

CALIFORNIA AMERICAN WATER

NORTHERN DIVISION

URBAN WATER MANAGEMENT

PLAN

FINAL

2006 - 2010

CALIFORNIA AMERICAN WATER
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Chula Vista, CA 91910

NORTHERN DIVISION
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P. O. Box 15468
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3/22/07

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Final

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I. INTRODUCTION

This report has been prepared in compliance with the Urban Water Management Planning Act, as amended.¹ The Act requires urban water suppliers to prepare plans that describe and evaluate reasonable and practical efficient water uses, water recycling, and conservation activities. This report updates the previous *Urban Water Management Plans* for the Northern Division, which was prepared in February 1996 and December 2000 by the Citizens Utilities Company of California.² The California-American Water Company (Cal-Am) purchased the Citizens Utilities system in 2002.

This *Urban Water Management Plan* has been prepared for the Northern Division of the California-American Water Company under the terms of AB 797 (1983) and subsequent amending legislation. It incorporates the water conservation initiatives that the Division has adopted under the terms of the *Memorandum of Understanding Regarding Urban Water Conservation in California*, to which the company is a signatory. This Plan also includes a *Water Shortage Contingency Plan* as required under the provisions of AB 11X of (1991) and addresses changes required by subsequent legislation including AB 892 (1993), SB 1017 (1994), AB 2853 (1994), SB 901 (1995), SB 610 (2001), SB 221 (2001) and AB 105 (2004).

The Plan will be filed with the Office of Water Use Efficiency in the Department of Water Resources, the California Public Utilities Commission, the California State Library, the Sacramento Regional Water Authority, Sacramento County and the incorporated cities within Sacramento County where Cal-Am has customers. A public hearing has been held in Sacramento to provide an opportunity for public comment prior to final adoption.

¹California Water Code, Division 6, Part 2.6; §10610, et. seq. Established by Assembly Bill 797 (1983).

²Citizens Utilities Company of California, Brown and Caldwell, *Urban Water Management Plan*, December 2000, 6 chapters.

II. PUBLIC PARTICIPATION AND INTERAGENCY COORDINATION

A. PUBLIC PARTICIPATION

The Northern Division provided a notice of preparation of this Urban Water Management Plan to all customers through a printed message on their water bills in the summer of 2005. In November, 2005 the Northern Division convened a public hearing at its office in Sacramento to receive comments on the Plan prior to its final adoption by the Company and submittal to the California Department of Water Resources.

B. INTERAGENCY COORDINATION

As a public utility, Cal-Am is regulated by the California Public Utilities Commission. Locally, the Northern Division is a participant in regional water planning initiatives such as the Regional Water Authority's water planning and water efficiency programs, the Sacramento Groundwater Authority Groundwater Management Plan, the Central Sacramento County Groundwater Forum, and other efforts. In conjunction with the preparation of this Urban Water Management Plan, both formal and informal contact was made with a number of agencies including those noted in Table 1, below.

TABLE 1
COORDINATION AND PUBLIC INVOLVEMENT

Agency	Sent a Notice of Preparation	Contacted for Assistance	Sent a copy of the Draft Plan	Sent Notice of Intention to Adopt
CPUC	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Sacramento	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sacramento County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Placer County	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Placer County Water Agency	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Rancho Cordova	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sacramento City/County Office of Water Planning	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Regional Water Authority	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
San Juan Water District		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Sacramento Water Forum		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Golden State Water (Company)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fair oaks Water District		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Folsom		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Citrus Heights Water District		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
City of Roseville		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
El Dorado Irrigation District		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
SAC Suburban Water District		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rio Linda/Elverta Community District		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

III. DESCRIPTION OF THE NORTHERN DIVISION

A. THE CALIFORNIA-AMERICAN WATER COMPANY

The California-American Water Company (Cal-Am) is a public utility company, operated as a subsidiary of American Water Works Company (AW or American Water), and headquartered in Voorhees, New Jersey. American Water, in turn, was acquired by RWE, Thames Water Holdings GmbH in 2003. Cal-Am was incorporated under California law in 1966 when American Water acquired the water system from California Water and Telephone. The Company operates seven separate water systems in California, which are, from north to south, Sacramento, Larkfield, Felton, Monterey, Village, Los Angeles (comprising systems in Baldwin Hills, San Marino and Duarte), and Coronado. The water systems are operated by three Division Offices: Northern Division, Central Division, and Southern Division. The Sacramento, Larkfield and Felton systems were acquired by the Company in January 2002, when Cal-Am purchased all of the assets of the Citizen’s Utilities Company of California. American Water provides many of the senior management, financial, operations, personnel and customer services for Cal-Am from the corporate office in Voorhees, NJ and an administrative office in Chula Vista, CA. Water quality testing and research is undertaken at the AW laboratory in Belleville, IL.

The operations of the California-American Water Company in California are regulated by the California Public Utilities Commission (PUC). The

Acronyms and Abbreviations Used In This Report

AF/yr. or AFY - Acre Feet per Year
AW - American Water
BMP - Best Management Practice
Cal-Am – California American Water
ccf unit -A billing unit of 100 cubic feet or 748 gallons
CIMIS – California Irrigation Management Information System
DMM- Demand Management Measure
PUC - California Public Utilities Commission
CUWCC - Calif. Urban Water Conservation Council
Eto – Evapo-transpiration rate
gpcpd - gallons per capita per day
gpd - gallons per day
gpm - gallons per minute
GAC – Granulated Activated Charcoal
mg - million gallons
mgd - million gallons per day
MOU - Memorandum of Understanding
POU – Place of Use
PRSV – Pre-rinse Spray Valve
UWMP - Urban Water Management Plan

Company must comply with the rules, regulations and decisions of the PUC.

