

## **SECTION 3**

### **STUDY AREA**

#### **3-1 PURPOSE**

This section describes the study area of the Wastewater Master Plan, discusses the land uses within the study area, and population estimates.

#### **3-2 LOCATION**

The City of Manhattan Beach (City) is located on the western edge of Los Angeles County, approximately 22 miles southwest of downtown Los Angeles. The City's regional location is depicted on Figure 3-1. The City encompasses approximately 3.9 square miles of residential, commercial, and industrial land. It is a coastal community bounded by the approximately 2 miles of beach frontage to the west. Manhattan Beach is bordered by the City of El Segundo to the north, the Cities of Hawthorne and Redondo Beach to the east, and the Cities of Redondo Beach and Hermosa Beach to the south.

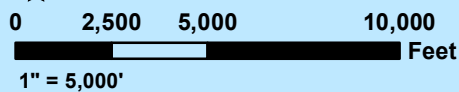
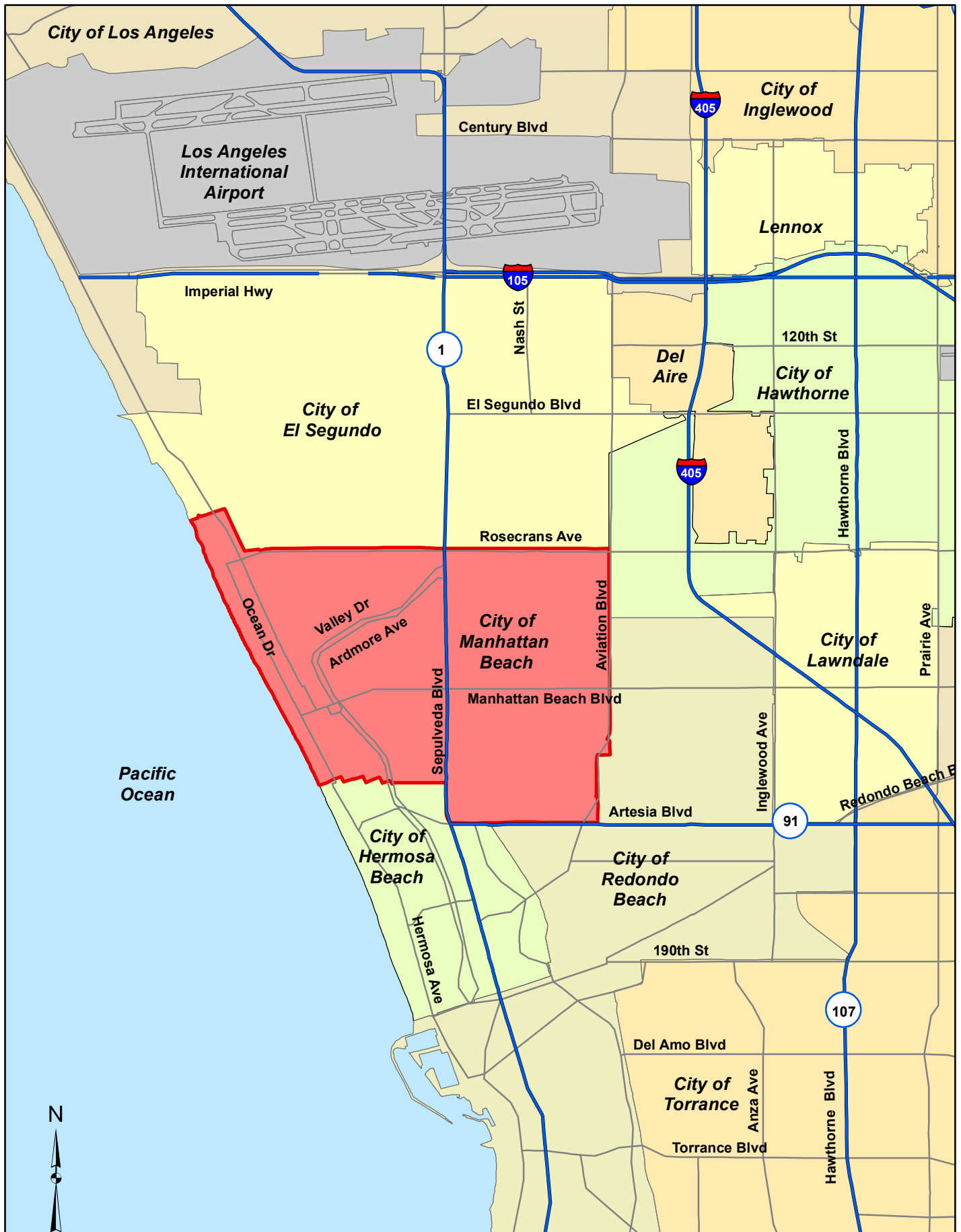
The City is centralized between several Southern California highways, providing easy access into the City. The Century Freeway (I-105) is located to the north. The San Diego Freeway (I-405) and Artesia Freeway (SR-91) are located to the east. The major roads within the City include Ocean Drive, Highland Avenue, Valley Drive, Sepulveda Boulevard, Aviation Boulevard, Rosecrans Avenue, Marine Avenue, Manhattan Beach Boulevard, and Artesia Boulevard

