



In Pinellas County, a mature urban county, the majority of the County's wastewater is collected and treated by a regional wastewater system. Very little of the County remains on septic (or *onsite disposal treatment*) systems. Generally, the County is divided into regional wastewater service areas. Pinellas County Utilities operates two of the largest wastewater treatment (or water reclamation) facilities, serving the most customers in the County.

### **Service Area Concept**

201 Facilities Plans were originally developed in the late 1970s for north, central, and south Pinellas County in compliance with the requirements of Sections 201 (g), 301, and 302 of the Federal Water Pollution Control Act Amendments of 1972 (PL92-500) and Chapter 62-3 of the Florida Administrative Code. These plans were designed to address long term, environmentally sound, and cost effective options for wastewater treatment. Initial steps established the design constraints of existing and future facilities, as well as characteristics of the surrounding natural environment. This information was used to identify and evaluate various wastewater management alternatives.

At the same time, sanitary sewer service areas were delineated and service commitments to the respective populations, both existing and projected, were established. In order to determine the present and future capacity requirements for Pinellas County Utilities collection, treatment and disposal facilities, population estimates and projections for each respective service area were developed for the 201 Facility Plans utilizing traffic analysis zone (TAZ) data for each municipality and portions of the unincorporated County to be served. A number of agreements were subsequently established to try and ensure continued service commitments in conformance with 201 Plan recommendations, since commitments do not necessarily follow jurisdictional boundaries. Responsibilities addressed in such agreements included such things as planning, financing, construction, operation and maintenance of facilities to ensure continued and adequate service to all customers, as well as rate establishment and industrial pre-treatment requirements.

### **Pinellas County Utilities Service Areas for Collection and Treatment**

Pinellas County Utilities (PCU) operates over 1,458 miles of sewer line in Pinellas County. The North County sewer system collects and transmits domestic wastewater to the William E. Dunn Water Reclamation Facility. The south sewer system collects and transmits domestic wastewater to the South Cross Bayou Water Reclamation Facility. The County also operates and maintains sewer lines in the municipalities of Kenneth City, Indian Shores, Belleair Bluffs, and Seminole. Additionally, Pinellas County Utilities operates a collection system in the unincorporated Bear Creek area. Sewage in the unincorporated Bear Creek area is treated at the city of St. Petersburg's Northwest Wastewater Treatment Plant.

The wastewater initially flows through gravity sewers to larger collectors and interceptors. Pump stations move the wastewater through force mains to the wastewater treatment plants.

Pinellas County Utilities maintains and operates over 289 pump stations, and there are over 22,297 manholes in the collection system.

In 2005, Pinellas County Utilities purchased the Belleair Wastewater System, and the Belleair Plant was taken offline in 2007, so Belleair is now a PCU retail wastewater customer. **Table 7** lists the number of municipal residents receiving wastewater collection and/or treatment services from Pinellas County Utilities. **Table 8** displays the relationship between each of the jurisdictions in Pinellas County in regards to sanitary sewer treatment and collection. **Figures 9 and 10** show the size and location of the pump stations and force mains within each collection area.

As of 2005, Pinellas County Utilities provided wastewater collection and treatment services to 230,847 unincorporated residents. Local municipalities provide sanitary sewer collection and/or treatment services to approximately 64,299 unincorporated residents in Unincorporated Pinellas County.

**TABLE 7  
MUNICIPAL CUSTOMERS RECEIVING WASTEWATER COLLECTION  
AND/OR TREATMENT FROM PINELLAS COUNTY UTILITIES**

Municipality	Number of Permanent Residents (2007)	Service Provided	Service Area
Belleair Beach	1,125	Treatment (W)	South Cross Bayou
Belleair Bluffs	3,322	Collection & Treatment (R)	South Cross Bayou
Belleair Shore	54	Collection & Treatment (R)	South Cross Bayou
Indian Rocks Beach	5,256	Treatment (W)	South Cross Bayou
Indian Shores	2,196	Collection & Treatment (R)	South Cross Bayou
Kenneth City	4,922	Collection & Treatment (R)	South Cross Bayou
Madeira Beach	4,565	Treatment (W)	South Cross Bayou
North Redington Beach	1,777	Collection & Treatment (R)	South Cross Bayou
Pinellas Park	47,619	Treatment (W)	South Cross Bayou
Redington Beach	1,278	Collection & Treatment (R)	South Cross Bayou
Redington Shores	1,932	Treatment (W)	South Cross Bayou
Seminole	17,275	Collection & Treatment (R)	South Cross Bayou
Total Number Municipal Collection & Treatment Customers	30,824		
Total Number Municipal Treatment Customers	<u>60,497</u>		
Total Municipal Customers	<u>91,321</u>		

Note: (R) = retail service; (W) = wholesale service

A small portion of Industrial Land in St. Petersburg is served by South Cross Bayou.

Source: Pinellas County Planning Department, 2007. [2007 permanent resident pop.]

**TABLE 8  
SERVICE PROVIDER / SERVICE RECIPIENT RELATIONSHIP  
SANITARY SEWER SYSTEMS**

PINELLAS COUNTY JURISDICTION	Service Provider/Service Recipient Relationship - Sanitary Sewer Systems									
	Pinellas Co. Retail	Pinellas Co. Wholesale/Treatment	Belleair	Clearwater	Dunedin	Largo	Oldsmar	St. Petersburg	Tarpon Springs	Pinellas County Maintains Municipal Collection System
Belleair	X									
Belleair Beach	X									
Belleair Bluffs	X									
Belleair Shore	X									
Clearwater				X						
Dunedin					X					
Gulfport								X*		X*
Indian Rocks Beach		X								
Indian Shores	X									
Kenneth City	X									
Largo						X				
Madeira Beach	X									
N. Redington Beach		X								
Oldsmar							X			
Pinellas Park		X				X		X*		
Redington Beach	X									
Redington Shores		X								
Safety Harbor							X			
St. Petersburg								X		
St. Pete Beach								X*		
Seminole	X									
South Pasadena								X*		
Tarpon Springs									X	
Treasure Island								X*		
Palm Harbor (Uninc)	X									
E. Lake Tarpon (Uninc)	X						X <sup>2</sup>			
Seminole (Uninc)	X									
Lealman (Uninc)	X									
Tierra Verde (Uninc)								X <sup>3</sup>		Utilities incorporated
Remaining Unc. Areas	X			X	X	X	X	X <sup>3</sup>	X	X <sup>4</sup>

\* Sewer System only. <sup>2</sup>This agreement provides wholesale treatment services by Oldsmar of County wastewater for East Lake. <sup>3</sup>PCU is wholesale customer of St. Petersburg sewer. City treats raw wastewater from Gulfport (Bear Creek) and Ft. DeSoto Park. <sup>4</sup>Holiday provides collection services in certain unincorporated areas of greater Tarpon Springs. 10/2003; revised 4/2008 based on data from Pinellas County Utilities

## PROGRESSIVE WASTEWATER TREATMENT AND RECLAMATION FACILITIES

### ***William E. Dunn Wastewater Treatment/Water Reclamation Facility***

The Florida Department of Environmental Protection presents annual awards to public drinking water and municipal wastewater facilities from around the State, to recognize facilities that demonstrate excellence in operation, maintenance, innovative treatment, waste reduction and pollution prevention, conservation, recycling and other special achievements. Criteria used in selecting include: compliance history for the last two to three years, record keeping and reporting, customer relations, outstanding operation and maintenance practices, and facility operation which includes staff training and safety equipment training. In 2006, the William E. Dunn Water Reclamation Facility was awarded the Domestic Wastewater Treatment Plant Award by the Florida Department of Environmental Protection.

The Facility expanded capacity to 9.0 million gallons per day (mgd) in 1990. This was done in large part to allow several package plants in north County to be taken offline. Beginning in 1991 with the Curlew Groves Plant, flows were diverted to Dunn. Then came Cypress Run in 1993, and Pine Ridge and East Lake Woodlands in 1995. The two remaining package plants in the area, Tarpon Woods and Tarpon Lake Village, went off line in 1997.

There still remain two privately owned package plants in the service area of the Dunn facility. In the event that the County is required to pick up their service, the potential impact on the system would be an additional .043 million gallons per day added to the daily flow projections for the Dunn facility. This should not impact available facility capacity.

The Dunn facility is currently an advanced wastewater treatment (AWT) plant with treatment achieved through the Bardenpho process. Achievement of AWT means that strict quality criteria will have been met, including the removal of phosphorus and nitrogen nutrients which contribute to excessive plant and algal growth in surface waters. Treated effluent from the Dunn facility is disposed of through the County's reclaimed system. **Figure 3** shows the area of Pinellas County that is served by the Dunn facility.

### ***South Cross Bayou Wastewater Treatment/Water Reclamation Facility***

The South Cross Bayou Water Reclamation Facility is an Advanced Wastewater Treatment Facility utilizing a tertiary treatment process. By the end of a four step cleaning process, the water is 99.9 % pure. The treated water goes out as reclaimed water to be used for irrigation purposes. If necessary, the remaining water is released into nearby Joe's Creek following additional treatment. The chlorine is removed (neutralized) through the addition of sulfur dioxide. The released water is also re-aerated to enrich it with additional oxygen through the use of a cascade system.

The facility is permitted for an average flow of 33 million gallons/day. There is one privately owned package treatment plant in the service area of the South Cross Bayou facility. In the event that the County is required to replace the sewer service provided by this package plant, the impact on the facility would be an additional .0110 mgd. There is adequate capacity to meet this additional contribution if required (please refer to the capacity analysis, which takes this into consideration for both plants). The area served by South Cross Bayou can be seen on **Figure 3**.