B. DIVISION LOCATION AND SIZE

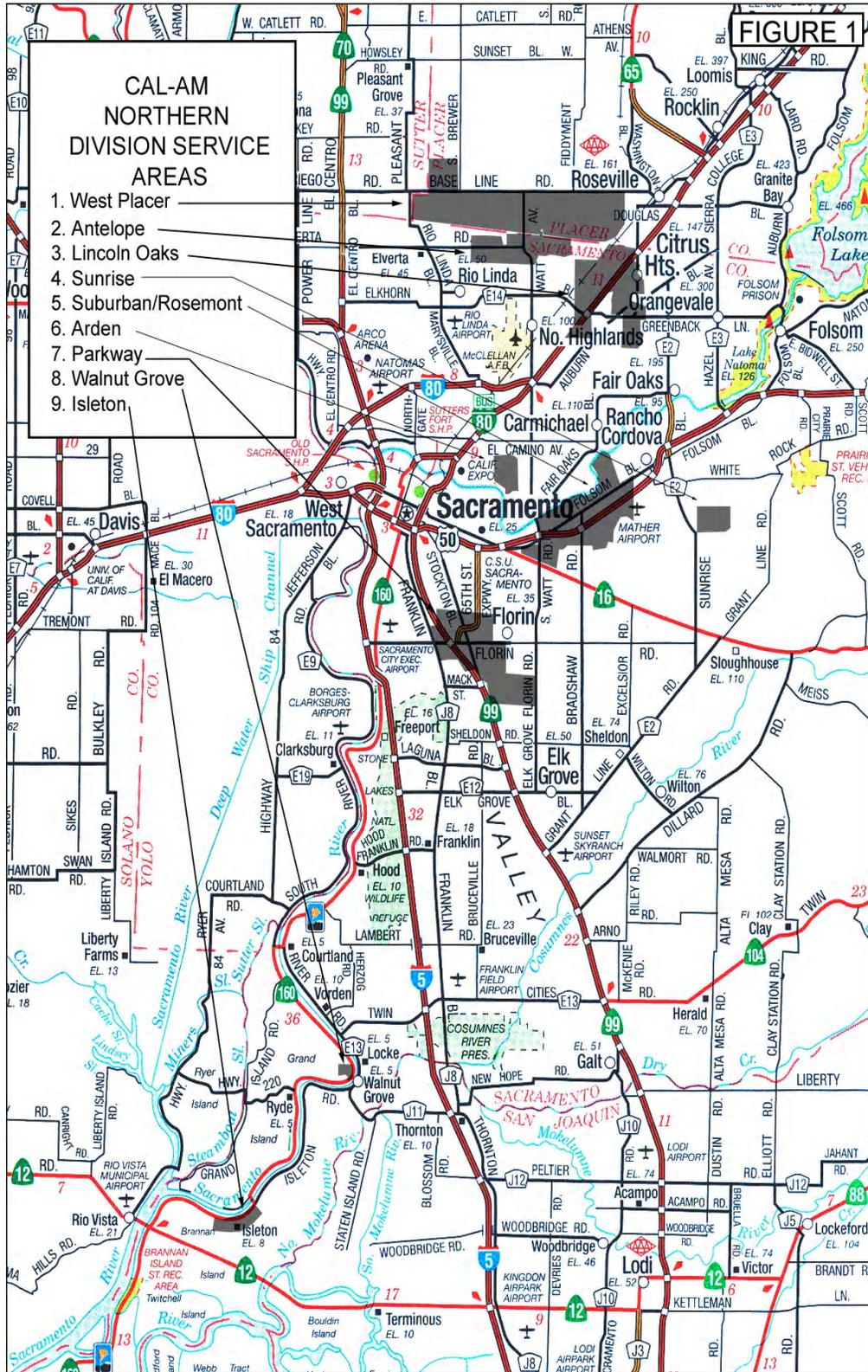
The Northern Division consists of ten distinct operating service areas, forming one operational entity that is the largest private water operation in Sacramento County with a total of about 57,000 connections serving an estimated 171,000 people. The smallest two of the ten systems, Isleton and Walnut Grove, serve two small Delta communities along the Sacramento River in the southwestern part of the County. Seven of the remaining eight systems are located in an area about 25 miles long and 12 miles wide in the more urbanized northern part of the County, extending into Placer County in one area. The individual systems are not all contiguous and are surrounded by numerous other utilities. The nine systems that comprise the Sacramento County¹ portion of the Northern Division include: Antelope, Arden, Lincoln Oaks, Parkway, Suburban/Rosemont, Security Park (Sunrise²), West Placer, Isleton and Walnut Grove. See Figure 1.

The remaining water system, serving the community of Larkfield in Sonoma County, is managed from the Sacramento office. It is regulated separately by the California PUC, and is not addressed in this report due to its small size.

Sacramento is near the geographical center of the Central Valley of California. The Central Valley is surrounded by mountains to the east (Sierra Nevada), west (Coastal Range) and north (Klamath Mountains), which form the north-south orientation of the valley. It is this orientation that creates the prevailing wind direction from the south in summer and from the north in winter. The Sacramento Operations are also near the confluence of two major rivers, the Sacramento and the American, which drain much of northern California. The Sacramento flows south from Shasta Lake and the American River flows west from Folsom Lake.

¹ The Suburban and Rosemont systems have separate operating permits from the California Department of Health Services (CDHS), however they share a common boarder and although inter tied, are normally operated separately. For purposes of the report, however, they are treated as one.

² The Security Park system is also known as Sunrise and occasionally in this report it is so referenced.



C. CLIMATE

The climate of the Sacramento area is characterized by hot, dry summers and cool, rainy winters. The mean maximum temperature in Sacramento is 91.5° F in July and the mean minimum is 60°. The Sacramento climate is arid with rainfall occurring primarily from November through March, and averaging 18.6 inches per year since 1877. Although snowfall is rare, freezing temperatures can occur in January and February. In the past three decades, Sacramento has experienced two declared droughts, alternating with two periods of record high rainfalls. A drought occurred from 1975 to 1977 when an average of 7.5 inches of rain fell per year. In February 1986, heavy precipitation throughout the month caused severe flooding of agricultural as well as urban areas, and threatened several reaches of the levee system that contains the Sacramento and American Rivers. A drought followed this rainfall, lasting from 1986 to 1992. In both January and March 1995, heavy rains fell causing severe localized flooding in Sacramento. Significant portions of Sacramento County are protected by levees. A levee failure could cause widespread flooding, particularly in Isleton, Walnut Grove and portions of the Parkway, Suburban/Rosemont, Antelope and West Placer systems.

Long-term average climate data for the Sacramento Area is presented in Table 2. As indicated, the average annual maximum temperature is 73°, with maximum monthly averages ranging from 53.3° in January to a high of 91.5° in July. There is very little rainfall between June and October. The evapo-transpiration rate is high during the hot, dry summer months, and the demand for irrigation water increases accordingly.

D. DIVISION SERVICE AREAS

1. BACKGROUND

The Northern Division's constituent systems were assembled over a period of years beginning in 1928 when Citizens Utilities acquired the North Sacramento Light and Water Company. In 1956, Citizens purchased water systems from Parkway Water Company, S. and J. Holmes, and the Rosemont Development Company and combined them as a subsidiary, Citizens Suburban Company. In 1957, water system properties in northeastern Sacramento County were purchased by the Royal Oaks and Lincoln Oaks Water Companies. In 1961, the Fremont Valley Water

Division Description

Company purchased systems in the City of Isleton and later incorporated as the Isleton Water Company. Then, in June 1965, Citizens Suburban, Parkway Water Company, Royal Oaks Water Company, Lincoln Oaks Water Company and Isleton Water Company were purchased and merged to form the Northern Division of the Citizens Utilities Company. Subsequently, the various water systems were joined and renamed to those in use today. In the early, 1990's Citizens purchased the Walnut Grove system. Finally, in January 2002, American Water Company purchased the all of the Citizens Utilities systems in Northern California. The systems in the Sacramento County area are managed as the Northern Division of the California-American Water Company. Joint Administration and Operations with facilities headquartered at 4701 Beloit Drive.

