2. **LAND USE, PUBLIC FACILITIES AND COMMUNITY INFRASTRUCTURE**
INTRODUCTION

The Land Use Element establishes the framework of objectives, policies, and implementation programs that will guide the community’s physical form and growth. In order to plan appropriately for the community’s future population growth and needs, the Land Use Element identifies the distribution of land uses and intensities, population densities, and building intensities for the next 20-year period.

California Government Code Section 65302(a) requires that a land use element be included in a General Plan, and more specifically mandates that the element address the following:

"...the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan..."

In addition to addressing the intensity and distribution of land uses, this element has been expanded beyond the traditional scope of a Land Use Element to incorporate other closely related topics including community design, public facilities, and infrastructure.

PLANNING BOUNDARIES

Approximately 5.25 square miles of land are currently within the Atwater City limits. However, in planning for growth and development, the state’s General Plan Guidelines allow a city to include lands outside its city limits which in the planning agency’s judgement “bears relation to its planning” (§65300). Figure 2-1 depicts Atwater’s existing City limits, the City’s current (1984) Sphere of Influence, the City’s Proposed (2000) Sphere of Influence, and Atwater’s 44.6 square mile Planning Area.

LAND USE SETTING

Figure 2-2 depicts actual land uses as of 1990 within the central portion of the General Plan Study area. Most of the land located outside of Atwater’s existing City limits, and (1984) Sphere of Influence, is devoted to agricultural uses. However, significant urban development is located within the community of Winton, just north of the Planning Area. Considerable residential development has also occurred in the McSwain area, located directly south of the City, and the Franklin-Beachwood area to the southeast.

Within the City itself, the land use pattern is generally defined by the following:

- The Central Business District, located along Broadway and Atwater Boulevard roughly between Winton Way and High Street.
- The commercial strip located along most of the length of Atwater Boulevard.
- The industrial areas located south of Atwater Boulevard and south of Highway 99.
- The commercial strip located along Bellevue Road in the northern portion of the City.
FIGURE 2-2
ACTUAL LAND USES (1990)
Outside the City, the former Castle Air Force Base has transformed from a military facility to a variety of commercial, industrial, and institutional uses. Beyond Atwater and Winton, most residential development is at rural densities, as agricultural uses predominate.

Historically, the development of Atwater centered on the railroad. The City grew around a railroad spur located along the present-day Atwater Boulevard. The Union Pacific railroad tracks parallel Atwater Boulevard, and most of the commercial and industrial activities in the City are located along these two transportation corridors. Highway 99 runs along the boulevard and the tracks. However, unlike other cities, relatively little development has occurred in Atwater along this major highway.

The other significant influence on City development has been Castle Air Force Base. Opened in 1941, the base attracted commercial development along Bellevue Road. Although the base closed in 1995, it is currently being reused as an airport and industrial center, with commercial and institutional uses. A federal prison is currently under construction in the northeastern corner of the former base site.

It is no coincidence, therefore, that the two major commercial areas in the City have developed near these two places. The Union Pacific line (formerly Southern Pacific) forms the southern boundary of the downtown area, one of the City's two major commercial areas. Downtown's development was reinforced by the placement of Highway 99, which parallels the Union Pacific tracks.

In 1976, the Atwater Redevelopment Agency proposed a redevelopment plan that centered on the downtown area. Section 404 of the plan states: "The Central Business District is intended to be the focal point of the downtown area." The Central Business District, as depicted on the Redevelopment Plan map, is bounded approximately by Winton Way to the west, Atwater Boulevard to the south, High Street to the east, and Cedar Avenue to the north. Other commercial buildings continue from the downtown along Atwater Boulevard to Shaffer Road.

Public facilities in the downtown area include the Atwater Fire Department Station #1 at Broadway and High Street. Merced County Fire Department Station #82 is co-located in the same building. The Atwater Post Office is located on 1599 Broadway at Winton Way. At 1181 Third Street are the offices of the Atwater Chamber of Commerce. The Bloss House Museum stands at the corner of Broadway and Second Street. Adjacent to the museum is Bloss Park, bounded by Broadway, First and Second Streets, and Drakeley Avenue. At Elm Street and Packers Street is the Atwater Memorial Ball Park. Located just north of the downtown area is the Atwater branch of the Merced County Library, at Third Street and Grove Avenue. Within the vicinity of Third and Grove are Ralston Park and the Bloss Clinic.

The other major commercial area is located along Bellevue Road. Bellevue Road, an east-west route, runs to Castle Airport, which creates a break in the roadway before it resumes at Fox Road. Commercial developments are concentrated at the intersection of Bellevue with Shaffer and Buhach Roads and Winton Way. The Atwater Civic Center, which houses the Police Department and City Hall, is located at 750 Bellevue Road. Nearby is the Atwater Community Center, at 760 Bellevue Road. Across the Community Center is Osborn Park. Farther east is Veterans Park, within which lies the Youth Center at 2670 Buhach Road.

More recent commercial and industrial development has occurred within the section of the City south of Highway 99. The area was once the location of the Atwater Municipal Airport, which has now been converted to a business park. The Atwater Wastewater Treatment Plant is located south of Highway 99 along Industry Way. The California Highway Patrol has established an office at 1500 Bell Drive, within the Applegate Business Park.
Primary residential areas are set back from the Downtown, occupying most of the area between Downtown and Bellevue Road. Wide tree-lined streets are characteristic of many of the older residential neighborhoods. Another residential area is located southwest of Castle Airport. This area contains housing formerly reserved for base personnel.

**HISTORIC GROWTH RATES/POPULATION AND EMPLOYMENT PROJECTIONS**

Table 2-1 shows the population growth of the City of Atwater and Merced County from 1970 to the present. Up to 1980, growth in Atwater was well ahead of county growth. Since 1980, the growth rate in the City has lagged behind that for Merced County, with the difference becoming more pronounced in the 1990s. From 1995 to 1998, the population of Atwater had a projected decline, a decline attributable to the closure of Castle Air Force Base and the loss of base personnel.

