

# **ATTACHMENT “A”**

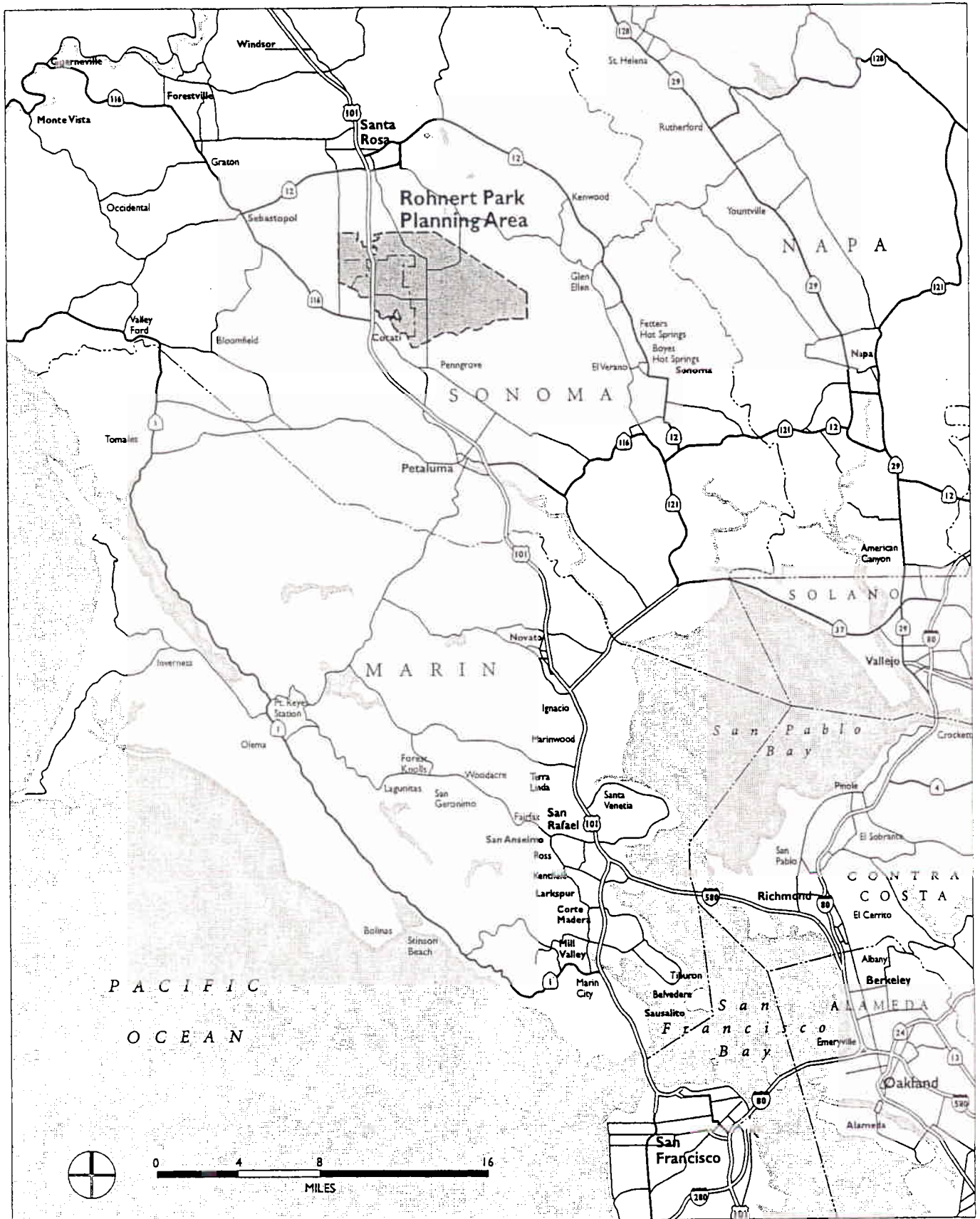


Figure 3.1-1  
Regional Location

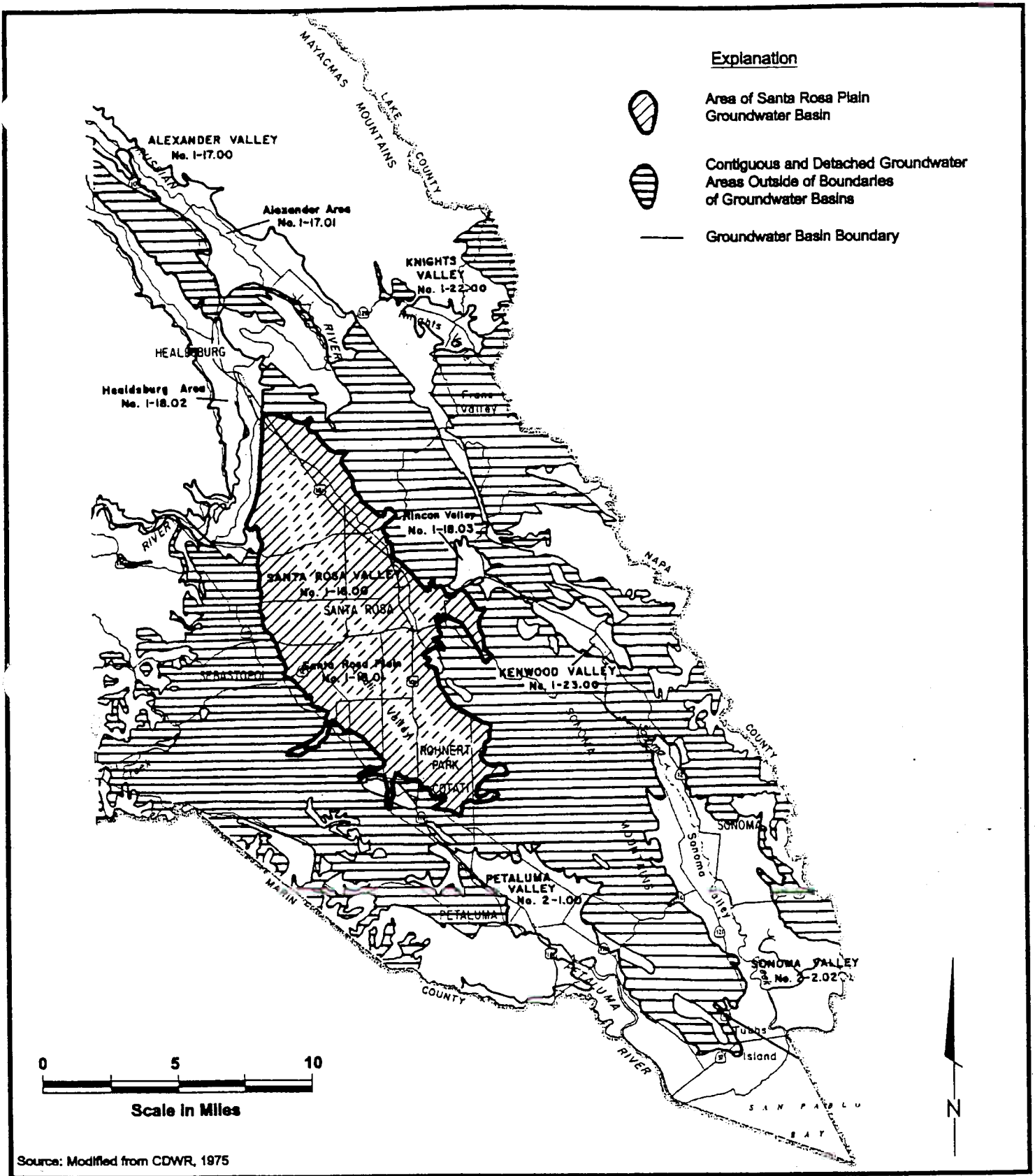


Figure 4.10-1  
Location Map  
Santa Rosa Plain  
Groundwater Basin

**ATTACHMENT “B”**



# **ATTACHMENT “C”**



Since at least 1966, it was less expensive for the City to pump groundwater as a source to supplement water-supply requirements, than to purchase water from the SCWA. However, over time, purchasing water from the SCWA became less expensive due to increased energy costs and capital and operation costs associated with maintaining a wellfield. Also, groundwater pumping has been affected by increasing well maintenance requirements. Hence, since the mid-1990s, the City has used additional SCWA water and relied less on their municipal wellfield; the excess well capacity serves as a back-up system in case of emergency situations or drought conditions. The annual average production rates for the City's municipal wellfield from 1970 through 1999 are shown graphically on Figure 4.10-2. The production rates range from an annual average of approximately 0.8 mgd in 1970 to 4.8 mgd in 1994.