TABLE 2 SACRAMENTO CLIMATE DATA							
	January	February	March	April	May	June	July
Standard Average Eto (in./mo.)	1.59	2.20	3.66	5.08	6.83	7.80	8.67
Average Rainfall (in.)	3.69	3.21	2.64	1.40	0.62	0.15	0.01
Average Max. Temperature (°F)	53.3°	59.6°	64.8°	71.1°	78.1°	85.8°	91.5°
	August	September	October	November	December	Annual	
Standard Average ETo	7.81	5.67	4.03	2.13	1.59	57.06	
Average Rainfall	0.03	0.31	0.93	2.02	3.14	18.15	
Average Max. Temperature	90.4°	86.2°	76.7°	64.0°	54.0°	73.0°	
Eto (Evapo-transpiration) rates in inches/month from California Irrigation Management System (CIMIS) Data for Station 131 in Fair Oaks.							
Rainfall and temperature data from Western Regional Climate Center; 1890-2004							

2. SERVICE AREAS

West Placer. The West Placer service area (PWS # 3110150) is located in Placer County immediately north of the Sacramento County line (and Cal-Am's Antelope system). It extends from the Roseville City limits on the east to the Sutter county line on the west. Most of the service area lies south of Base Line Road. Cal-Am has a franchise agreement to supply water to this area as it develops in future years. Water for the West Placer service area will be purchased wholesale from the Placer County Water Agency, which utilizes surface water sources. The first development is occurring within the boundaries of Community Facilities District 2001-01. Developers are building much of the water infrastructure through Line Extension Agreements and by special facilities fees paid by the developers for installation of General Facilities. One such project is a 2 million gallon storage tank (Walerga Storage Tank) and booster pumping station to provide for peak demand and augment fire protection for the initial phases of development. Currently, Cal-Am serves less than 1,000 customers in the West Placer franchise area, but the number of connections will grow to as many as 18,000-22,000 as the area builds out. For emergency back-up and redundancy, the West Placer system has an intertie with Cal-Am's Antelope system. The West Placer service area is shown on Figure 2.

Antelope. The Antelope service area (PWS # 3410031) is located north of Antelope Road, extending generally two miles east and west of Watt Avenue. Most of the service area lies within Sacramento County, although a few customers are in Placer County. The area historically includes five subsystems: Antelope Oaks, Dutch Haven, Highland Estates, North County Park and Sabre City, a mobile home community in Placer County. The Antelope service area is supplied by groundwater from 18 active wells and several standby wells. These wells account for about 16% of the Northern Division's total production. The Lawrence Links Golf Course, located in the center of this service area is not served by Cal-Am. Cal-Am has about 10,000 customers in the Antelope service area. The Antelope system has interties with the West Placer service area and with the Sacramento Suburban Water District, to the south. The Antelope service area is shown on Figure 3.

Lincoln Oaks. The Lincoln Oaks system (PWS # 3410013) serves much of the community of Citrus Heights, located east of I-80 about 12 miles northeast of downtown Sacramento, and about 2 miles east of the Division's Antelope service area. Lincoln Oaks also serves a number of post-1960 subdivisions located both east and west of I-80. The system consists of the Lincoln

Division Description

Oaks, Royal Oaks and Grand Oaks subsystems, which were once separate, but are now interconnected and combined to form the Lincoln Oaks system. Lincoln Oaks is supplied by groundwater from approximately 21 active wells, which account for about 21% of the Northern Division's total production. There are about 14,000 connections in the Lincoln Oaks service area. The Lincoln Oaks system has interties with the Citrus Heights Water District, City of Roseville and with the Sacramento Suburban Water District. The Lincoln Oaks service area is shown on Figure 4.

Security Park(Sunrise). Citizens Utilities purchased the Security Park system (PWs # 3410010) (also known as the Sunrise System) from McDonnell Douglas in the early 1980s. It consists of about 2.8 square miles located immediately north and east of Sunrise Boulevard and Douglas Avenue, a short distance east of Mather Airport. The area is mostly undeveloped, serving about 20 commercial customers. The system includes 1 active well. Discussions are underway regarding an intertie with the Sacramento County Water agency to provide a backup supply and to support future water service deliveries. The Security Park service area is located within the proposed Rio Del Oro Specific Plan (RDOSP) of the City of Rancho Cordova. As a part of the Specific Plan, the City is requiring that new developments install a "purple pipe" system for future recycled water systems. The City of Rancho Cordova has placed an emphasis on the use of recycled water for non-potable uses such as landscape irrigation, whenever feasible. Cal-Am will coordinate with the City and other interested stakeholders to discuss implementation of recycled water projects as applicable. The proposed change in land use as outlined in the RDOSP to allow for subdivisions combined with an active real estate market could see the addition of up to 2,000 connections in this service area. Security Park presently accounts for less than 0.1% of the Northern Division's production and sales. The Security Park service area is shown on Figure 5.

Arden. The Arden service area (PWS # 3410045) lies north and south of Arden Way, west of Fulton Avenue and east of the California State Exposition grounds and the Sacramento City limits (along Ethan Way). The Arden area is primarily multi-family residential and commercial, and is nearly built-out. The service area lies a short distance north of the American River and draws from the North Area Groundwater Basin. The area is supplied from five wells. Discussions are underway with the City of Sacramento regarding a wholesale water supply agreement to provide treated surface water from nearby transmission facilities. If an agreement can be negotiated that is acceptable to both parties and is approved by the CPUC, surface water

Division Description

could be used in future average and wet years as part of a regional conjunctive use programs as well as enhance system reliability. (See Chapter IV, below.) In all, Arden has about 1,300 connections and accounts for about 4.5% of the Northern Division's total production usage.

Suburban/Rosemont. This service area actually consists of two systems, the Suburban system (PWs #3410010) and the Rosemont system (PWs #3410034) which lie adjacent to each other spanning both sides of Highway 50 about 9 miles east of downtown Sacramento. This service area is south of the American River and north of Mather Airport. It serves part of the City of Rancho Cordova, and is primarily residential, although there are a number of commercial customers along Folsom Boulevard. There are about 17,000 customers in the Suburban/Rosemont area. It is supplied with water drawn from the Central Groundwater Basin via 8 wells serving the Rosemont sub-area and 20 wells serving the remainder of the Suburban area. Some wells, particularly those near the Mather Airport are threatened by contamination. Adjacent water purveyors have lost wells due to contamination and have pursued claims against the responsible parties. Groundwater contamination in this portion of the county is a regional issue in which the US EPA and Regional Board have taken the lead to require abatement and clean up from those responsible. Cal-Am has also aggressively pursued responsible parties for contingency/replacement water should facilities be impacted and agreements are in place for certain wells considered threatened. Discussions are underway with the City of Sacramento regarding a wholesale water supply agreement that could provide additional source of supply to the Suburban/Rosemont area as well as replacement supplies for wells that may be lost to groundwater contamination in the future. In all, the Suburban service area accounts for about 30% of the Northern Division's production. The Suburban/Rosemont service area is shown on Figure 7.