<table>
<thead>
<tr>
<th>Year</th>
<th>Atwater</th>
<th>Merced County</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pop.</td>
<td>Aver. Annual Growth Rate (%)</td>
</tr>
<tr>
<td>1970</td>
<td>11,640</td>
<td>---</td>
</tr>
<tr>
<td>1975</td>
<td>14,550</td>
<td>5.0</td>
</tr>
<tr>
<td>1980</td>
<td>17,530</td>
<td>4.1</td>
</tr>
<tr>
<td>1985</td>
<td>19,500</td>
<td>2.2</td>
</tr>
<tr>
<td>1990</td>
<td>22,282</td>
<td>2.9</td>
</tr>
<tr>
<td>1995</td>
<td>23,000</td>
<td>0.6</td>
</tr>
<tr>
<td>1998</td>
<td>21,922</td>
<td>-1.6</td>
</tr>
</tbody>
</table>

The City's growth rate has been greater than that of the state until recently. During the 1970s, California's population grew at an average annual rate of 1.73 percent, less than half of Atwater's growth rate. Growth rates were more comparable in the 1980s and early 1990s, as the City's population growth more closely resembled state growth patterns. Still, the average annual growth rate for the City in the 1980s was slightly ahead of that for California, which was 2.33 percent. The population growth rate for the state was lower in the 1990s, probably a result of the economic recession that hit California particularly hard. Since 1995, California's population growth rate has rebounded from its low in the mid 1990s as its economy has recovered, but Atwater's population has actually declined.

A population projection, like any forecast, involves uncertainty due to several factors: economic changes, changes in community character, shifts in outside perceptions or desires, and city and county efforts to encourage or discourage growth. Nevertheless, there are some reasons to predict that the current decline in the City's population will be reversed. First, the reuse of Castle Air Force Base could stimulate the local economy and may attract more workers and residents, although the *Environmental Impact Statement for the Disposal and Reuse of Castle Air Force Base* (1994) concluded that population levels would not increase beyond preclosure levels. Second, the opening of the future University of California campus near the City of Merced may have a spillover effect, as students and employees seek housing. Third, the relatively low housing prices in Merced County will become more attractive to prospective homeowners. Finally, the Central Valley as a whole, and especially the San Joaquin Valley, is projected to experience higher than average population growth, as more businesses, workers, and commuters move into the region.

One set of population projections was prepared by the Merced County Association of Governments (MCAG). MCAG projections cover the entire 20-year General Plan period. The projections for Atwater were augmented by growth rates used in the Environmental Impact Report for the University of California Site Selection, to account for the anticipated population increase generated by UC Merced, to be located at Lake Yosemite north
of Merced. Based on MCAG’s projections, the City of Atwater was expected to grow from its 1998 Department of Finance (DOF) estimated population of 21,922 to a population of 42,523 in 2020.

While projections from local councils of governments are commonly used in analyses, there are some concerns about the use of the MCAG projections. For instance, the projected 2000 population of Atwater is 26,115. This is an increase of 4,193 from the 1998 DOF estimated population of Atwater, or a 19 percent increase of population in two years. Given recent population trends in Atwater, this is considered an unrealistic growth rate. Since MCAG uses a higher population base than is probably realistic, its projections likely overestimate the future growth of Atwater’s population during the time period of this General Plan.

As part of the 2000 General Plan Update process, a market study was prepared which attempted to develop more realistic growth projections for Atwater. The projections developed as part of that effort are summarized in Table 2-2.

<table>
<thead>
<tr>
<th>Year</th>
<th>Pop. Projection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>23,452</td>
</tr>
<tr>
<td>2005</td>
<td>26,435</td>
</tr>
<tr>
<td>2010</td>
<td>30,363</td>
</tr>
<tr>
<td>2015</td>
<td>33,948</td>
</tr>
<tr>
<td>2020</td>
<td>38,781</td>
</tr>
</tbody>
</table>

COMMUNITY DESIGN ISSUES AND TRENDS

Quality Development
GOAL LU-1. Create attractive residential streetscapes and neighborhoods.

Policy LU-1.1. Develop design guidelines for new residential neighborhoods that have a human scale and are oriented to the pedestrian.

Policy LU-1.2. Support and guide the rehabilitation of older residential structures that enhance the character of a neighborhood.

Policy LU-1.3. Design streets with a priority on neighborhood structure and pedestrian scale.

Implementation Program LU-1.a. The City shall consider the establishment of a low-interest loan program for the rehabilitation of older housing units, using Community Development Block Grant (CDBG) funds or other funding sources.

Implementation Program LU-1.b. The City shall develop design guidelines for residential neighborhoods and streets that emphasize pedestrian use. These guidelines shall illustrate desired development patterns, architectural forms and landscaping.

Implementation Program LU-1.c. The City shall provide incentives to developers who follow residential design guidelines. Such incentives may include, but are not limited to, expedited project review and density bonuses.

GOAL LU-2. Ensure that the appearance of non-residential development contributes positively to the community’s image.

Policy LU-2.1. Develop design guidelines for commercial, industrial, and business park development that present an attractive public view and are integrated with the surrounding area.

Policy LU-2.2. Encourage design of large-scale commercial, industrial, and business park projects that are oriented to a human scale.

Implementation Program LU-2.a. The City shall prepare design guidelines for commercial, industrial, and business park development that illustrate desired development patterns, architectural forms, and landscaping. For large-scale projects, the guidelines shall encourage the incorporation of features that bring the development to a more human scale, such as sensitive massing, building articulation, and the incorporation of plazas and courtyards.

Implementation Program LU-2.b. The City shall provide incentives to developers who follow non-residential design guidelines. Such incentives may include, but are not limited to, expedited project review.

Revitalization and Enhancement of the Downtown

Downtown Atwater, like many other downtowns across the country, continues to struggle to maintain its economic viability and emphasis as the core of the community.

Implementation of a variety of strategies will be necessary to bring new life and focus to the downtown. These include land use planning strategies, redevelopment activities, and aggressive marketing.
As part of this effort, it needs to be acknowledged that Downtown will not compete with regional-scale commercial development. Rather, Downtown should focus on its role as the cultural, entertainment, government, office, financial and social center of the community.

Strategies designed to achieve this goal include: Applying land use classifications and policies that will result in a compact mixed-use development pattern; investing in physical improvements to enhance the pedestrian orientation and distinctive appearance of downtown streets and places; improving access to downtown buildings; broadening the allowable range of uses within downtown districts; and creating physical spaces to accommodate social activity.

**GOAL LU-3.** Preserve and enhance the unique character of Downtown Atwater.

**Policy LU-3.1.** Develop design guidelines for Downtown that maintain and enhance its pedestrian scale and orientation and ensure a consistent architectural theme.

**Policy LU-3.2.** Continue efforts to improve and rehabilitate buildings, housing, and infrastructure in Downtown.

**Policy LU-3.3.** Accommodate a variety of uses in Downtown Atwater that operate beyond standard business hours to increase activity within the City core.

**Policy LU-3.4.** Encourage development of mixed use projects within the Downtown area. Developments should be designed with active ground floor commercial or service uses with residential or office units above.

**Policy LU-3.5.** Explore opportunities to create public gathering spaces in Downtown Atwater.

**Policy LU-3.6.** Encourage activities within the Downtown that draw people to the area including festivals, farmer's markets, and street fairs.