## ***Condition of Pinellas County Utilities Collection and Treatment Facilities***

Overall, the north County system is in good condition. Over 80 percent of the pipe comprising the north sewer system is made of polyvinyl chloride (PVC) which is durable and unlikely to crack. However, more of the pipe in the south sewer system is made of vitrified clay pipe (VCP). These pipes are older and more likely to crack. This can allow infiltration of stormwater, increasing the amount of overall wastewater being processed. This likely explains why the amount of wastewater “per person per day” in the south County sewer system is significantly higher than the amount of wastewater “per person per day” in the north County system.

Both of the County’s Wastewater Treatment (Reclamation) Facilities are state-of the-art facilities in good, or better condition. Over the past ten years, a 120 million dollar renovation turned the South Cross Bayou sewer plant into an advanced wastewater treatment and a water reclamation facility. This upgrade was timed with taking the McKay Treatment Plant offline as it reached capacity, with no room for expansion. In 2003, McKay flows were diverted to the South Cross Bayou Facility.

Pinellas County’s Capital Improvements Plan annually addresses the financial requirements for maintenance plans. Pinellas County is also developing an Asset Management Program in order to further improve the maintenance process.

### ***Locational Constraints***

The William E. Dunn, and South Cross Bayou facilities are located within the Pinellas County Hurricane Vulnerability Zone Evacuation Level "C", meaning they are susceptible to storm surges resulting from a Category 3 hurricane. In compliance with DEP regulations, they are designed to be protected from physical damage by 100-year floods, and they are designed to be fully operational and accessible during floods of lesser magnitudes.

### ***Capacity Management Operations and Maintenance (CMOM)***

CMOM stands for “Capacity, Management, Operations, and Maintenance”. It is a program designed by the U.S Environmental Protection Agency (USEPA) that Pinellas County Utilities has elected to implement voluntarily to ensure best management, operation, and maintenance of its collection systems; including evaluation of capacity constrained areas of the collection system; and response to sanitary sewer overflow (SSO) events.

In CMOM planning, the utility selects performance goal targets, and designs CMOM activities to meet the goals. Information collection and management practices are used to track how well each CMOM activity is meeting the performance goals, and whether overall system efficiency is improving. The proposed CMOM approach outlines a dynamic system management framework that encourages evaluating and prioritizing efforts to identify and correct performance-limiting situations in the collection system. Industry technical guidance supports the need for dynamic approaches that use information about system performance, changing conditions, and operation and maintenance practices to guide and modify responses, routine activities, procedures, and capital investments.



## PINELLAS COUNTY UTILITIES WASTEWATER TREATMENT CAPACITY

The permitted capacity of the William E. Dunn Facility is 9.00 million gallons per day (mgd) with a peak capacity of 13.5 mgd. As of 2007, it serves a total of **108,502** customers. The South Cross Bayou Facility has a permitted capacity of 33.00 mgd, with a peak capacity of 49.5 mgd. As of 2007, it serves **252,695** customers.

**TABLE 9  
DESIGN CAPACITY AND CURRENT DEMAND OF PINELLAS COUNTY  
WASTEWATER TREATMENT PLANTS, 2007**

Plant Name	Design Capacity in Millions of Gallons Per Day	Current Demand in Millions of Gallons Per day	Percent of Plant Capacity Utilized
William E. Dunn WRF	9.00	6.41	71%
South Cross Bayou WRF	33.00	21.04	64%

Source: Pinellas County Utilities, 2007

## MUNICIPAL WASTEWATER SERVICE AND SERVICE AREAS

Within Pinellas County, thirteen municipalities provide their own wastewater collection, but receive treatment by another local government. Eight of these communities (Belleair Beach, Belleair Shores, Indian Rocks Beach, Redington Shores, North Redington Beach, Redington Beach, Madeira Beach and Pinellas Park) transmit wastewater to Pinellas County Utilities. Four municipalities (Treasure Island, St. Pete Beach, South Pasadena and Gulfport) transmit their wastewater to the City of St. Petersburg. Safety Harbor transmits their wastewater to the City of Clearwater. Additionally, the municipalities of Tarpon Springs, Dunedin, Clearwater, Oldsmar, Largo and St. Petersburg operate their own regional wastewater collection systems and largely serve their own municipal residents. **Table 10** lists the number of unincorporated residents served by a municipal wastewater collection and/or treatment facility.

**TABLE 10**  
**UNINCORPORATED RESIDENTS SERVED BY MUNICIPAL**  
**WASTEWATER COLLECTION AND/OR TREATMENT**  
**FACILITIES**

Municipality	Estimated Number of Unincorporated Residents <sup>1</sup> -2005	Services
City of St. Petersburg	5,681	Collection & Treatment
City of St. Petersburg	1,638	Treatment <sup>2</sup>
City of Clearwater	14,779	Collection & Treatment
City of Largo	14,819	Collection & Treatment
City of Dunedin	2,811	Collection & Treatment
City of Safety Harbor	1,633	Collection <sup>3</sup>
City of Oldsmar	1,265	Collection & Treatment
City of Tarpon Springs	1,553	Collection & Treatment
City of Pinellas Park	5,710	Collection <sup>4</sup>
Total for Collection Only	7,343	
Total for Treatment Only	1,638	
Total for Collection & Treatment	8,981	

Source: Pinellas County Planning Department, 2007.

<sup>1</sup> Estimated number of unincorporated customers obtained from the municipalities listed in this table, with the exception of St. Petersburg and Pinellas Park. Estimated residents served by these two cities were determined by the Pinellas County Planning Department.

<sup>2</sup> Bear Creek Collection System is operated by PCU. Sewage is treated at the St Pete NW Waste water treatment plant.

<sup>3</sup> Wastewater collected by the City of Safety Harbor is treated at the Clearwater NE Wastewater Treatment Plant.

<sup>4</sup> Wastewater collected by the city of Pinellas Park is treated at the PCU's South Cross Bayou Water Reclamation Facility.

## SUMMARY INFORMATION FOR REGIONAL WASTEWATER FACILITIES IN PINELLAS COUNTY

**Table 11 and Figure 5** identify the regional treatment facilities in Pinellas County. **Table 12** identifies the land use surrounding the facilities, while **Table 13** identifies the predominant soils. **Table 14** identifies the adopted level-of-service standards for each facility.