#### **3-3 TOPOGRAPHICAL DESCRIPTION AND GEOLOGY**

The characteristic topography of Manhattan Beach is a series of peaks and valleys throughout the City. The City's highest point is located near the intersection of Sepulveda Boulevard and Longfellow Drive and reaches 235 feet above sea level. The lowest ground elevation is at 0.0 ft, along the beach frontage.

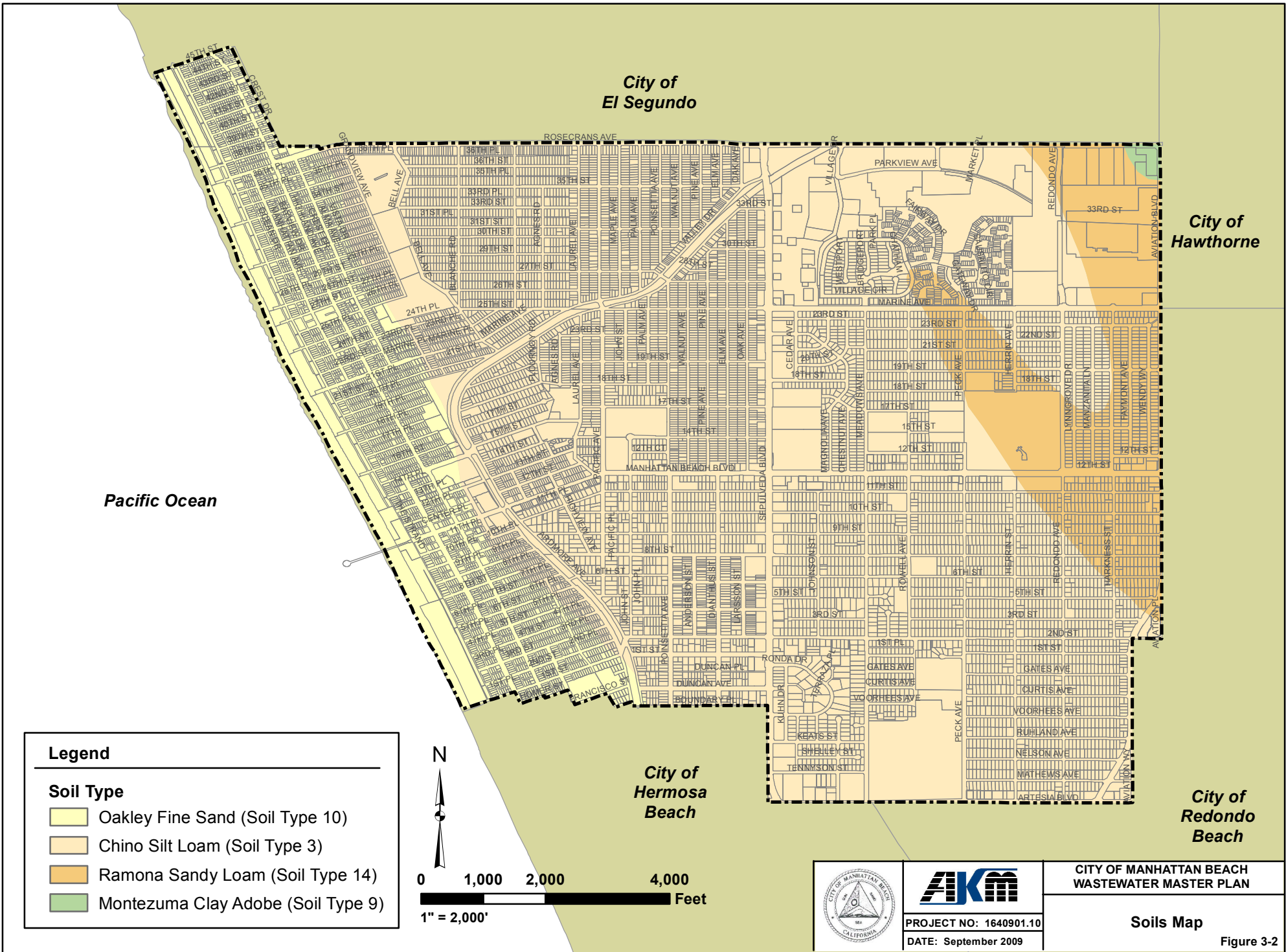
The study area can be roughly divided into two sections based on its topography and soil conditions. A sand dune ridge runs diagonally from a point on the northwest City boundary approximately 2,000 feet from the coast to a point on the southern City boundary approximately 1,000 feet east of Sepulveda Boulevard. To the west of this ridge, the soil is fine dune sand and the topography is hilly. To the east of the ridge, the soil is sandy loam and the land is flat to gently sloping.