**Policy LU-3.7.** Encourage outdoor uses such as restaurant seating, flower sales, and similar activities on private property and, where appropriate, on public property.

**Implementation Program LU-3.a.** The City shall prepare a Specific Plan for the Downtown area that contains design standards for buildings, streets, and landscaping.

**Implementation Program LU-3.b.** The City, through its Redevelopment Agency, shall prepare a five-year Implementation Plan that outlines projects to improve Downtown, consistent with the proposed Specific Plan, and use redevelopment financing to implement the projects.

**Implementation Program LU-3.c.** Create a facade improvement program for Downtown Atwater that focuses on providing low interest loans to property owners who wish to make desirable improvements to existing structures. Funding for these loans may be obtained from a variety sources including the Atwater RDA and the state Community Block Grant Program (CDBG).

**Implementation Program LU-3.d.** Amend the City's Zoning Ordinance and any other City Codes as necessary to accommodate mixed use development projects within Downtown and sidewalk dining activities.

**Community Entrances**

Most visitors to the region view Atwater from the Highway 99 corridor. Few landscape improvements currently exist along the corridor or at other key entrance points into and through the City. Efforts to improve the visual appearance of these gateways and corridors is essential to an overall strategy designed to elevate investment in the community and enhance Atwater’s image within the region.

**GOAL LU-4.** Enhance the appearance of primary entrances into and through Atwater.
Policy LU-4.1. Utilize landscaping, signage, and gateway treatments to enhance the aesthetic appearance of primary streets into and through the community including, but not limited to:

- Applegate and SR 99
- Atwater Boulevard
- New Westside Entrance
- Bellevue Road
- Buhach Road
- Castle Parkway
- Shaffer Drive
- Santa Fe Drive
- Winton Way

Implementation Program LU-4.a. The City, through its Redevelopment Agency, shall incorporate aesthetic improvement of the areas within the Atwater Redevelopment area surrounding the SR 99 interchanges as a high priority project within the RDA’s five-year Implementation Plan.

Implementation Program LU-4.b. The City shall design and pursue the installation of monument type signage and landscape treatments at key entrances into Atwater, as identified in Policy LU-4.1.

Implementation Program LU-4.c. The City shall prepare a streetscape plan for primary streets through the community. The plan should at minimum address:

- Priorities for undergrounding any existing overhead utilities.

GOAL LU-5. Enhance views of Atwater from SR 99.

Policy LU-5.1. Develop SR 99 as a landscaped corridor through the Atwater community.

Implementation Program LU-5.a. The City, through its Redevelopment Agency, shall identify landscaping of the SR 99 corridor within the Redevelopment Area as a high priority project in the RDA’s five-year Implementation Plan.

Implementation Program LU-5.b. The City shall encourage private participation in the installation of screen type landscaping on private properties adjacent to SR 99.

Implementation Program LU-5.c. The City shall pursue funding that may be available from Caltrans and the Merced County Association of Governments (MCAG) to complete desired landscape and irrigation improvements along SR 99.

SPECIAL LAND USE CONSIDERATIONS

Mineral Resources of Statewide or Regional Significance

Public Resources Code Section 2762(a) requires that local governments establish mineral resource management policies within their general plans if any mineral resources of statewide or regional significance are designated within their jurisdiction. No such areas have been designated within the City of Atwater Planning area.

Flood Prone Areas

According to the State General Plan Guidelines, a Land Use Element should consider the location of flood-prone areas. Portions of the Planning Area subject to a 100-year flood event are identified on Flood Insurance Rate Maps (FIRM), issued by the Federal Emergency Management Agency.
(FEMA). As noted on the most recent FIRM (1995), the 100-year flood area within the City of Atwater’s Planning area is confined mainly to the east and southeastern portions. A more detailed discussion of potential flood hazards and a figure depicting areas subject to 100-year flooding are presented within the Seismic and Public Safety Element of this General Plan.

Solid Waste Disposal Sites

Solid waste disposal sites designated within the Atwater Planning area. Solid waste generated within the City is collected by a private contractor, Browning Ferris Industries, and transported directly to the Merced County Landfill located off State Highway 59, approximately one and one-half miles north of Old Lake Road. The County of Merced is the contracting agency for landfill operations and maintenance. Estimates of remaining capacity for the existing facility indicate that the landfill could reach capacity as early as 2001. The County of Merced is currently pursuing a facility expansion of approximately 200 acres which could extend the life of the landfill for 20 to 30 years. Solid waste issues are discussed in greater detail in the Open Space/Conservation Element of this General Plan under the topic of Source Reduction and Recycling.

LAND USE DIAGRAM

The Atwater General Plan Land Use Diagram is presented on Figure 2-3. This Diagram identifies the location, distribution, and extent of all land uses within the Planning Area.

GENERAL PLAN LAND USE CLASSIFICATIONS

The following section identifies all land use classifications depicted on the Land Use Diagram and describes typical land uses accommodated within each category.

Very Low Density Residential (VLDR) - This designation accommodates the needs of residents who desire large parcels and the feeling of open space integrated with a suburban lifestyle. The permitted density range is 0 to 3.0 units per acre. The minimum parcel size permitted is 11,000 square feet, however, most parcels are greater in size. One single family residence is permitted per legally created lot. Typical land uses include: single family residences and residential accessory uses, churches, schools, parks, community care facilities, and necessary public utility and safety facilities. Secondary dwelling units may be permitted consistent with state and local regulations.

Low Density Residential (LDR) - This category provides for residential development at densities that are typical for existing single family residential subdivisions within the City. The permitted density range is 3.1 to 7.0 units per acre. Parcel sizes range from 5,000 to 11,000 square feet in area. All properties must be served by public sewer and water. Typical land uses include: single family residences and residential accessory uses, churches, schools, parks, community care facilities, and necessary public utility and safety facilities. Secondary dwelling units may be permitted consistent with state and local regulations.

Medium Density Residential (MDR) - This classification is designed to accommodate a variety of residential products including, but not limited to, single-family detached and attached units, zero lot line developments, duplexes, and multi-family structures. The permitted density range is 7.1 to 15.0 units per acre. Associated land uses include: residential accessory uses, churches, schools, parks, community care facilities, and necessary public utility and safety facilities.

High Density Residential (HDR) - This designation is intended to provide for multi-family units such as apartments, and/or
condominiums in structures up to four stories in height. The permitted density range is 15.1 to 35 units per acre. Projects should include common open space and on-site recreational amenities such as tot lots, pools, or playground equipment. On-site day care facilities are also encouraged.