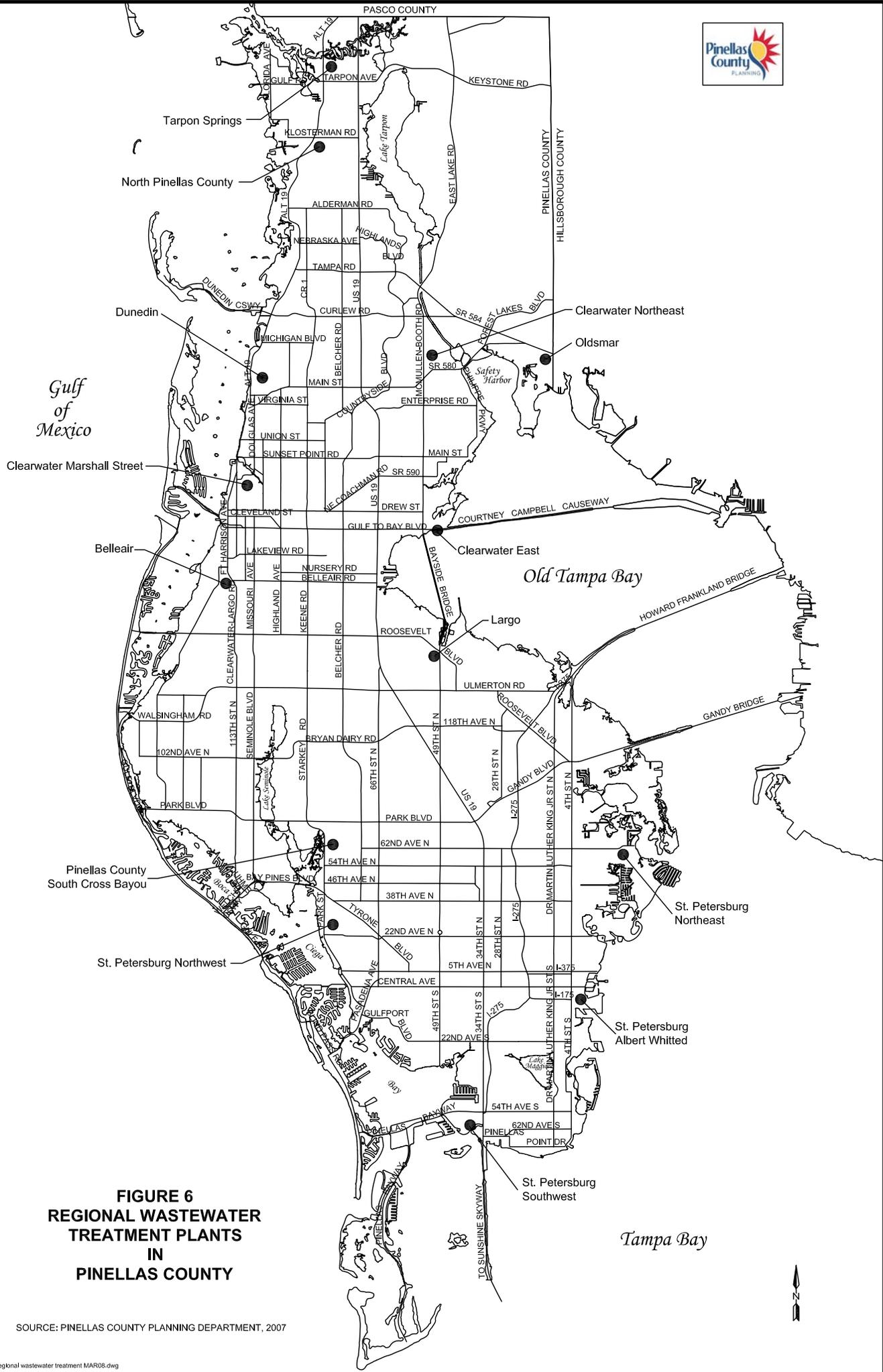
**TABLE 11  
REGIONAL WASTEWATER TREATMENTS PLANTS IN PINELLAS COUNTY**

<b>PLANT NAME AND ADDRESS</b>	<b>RESPONSIBLE GOVERNMENT</b>	<b>EST. POPULATION SERVED (1999)</b>	<b>PLANT CAPACITY/AVG DAILY FLOW IN MGD (1997)</b>	<b>TREATMENT METHOD</b>	<b>EFFLUENT DISPOSAL METHODS</b>	<b>SLUDGE TREATMENT</b>	<b>SLUDGE DISPOSAL</b>
Tarpon Springs Pine St. & Grosse Ave. Tarpon Springs, FL	City of Tarpon Springs	22,000	4.00/2.80	Advanced and Wastewater	Discharge to Anclote River and Reclaimed Water System	Envirosoil	Sold as Soil Amender
William E. Dunn WRF 4111 Dunn Drive Palm Harbor, FL	Board of County Commissioners	84,169	9.0/7.0	Advanced Wastewater Treatment- Bardenpho	storage ponds, 100% Reuse of Reclaimed water	Thickening, Dewatering and Transported to South cross for Drying and Pelletizing	Pellets marketed and distributed as fertilizer
Dunedin 1140 Highland Ave. Dunedin , FL	City of Dunedin	40,000	6.00/5.34	Contact Stabilization	Discharge to St. Joseph's Sound	Anaerobic & Aerobic Digestion	Landspreading at approved disposal sites
Clearwater Northeast SR 580 & McMullen- Booth Rd. Clearwater, FL	City of Clearwater <sup>4</sup>	52,000	28.5 (with 4 MGD allocated to the City of Safety Harbor through interlocal agreement)	Advanced Wastewater Treatment Bardenpho Process	Spray Irrigation & Surface Water Discharge to Tampa Bay and Reuse	Anaerobic Digestion, Process to further Reduce Pathogens (PFRP)	Landspreading at approved disposal sites
Oldsmar 107 Lafayette Blvd. Oldsmar, FL	City of Oldsmar	10,014	2.25/1.45	Extended Aeration	Percolation & Evaporation, Pond Spray Irrigation & Surface discharge to Tampa Bay	N.A. <sup>3</sup>	Landspreading at approved disposal sites

PLANT NAME AND ADDRESS	RESPONSIBLE GOVERNMENT	EST. POPULATION SERVED (1999)	PLANT CAPACITY/AVG DAILY FLOW IN MGD (1997)	TREATMENT METHOD	EFFLUENT DISPOSAL METHODS	SLUDGE TREATMENT	SLUDGE DISPOSAL
Clearwater - Marshall St. 1605 Harbor Drive Clearwater, FL	City of Clearwater	59,500	10.00 /6.55	Advanced Wastewater Treatment Bardenpho Process	Discharge to Stevenson Creek and Reuse	Anaerobic Digestion (PFRP)	Landspreading at approved disposal sites
Clearwater-East SR 60 & Tampa Rd. Clearwater, FL	City of Clearwater	26,500	5.00 /3.34	Advanced Wastewater Treatment Bardenpho Process	Discharge to Tampa Bay	Anaerobic & Digestion (PFRP)	Landspreading at approved disposal sites
Belleair 106 Belleair Ave. Belleair, FL	Board of County Commissioners	6,200	0.90/0.64	Advanced Wastewater Treatment	Discharge to Clearwater Bay Storage Ponds & Spray Irrigation	Liquid Sludge transported to South Cross for Anerobic Digestion, Thickening, Dewatering , drying and pelletizing	Pellets marketed and distributed as fertilizer
Largo 4900 - 150th Ave. N. - Largo, FL	City of Largo	75,000	15.00/13.9	Activated Sludge	Spray Irrigation & Surface Water Discharge to Feather Sound Lake & Tampa Bay Airco, County Resource Recovery Plant, Carillon	Aerobic Digestion	Processed to cakes. Landspreading at approved disposal site
Pinellas County South Cross Bayou WRF 7401 - 54th Ave. N St. Petersburg, FL	Board of County Commissioners	252,654	33.00/23.97	Advanced Wastewater Treatment (AWT)	Reclaimed distribution & Surface Water Discharge	AnAerobic Digestion, Thickening, Dewatering , drying and pelletizing	Pellets marketed and distributed as fertilizer

PLANT NAME AND ADDRESS	RESPONSIBLE GOVERNMENT	EST. POPULATION SERVED (1999)	PLANT CAPACITY/AVG DAILY FLOW IN MGD (1997)	TREATMENT METHOD	EFFLUENT DISPOSAL METHODS	SLUDGE TREATMENT	SLUDGE DISPOSAL
St. Petersburg N.W. 7500 - 26th Ave N St. Petersburg, FL	City of St. Petersburg	731,847	20.00/11.75	Advanced Secondary Activated Sludge with Filtration	Spray Irrigation & Deep Well injection	Anaerobic Digestion & Dewater	Landspreading at approved disposal site
St. Petersburg N.E. 1100 - 62nd Ave NE St. Petersbrug, FL	City of St. Petersburg	599,887	16.00/11.14	Advanced Secondary Activated Sludge with filtration	Spray Irrigation & Deep Well injection	Anaerobic Digestion & Dewater	Landspreading at approved disposal site
St. Petersburg Albert Whitted 8th St. S. & 1st St. S. St. Petersburg, FL	City of St. Petersburg	600,007	12.40/8.19	Advanced Secondary Activated Sludge with Filtration	Spray Irrigation & Deep Well injection	Anaerobic Digestion & Dewater	Landspreading at approved disposal site
St. Petersburg S.W 3800 - 54th Ave. S St. Petersburg, FL	City of St. Petersburg	813,647	20.00/12.96	Advanced Secondary Activated Sludge with Filtration	Spray Irrigation & Deep Well injection	Anaerobic Digestion & Dewater	Landspreading at approved disposal site

Source: Pinellas County Planning Department and Pinellas County Utilities, 2007.



**FIGURE 6  
REGIONAL WASTEWATER  
TREATMENT PLANTS  
IN  
PINELLAS COUNTY**

SOURCE: PINELLAS COUNTY PLANNING DEPARTMENT, 2007



**TABLE 12  
LAND USES SURROUNDING  
REGIONAL WASTEWATER TREATMENT PLANT**

<b>REGIONAL PLANT</b>	<b>EXISTING SURROUNDING LAND USE</b>	<b>SURROUNDING COUNTY FUTURE LAND USE PLAN DESIGNATIONS</b>
Tarpon Springs 325 East Pine St. Tarpon Springs, FL	Single Family, Multi-family Vacant	Industrial Limited, Residential Medium, Residential Urban
William E. Dunn WRF (North Pinellas Co.) 4100 Dunn Drive Palm Harbor, FL	Recreation/Open space Single Family, Multi-family Vacant, Mobile Home, Commercial/Office	Recreation/Open space, Industrial Limited, Residential Suburban
Dunedin 1140 MLK Jr. Ave Dunedin, FL	Single Family, Multi-family, Industrial	Recreation/Open space, Residential Medium, Industrial
Clearwater Northeast 3200 SR 580 Clearwater, FL	Recreation/Open space Single Family, School	Recreation/Open space, Residential Low, Institutional
Oldsmar 100 State St. S.W. Oldsmar, FL	Single Family, Vacant	Recreation/Open space, Residential Urban
Clearwater Marshall Street Russel Dr. Clearwater, FL	Single Family, Multi-family, Stevenson's Creek	Residential Medium, Residential Urban, Residential Low
Clearwater East 3141 Gulf-to-Bay Clearwater, FL	Single Family, Multi-family, Commercial, Tampa Bay	Recreation/Open space, Residential Medium, Commercial General
Largo 5100 150 <sup>th</sup> Ave N Clearwater, FL	Industrial, Cross Bayou Canal	Industrial Limited, Institutional
South Cross Bayou WRF 5900 74 <sup>th</sup> St. N. St. Petersburg, FL	Single Family, Mobile Home, Multi-family Commercial/Office, Industrial, Public/Semi-public	Residential Low Residential Urban Residential /Office/Retail
St. Petersburg NW 7500 26 <sup>th</sup> Ave N St. Petersburg, FL	Recreation/Open space, Industrial	Recreation/Open space, Industrial Limited

REGIONAL PLANT	EXISTING SURROUNDING LAND USE	SURROUNDING COUNTY FUTURE LAND USE PLAN DESIGNATIONS
St. Petersburg SW 3800 54 <sup>th</sup> Ave S St. Petersburg, FL	Single Family, Public/Semi-public	Residential Urban, Institutional
St. Petersburg NE 1160 62 <sup>nd</sup> Ave NE St. Petersburg, FL	Recreation/Open space Single Family	Recreation/Open space, Residential Urban, Institutional
St. Petersburg Albert Whitted 601 8 <sup>th</sup> Ave. SE St. Petersburg, FL	Downtown Business, Tampa Bay, Airport, Single Family	Institutional, Transportation/Utility, Central Business District
Caladesi Island State Park* N 28.01.488 W 82.49.7.47**	State Park	Recreation/Open space

Source: Pinellas County Planning Department. Rev. 2007

- \*Publicly-owned package plant
- \*\*Google Earth coordinates

**TABLE 13**  
**Soils Surrounding Publicly-Owned Regional Wastewater Treatment Plant Sites and**  
**Publicly-Owned Package Wastewater Treatment Plants**