The Los Angeles County Department of Public Works (LACDPW) Hydrology and Sedimentation Appendix provides information on the soil characteristics within Los Angeles County. This document shows that the fine dune sand located west of the aforementioned ridge is Oakley fine sand (Soil Type 10). The sandy loam east of the aforementioned ridge is Chino Silt Loam (Soil Type 3) and Ramona Sandy Loam (Soil Type 14). The soil classification locations are illustrated on Figure 3-2.



**AKM**  
 PROJECT NO: 1640901.10  
 DATE: September 2009

**CITY OF MANHATTAN BEACH  
 WASTEWATER MASTER PLAN**  
**Regional Location Map**  
 Figure 3-1



City of  
El Segundo

City of  
Hawthorne

Pacific Ocean

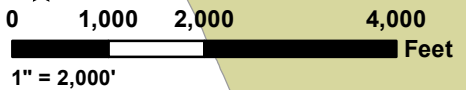
City of  
Hermosa  
Beach



City of  
Redondo  
Beach

**Legend**

**Soil Type**

- Oakley Fine Sand (Soil Type 10)
- Chino Silt Loam (Soil Type 3)
- Ramona Sandy Loam (Soil Type 14)
- Montezuma Clay Adobe (Soil Type 9)

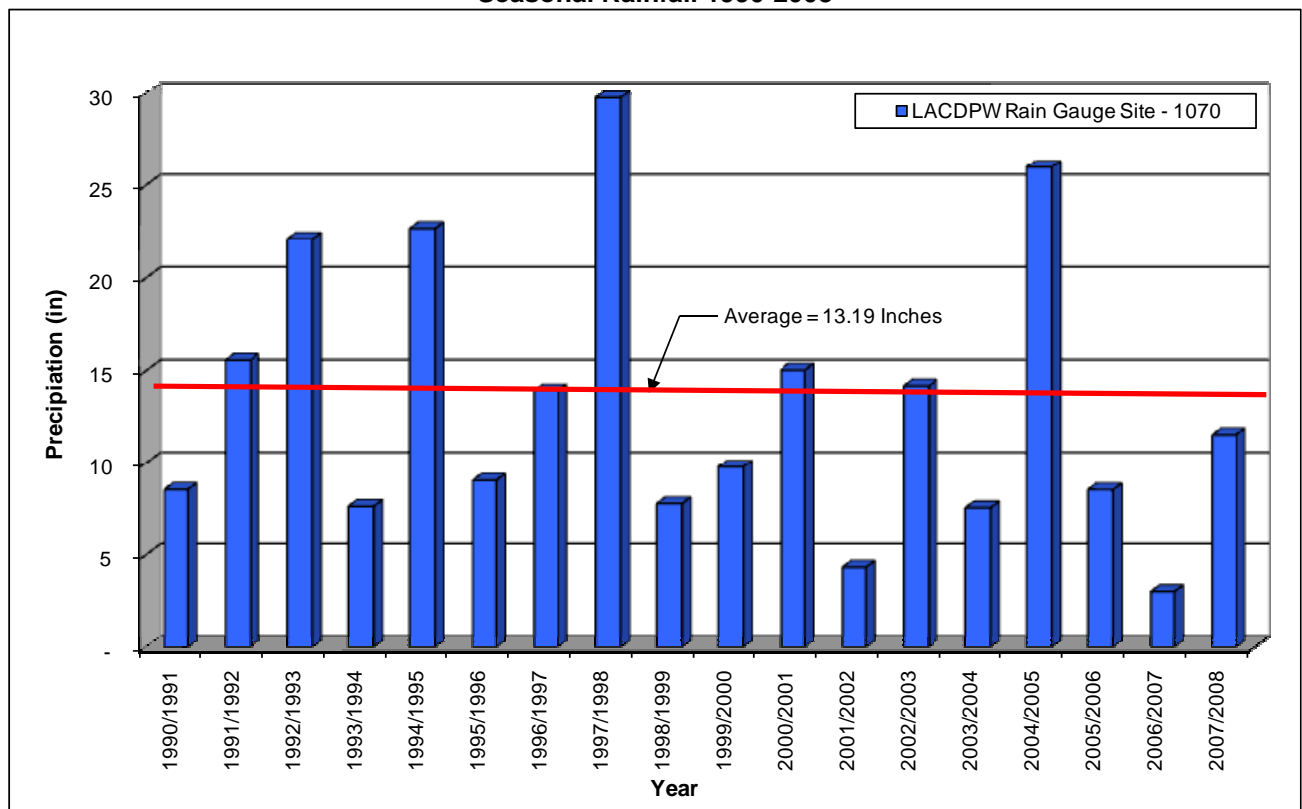


		<p><b>CITY OF MANHATTAN BEACH WASTEWATER MASTER PLAN</b></p>
<p>PROJECT NO: 1640901.10</p> <p>DATE: September 2009</p>		<p><b>Soils Map</b></p>
<p>Figure 3-2</p>		

### 3-4 CLIMATE

The study area has a Mediterranean climate, enjoying plenty of sunshine throughout the year, with an average of 263 sunshine days and only 35 days with measurable precipitation annually. The period of April through November is warm to hot and dry with average high temperatures of 71 - 79°F and lows of 50 - 62°F. Due to the moderating effect of the ocean, temperatures are cooler than the inland areas of Los Angeles, where temperatures frequently exceed 90°F. The coolest months are typically December and January with an average minimum temperature of 48° F. The seasonal rainfall for the City between 1990 and 2008 are illustrated on Figure 3-3 (LACDPW Rain Gauge Site 1070, Los Angeles County Hydrology Department). The average annual rainfall of about 13.19 inches occurs primarily during the winter months, between November and March.

**Figure 3-3**  
**Seasonal Rainfall 1990-2008**



### 3-5 LAND USE

The land use information utilized in the preparation of this Master Plan is obtained from the City's 2003 General Plan land use shapefile (GENPLAN). This information was supplemented by aerial photographs, field reviews, and information provided by City staff.