**Downtown Residential Mixed Use (DMU)** - This designation provides for a full range of uses in Downtown Atwater including retail stores, eating and drinking establishments, commercial recreation, entertainment and cultural facilities, hospitals, hotels and motels, educational and social services, and government offices. Residential uses are appropriate up to 25 dwelling units per acre. Development and redevelopment projects shall be designed to have a strong pedestrian orientation with active uses occupying the ground floor. A mix of uses within a building—such as, active ground floor uses, and upper story office and residential uses—is appropriate. The maximum floor area ratio permitted is 2.0.

**Residential Transition (RT)** - This designation is intended to provide a transition between commercial development and adjacent residential neighborhoods. It has also been applied in locations where a mix of commercial and residential land uses have been approved. The purpose of the classification is to encourage the development of apartments and certain compatible commercial uses, or the expansion and improvement of existing structures. Residential densities up to 21 units per acre are considered compatible. Commercial land uses which may be potentially compatible include, but are not limited to: medical, professional and business offices, parking lots and structures, personal service establishments, retail stores, restaurants, motels, rooming and boarding homes, social halls, lodges, fraternal organizations and clubs, licensed nursing or convalescent homes, public and quasi-public uses, minor manufacturing when at least 75 percent of the product is sold on the premises. The maximum floor area ratio permitted is 0.35.

**Commercial Transition (CT)** - This designation is also intended to provide a transition between commercial development and adjacent residential neighborhoods. Businesses which do not generate high volumes of traffic or noise, such as, professional office uses, low impact public uses, galleries, art and photography studios, church facilities, and other similar uses are generally considered compatible within this classification. The maximum floor area ratio permitted is 0.30.

**Commercial (COM)** - This designation is intended to accommodate a wide range of commercial activities ranging from regional commercial facilities to general and neighborhood commercial uses. Establishments may range from retail to service and entertainment uses.

Development may occur as a single structure, group of commercial uses (small- to medium-scale center) or regional mall type facility. Developments consisting of 75,000 square feet or more should incorporate landscaped public gathering areas with pedestrian oriented features such as benches in central locations. Common driveways and parking areas or other features should be utilized whenever possible to avoid impacts on the capacity of adjacent roadways.

Commercial centers should present a unifying architectural theme, include an internal traffic circulation system and accommodations for transit services, as well as, a unifying landscape theme. The maximum floor area ratio permitted is 0.35.

**Manufacturing (MFG)** - This designation provides for a wide range of industrial activities which involve warehousing, manufacturing, processing, fabrication, and
other similar operations. Some uses may be noisy, and prone to emit dust, vibration, odor, and/or glare, although these impacts must be mitigated at the property line to avoid negative impacts on adjacent uses. Businesses generally involve the frequent use of large trucks for pick-up and delivery of parts and products. Typical uses often have high utility demands and require special consideration for construction to accommodate heavy truck traffic. Uses can be developed independently or as part of a subdivision. The maximum floor area ratio permitted for most uses is 0.50. However a maximum floor area ratio of 0.60 is allowed for low employment industries, such as, warehousing, wholesaling, or distribution.

**Business Park (BP)** - In contrast to the Manufacturing category, the Business Park designation provides for large buildings or a cluster of buildings usually developed in a “campus” style. Business uses may include manufacturing operations within completely enclosed buildings, associated offices, trade schools, and supporting child care and retail activities. Outside storage is limited and must be effectively screened with solid fencing and/or landscaping. The operations are quiet and require infrequent use of large trucks for pickup or delivery of parts or products.

Buildings are visually pleasing with extensive landscaping around buildings and parking areas. Projects with multiple buildings provide a strong pedestrian orientation between the structures. A typical project has vehicular access to a major street with on-site parking and a project identification sign. The maximum floor area ratio permitted is 0.40.

**Castle Airport Aviation and Development Center (CAADC)** - The City of Atwater has adopted land uses identified within the Castle Air Force Base Reuse Plan as the Land Use Plan for the Castle Airport Aviation and Development Center. These designations are incorporated into the General Plan by reference.

**Urban Reserve (UR)** - This designation has been applied to areas within the City of Atwater’s proposed (2000) sphere of influence to indicate locations which may be suitable for urban development in the future. Current Merced County agricultural designations and permitted uses will apply in these areas until such time as the City’s primary and secondary growth areas approach buildout.

**Urban Reserve / Business Park (UR/BP)** - This designation has been applied to areas surrounding the CAADC site that are intended to remain at current Merced County agricultural designations until development demands warrant future transition to Business Park uses.

**Agriculture/Area of Interest (AG)** - This designation has been applied both inside and outside of the City’s proposed (2000) Sphere of Influence to indicate those locations where current agricultural and open space land uses are to be maintained in areas surrounding the City. Application of the term “Area of Interest” is intended to lay the groundwork for long-term agreements with the City and County of Merced relative to the maintenance of distinct boundaries and buffers between the City of Atwater, City of Merced, Community of Winton, McSwain, and Franklin-Beachwood.

**Institutional (I)** - This designation is intended for public and quasi-public facilities, including, but not limited to, government services and facilities, fire/police stations, wastewater treatment facilities, electrical substations, domestic water treatment and storage, and other similar uses. New facilities may be appropriate in any land use category based on need and environmental review. The Land Use Diagram will not be amended for new public facilities on sites that occupy less than 2 acres. The maximum floor area ratio permitted is 0.40.
School (SCH) - This designation has been applied to areas with existing and proposed primary and secondary public school facilities. Of particular interest is the proposed High School site located on the south side of Avenue Two just east of Buhach Road. Although this designation has been applied based upon existing information, new facilities may be appropriate in any land use category based on need and environmental review. The maximum floor area ratio permitted is 0.40.

Park (PK) - This designation has been applied to indicate the location of existing and planned public park facilities ranging from neighborhood to community parks. Additional parkland which may be dedicated and developed in conjunction with individual subdivisions need not receive a formal designation in order to be established. The maximum floor area ratio permitted is 0.10.

Recreation (REC) - This designation is intended to accommodate commercial recreational facilities, including but not limited to, golf courses, driving ranges, tennis and racquet clubs, health clubs and spas, equestrian facilities, swim clubs, roller skating arenas, archery facilities, and other similar uses. The maximum floor area ratio permitted is 0.10.

Path (P) - This designation is indicated in locations considered desirable for development of a comprehensive system of linear parks and pathways. These facilities shall be required as appropriate within new residential developments. Utilization of the existing canal system shall serve as the backbone of this open space network.