<b>REGIONAL//PACKAGE PLANT</b>	<b>PREDOMINATE SURROUNDING SOIL TYPES</b>	<b>LIMITATIONS FOR SANITARY FACILITIES*</b>
Tarpon Springs	Astatula Soils and Urban Land, 0 to 5 percent slopes	Very Limited
	Matlacha and St. Augustine soils and Urban Land	Very Limited
	Pits	Not Rated
William E. Dunn WRF	Astatula Soils and Urban Land, 0 to 5 percent slopes	Very Limited
Dunedin	Matlacha and St. Augustine soils and Urban Land	Very Limited
	Immokalee Soils and Urban Land	Very Limited
	Tavares Soils and Urban Land, 0 to 5 percent slopes	Very Limited
Clearwater Northeast	Myakka Soils and Urban Land	Very Limited
	Anclote Fine Sand Depressional	Very Limited
	Pomello Soils and Urban Land, 0 to 5 percent slopes	Very Limited
	Tavares Soils and Urban Land, 0 to 5 percent slopes	Very Limited
Oldsmar	Myakka Soils and Urban Land	Very Limited
	Manatee Loamy Fine Sand	Very Limited
	Kesson Fine Sand, very frequently flooded	Very Limited
Clearwater Marshall Street	Matlacha and St. Augustine soils and Urban Land	Very Limited
	Astatula Soils and Urban Land, 0 to 5 percent slopes	Very Limited
Clearwater East	Wabasso Soils and Urban Land	Very Limited
Largo	Myakka Soils and Urban Land	Very Limited
	EauGallie Soils and Urban Land	Very Limited
	Kesson Fine Sand, very frequently flooded	Very Limited
South Cross Bayou WRF	Pomello Soils and Urban Land, 0 to 5 percent slopes	Very Limited
	Myakka Soils and Urban Land	Very Limited
	Matlacha and St. Augustine soils and Urban Land	Very Limited
St. Petersburg Northwest	Myakka Soils and Urban Land	Very Limited
	Immokalee Soils and Urban Land	Very Limited
	Seffner Soils and Urban Land	Very Limited

<b>REGIONAL//PACKAGE PLANT</b>	<b>PREDOMINATE SURROUNDING SOIL TYPES</b>	<b>LIMITATIONS FOR SANITARY FACILITIES*</b>
	Matlacha and St. Augustine soils and Urban Land	Very Limited
St. Petersburg Southwest	Immokalee Soils and Urban Land	Very Limited
	Matlacha and St. Augustine soils and Urban Land	Very Limited
St. Petersburg Northeast	Matlacha and St. Augustine soils and Urban Land	Very Limited
	Myakka Soils and Urban Land	Very Limited
	Immokalee Soils and Urban Land	Very Limited
	Wulfert Muck, very frequently flooded	Very Limited
	Kesson Fine Sand, very frequently flooded	Very Limited
St. Petersburg Albert Whitted	Urban Land	Not Rated
	Matlacha and St. Augustine soils and Urban Land	Very Limited
Caladesi Island State Park	Kesson Fine Sand, very frequently flooded	Very Limited
	Palm Beach Fine Sand	Very Limited

Source: USDA Pinellas County Soil Survey, 2006 and the Pinellas County Planning Department, 2008.

\*All soil types in Pinellas County that have been rated, are rated as being very limited for sanitary facilities, due to a variety of factors, including slope and the permeability of the soils, which can contribute to groundwater contamination. With proper water management practices, the water table in these soils can be controlled so as to reduce the constraints associated with sewage treatment and disposal facilities.

**TABLE 14  
LEVELS OF SERVICE FOR PUBLICLY-OWNED WASTEWATER TREATMENT  
PLANTS WITHIN PINELLAS COUNTY REGIONAL PLANTS (2007)**

Plant Name	Responsible Government	GPCPD
Tarpon Springs	City of Tarpon Springs	88
William E. Dunn WRF	Board of County Commissioners	60
Dunedin	City of Dunedin	28
Clearwater Northeast	City of Clearwater	99
City of Safety Harbor	City of Safety Harbor	99
Oldsmar	City of Oldsmar	116
Clearwater Marshall St.	City of Clearwater	43
Clearwater East	City of Clearwater	89
Belleair	Board of County Commissioners	171
Largo	City of Largo	29
South Cross Bayou WRF	Board of County Commissioners	80
Northeast St. Petersburg	City of St. Petersburg	106
Northwest St. Petersburg	City of St. Petersburg	118
Albert Whitted St. Petersburg	City of St. Petersburg	134
Southwest St. Petersburg	City of St. Petersburg	175
Caladesi Island State Park	State of Florida Department of Natural Resources	225

Source: Pinellas County Planning Department, 2007

<sup>1</sup> Average Daily Flow/ Est. total population served = Gallons Per Capita Per Day (GPCD)

### PUBLICLY-OWNED PACKAGE TREATMENT PLANTS

The only publicly-owned package plant is located at Caladesi State Park. Please see **Table 14** and **Figure 7**.

**TABLE 15  
PUBLICLY-OWNED WASTEWATER TREATMENT PACKAGE PLANTS  
IN PINELLAS COUNTY**

LOCATION NUMBER FOR FIGURE 5	PLANT NAME AND ADDRESS	GOVERNMENT	EST. POPULATION SERVED (1994) <sup>1</sup>	PLANT CAPACITY/ AVG. DAILY FLOW IN MGD <sup>2</sup> (1994)	TREATMENT METHOD	EFFLUENT DISPOSAL METHODS	SLUDGE TREATMENT	SLUDGE DISPOSAL
1	Caladesi Island State Park  Caladesi Island St. Joseph's Sound, FL	State Department of Natural Resources	4	.005/.001	Extended Aeration	Percolation Ponds	N/A	N/A

Source: Pinellas County Planning Department, 2007.

<sup>1</sup> Estimated Population served as reported by the responsible governmental entity.

<sup>2</sup> MGD = Million Gallons Per Day

<sup>3</sup> N/A - Information Not Available

## PRIVATELY-OWNED PACKAGE TREATMENT PLANTS

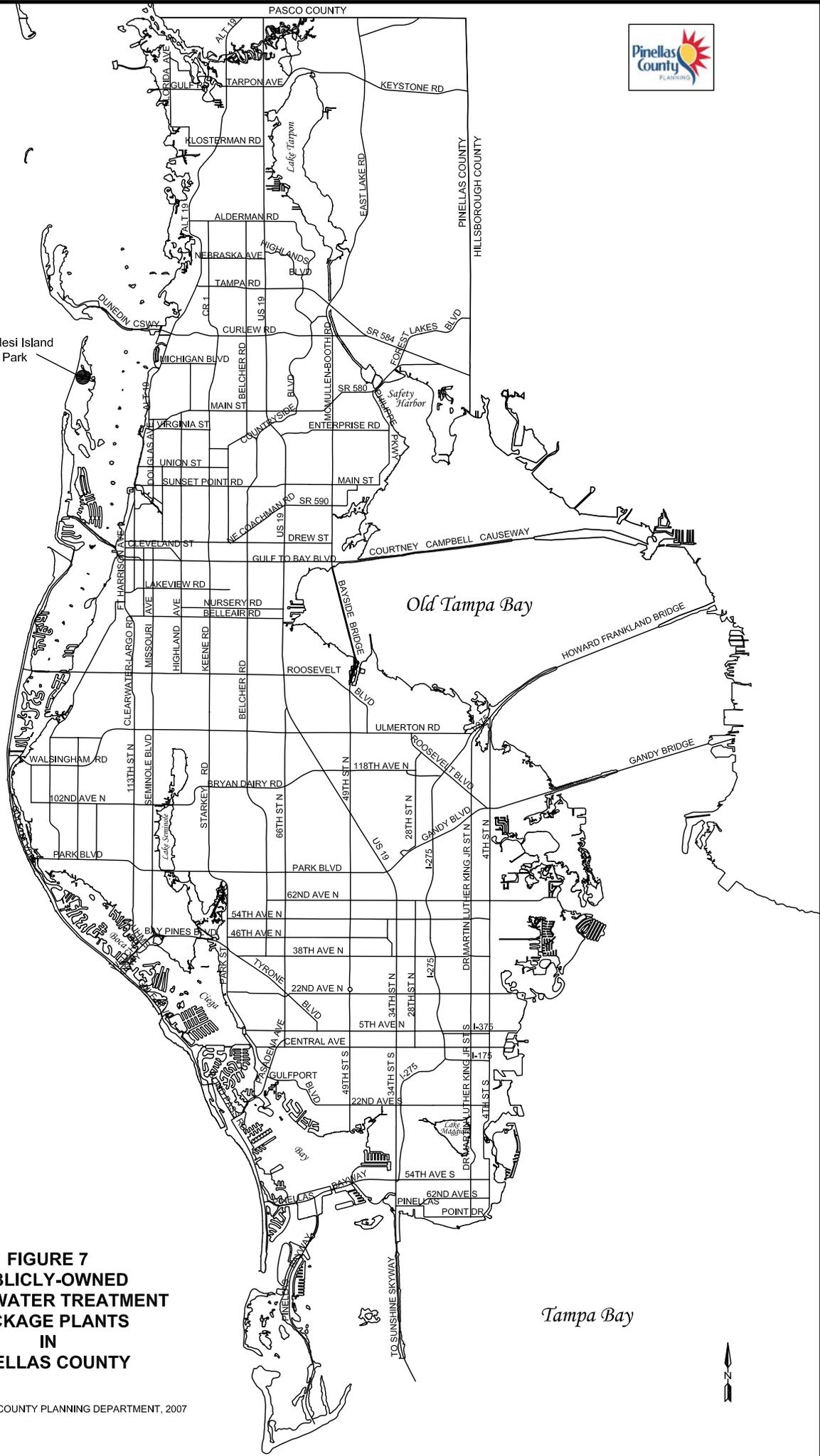
In 2007, there were nine privately-owned and operated wastewater treatment facilities active within unincorporated Pinellas County. These plants serve an estimated 17,616 residents of the unincorporated County. Six of these facilities provide service to mobile homes, one (On Top of the World) provides service predominantly to multi-family residences. **Figure 8** indicates the location of all privately owned wastewater treatment facilities in Pinellas County. **Table 16** below provides detailed information on the privately-owned facilities; including the entity having operational responsibility for each facility, estimated population served, design capacity and current demand on each facility, and level of service of each facility. Due to the seasonal changes in population and the difficulty in obtaining accurate population figures from the private wastewater treatment plants, most of the figures in the "Estimated Population Served" column represent the ultimate population of the mobile home park or other residential development served by the privately-owned wastewater treatment plant. In some cases this results in a low level of service associated with a particular package plant. When interpreting these numbers it is important to consider that these levels of service, or per capita figures, are not always an indication of wastewater flow. Average daily flow compared to design capacity provides a more reliable measure of private wastewater plant use. Service areas for private wastewater treatment facilities are generally confined to mobile home parks, businesses or small developments.