Parkway. The Parkway service area (PWS # 3410017) lies along Highway 99 generally south of the Sacramento City limits and north of the Elk Grove City limits. It extends as far west as Franklin Boulevard and as far East as Elk Grove-Florin Road. Citizens Utilities assembled the Parkway system between 1954 and 1967 from smaller systems serving various subdivisions. The area is served from 16 wells, drawing from the Central Sacramento Groundwater basin. Surface water is also available to the Parkway area through a contract with the City of Sacramento in the amount of up to 2,580 acre-feet per year. Cal-Am operates three treatment plants to remove iron and manganese from groundwater in this service area. The Parkway

Division Description

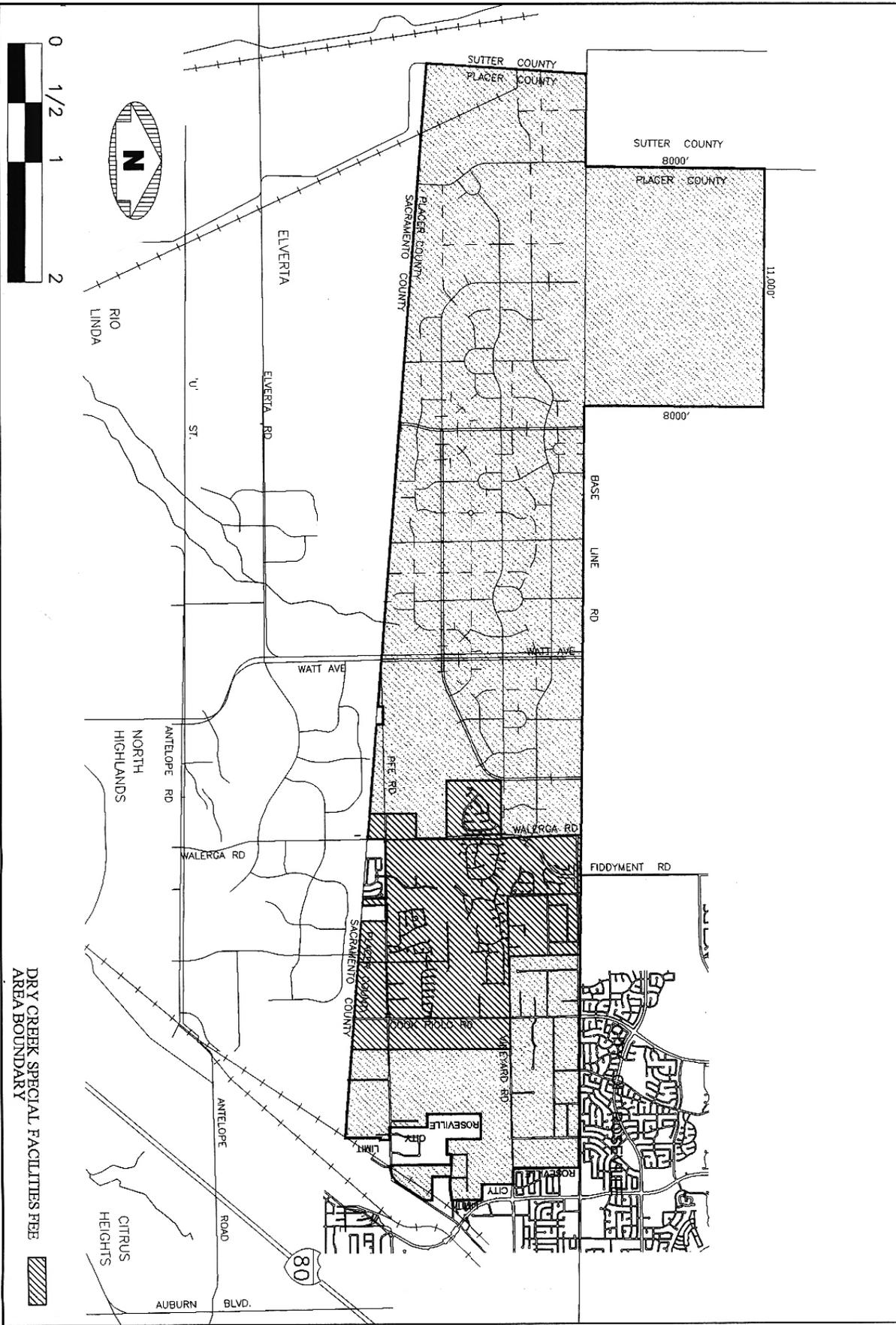
system has about 14,000 connections and accounts for about 28% of the Northern Division's production needs. The Parkway service area is shown on Figure 8.

Walnut Grove. Walnut Grove is a small Delta community, located along the Sacramento River, a few miles upstream of Isleton. The Walnut Grove water system was purchased by Citizens in the early 1990s, and consists of two wells. Walnut Grove is a very small community, with about 200 service connections, and requires only about 0.3% of the Northern Division's production. Walnut Grove is not expected to grow significantly in future years. The Walnut Grove service area is shown on Figure 9.

Isleton. The community of Isleton lies along the Sacramento River in the Delta area of south Sacramento County. The Isleton water system was started in 1871, using untreated Sacramento River Water. Citizens Utilities acquired the system in 1966. The town, with a population of less than 900 people, is served by two wells. Cal-Am has approximately 400 connections in Isleton, which requires only about 0.4% of the Northern Division's production. There are several new subdivisions and annexations planned in the service area which has the potential to significantly increase the size of the City. Cal-Am will require developers to construct the additional groundwater production, storage and booster station capacity required to service new water demands. The Isleton service area is shown on Figure 10.