The City is a well planned urban community with a balance of residential, commercial, and industrial land uses. The primary land use is residential (1,422 net acres or 70.5 %). The total study area includes approximately 2,017 net acres.

According to the 2008 California Department of Finance, the total number of housing units within the City is estimated at 15,580 with a 3.72 percent vacancy rate.

Table 3-1 provides a summary of the existing land uses within Manhattan Beach. Figure 3-4 illustrates the locations of these land uses.

**Table 3-1  
Existing Land Uses**

Land Use	Net Area (Ac)	Percentage
Low Density Residential	1,122.5	55.7%
Medium Density Residential	148.5	7.4%
High Density Residential	150.9	7.5%
<b>Total Residential</b>	<b>1,422.0</b>	<b>70.5%</b>
General Commercial	87.7	4.3%
Downtown Commercial	13.8	0.7%
Local Commercial	12.4	0.6%
Mixed-Use Commercial	3.5	0.2%
Manhattan Village Commercial	102.4	5.1%
North End Commercial	7.6	0.4%
<b>Total Commercial</b>	<b>227.3</b>	<b>11.3%</b>
Industrial	72.6	3.6%
Parks and Open Space	152.3	7.6%
Public Facilities	142.6	7.1%
<b>Total</b>	<b>2,016.7</b>	<b>100.0%</b>

### Residential Land Uses

Low density residential uses provide for single-family residences within a density range of 1.0 to 16.1 units per acre. Typically, the units are detached homes on individual lots.

Medium density residential uses allow for single-family homes, duplexes, and triplexes, including condominiums. Multiple family housing with four or more units may also be permitted. Densities range from 11.6 to 32.3 units per acre.

High density residential uses allow for all types of housing, including apartments, condominiums, and senior housing. Densities can reach up to 51.3 units per acre.

Other permitted uses in residential area include parks and recreation facilities, public and private schools, public safety facilities, and facilities for religious assembly.

The maximum density allowed within each residential use category varies citywide, based on historic development patterns and street configurations. The City has established four districts with various maximum permitted residential densities.