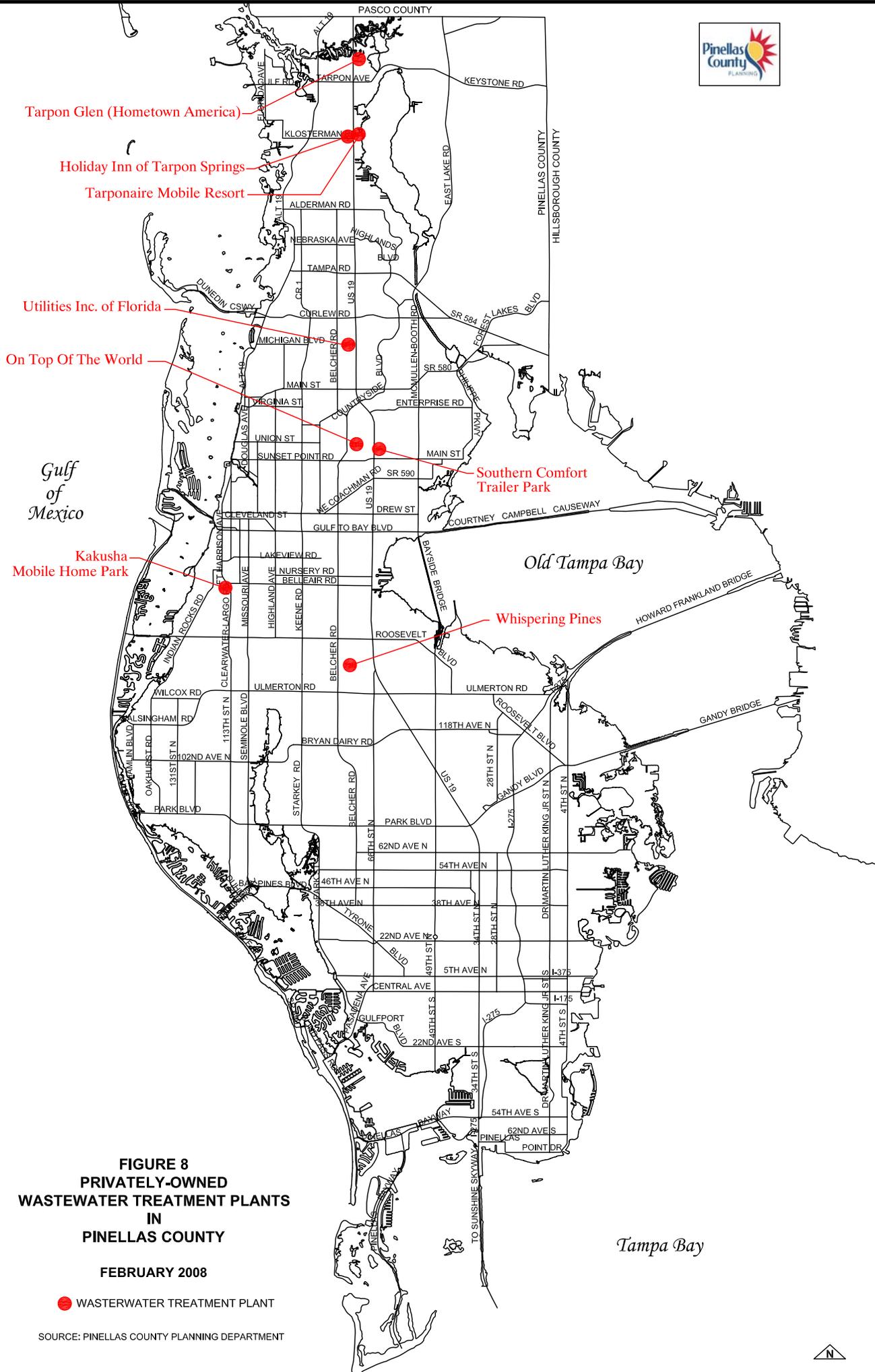
Although all of the permitted private wastewater treatment facilities are located in unincorporated portions of the County, all but one is actually located within the service areas of municipal wastewater treatment plants. **Table 16** indicates which publicly-owned wastewater treatment plant service area the private facility falls within. **Table 17** identifies the privately-owned wastewater treatment plant located within the Pinellas County Utilities wastewater treatment plant service area. **Tables 18** and **19** identify the land use and soil conditions surrounding those privately-owned wastewater treatment plants located within municipal wastewater service areas.



**FIGURE 7  
PUBLICLY-OWNED  
WASTEWATER TREATMENT  
PACKAGE PLANTS  
IN  
PINELLAS COUNTY**

SOURCE: PINELLAS COUNTY PLANNING DEPARTMENT, 2007





**FIGURE 8**  
**PRIVATELY-OWNED**  
**WASTEWATER TREATMENT PLANTS**  
**IN**  
**PINELLAS COUNTY**  
**FEBRUARY 2008**

● WASTEWATER TREATMENT PLANT

SOURCE: PINELLAS COUNTY PLANNING DEPARTMENT



**TABLE 16  
PRIVATELY-OWNED WASTEWATER TREATMENT PLANTS  
IN PINELLAS COUNTY - 2007**

Location No. for Figure 6	Plant Name & Address & Operating Entity	Est. Pop Served (2006)	Plant Capac/Avg Daily Flow in TGD <sup>1</sup> (2006)	Level of Service (LOS) [GPCD]	Treatment Method	Effluent Disposal Method	Waste Water Service Area
1	TARPON GLEN (Hometown America) 42085 US Hwy 19 Tarpon Springs, FL	Approx. 266	25.00/19,500	34	Extended Aeration	Two Percolation Ponds	Tarpon Glen MHP Only
2	WHISPERING PINES 7501 142 <sup>nd</sup> Ave. Largo, FL	159	20.00/17.5	9	Extended Aeration	Impoundment Ponds	Largo
3	HOLIDAY INN OF TARPON SPRINGS 38724 US Hwy 19 N. Tarpon Springs, FL	Maximum of 112 rooms	.005 MGD - .018	30	Extended Aeration	Percolation/ Evaporation Ponds	Holiday Inn Hotel Only
4	TARPONAIRE MOBILE RESORT 38791 US Hwy 19 N. Tarpon Springs, FL	124	12.5 / 8.0	38	Extended Aeration	Percolation/ Evaporation Ponds	Tarponaire Mobile Resort only
5	UTILITIES INC. OF FL (Mid-County Services, Inc.) 2299 Spanish Vista Dr - Dunedin, FL Corporate: 200 Weathersfield Ave. Altamonte Springs, FL 32714	7500	900 / 1675	95	Extended Aeration	Surface Water	4 Sq. Mi. (approx.)
6	SOUTHERN COMFORT TRAILER PARK 24479 US Hwy 19 N. Clearwater, FL	550	15.0/10 - 14	28	Extended Aeration Class 3 Plant	Rapid Drain Field	Southern Comfort Trailer Park Only
7	ON TOP OF THE WORLD (CSW Management, Inc.) 2410 Sunset Point Clearwater, Florida	8451	600/ 358	35	Extended Aeration Domestic - Type 1	Public Access Reuse System	106 acres Including 54 Residential Buildings Golf course
8	KAKUSHA MHP1654 Clearwater-Largo Rd Clearwater, FL Stephen J. Boyle – 584-0675	174	16.50/5.75	30	Extended Aeration	N/A	Largo

Source: Pinellas County Planning Department. Rev. 2007

<sup>1</sup> Thousand Gallons per Day

<sup>2</sup> Estimated Population Served = Gallons per Capital per Day (GPCD) Average Daily Flow

<sup>3</sup> N/A = not applicable

\*This is the most current data available from owners of these facilities

**TABLE 17  
PRIVATELY-OWNED WASTEWATER TREATMENT PLANTS WITHIN  
THE PINELLAS COUNTY WASTEWATER TREATMENT PLANT  
SERVICE AREA**

<b>PACKAGE PLANT NAME AND ADDRESS</b>	<b>ESTIMATED POPULATION SERVED (2007)</b>	<b>FLOW CAPACITY/AVERAGE DAILY FLOW (TGD)*</b>	<b>WASTEWATER TREATMENT PLANT SERVICE AREA</b>
Tarpon Lakeview MHP 37350 US 19 N., Palm Harbor , FL	320	23.40/7.25	North Pinellas County

Source: Pinellas County Planning Department, 2007.