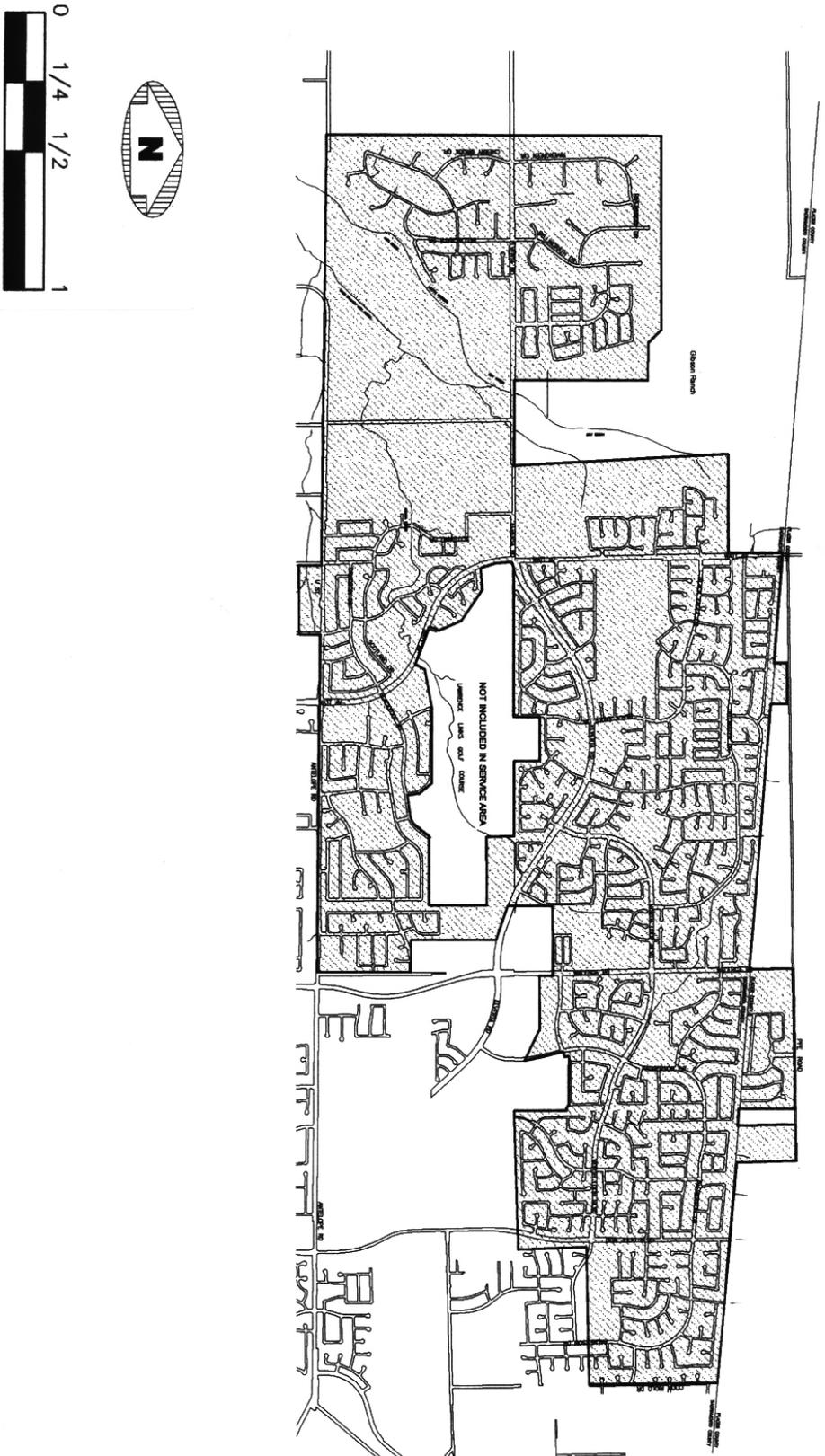
WEST PLACER SERVICE AREA

FIGURE 2



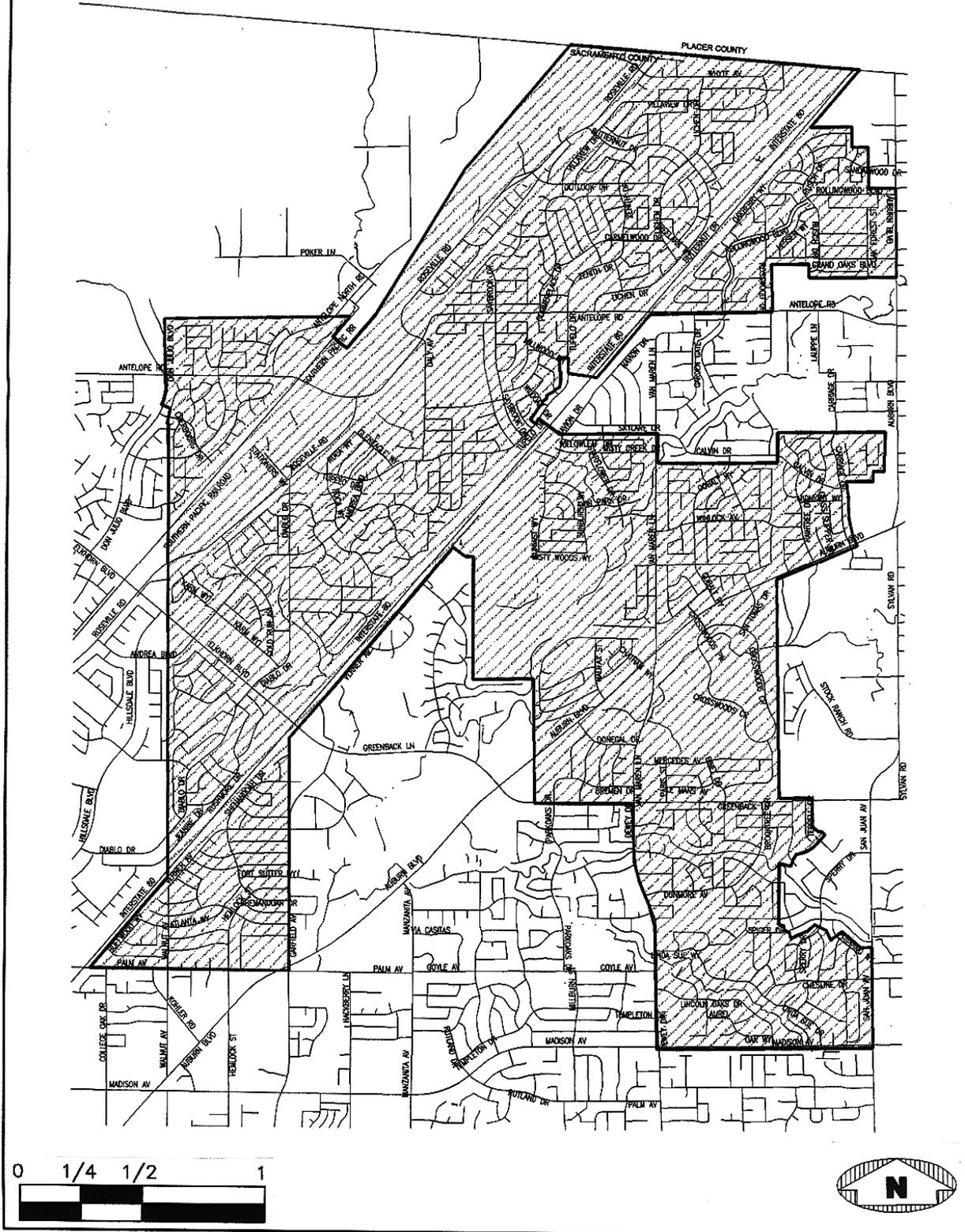
ANTELOPE SERVICE AREA

FIGURE 3