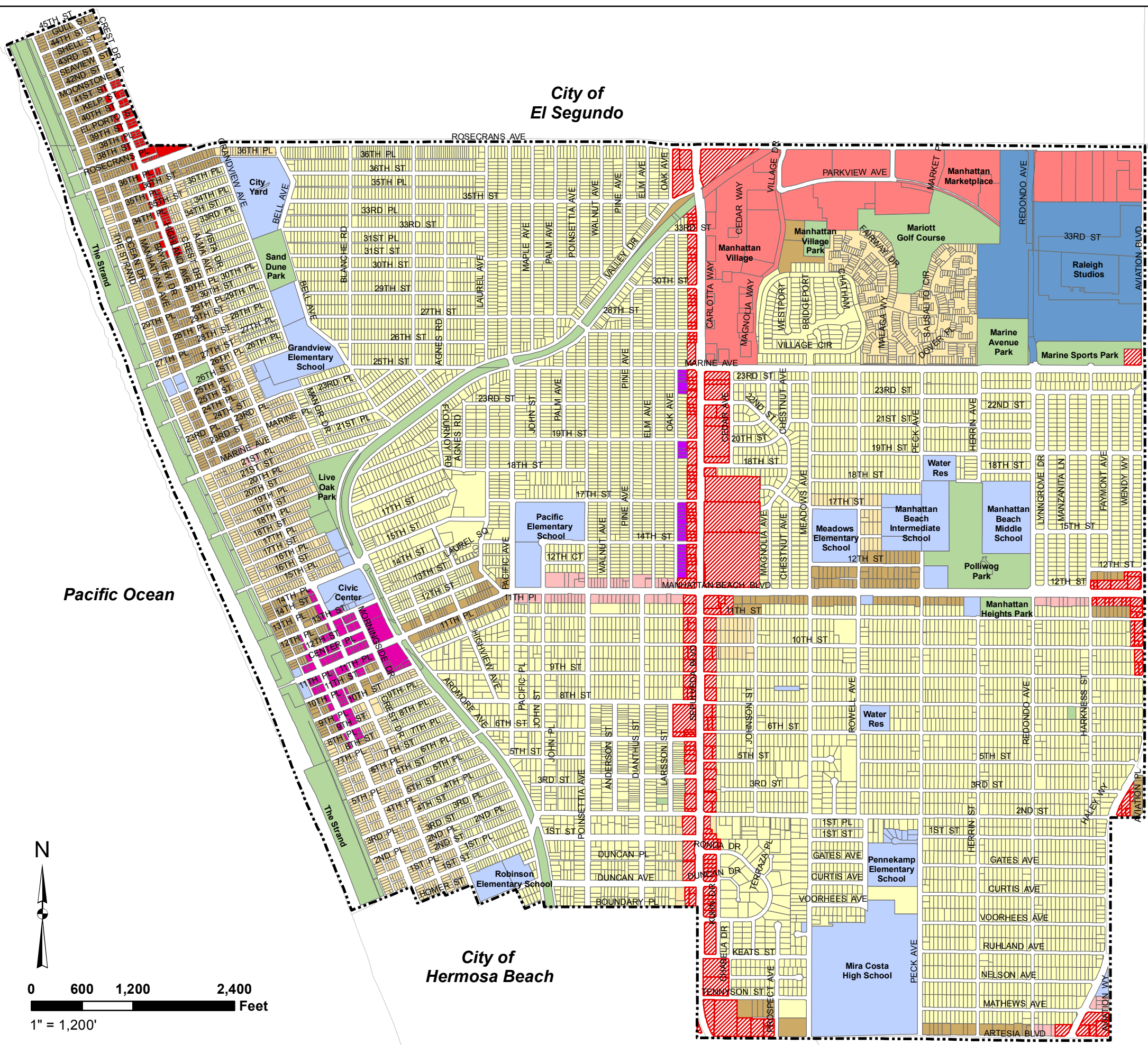
**City of  
El Segundo**

**City of  
Hawthorne**

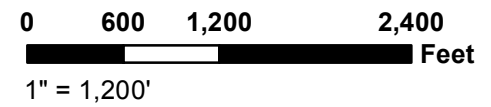
**City of  
Redondo Beach**

**City of  
Hermosa Beach**

Legend	
	City Boundary
	Low Density Residential
	Medium Density Residential
	High Density Residential
	Downtown Commercial
	Local Commercial
	General Commercial
	North End Commercial
	Manhattan Village
	Mixed-Use Commercial
	Industrial
	Parks / Open Space
	Public Facilities



**Pacific Ocean**



		<b>CITY OF MANHATTAN BEACH WASTEWATER MASTER PLAN</b>
	PROJECT NO: 1640901.10 DATE: September 2009	<b>Land Use Map</b> Figure 3-4

The district boundaries are illustrated on Figure 3-5. The residential density requirements of each district are shown in Table 3-2.

**Table 3-2**  
**Residential Density Requirements by District**

District Number	Density	Low Density	Medium Density	High Density
1	Maximum Density (du/ac)	5.8	11.6	43.6
	Population Density (persons/ac)	11	18	85
2	Maximum Density (du/ac)	9.5	18.9	43.6
	Population Density (persons/ac)	16	35	75
3	Maximum Density (du/ac)	16.1	32.3	51.3
	Population Density (persons/ac)	29	46	85
4	Maximum Density (du/ac)	NA	NA	51
	Population Density (persons/ac)	NA	NA	120

**District 1** is bounded by Manhattan Beach Boulevard to the north, Aviation Boulevard and Aviation Way to the east, Artesia Boulevard and Boundary Place to the south, and Ardmore Avenue to the west. It includes areas referred to as the Hill Section and the Eastside south of Manhattan Beach Boulevard.

**District 2** covers the area south of Rosecrans Avenue, west of Aviation Boulevard, north of Manhattan Beach Boulevard, and east of Valley Drive and Bell Avenue. It includes the areas referred to as the Tree Section, Manhattan Village, and the Eastside north of Manhattan Beach Boulevard.