\*TGD=Thousand Gallons per Day

**TABLE 18  
SURROUNDING LAND USES AT  
PRIVATELY-OWNED WASTEWATER TREATMENT PLANT SITES**

<b>Package Plant</b>	<b>Surrounding Existing Land Uses</b>	<b>Surrounding County Future Land Use Plan Designations</b>
Tarpon Glen 42085 US 19 N, Tarpon Springs, FL	Single Family, Multi-Family Vacant	Industrial Limited, Residential Medium, Residential Urban
Whispering Pines 7501 142nd Ave. N, Largo, FL	Mobile Home, Commercial, Multi-family	Residential Urban, Industrial Limited
Holiday Inn of Tarpon Springs 38724 US 19 N., Tarpon Springs, FL	Single Family, Vacant	Residential Rural, Preservation
Tarponaire Mobile Resort 38791 US 19 N, Tarpon Springs, FL	Mobile Home, Single Family, Recreation/Open Space	Residential Urban
Utilities Inc. of Florida (Mid-County Services, Inc.) 2299 Spanish Vista , Dunedin, FL Corporate: 200 Weathersfield Ave. Altamonte Springs, FL 32714	Mobile Home, Commercial, Hotels & Motels	Residential Urban
Southern Comfort Trailer Park 24479 US 19 N, Clearwater, FL	Single Family, Commercial	Residential Urban, Residential/Office/Retail
On Top of the World 2401 Franciscan Dr., Clearwater, FL	Mobile Home, Single Family, Industrial	Residential Urban, Institutional
Kakusha Mobile Home Park 1654 Clearwater-Largo Rd, Clearwater,	Mobile Home, Commercial	Residential/Office/Retail

Source: Pinellas County Planning Department. Rev. 2007

**TABLE 19  
SOILS SURROUNDING AT PRIVATELY-OWNED  
WASTEWATER TREATMENT PLANTS**

Package Plant	Predominant Surrounding Soil Types <sup>1</sup>	Constraints Due to Water Table Levels <sup>2</sup>
Tarpon Glen	Astatula	Slight and Moderate
Whispering Pines	Myakka	Severe
Tarponaire Mobile Resort	Astatula	Slight and Moderate
Holiday Inn of Tarpon Springs	Astatula	Slight and Moderate
Utilities Inc. / Mid-County Services Inc.	Immokalee-Pomello	Moderate and Severe
Southern Comfort Trailer	Immokalee-Pomello	Moderate and Severe
On Top of the World	St. Lucie, Immokalee-Pomello	Moderate and Severe
Kakusha Motor Home Park	Urban Land, Myakka	Severe

Source: Pinellas County Planning Department, 2007.

<sup>1</sup> USDA, *Soil Survey of Pinellas County, Florida*.

<sup>2</sup> The predominant soils above are described by the Soil Conservation Service as having low available water capacity, low organic matter content and permeability varying from very rapid to moderate. With good drainage and water management practices, the water table in these soils can be controlled so as to reduce the constraints associated with sewage treatment and disposal facilities.

## **ONSITE SEWAGE TREATMENT AND DISPOSAL SYSTEM (OSTDS)**

Septic tanks serve less than one percent of the population of the unincorporated County. Pinellas County allows onsite sewage treatment and disposal systems in those areas with geology and soils conducive to effective and sanitary operation and which comply with the requirements of the Florida Administrative Code.

The Florida Department of Health - Onsite Sewage Program has responsibility for regulating approximately 1.9 million OSTDS which treat roughly one-fourth of our state's domestic wastewater. The remainder of the state's domestic wastewater (approximately 1.7 billion gallons per day) is treated by larger onsite systems or by centralized WWFs which are the regulatory responsibility of the Department of Environmental Protection.

The Department of Environmental Protection works with wastewater utilities and the citizens of Florida to protect and conserve our water resources while meeting the basic public health need for effective wastewater treatment. The Department is responsible for permitting and compliance activities for approximately 2,700 domestic wastewater treatment facilities in the state. These activities are part of the Department's coordinated efforts to promote safe, efficient, and environmentally sound management of Florida's domestic wastewater.

There are very few OSTDS in the unincorporated County. Where they remain, it is often due to location, where it is not logistically feasible at this time to extend the collection system (e.g., in the very northeast of the County near Keystone Road), or in unincorporated areas located within a municipal service area.

## **The Florida Department of Health’s Bureau of Onsite Sewage Programs**

The Florida Department of Health’s Bureau of Onsite Sewage Programs develops statewide rules and provides training and standardization for County Health Department employees responsible for permitting the installation and repair of onsite sewage treatment and disposal systems (OSTDS) within the state. The Bureau licenses septic tank contractors, approves continuing education courses and course providers for septic tank contractors, funds a hands-on training center, and mediates OSTDS contracting complaints. The Bureau manages a State-funded research program, prepares research grants, and reviews and approves innovative products and septic tank designs.

## **ESTIMATES AND PROJECTIONS OF FUTURE WASTEWATER CONDITIONS**

### **Population Estimates and Projections**

Service area population is a key factor in designing for wastewater treatment plant capacity. This portion of the Element addresses population estimates and projections for the service areas of the County-owned and operated wastewater treatment facilities.

For the purpose of defining the populations for the wastewater treatment service areas, the population data was aggregated from Traffic Analysis Zone (TAZ) estimates and projections after the service area boundaries were identified. This summary information is presented in **Table 20** and includes population estimates and projections for each service area for 2005, 2010, 2015, 2020, and 2025.

As already mentioned, Pinellas County Utilities estimates that approximately 99 percent of the unincorporated County population is presently on sanitary sewer. It is the intention of PCU to provide sewer service to the entire unincorporated County within the PCU service area where feasible. For that reason, the population projections do not exclude those persons currently on septic tanks. The population projections also do not exclude those persons served by a private package plant within a County service area. While this is not a sizable population, these residents are accounted for in the event the County should have to eventually provide sewer service to those areas.

**TABLE 20  
POPULATION ESTIMATES AND PROJECTIONS FOR THE  
PINELLAS COUNTY WASTEWATER SERVICE AREAS**

SERVICE AREA	YEAR	PROJECTED SERVICE POPULATION <sup>1</sup>
North County / William E. Dunn WRF	2005	106,746
	2010	109,648
	2015	111,211
	2020	112,043
	2025	112,485
South County / South Cross Bayou WRF	2005	250,647
	2010	255,198
	2015	259,040
	2020	262,271
	2025	265,000

Source: Pinellas County Planning Department, May 31, 2007.

<sup>1</sup> Totals are Sewer Service Areas for a) the Dunn WRE and b) SCB WRE plus SCB/PP for South Cross Bayou WRF. Total population consists of the permanent population added to the seasonal and tourist population for each service area.

### **Wastewater Capacity Analysis for Pinellas County Facilities**

In **Table 21**, using population projections associated with each treatment plant and average daily flows based on the 2007 existing level of service, flows are projected for both facilities to the year 2025. These figures represent the anticipated demand on each system. **Table 21** presents this information and provides a percentage of capacity figure demonstrating the percentage of capacity the average flows utilize from each plant's overall design capacity.

Based on **Table 21**, the William E. Dunn WTF will reach 75% of capacity by 2025 and the South Cross Bayou WTF will reach 67% of capacity by 2025. So, there appears to be adequate capacity at Pinellas County's wastewater facilities for Pinellas County's planning horizon.

Currently, all of Pinellas County's wastewater treatment plants are operating under their design capacity, at an acceptable level of service. Facility replacements and upgrades are scheduled, but there are no existing deficiencies. All plants are operating satisfactorily and in compliance with all regulations and permits, including those issued by the Florida Department of Environmental Protection and the federal Environmental Protection Agency. Both plants meet the standards for Advanced Wastewater Treatment (AWT). Continuous maintenance is provided at all PCU wastewater treatment plants to ensure they will operate at least through the year 2025.

### ***The Belleair Pipeline Project***

The Pinellas County Utilities Department purchased the Belleair's Wastewater Treatment Plant in **2005** which has a design capacity of 0.90 MGD and an average daily flow of 0.648 MGD. A

pipeline is currently under construction to divert the wastewater from this plant to the South Cross Bayou Water Reclamation Facility. The Belleair Pipeline Project is projected to be tied into a new Pump Station by mid-November 2007, and Belleair's Wastewater Treatment facility is projected to be decommissioned by mid-December 2007. Reclaimed water will be provided back to the City of Belleair from the South Cross Bayou Facility. **Table 21** includes the projected effects of Belleair's additional 0.648 MGD by 2007.

**TABLE 21  
FUTURE WASTEWATER SYSTEM CAPACITY ANALYSIS  
FOR PINELLAS COUNTY: 2010-2025**

Service Area	Year	Projected Service Population <sup>1</sup>	Plant Design Capacity (MGD)	Projected Average Daily Flow (MGD) <sup>2</sup>	Projected Average Daily Flow Per Person (GPCPD)	Capacity Surplus (or Deficit)(MGD)	Percent of Plant Capacity
<b>North County / William E. Dunn WRF</b>	2010	109,648	9	6.58	60	2.42	73%
	2015	111,211	9	6.67	60	2.33	74%
	2020	112,043	9	6.72	60	2.28	75%
	2025	112,485	9	6.75	60	2.25	75%
<b>South County / South Cross Bayou WRF<sup>4</sup></b>	2010	255,198	33	21.43	84	11.57	65%
	2015	259,040	33	21.73	84	11.24	66%
	2020	262,271	33	22.03	84	10.97	67%
	2025	265,000	33	22.26	84	10.74	67%

Source: Pinellas County Planning Department and Pinellas County Utilities Department, 2007.

1 For respective sewer service areas.

2 These average daily flow figures incorporate contributing flows from residential, commercial and industrial uses, as well as infiltration and inflow. They are not engineering and design features. Projected Average Daily Flow (MGD) is calculated by multiplying the Projected Average Daily Flow Per Person (GPCPD) by the Projected Service Population and dividing the resulting figure by one million.

3 Average daily flow figures provided by Pinellas County Utilities.

4 Pinellas County assumed the operation of the Belleair Wastewater Treatment Plant in 2005. This facility was taken offline in 2007 with all flows being diverted to the South Cross Bayou Water Reclamation Facility. All population figures and flows in Table 21 take this into account.