Specific Plan Areas 1, 2 and 3 (SP 1, SP 2, and SP 3) - This overlay has been applied within the southwest portion of the City’s 2000 proposed Sphere of Influence to indicate those locations where Specific Plans will be prepared to guide future growth and development. Lands within these areas will continue to be under the jurisdiction of the County of Merced until the Specific Plans are adopted and future annexation is completed. Incorporation of these areas within the City’s proposed Sphere of Influence will allow the City to review and comment on any development applications that are considered by Merced County in the interim, and provide opportunities for the establishment of uniform development standards and coordinated facilities planning.

LAND USE INTENSITY STANDARDS

In addition to characterizing land use designations according to types of allowable uses, the General Plan must specify standards for population density and building intensity for the various land use designations adopted by the City.

This information not only provides insight as to how many residents, jobs, and housing units will be accommodated by the Plan, but is also useful in planning for necessary infrastructure, traffic, schools, and civic improvements. The concepts of making these determinations are referred to as “holding capacity” and “buildout.”

Holding capacity is normally referred to as the number of people that could theoretically be accommodated in the Planning Area if all land were to develop to the maximum potential allowed by the land use designations of the Plan. Buildout is the point in time at which land in the Planning Area is being used to the maximum extent allowed by the Plan. Buildout of a planning area to its maximum holding capacity will rarely occur given such factors as limitations on capacity of resources, infrastructure, public services necessary to support new development, and the choices by individual property owners about the appropriate extent of development.
FIGURE 2-3
LAND USE DIAGRAM

LEGEND:
- City Limits
- Roads
- Proposed Castle Parkway
- Sphere of Influence (Existing)
- Proposed Sphere of Influence
- General Plan Study Area Boundary
- Special Interest Boundary
- Proposed Interchange
- Proposed Bellevue Road Extension
- Franklin-Beechwood RMC / SUED
- Atwater RCD No. 1 (McDonough)
- Atwater RCD No. 2
- Downtown Residential Transition (Mixed Use)
- Residential Transition
- High Density Residential
- Medium Density Residential
- Low Density Residential
- Very Low Density Residential
- Manufacturing
- Business Park
- Commercial
- Commercial Transition
- Castle Aviation & Dev. Center
- Park
- Recreation (public Use)
- Agriculture / Area of Interest
- Urban Reserve
- Urban Reserve / Business Park
- Path
- Institutional
- School
- Future School Site
on each parcel. Given conservative population projections, theoretical buildout of the Plan area under proposed classifications would not occur for 40 or 50 years.

This Plan is intended to encourage new development within existing service areas first in order to avoid “leap frog” development. However, as the supply of vacant land diminishes over time, new areas should be opened up for development. This will not only serve to provide adequate housing opportunities for a growing population, but will serve to moderate land prices and ensure that public facility and infrastructure improvements keep pace with growth.

Standards of building intensity for residential uses are stated in the General Plan in terms of the allowable range of dwelling units per gross acre. Standards of population density for residential uses can be derived by multiplying the maximum number of dwelling units per gross acre by the average number of persons per household. For purposes of this General Plan, the average number of persons per household is assumed to be 3.0. This figure is based on an average of State Department of Finance estimates.

The intensity of nonresidential development must be estimated using a different approach. This Plan acknowledges that allowable intensity is a function of the size in (in square footage) of buildings that can be placed on each parcel. This is done by establishing a maximum “floor area ratio” (FAR) for each non-residential land use classification. A floor area ratio is a ratio of the gross building square footage permitted on a lot to the square footage of the lot. For example, on a lot with 10,000 square feet of land area, a FAR of .50 would allow 5,000 square feet of floor area to be built regardless of the number of stories in the building (e.g., 2,500 square feet per floor on 2 floors or 5,000 square feet on one floor). As with residential uses, not all property will develop to the maximum allowable floor area ratio. Actual building intensities could be between 15 and 20 percent less when the land area dedicated to infrastructure is considered.

The Plan assumes a “typical” ratio in determining the ultimate extent of development.

GENERAL PLAN HOLDING CAPACITY

Tables 2-3 and 2-4 provide estimates of the number of housing units, population, and square footage of non-residential development that will be accommodated by this General Plan based upon the designations shown on the Land Use Diagram. Adjustments for existing development have not been made recognizing that, over time, many areas will redevelop in accordance with this Plan.

AREA AND SPECIFIC PLANS

Many jurisdictions designate some of their lands for special planning policies and procedures, beyond the conventional zoning process. Reasons for doing this vary. One is that certain lands have unique physical features that may require special attention. Another is the need or desire to develop an area in an integrated and comprehensive manner. Still another is the hope to entice commercial or industrial activities by offering an area where such activities can locate to their advantage.

The mechanisms employed for this special planning include specific plans and planned unit developments (PUDs). The City has prepared or adopted special plans for two areas - the Applegate Business Park and the CAADC site. The City is also in the process of initiating a Specific Plan for Downtown Atwater.
### Table 2-3
General Plan Holding Capacity
Residential Land Uses

<table>
<thead>
<tr>
<th>Land Use Designations</th>
<th>Assumed Typical Residential Density</th>
<th>Acres Designated (Gross)</th>
<th>Dwelling Units</th>
<th>Population¹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential (dwelling unit per [du/a])</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Low Density Residential (du/a)</td>
<td>1.50 du/a</td>
<td>2,562.85</td>
<td>3,844.28</td>
<td>11,533</td>
</tr>
<tr>
<td>Low Density Residential</td>
<td>5.00 du/a</td>
<td>2,441.25</td>
<td>12,206.25</td>
<td>36,618</td>
</tr>
<tr>
<td>Medium Density Residential</td>
<td>11.00 du/ac</td>
<td>180.70</td>
<td>1,987.70</td>
<td>5,963</td>
</tr>
<tr>
<td>High Density Residential</td>
<td>25.00 du/a</td>
<td>124.30</td>
<td>3,107.50</td>
<td>9,323</td>
</tr>
<tr>
<td>Franklin-Beachwood (Estimate for Res.)</td>
<td>mixed</td>
<td>712.00²</td>
<td>245.00</td>
<td>735</td>
</tr>
<tr>
<td>TOTAL</td>
<td>N/A</td>
<td>6,021.11</td>
<td>21,390.73</td>
<td>64,172</td>
</tr>
</tbody>
</table>

¹ Assumes an average of 3.0 persons per dwelling unit.
² Of the 712.00 acres within the Franklin-Beachwood area, approximately 205.00 acres are specifically designated for various residential uses. Estimates given for dwelling units and population within Franklin-Beachwood are based on residentially designated acreage, not the total acreage of the community.
³ Separate residential acreage and buildout information for the Community McSwain was not available at the time of the City’s 2000 General Plan update. Therefore, the entire McSwain area has been combined into the Very Low Density Residential designation on the City’s Land Use Diagram for purposes of estimating the number of dwelling units and population anticipated in that area.