Figure 4.10-2. Annual Average Rates of Recharge and Pumping  
MODFLOW Groundwater Simulations  
1970 through 1999



Sonoma County Water Agency


SCWA provides potable water to more than 500,000 people in Sonoma and Marin counties. Rohnert Park receives SCWA water from the Petaluma Aqueduct. The source of the aqueduct water is the Dry Creek watershed. Dry Creek water is captured behind Warm Springs Dam in Lake Sonoma. This water is released, and conveyed down Dry Creek to the Russian River, where it is then diverted into the SCWA basins.

- Compare estimated annual average recharge rates with requirements of the City's municipal wellfield in accordance with the schedule for the General Plan presented in Table 4.10-3.


### *Analysis of Impacts*

#### **Impact 4.10-a: Production of groundwater resources may result in the lowering of groundwater levels in the vicinity of the proposed Urban Growth Boundary. (Significant)**

Results of modeling simulations performed for 1952 and 1970 through 1999 indicate estimated annual average recharge rates within the model domain ranged from 0.66 mgd during the drought in 1977, to 3.28 mgd during a year of above average annual precipitation in 1983. Comparison of the range of estimated annual average recharge rates (0.66 to 3.28 mgd) with the City's municipal wellfield requirements during implementation of the General Plan (1.9 to 2.3 mgd as indicated in Table 4.10-3), indicates the potential for short-term impacts to occur during years of implementation from 2000 through 2009 if annual average recharge is less than 1.9 to 2.3 mgd. Annual average recharge would be less than 1.9 to 2.3 mgd if annual precipitation is less than 36 to 44 inches. The magnitude of the impact, if any, depends on the amount of precipitation in years 2000 through 2009. Any potential impact would cease commencing in the year 2010 when Rohnert Park's entitlement to water provided by the SCWA is planned to increase to the average rate of 15 mgd.



Comparison of the City's municipal wellfield requirements in accordance with Table 4.10-3 and the estimated average annual recharge rate (1.60 mgd) based on modeling simulations performed for 1952 and 1970 through 1999 indicates production requirements would exceed the average annual recharge rate by a range of 0.30 mgd in 2004, to 0.70 mgd in 2009. In comparison, historical production from the City's municipal wellfield has exceeded the estimated average annual recharge rate (1.60 mgd) by a range of 0.15 mgd in 1975, to 3.20 mgd in 1996. Historical production rates from the City's municipal wellfield over the past decade (1989 through 1999), have exceeded the estimated average annual recharge rate by a range of 2.36 mgd in 1989, to 3.20 mgd in 1996. Hence, although the impact of "groundwater overdraft" from the model domain area is potentially significant during the General Plan, the magnitude of the impact is substantially less in comparison to the past decade.



Further analysis of groundwater conditions within the proposed Urban Growth Boundary were performed based on comparison of historical groundwater elevations obtained from 1970 through 1999. In general, observed groundwater levels from 1970 to 1999 indicate the decline of groundwater levels ranges from approximately 35 feet in the northwest perimeter of the proposed Urban Growth Boundary, to approximately 100 to 150 feet along the eastern boundary. Under a reasonable worst case scenario of the City's municipal wellfield requirements in accordance with Table 4.10-3 and the estimated average annual recharge rate (1.60 mgd), the recovery of groundwater levels within the proposed Urban Growth Boundary is expected to begin during the year 2000 due to an increased interim SCWA allocation (as described above and listed in Table 4.10-3). With the increased allocation, wellfield production demand will decrease in comparison to the past decade. On the basis of demand



# **ATTACHMENT “D”**