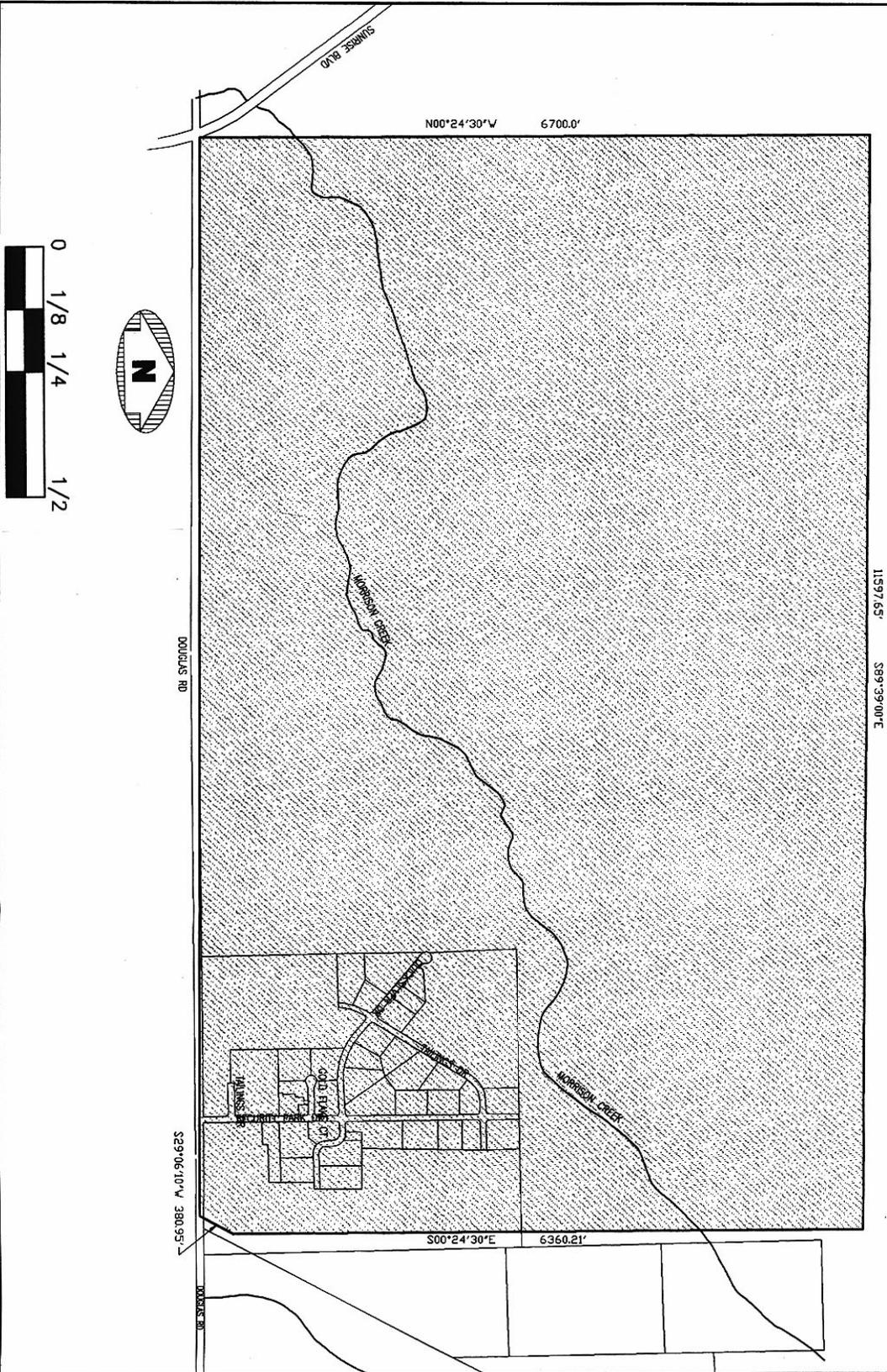
LINCOLN OAKS SERVICE AREA

FIGURE 4



SECURITY PARK SERVICE AREA

FIGURE 5



ARDEN SERVICE AREA