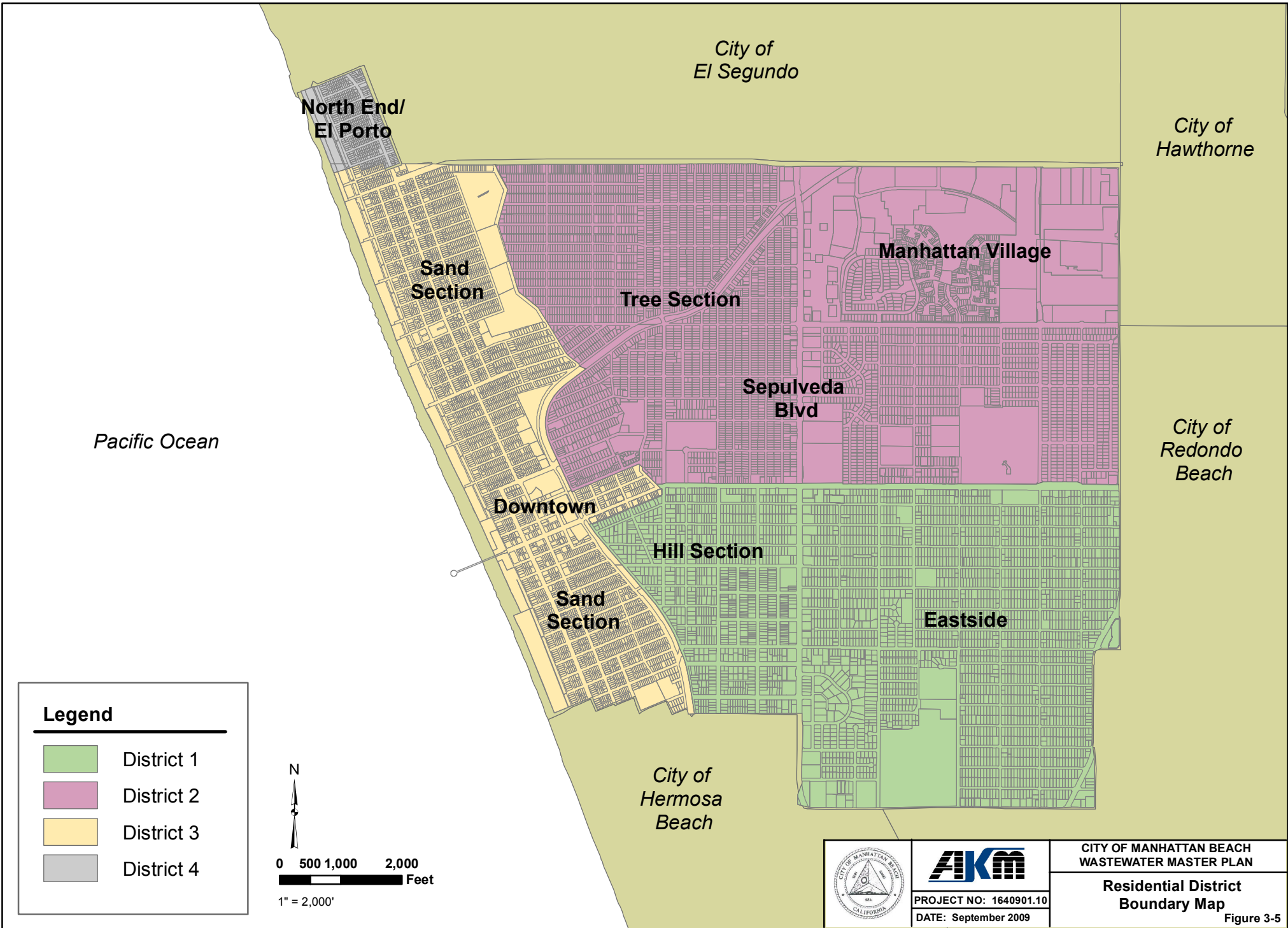
**District 3** is bounded by Rosecrans Avenue and Rosecrans Place to the north, Bell Avenue, Valley Drive, Laurel Avenue, and Ardmore Avenue to the east, Francisco Street and Homer Street to the south, and the Pacific Ocean to the west. It includes the areas referred to as the Sand Section, Downtown Manhattan Beach, the Grandview area, a portion of the Tree Section and Hill Section, and parts of the North End.