NOTE: Development of mixed use projects within the Downtown (Mixed Use) and Residential Transition designations at an assumed rate 15 and 11 du/ac, respectively, for 30% of the total acreage available, as well as, potential residential development under existing Merced County agricultural designations at an assumed average of one dwelling unit per 40 acres, would increase the potential build-out population by approximately 2,217 persons.
### Table 2-4
General Plan Holding Capacity
Non-Residential Land Uses

<table>
<thead>
<tr>
<th>Land Use Designations</th>
<th>Assumed Typical Comm./Ind. Floor Area Ratio</th>
<th>Acres Designated (Gross)</th>
<th>Assumed Comm./Ind. Square Footage</th>
<th>Estimated Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residential Transition</td>
<td>0.30</td>
<td>50.50</td>
<td>659,934.00</td>
<td>659</td>
</tr>
<tr>
<td>Commercial Transition</td>
<td>0.25</td>
<td>5.35</td>
<td>58,261.50</td>
<td>58</td>
</tr>
<tr>
<td>Downtown Mixed Use</td>
<td>1.50</td>
<td>71.05</td>
<td>4,642,407.00</td>
<td>3,094</td>
</tr>
<tr>
<td>Commercial</td>
<td>0.30</td>
<td>857.32</td>
<td>11,203,457.76</td>
<td>7,469</td>
</tr>
<tr>
<td>Industrial</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>0.40</td>
<td>152.50</td>
<td>2,657,160.00</td>
<td>2,657</td>
</tr>
<tr>
<td>Business Park</td>
<td>0.30</td>
<td>1,540.83</td>
<td>20,135,566.40</td>
<td>20,136</td>
</tr>
<tr>
<td>CAADC</td>
<td>Mixed</td>
<td>2,548.00</td>
<td>4,550,896.15</td>
<td>7,500</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional</td>
<td>0.35</td>
<td>91.00</td>
<td>1,387,386.00</td>
<td>555</td>
</tr>
<tr>
<td>School</td>
<td>0.35</td>
<td>270.50</td>
<td>4,124,043.00</td>
<td>2,749</td>
</tr>
<tr>
<td>Park</td>
<td>0.05</td>
<td>119.40</td>
<td>260,053.20</td>
<td>26</td>
</tr>
<tr>
<td>Recreation</td>
<td>0.05</td>
<td>123.00</td>
<td>267,894.00</td>
<td>53</td>
</tr>
<tr>
<td>Urban Reserve</td>
<td>--</td>
<td>4,429.30</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Urban Reserve / Business Park</td>
<td>--</td>
<td>1,302.80</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Agricultural/Area of Interest</td>
<td>--</td>
<td>9,103.90</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Other Land in Planning Area¹</td>
<td>--</td>
<td>1,860.65</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>TOTAL</td>
<td>n/a</td>
<td>22,526.10</td>
<td>49,947,059.01</td>
<td>44,956</td>
</tr>
</tbody>
</table>

¹ This category includes all other land within the City’s Planning Area that has not been designated or recognized as an existing Rural Residential Community (RRC).
Land Use, Public Facilities and Community Infrastructure Element

Southwest Area Plan (Applegate Business Park)

The Applegate Business Park is located on the southwest edge of the City (Figure 2-4). It is adjacent to Highway 99, with most of its approximately 204 acres located south of the highway. The park is comprised of 30 parcels of land, with 23 separate property owners. Parcels range in size from less than one-quarter acre to 50 acres. Multiple ownership of the business park property makes it difficult to determine the specific use and the timing of parcel development. Thus, in order to establish a development theme, the Atwater Redevelopment Agency embarked on the preparation of a specific plan. A draft specific plan was completed in 1991 and a final plan was subsequently adopted.

The Applegate Business Park Specific Plan contains nine elements:

1) **Specific Plan Goals.** The Specific Plan adopted eight goals:
   - Development that enhances the City’s quality of life.
   - Development that produces public revenues for the City.
   - Development that generates jobs.
   - Development that takes advantage of freeway location and exposure.
   - Improved freeway accessibility.
   - Establishment of a prestigious gateway for the City.
   - Buffering of commercial/light industrial uses from future residential uses.
   - Identification of suitable treatment for the canals and drains.

2) **Improve freeway accessibility.** Foremost among proposed improvements in the park area is the upgrading of the Applegate Road/Highway 99 interchange.

3) **Conversion of the Atwater Municipal Airport to M-1 Industrial use.** While not in the business park, the airport area was viewed as having an impact on the development and use of the park. This conversion has been accomplished.

4) **Property Development.** A joint marketing effort for the parcels in the business park is proposed, with the Atwater Redevelopment Agency taking the lead.

5) **Specific Plan by City resolution.** Instead of an ordinance, it is proposed that the City adopt the Specific Plan by resolution. This would provide greater flexibility, as the plan can be more readily revised as needed.

6) **Land use.** The Specific Plan establishes a new land use designation - “Business Park.” It provides for both commercial and light industrial uses, but it does not specify a particular use for a particular parcel. This designation provides developers with flexibility and provides the City with a cohesive physical development.

7) **Economic viability.** Not all of the property in the business park is available for development due to the value placed by the existing property owners. The Specific Plan attempts to establish a sense of marketability of the property on the part of the existing property owners.

8) **Policies for specific parcels.** The Specific Plan includes a list of development considerations for specific parcels in the business park. The guidelines are not to be considered inflexible development standards, but development proposals should include them or show why there is a need to deviate.

9) **Community design and beautification.** Design standards are included to accomplish a cohesive development. The focal point of the park is a tower and plaza, which will assist in establishing a prestigious City gateway and will set a standard of quality.
More than 90 percent of the land within the Applegate Business Park is designated Business Park. The remaining land is designated either Commercial or Linear Park. The Specific Plan area is an overlay district, which means that all proposed development must conform to the provisions of the land use identified on the Land Use Diagram in the General Plan, as well as the applicable provisions of the Specific Plan.

Downtown Atwater Specific Plan

In an attempt to focus on development issues, desired character and redevelopment opportunities in the downtown area, the City has initiated the preparation of a Specific Plan for the commercial portions of Downtown Atwater concurrently with the General Plan update. The Specific Plan area encompasses approximately 109 acres and is roughly bounded by Drakeley Avenue and Winton Way on the north, Atwater Boulevard on the south, an area just short of Vine Street on the west, and an area just past Shaffer Road on the east.