## LEVEL-OF-SERVICE STANDARDS

The Capacity Analysis above indicates that a capacity deficit is not anticipated at any time during the planning horizon for this Element, based upon the following level-of-service standards for Pinellas County's Regional Wastewater Treatment Facilities. The standard is

*tiered*, in the sense that it includes a numerical standard reflecting average and peak design capacity, as well as a series of “tests” accomplished as a part of the County’s annual concurrency review and as a part of the ongoing utility planning process. Note that 62-600.405, F.A.C., governs, in a very detailed fashion, the capacity planning and analysis process, as well as potential expansion requirements. Therefore, the standards below include recognition of the requirement to monitor conditions and follow regulatory directives. The County’s Concurrency Management System, including the annual concurrency test statement, is addressed in greater detail in the Future Land Use and Quality Communities Element and in the Compendium to the Comprehensive Plan.

**TABLE 22  
LEVEL OF SERVICE STANDARDS  
PINELLAS COUNTY UTILITIES  
WATER RECLAMATION TREATMENT FACILITIES (WWTF)**

<b>Wastewater Treatment/Water Reclamation Facility</b>	<b>Permitted (or Design) Treatment Capacity (average daily flow)</b>	<b>Peak Flow (max. = 1.50 times design capacity)</b>
South Cross Bayou Water Reclamation Facility	33.00 mgd	49.50 mgd
William Dunn Water Reclamation Facility	9.00 mgd	13.5 mgd
Pinellas County will, for concurrency management purposes, annually compare wastewater flows to permitted treatment capacity to determine the percentage of available capacity and to assess whether permitted treatment capacity continues to exceed the needs of existing and committed development. If treatment capacity is available, development can be permitted.		
Unpredictable situations where permitted capacity is temporarily exceeded due to unanticipated situations such as limited/extreme weather conditions shall not impact the determination of level of service conditions.		
If an annual assessment evidences that a capacity deficit could occur within 10 years, Pinellas County Utilities will prepare a more detailed capacity analysis as directed by 62-600.405, F.A.C, and determine whether facility expansion is required or if the service area is built out.		

As indicated, Pinellas County annually compares wastewater flows to permitted treatment capacity as a part of its concurrency program to determine the percentage of available capacity and to assess whether permitted treatment capacity is available to meet the needs of existing and committed development. Committed development is calculated by adding in the projected service area population for the following year. If treatment capacity is available, development can be permitted. The County does monitor capacity in an ongoing fashion, however, and maintains projections out to the year 2025, as evidenced in the preceding capacity analysis, in order to plan well in advance of needs. Importantly, unpredictable situations where permitted capacity is temporarily exceeded (e.g., limited/extreme weather conditions such as the 2004 hurricane season) do not impact the determination of level of service conditions. Ch. 62-600, F.A.C., addresses how these circumstances are handled, and at what point a capacity analysis would be triggered.

Also importantly, Pinellas County is essentially a built-out County, and the County's two regional treatment plants have purposely been designed for, and expected to accommodate, build-out projections. However, Pinellas County Utilities will continue to monitor conditions, as required by 62-600.405, F.A.C, and planning staff will continue to undertake the annual concurrency assessment and prepare an annual concurrency test statement to ensure that there is ample time to plan for capacity enhancements should unplanned development result in the potential for a capacity deficiency.

### SELECTED MUNICIPAL CAPACITY ANALYSIS

As has previously been discussed, portions of the unincorporated County receive wastewater collection and treatment service from adjacent municipalities. For this reason, the comprehensive plans adopted by each of these municipalities must address the unincorporated customers within their service area. The information provided in **Table 23** was developed by each of these municipalities for inclusion in the sanitary sewer portions of their comprehensive plans.

**TABLE 23**  
**SELECTED MUNICIPAL WASTEWATER TREATMENT CAPACITY ANALYSIS**  
**FACILITIES SERVING UNINCORPORATED RESIDENTS**

MUNICIPAL TREATMENT PLANT	YEAR	SERVICE POPULATION	WASTEWATER FLOW (MGD)	PLANT CAPACITY
City of St. Petersburg - Northwest Plant	2005	103,381	14.71	20.00
	2010	103,880	15.10	20.00
	2015	104,274	15.65	20.00
	2020	104,593	15.70	20.00
	2025	104,849	15.80	20.00
City of St. Petersburg - Northeast Plant	2005	68,756	9.74	16.00
	2010	69,124	10.26	16.00
	2015	70,008	10.81	16.00
	2020	70,740	11.12	16.00
	2025	72,044	11.47	16.00
City of St. Petersburg - Southwest Plant	2005	83,536	16.30	20.00
	2010	84,697	17.10	20.00
	2015	85,662	17.90	20.00
	2020	86,450	18.30	20.00
	2025	87,131	18.80	20.00
City of Clearwater	2005	174,195	21.94	23.00
	2010	178,248	25.96	28.00

**TABLE 23  
SELECTED MUNICIPAL WASTEWATER TREATMENT CAPACITY ANALYSIS  
FACILITIES SERVING UNINCORPORATED RESIDENTS**

MUNICIPAL TREATMENT PLANT	YEAR	SERVICE POPULATION	WASTEWATER FLOW (MGD)	PLANT CAPACITY
	2015	181,105	26.01	28.00
	2020	183,105	26.07	28.00
	2025	184,504	26.05	28.00
City of Largo	2005	115,891	11.01	13.50
	2010	118,145	11.86	13.50
	2015	119,759	13.37	13.50
	2020	120,908	N.A.	N.A.
	2025	121721	N.A.	N.A.
City of Dunedin	2005	44,207	4.23	6.00
	2010	44,993	4.54	6.00
	2015	45,543	4.94	6.00
	2020	45,926	5.36	6.00
	2025	46,192	5.81	6.00
City of Oldsmar	2005	16,478	1.22	2.25
	2010	17,779	1.60	4.50
	2015	18,577	2.29	4.50
	2020	19068	N.A.	N.A.
	2025	19370	N.A.	
City of Tarpon Springs	2005	33,247	4.72	4.00
	2010	35,437	5.32	8.01
	2015	37,109	6.49	8.00
	2020	38369	N.A.	N.A.
	2025	39312	N.A.	N.A.

Source: Pinellas County Planning Department. Rev. 2007

<sup>1</sup> Clearwater's East and Northeast treatment plants are connected; when one is at capacity, flows are diverted to the other.

<sup>2</sup> Levels of service projected by the City of Clearwater, based on all three treatment plants.

<sup>3</sup> These are permanent population figures developed by the city of Largo.

<sup>4</sup> The City of Oldsmar increased plant capacity in 1996 and decreased the level of service.

<sup>5</sup> The City of Tarpon Springs increased plant capacity in 1995, and decreased the level of service.

N.A. = not applicable Note: Service population includes permanent, seasonal and tourist populations

## BIOSOLIDS DISPOSAL

Presently, biosolids from the Belleair wastewater treatment plant and dewatered biosolids from the William E. Dunn facility are hauled to South Cross for drying and pelletizing. The Dunn facility uses an AWT Bardenpho process with sludge thickening followed by dewatering on belt filter processes. The South Cross Bayou facility has anaerobic biosolids digestion. The biosolids are thickened and then dewatered using centrifuges and provided to the onsite pelletizer. The biosolids are collected and processed into fertilizer pellets while the methane gas from the digestion process is used as a fuel in the drying process of producing fertilizer pellets. The pelletizer dries the biosolids, which are turned into fertilizer pellets and sold as fertilizer. Pinellas County's goal is to recycle 95% of its biosolids. **Table 24** displays the amount of biosolids removed from Pinellas County Utilities Water Reclamation Facilities in 2006.

Biosolid processing, monitoring and disposal has been affected by stricter regulations in recent years. For example, the Environmental Protection Agency (EPA) 40 CFR Section 503 establishes guidelines to ensure that sludge meets environmentally safe criteria. The Code also requires periodic testing to monitor metal content reduction, vector attraction reduction and the reduction of organic pathogens. The Department of Environmental Protection (DEP) 62-640 F.A.C. regulates sludge residual management and works in concert with EPA 40 CFR.

**TABLE 24**  
**BIOSOLIDS REMOVED FROM PINELLAS COUNTY UTILITIES**  
**WATER RECLAMATION FACILITIES IN 2006**

Water Reclamation Facility	Total Gallons	Monthly Average Gallons	Daily Average Gallons
William E. Dunn Facility	23,284,433	1,940,369	63,793
South Cross Bayou Facility	70,919,520	5,909,960	194,300
Totals	94,203,953	7,850,329	258,093

Source: Pinellas County Utilities Department, July 2007.

## PINELLAS COUNTY UTILITIES CAPITAL IMPROVEMENT REQUIREMENTS TO MEET ITS WASTEWATER MANAGEMENT NEEDS

The purpose of the Capital Improvements Program for the County's wastewater program is to annually evaluate and prioritize new projects for inclusion in the Six-Year Schedule of Improvements; to modify existing priorities as determined by the Capacity Management Operations and Maintenance (CMOM) Program and the Utilities Asset Management Program; and to ensure that all facets of the wastewater collection, treatment and reuse system meet customer needs, operate optimally, and are environmentally sound.

