1 Inventory

PLANNING AREA

Pinellas County is located on the west coast of central Florida. It is bounded on the north by Pasco County and on the east by Hillsborough County. Two-thirds of the county is peninsular with the Gulf of Mexico to the west and Tampa Bay to the east and south. Its location is shown in Figure 1.

Pinellas County is the most highly urbanized county in the State. The Pinellas County Planning Department has estimated the total population in 2005 at 1,113,907. Total population includes permanent, seasonal, and tourist residents. A full explanation of population projections and methodology is contained in the Future Land Use Element.

The Bureau of Economic and Business Research (BEBR) ranks Pinellas County the sixth highest in population in the State of Florida, but also the second smallest in area. These characteristics combine to make Pinellas the most densely populated county in Florida, with BEBR calculating 3,383 persons per square mile.

Pinellas County's 280 square miles contain twenty-four (24) local municipalities, each with its own interests, responsibilities and powers. These municipalities vary in size from less than one-tenth of a square mile (Belleair Shore) to fifty-six (56) square miles (St. Petersburg). Unincorporated areas in 2005 covered about 119 square miles within which approximately 30 percent of the County's population resided. The Board of County Commissioners exercises powers in the unincorporated areas that are similar to the powers exercised within cities by councils or commissions. The locations of the cities and unincorporated areas in Pinellas County are shown in Figure 2. For planning purposes, the County is divided into planning sectors and these delineations are shown in Figure 3.

The recreation and retirement orientation of the area has attracted a large number of retired persons into the County, the largest number of which moved here in the 1950's soon after World War II. The age structure for the County shows much higher proportions in the older age groups and much lower in the younger age groups than the national average. According to the U. S. Census Bureau in 2005, persons 65 and older accounted for 20.0 percent of the population, down from 22.5 percent in 2000. In Pasco County, the percentage is 21.1, in Hillsborough County it is 11.2 percent; and statewide it is 16.6 percent. In Pinellas County, the median age has risen from 43.0 years in 2000 to 44.2 years in 2005. The U. S. Census Bureau also estimated that people 24 years of age and under made up 27.2 percent of the population in 2005 and those in the 25 to 44 age group, 24.2 percent.

FIGURE 1:
LOCATION OF PINELLAS COUNTY, FL

FIGURE 2:
PINELLAS COUNTY AND ITS 24 MUNICIPALITIES

FIGURE 3:
COUNTYWIDE PLANNING SECTORS

ENVIRONMENTAL CONDITIONS

According to Chapter 17-7.250, Florida Administrative Code (F.A.C.), environmental conditions including soils, climate, drainage basins, and other pertinent features must be described in the resource recovery and management program. In this Environmental Conditions section the major physical features of Pinellas County, which must be considered in the comprehensive planning process, are briefly described. The major reference documents have been the Natural, Historic and Cultural Resources and Coastal Management Elements of the Pinellas County Comprehensive Plan and subsequently documented data and analysis updates. These documents provide natural resource information for all the comprehensive plan elements and are recommended as resource documents for more detailed information on Pinellas County.

Geology and Soils

The Pinellas County landfill and resource recovery site is on a flat, coastal area characterized by a near surface water table.

There are three (3) geologic formations identified by drilling operations at the Pinellas County landfill (see Figure 4).

1. Undifferentiated Surficial Deposits

   The surficial sand ranges in thickness from 12 to 25 feet (average 19 feet) and is Pleistocene in age (Heath and Smith, 1954, p.16). The sand is mostly fine to very fine, sub-rounded, clear, tan to yellowish brown-black in color, and contains iron oxide grains and pelechpod fragments. The sand is mainly quartz with traces of calcite, aragonite, kaolinite, montmorillinite and mixed clay minerals.

2. Hawthorne Formation

   Marl Layer: The marl layer ranges in thickness from 5 to 15 feet (average 10 feet) and is a local facies of the Hawthorne Formation of middle Miocene Age 9 (Heath and Smith, 1954). The marl is composed of calcareous silt (mainly calicle and aragonite with traces of dolomite and mixed day minerals) mixed with very fine quartz sand, light greenish gray in color, and contains black polished and pitted, fine to coarse, rounded lithic fragments, and minor shell, pelecypos, and shark tooth fragments. Clay Layer: The clay layer is probably a weathered residum of the upper part of the Tampa Limestone (Hutchinson and Stewart, 1978). The clay layer is estimated to be about 25 feet in thickness at most places. The clay contains fine to very fine, white quartz grains with phosphate nodules and limestone fragments and is light greenish gray to grayish blue green in color. Mixed clay minerals, quartz, illite, and custobalite are present in the clay.

3. Limestone Layer

   The limestone layer is the Tampa Formation and is estimated to be about 200 feet thick in Pinellas County (Hickey, 1980). The limestone is cream colored, chalky, sandy, fossiliferous, with chert decreasing with depth.

Geohydrologic Units

Three (3) geohydrologic units comprise the deposits that underlie the Pinellas County landfill and resource recovery site. These units are, in descending order:

1. Surficial aquifer - an unconfined permeable sand layer of fine to very fine sand and shell. This permeable sand layer averages 19 feet in thickness and both its saturated and unsaturated portions comprise the surficial aquifer (See Figure 5).

2. Confining Bed - a semi permeable layer of marl and clay. The marl and clay confining bed separates the surficial aquifer from the Floridan aquifer and averages 35 feet in thickness.

3. Floridan aquifer - a confined or artesian limestone aquifer. The Floridan aquifer is the principal aquifer in the area (Hutchinson and Stewart, 1978). The freshwater strata of the upper part of the Floridan aquifer are estimated to be about 200 feet thick.

Drainage Basins

Pinellas County's drainage basin boundaries are somewhat difficult to define due to the County's high surface water table, its low relief topography, and drainage changes from extensive urbanization.

In the southern section of the County, the streams draining from the Pinellas ridge and uplands of St. Petersburg generally empty into the Gulf of Mexico, Lake Seminole, and intracoastal bays. The low lying areas of south County drain east into Cross Bayou and Tampa Bay. In the north County, the basins drain from the ridge flowing west into the Gulf and east into upper Old Tampa Bay and Lake Tarpon. The East Lake Tarpon area drains westward into the lake and southward into the Safety Harbor/Oldsmar area.

The Pinellas Planning Council (PPC) and the Board of County Commissioners in 1978 adopted a Countywide Master Drainage Plan which identifies 52 drainage basins in the County, as illustrated in Figure 6. The Pinellas County Waste-to-Energy Plant is located within the Roosevelt Drainage Basin.

Flood-Prone Areas

The threat of flooding is a major concern in Pinellas County due to low coastal topography, its location on the Gulf of Mexico, and heavy summer rain storms. Figure 7 shows the major flood-prone areas in Pinellas County included within the 100-year floodplain, as designated by the Federal Emergency Management Agency (FEMA).

FIGURE 4:
INDEX MAP AND GEOLOGIC FENCE DIAGRAM

FIGURE 5:
HYDROLOGIC CROSS SECTION

FIGURE 6:
DRAINAGE BASINS

FIGURE 7:
FLOOD PRONE AREAS