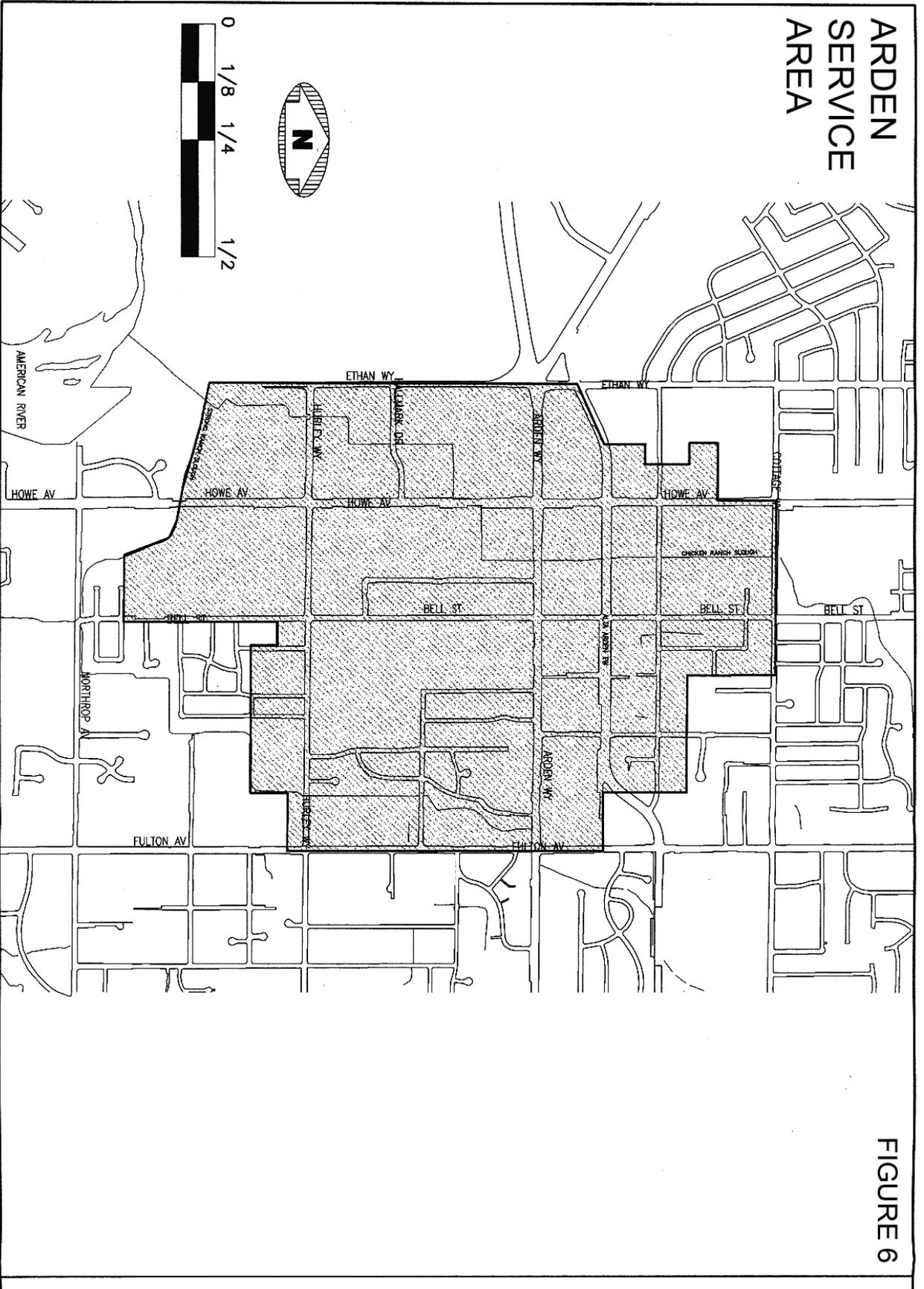


FIGURE 6

SUBURBAN/ROSEMONT
SERVICE AREA

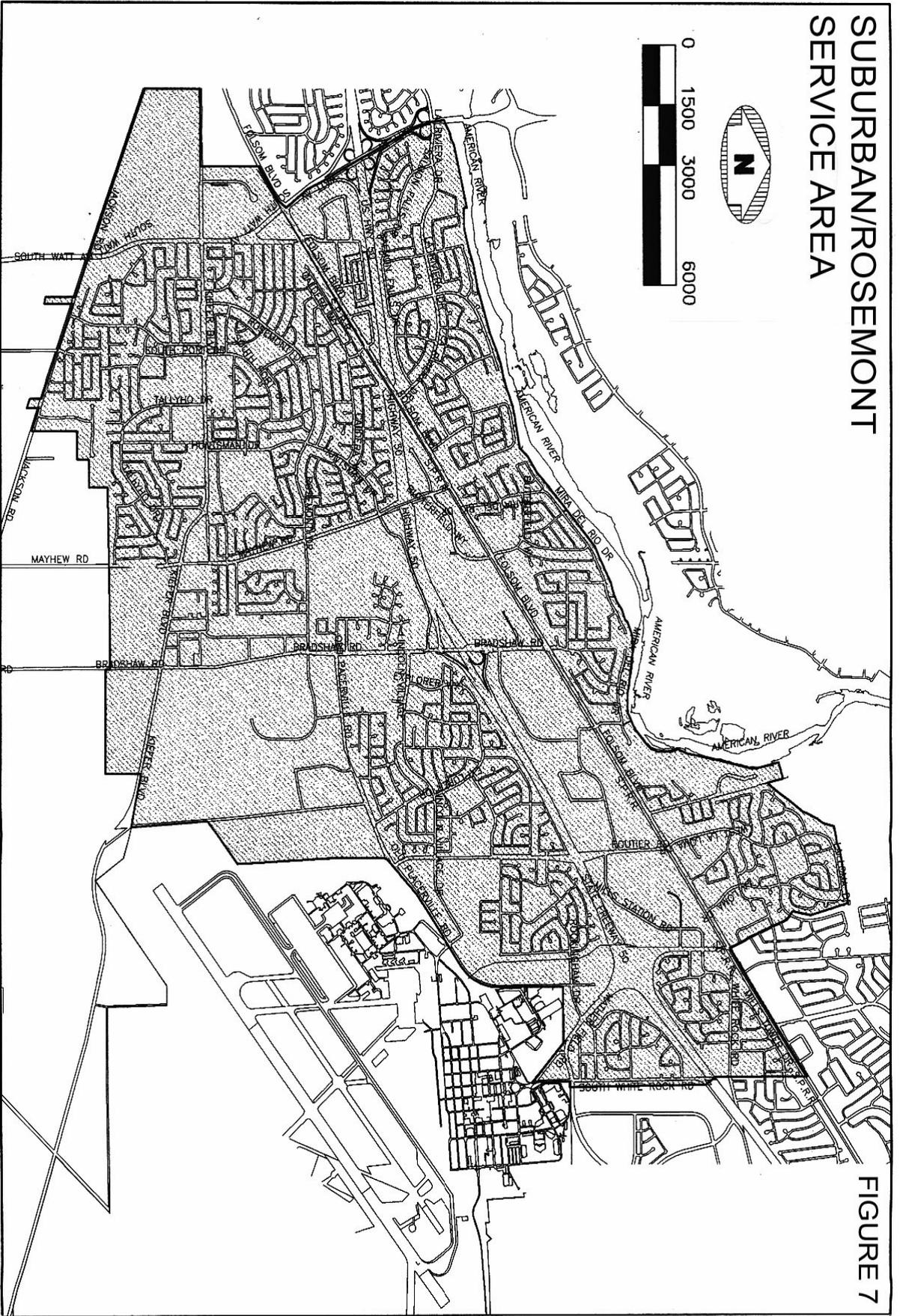


FIGURE 7

PARKWAY SERVICE AREA