### Six-Year Schedule of Improvements

Pinellas County Utilities has a Six-Year Schedule of Improvements for capital improvements. As indicated previously, there are no capacity deficiencies in the County's sewer system. The system maintains an acceptable level of service and meets all standards and regulations. The Pinellas County Sewer System does, however, have a number of facility improvements

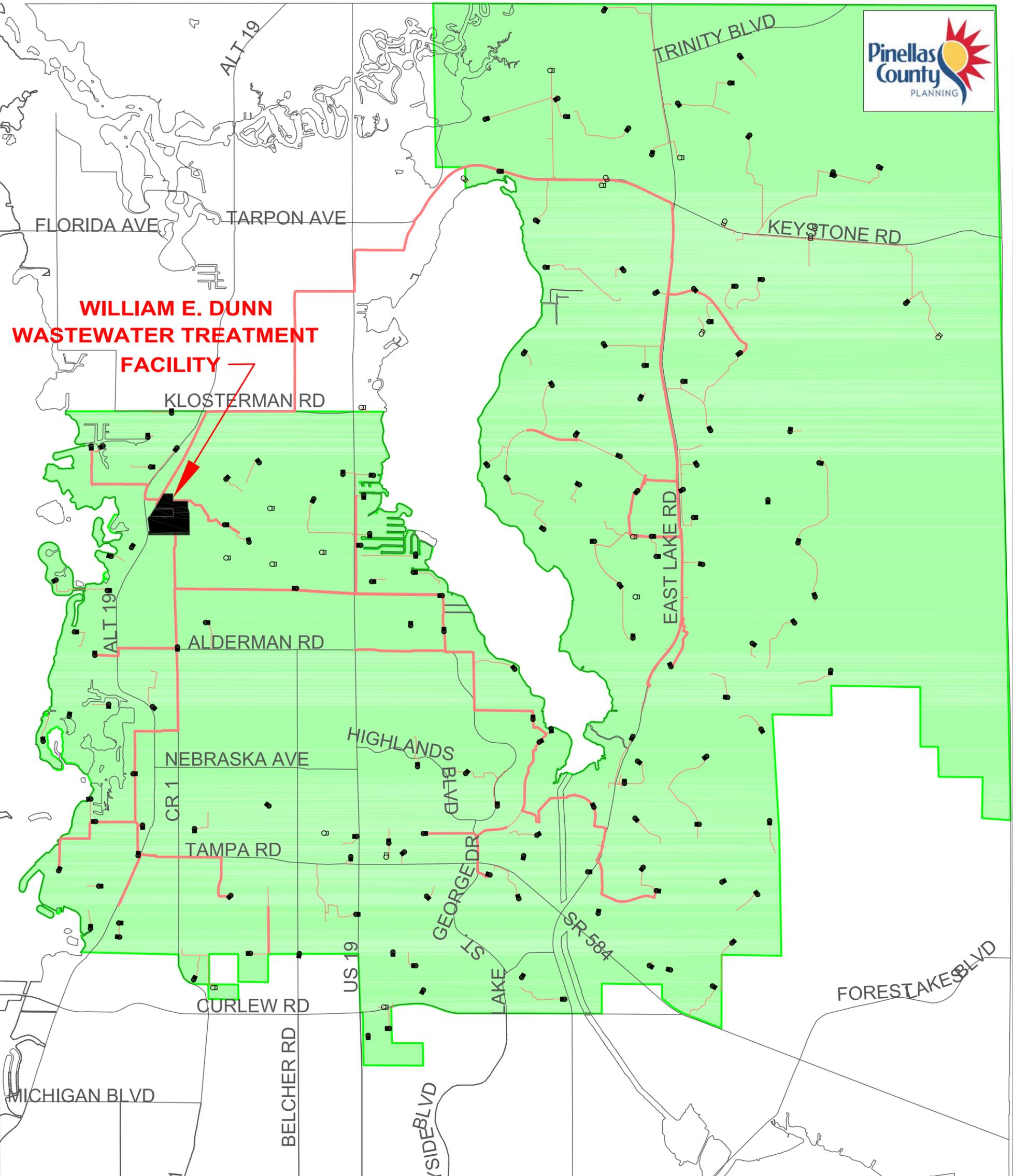
planned for the collection, treatment and disposal system scheduled. **Table 25** indicates the capital improvements, both for facility improvements as well as future needs.

**TABLE 25  
PINELLAS COUNTY WASTEWATER AND  
RECLAIMED WATER CAPITAL IMPROVEMENTS**

Project ID#	PROJECT TITLE	PROJECT STATUS
589	Reuse System Expansion – North County	Planned
860	Reuse System Expansion – South County	Planned
551	SCADA Systems	Scheduled
553	Sewer Modifications and Rehabilitation	Scheduled
550	Sewer Relocation DOT/PCPW	Scheduled
555	South Cross Bayou WRF– Upgrades, Renewals, & Replacements	Scheduled
552	William E. Dunn WRF Upgrades, Renewals & Replacements	Scheduled
549	Buildings & Structures	Scheduled
559	Grease Disposal System	Scheduled
1641	North County Sewer & Reclaimed Water	Scheduled
1642	South County Sewer & Reclaimed Water	Scheduled
1643	Pump Station & FM - 2008	Scheduled

Source: Pinellas County Capital Improvements Program, 2008-2013.

“Scheduled” indicates the project is included in the six-year (2008-2013) CIP list; “Planned” indicates the project is anticipated to be implemented beyond 2013, up to the year 2020.



**WILLIAM E. DUNN  
WASTEWATER TREATMENT  
FACILITY**

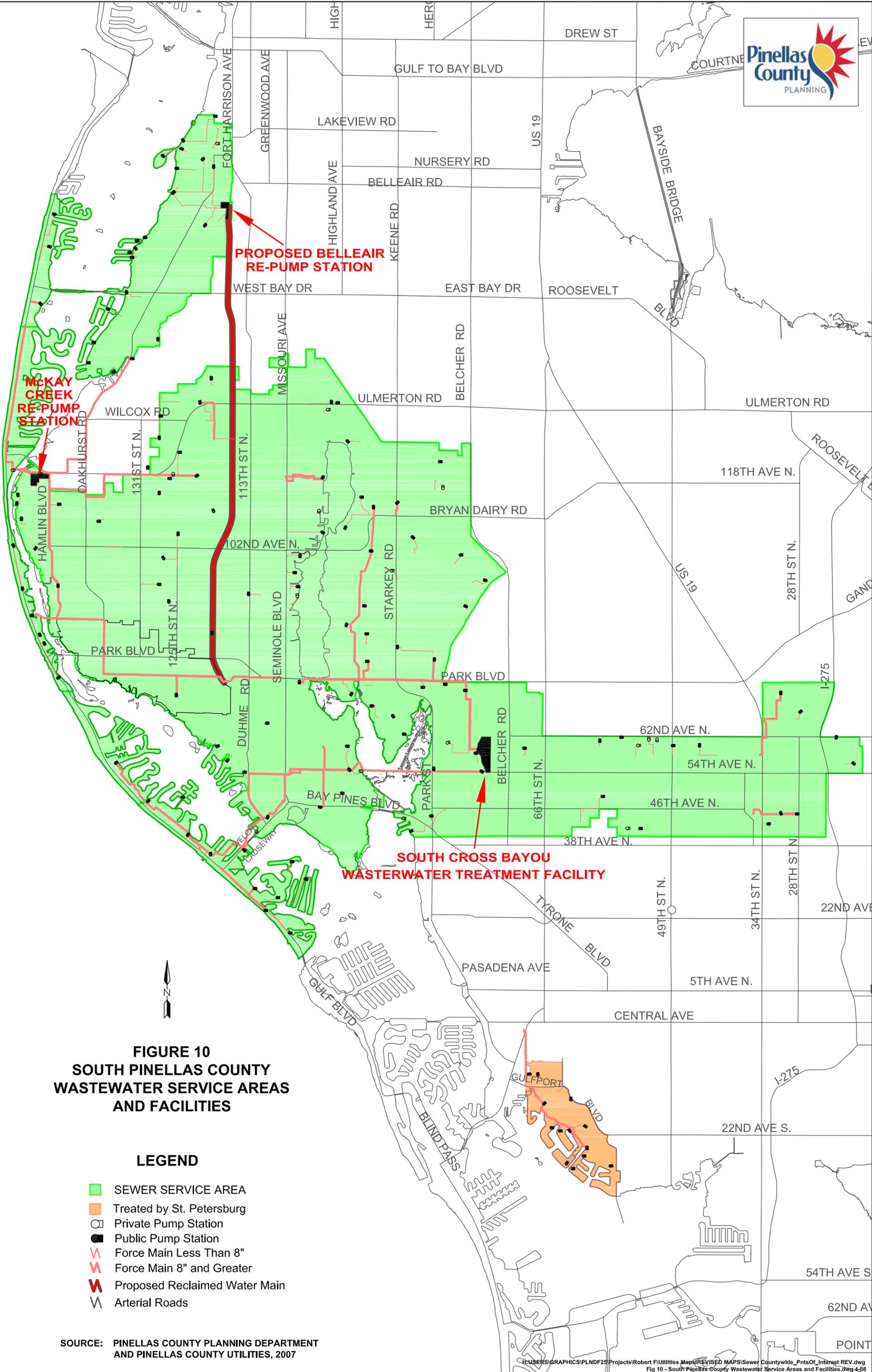
**FIGURE 9  
NORTH PINELLAS COUNTY  
WASTEWATER SERVICE AREAS  
AND FACILITIES**

**LEGEND**

- SEWER SERVICE AREA
- PRIVATE PUMP STATION
- PUBLIC PUMP STATION
- FORCE MAIN LESS THAN 8"
- FORCE MAIN 8" OR GREATER
- ARTERIAL ROADS
- ( \* AREA UNDER REVIEW )

SOURCE: PINELLAS COUNTY PLANNING DEPARTMENT AND PINELLAS COUNTY UTILITIES, 2007





**FIGURE 10  
SOUTH PINELLAS COUNTY  
WASTEWATER SERVICE AREAS  
AND FACILITIES**

**LEGEND**

- SEWER SERVICE AREA
- Treated by St. Petersburg
- Private Pump Station
- Public Pump Station
- Force Main Less Than 8"
- Force Main 8" and Greater
- Proposed Reclaimed Water Main
- Arterial Roads

SOURCE: PINELLAS COUNTY PLANNING DEPARTMENT AND PINELLAS COUNTY UTILITIES, 2007