and commercial land uses, consistent with the Master Plan for Wastewater Treatment.

Policy A2.1. The City will implement the Land Development Code section requiring wastewater disposal permits and will keep Federal, State and County regulatory agencies informed of City regulations so that these other agencies will regulate wastewater disposal in such a manner as to ensure that the provision of wastewater services is consistent with the City’s Land Development Code, Future Land Use Element and the City’s Master Plan for Wastewater Treatment Facilities.

Objective A3

The City will ensure that septic tank systems and other individual treatment facilities on the Island are designed and maintained to afford a high degree of protection to the environment and the health of the Island’s residents.

Policy A3.1. By requiring a City wastewater disposal permit, the City will ensure that proper design and construction methods are used when the use of septic tanks and/or other individual treatment facilities becomes necessary prior to the issuance of development permits.

Policy A3.2. The City will require a wastewater disposal permit for all construction and/or repair of existing septic systems so that the work is done in a manner that will ensure effective wastewater treatment.

Policy A3.3. Minor additions to existing dwelling units that do not increase the potential for an increase in wastewater generation will not necessitate the upgrading of existing septic systems.

Policy A3.4. Land Development Code regulations will continue to minimize the cost to existing owners who are required to make repairs to their existing septic or individual treatment systems, when the repairs needed to make the existing systems functional are minimal and service from the Sanibel Sewer System is scheduled to be available in a short period of time.

Policy A3.5. The City, through an educational program, will disseminate information on the proper maintenance of septic systems to ensure effective wastewater treatment.

Policy A3.6. Consider establishing a program to monitor septic systems located in marginal or environmentally inappropriate areas to ensure effective wastewater treatment.

Objective A4

The City will monitor the effectiveness of all wastewater treatment and the impact that the wastewater disposal has on the environment and the health of its residents.

Policy A4.1. Existing wastewater facility deficiencies will be brought into conformance with current standards at the time the facility malfunctions, as defined in the Land Development Code.

Policy A4.2. The City will continue to work in conjunction with regulatory agencies to monitor the health and environmental risks associated with wastewater pollution sources.

Policy A4.3. The City will establish an ongoing monitoring program to determine the effects of treated sewage disposal on the groundwater table.

Goal Statement B

On an Island-wide basis, provide for the coordination and integration of wastewater treatment through a comprehensive wastewater master planning effort.

Objective B1

The City will implement the Master Plan for Wastewater Treatment that provides a timetable for development of and coordination of wastewater facilities.

Policy B1.1. The City will continue to use a Citywide approach to growth management, by implementation of the Master Plan for Wastewater Treatment.

Policy B1.2. The City will implement the Master Plan for Wastewater Treatment to ensure that needed wastewater system improvements are conducted in a cost-effective and timely manner.

Policy B1.3. The City will require connection to the Sanibel Sewer System when this service is available.

Policy B1.4. For the purpose of providing the proper services to all of its citizens, in conjunction with orderly growth, the City will continue to implement regulations and programs to encourage the expansion of the City's central sewer system to serve developments in environmentally sensitive areas and areas of high density and concentrated wastewater flows in order to obtain better control over existing and future development throughout the City.

Policy B1.5. The City will continue to investigate additional means of effluent disposal, particularly those that reuse the nutrient laden reclaimed water for irrigation.

Policy B1.6. The City will continue to monitor nutrient levels and look for cost-effective ways to reduce these nutrients.

Policy B1.7. The City will continue to promote the conservation of water in an effort to reduce the production of wastewater by the community.

Policy B1.8. The City will continue to reduce infiltration / inflow into the collection system for the Sanibel Sewer System.

Policy B1.9. The City will continue to conduct ongoing rehabilitation of the sewerage treatment infrastructure.