**District 4** covers the area south of 45<sup>th</sup> Street, west of Crest Drive, north of Rosecrans Place, and east of the Pacific Ocean. It includes the area referred to as the El Porto Section of the North End.

### Commercial Uses

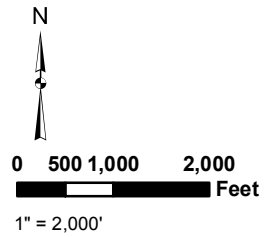
The City has six (6) different commercial land use categories, which were established to meet the needs of residents while preserving the unique characteristics of Manhattan Beach. The City's commercial land uses include General Commercial, Downtown Commercial, Local Commercial, Mixed-use Commercial, Manhattan Village Commercial and North End Commercial. Commercial land uses are located primarily along Manhattan Beach Boulevard, Sepulveda Boulevard, the Downtown area, Manhattan Village, and the Northwest corner of the City along Highland Avenue.

General Commercial land use permits retail, service commercial, and professional office uses aimed at meeting the needs of local residents and businesses, and to provide goods and services for the regional market. The maximum floor area factor (FAF) allowed is 1.5.



**Legend**

- District 1
- District 2
- District 3
- District 4



**AKM**  
 PROJECT NO: 1640901.10  
 DATE: September 2009

CITY OF MANHATTAN BEACH  
 WASTEWATER MASTER PLAN  
**Residential District  
 Boundary Map**  
 Figure 3-5



Downtown Commercial land use applies to the commercial area surrounding the intersection of Manhattan Beach Boulevard and Highland Avenue. The downtown commercial land use attracts businesses that provide goods and services to primarily beach visitors. Commercial and residential land uses may be mixed at a maximum FAF for commercial development of 1.5, and a maximum residential density is 51.3 units per acre.

Local Commercial land use permits businesses, which serve the local community. The maximum FAF allowed is 1.5.

Mixed-Use Commercial land use provides parking for the heavy commercial uses along Sepulveda Boulevard, while protecting the privacy of the residents in nearby homes. The maximum FAF allowed is 1.0.

Manhattan Village Commercial land use consists of primarily shopping facilities, department and specialty stores, and entertainment and restaurant establishments. The maximum FAF allowed is 1.5.

Located along Highland Avenue between 33<sup>rd</sup> and 42<sup>nd</sup> Street, the North End Commercial land use provides neighborhood-serving establishments. The maximum FAF allowed is 1.5.

#### Industrial Uses

Industrial land uses are located in the northeast corner of the City and provide for low-intensity warehousing and distribution, research and development, and other specialized industrial uses. The industrial uses primarily consist of the Northrop Grumman and Raleigh Studios, which are located west of Aviation Boulevard between Rosecrans Avenue and Marine Avenue. The maximum FAF allowed is 1.5.

#### Parks and Open Space

Parks and Open Space land use includes the public parks, Veterans Parkway, the Beach and Strand.

#### Public Facilities

Public Facilities land use is designated for uses, which benefit the public. Public Schools, government offices, libraries, cultural centers, and neighborhood community centers are all included under this land use designation.

### **3-6 POPULATION**

Since its incorporation in 1912, the City of Manhattan Beach has grown from a population of 600 to 36,718 in 2009 (California Department of Finance, Demographic Research Unit). The City's population history is illustrated on Figure 3-6

With the total number of housing units at approximately 15,580 and a 3.72 percent vacancy rate, the population per household is estimated to be 2.45 (California Department of Finance, Demographic Research Unit).

**Figure 3-6  
City of Manhattan Beach Population History**