The Specific Plan is expected to address a variety of issues including, but not limited to, mixtures of land uses, desired architectural themes and treatments, as well as landscaping and pedestrian oriented features.

Southwest Atwater Specific Plan Areas

Through this General Plan, the City of Atwater has identified its 2000 proposed Sphere of Influence. In order to more specifically evaluate the timing and desired character of development within Southwest Atwater, three Specific Plan areas have been identified on the Land Use Diagram. Specific Plan areas 1, 2, and 3 contain 622, 1,140, and 1,029 acres, respectively. The combined acreage of all three areas is 2,791 acres.

Much of the land within these areas that is not already devoted to urban land uses has been designated as Urban Reserve on the Land Use Diagram. More specific land use designations will be applied in conjunction with the preparation of individual specific plans. Actual designations that are applied will be based upon the City's non-urbanized land use inventories, the unique characteristics and features of each Specific Plan area, infrastructure and services capabilities, and community desires. The City anticipates that each Specific Plan area will incorporate a village concept. However, the character and mix of land uses may vary from one Specific Plan area to another depending upon the central focus and character of the village. Table 2-5 provides preliminary information regarding anticipated land use mixtures for Southwest Atwater as a whole.

Utilizing anticipated land use ratios identified in Table 2-5 and the same methodology that was conducted for estimating the General Plan holding capacity in Tables 2-3 and 2-4, buildout of all three Specific Plan areas could accommodate a population of approximately 20,298 persons. These figures are based upon gross acreage. Actual development could be between 15 and 20 percent less when land dedicated to infrastructure is considered. Buildout of all three Specific Plan areas is not expected to occur within the 20-year time frame associated with this General Plan.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLDR</td>
<td>50%</td>
</tr>
<tr>
<td>LDR</td>
<td>10%</td>
</tr>
<tr>
<td>MDR</td>
<td>5%</td>
</tr>
<tr>
<td>HDR</td>
<td>2.5%</td>
</tr>
<tr>
<td>COM</td>
<td>5%</td>
</tr>
<tr>
<td>BP</td>
<td>2.5%</td>
</tr>
<tr>
<td>INST</td>
<td>2.5%</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>5%</td>
</tr>
<tr>
<td>OS</td>
<td>15%</td>
</tr>
<tr>
<td>PARK</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

Estimates are based upon gross acreage.
GOAL LU-6. Utilize specific plans to guide development in areas with unique land use, infrastructure, or resource issues.

Policy LU-6.1. Prepare Specific Plans for areas whose unique land use, infrastructure, or resource issues require more detailed treatment than that expressed by General Plan policies and implementation programs.

Implementation Program LU-6.a. The City shall pursue the completion of Specific Plans for Downtown Atwater, Specific Plan areas 1, 2, and 3 in Southwest Atwater, and the Castle Parkway area.

CAADC Reuse Plan

In 1991, the Department of Defense announced the closure of Castle Air Force Base. The base was formally decommissioned and closed in September 1995. Upon closure, it was renamed the Castle Airport and Aviation Development Center (CAADC).

In August 1995, the Castle Joint Powers Authority (JPA) was formed to oversee and facilitate economic reuse of the former military installation. The JPA prepared a Preliminary Reuse Plan, with Air Force participation, that was used by the Department of Defense in issuing a Record of Decision for disposal of base property. In 1996, the JPA prepared the Castle Air Force Base Reuse Plan, a long-term plan to address local planning issues necessary for the successful reestablishment of commercial, industrial, and institutional land uses at the former base. As a prelude to applying for annexation of the CAADC site, the Atwater City Council on December 1997 formally adopted the Reuse Plan and associated Land Use Plan Map as the City’s land use plan for all territory within the CAADC boundary.

The Reuse Plan quantifies existing resources at the CAADC site, and it contains a preliminary market assessment for reuse opportunities. Most importantly, it provides for a variety of land uses and indicates the locations where these uses would be allowed. Nine land use designations are applied to the roughly 2,566 acres the Reuse Plan covers. Table 2-6 below lists the land use designations for the CAADC site and the number of acres designated.

The JPA currently manages base closure and reuse activities. Should annexation be approved, the City would make all land use decisions and provide municipal services. The JPA would continue to provide maintenance for certain facilities and common areas after annexation.

The following goals and policies have been adopted by the City of Atwater in anticipation of eventual annexation of the CAADC.

Table 2-6
CAADC Reuse Plan Land Uses

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Acreage 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport and Airport</td>
<td>1,323.0</td>
</tr>
<tr>
<td>Related</td>
<td></td>
</tr>
<tr>
<td>Correctional Facility</td>
<td>653.0</td>
</tr>
<tr>
<td>Business Park</td>
<td>269.0</td>
</tr>
<tr>
<td>Medical</td>
<td>14.3</td>
</tr>
<tr>
<td>Educational Commercial</td>
<td>101.4</td>
</tr>
<tr>
<td>Recreation</td>
<td></td>
</tr>
<tr>
<td>Visitor Commercial</td>
<td>35.5</td>
</tr>
<tr>
<td>Commercial</td>
<td>105.8</td>
</tr>
<tr>
<td>Commercial Recreation</td>
<td>40.6</td>
</tr>
<tr>
<td>Open Space</td>
<td>23.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,566.0</strong></td>
</tr>
</tbody>
</table>

1 Acreage information for the CAADC does not include off-base housing and is based upon a reconciliation between the Reuse Plan estimates and the 1996 Annexation Feasibility Study prepared for the City. Actual acreage of the entire site is somewhat less based on preparation of a recent legal description.

GOAL LU-7. Ensure that long term economic and social benefits, such as employment, are
maximized through reuse of the former Castle Air Force Base.

**Policy LU-7.1.** The City of Atwater, in concert with Merced County and the Merced County LAFCO, may continue to pursue annexation of the CAADC, if considered in the best interests of the City.

**Policy LU-7.2.** Accomplish full economic reuse of the Castle property.

**Policy LU-7.3.** Promote the Joint Powers Authority's reuse efforts in coordination with City economic development efforts.

**Policy LU-7.4.** Coordinate economic development functions at Castle with the JPA, the City and County of Merced, and various other economic development entities which are promoting revenue and employment-generating businesses within the region.

**Policy LU-7.5.** Appropriately locate land uses to minimize conflicts and maximize reuse opportunities.

**Policy LU-7.6.** Utilize the Castle AFB Reuse Plan and Land Use Plan Map, adopted by the JPA, or subsequently adopted document as the City of Atwater's Land Use Plan and General Plan land use designations for properties within the Castle Airport and Aviation Development Center boundary.