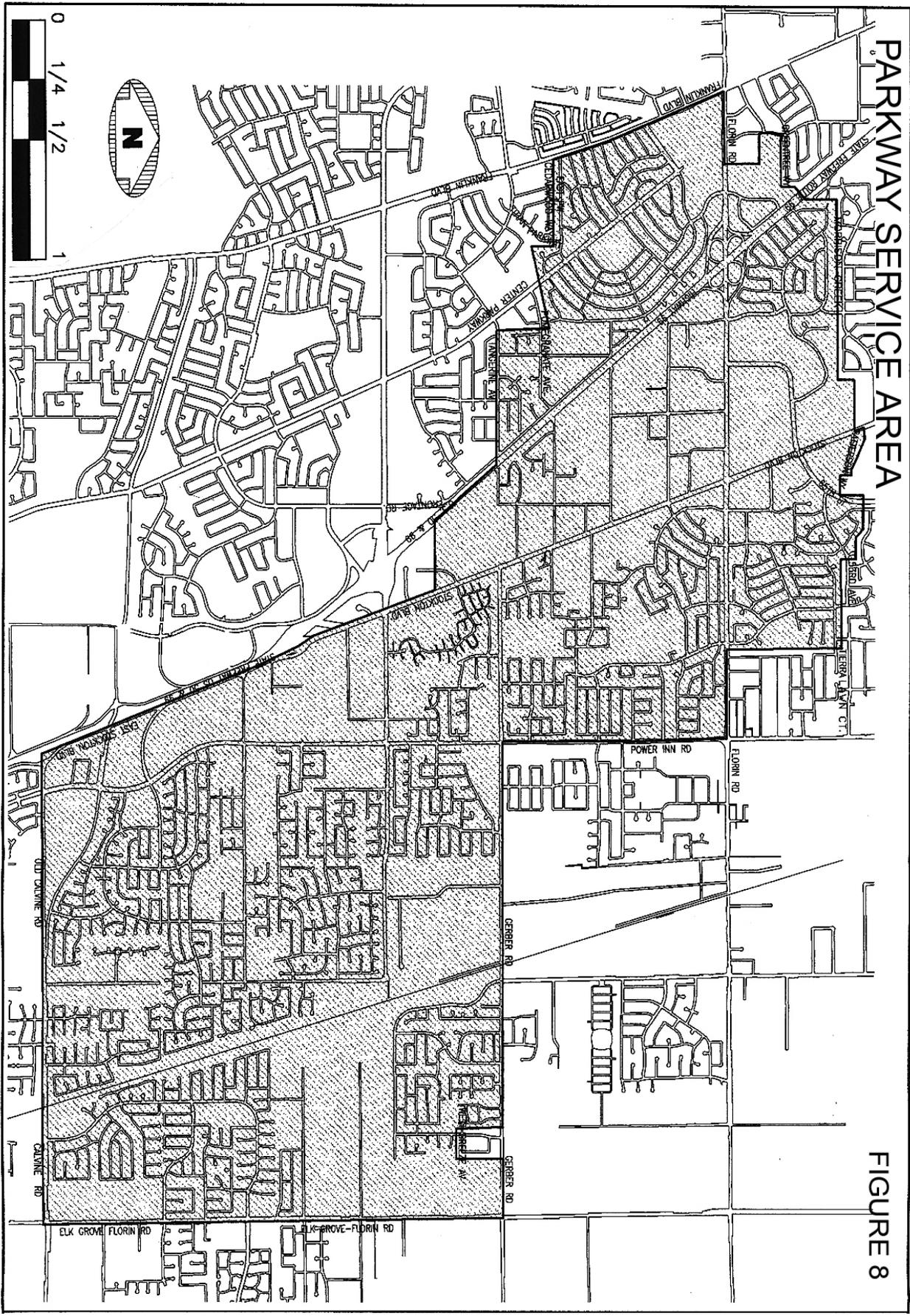


FIGURE 8

WALNUT GROVE SERVICE AREA

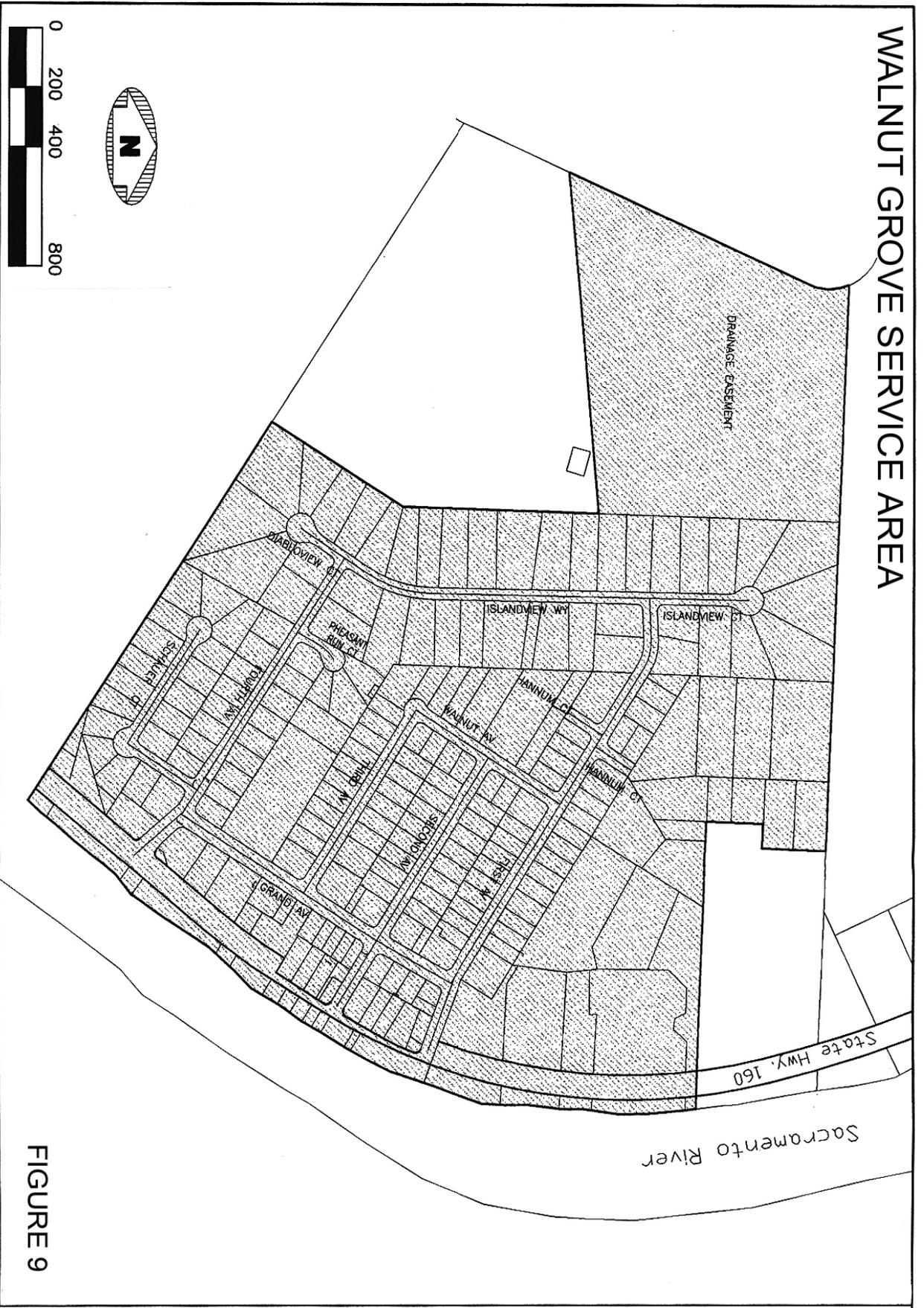


FIGURE 9

ISLETON SERVICE AREA

FIGURE 10