**Policy LU-7.7.** During review of individual projects, ensure consistency with the Reuse Plan, map and policies, or any subsequent documents developed jointly and approved by the City of Atwater, City of Merced, JPA, and County of Merced.

**Policy LU-7.8.** Development applications submitted to the City shall be referred to the County of Merced for comment.

**Policy LU-7.9.** In order that reuse activities will not compromise long-term toxic clean-up programs at Castle, all applications received by the City involving uses with the potential to create groundwater contamination or other environmental hazards shall be referred to the Air Force Base Conversion Agency for comment.

**Policy LU-7.10.** Availability of sewer, water, and drainage facilities shall be demonstrated for all reuse activities.

**Policy LU-7.11.** A long-term fiscal plan for maintenance and construction of capital facilities shall be prepared.

**Policy LU-7.12.** Ensure development/reuse activities contribute their fair share toward capital improvements necessary to offset project impacts.

**Policy LU-7.13.** Utilize assessment districts, major thoroughfare zones of benefit and/or other financing tools, based on local traffic studies to ensure reuse activities contribute their fair share for new and upgraded transportation facilities.

**Policy LU-7.14.** Prior to sunset of the Air Force caretaker agreement, a tax/revenue sharing agreement or other appropriate mechanism, shall be developed and implemented to fund public safety services at Castle.

**Policy LU-7.15.** Application procedures shall be streamlined to minimize project approval timelines within the Reuse Plan area.

**Policy LU-7.16.** Development applications and plot plans will be accepted for review by the City after the JPA has indicated that it will consider leases for such uses.

**Policy LU-7.17.** City staff will work cooperatively with JPA staff to achieve application processing timelines coordinated with the JPA lease issuance process.

**Policy LU-7.18.** Utilize the Castle Reuse Plan, "Plan Implementation," section as a general guide for permit application review and processing procedures, in combination
with appropriate zoning provisions of the City Code.

Policy LU-7.19. Modify permit application review, processing, and approval procedures as necessary to:

- Improve coordination between the City, JPA, and County of Merced.
- Simplify the application process.
- Reduce approval timelines, particularly for minor projects or activities.

Policy LU-7.20. Should the City, County, and JPA deem appropriate, the City of Atwater shall support the creation of an Airport District for all or portions of Parcel A.

Policy LU-7.21. Any applications for reuse on lands within Castle that have been retained by the federal government shall be accompanied by a statement from the JPA Board and/or Air Force Base Conversion Agency that they are considering leasing to the applicant.

Policy LU-7.22. All reuse activities shall be in conformance with the California Environmental Quality Act.

Policy LU-7.23. Environmental review (CEQA compliance) shall assume full military operations as they were in effect at the time of the base closure announcement in September 1990, as the baseline environmental setting when determining impact thresholds for reuse activities, consistent with State law, the Air Force base closure EIS, and the JPA’s Reuse Plan EIR. Projects which exceed this threshold will be subject to further review under CEQA prior to approval by the City.

Policy LU-7.24. Preserve the utility and full civilian/general aviation use of Castle Airport.

Policy LU-7.25. Development standards shall be flexible in consideration of historic mixed-use development patterns as a military base.

REDEVELOPMENT AREA AND PLAN

In 1976, the Atwater Redevelopment Agency was created. The Agency is a tool to assist in the elimination of blighting conditions within the Project Area, and it seeks to ensure that the City's economic base will grow and remain healthy through the provision of new public improvements, commercial and industrial development, and affordable housing. The Project Area, approximately 806 acres in size, consists of the downtown commercial core, the Applegate Business Park, the Atwater Business Park, two public parks, and several residential neighborhoods (Figure 2-5).

The goals of the Atwater Redevelopment Agency, pertinent to economic development, are as follows:

- Improve the existing infrastructure supporting the Project Area, particularly streets, sewerage, water, storm drainage, curb, gutter and sidewalk, railroad crossings, parks and playgrounds, and parking. Remove existing impediments to the economic development of the community.

- Eliminate or mitigate other existing blighting conditions, including incompatible land uses, obsolete or substandard structures, inadequate public facilities and small, irregular landlocked parcels.

- Ensure and maintain an attractive, viable downtown Business District which provides economic incentives that create new job opportunities.

- Encourage and assist industrial and commercial development to ensure adequate job opportunities, a stable tax base in the community, and new investments in the Project Area.
Redevelopment projects that have been carried out include the Downtown Revitalization Project, the Southwest Infrastructure Project, and the Atwater Business Park. Nevertheless, some blighted conditions remain. Specifically, dilapidated buildings between Broadway and Atwater Boulevard from First Street to Shaffer Road need redevelopment assistance, as do underutilized parcels on Sycamore Avenue and parcels elsewhere in the Project Area.

In its 1994-1999 AB 1290 Implementation Plan Review, the Redevelopment Agency discussed the following projects:

1) **Redevelopment of the Atwater Municipal Airport.** In 1995, construction began on the conversion of the Atwater Municipal Airport to a business park (the airport was closed in anticipation of reuse of the Castle airfield). The completed business park has City infrastructure stubbed to each site available to accommodate potential users. Approximately 30 acres remain vacant for development. Project cost: approximately $1.5 million, all funded from 1991 bond proceeds.

2) **Applegate Business Park Storm Drainage.** In the 1992 General Plan update, one mitigation measure listed for future development of southwest Atwater was the provision of a comprehensive and master storm drainage system to Applegate Business Park. Agency staff completed an application for an Economic Development Administration grant for approximately $558,000, with the Agency providing the remaining necessary funds for the estimated $909,100 project.

3) **Atwater Canning Company.** The Atwater Canning Company approached the Agency with a proposal to divert its process water from the City’s wastewater treatment plant to an off-site land application process. The intent was to keep the company competitive while freeing treatment capacity to service the CAADC site and new developments. The Agency assisted in the financing of pipeline construction by successfully completing a loan application to the Rural Economic Development Infrastructure Program and pledging an additional loan. Project cost: $1.5 million, to be paid for by tax increments.

4) **Downtown "Bits and Pieces" Project.** In 1979, the Agency adopted a Downtown Business District Revitalization Plan. Several downtown infrastructure improvement projects were phased over several years, forming the "bits and pieces" approach. In 1995, the final phase was completed in the Downtown Atwater Core. The final phase consisted of the installation of new sidewalk, new street tree wells, curb, gutter, and handicap access ramps. Project cost: $70,000.

5) **NCI Building Systems.** An incentive package totaling over $468,000 was offered to NCI Building Systems to locate its manufacturing and sales design office to the Atwater Business Park. The package included a land write-down, off-site improvements, permit discounts, and "fast-tracking" of the development process. The company's operations generate approximately $200,000 per year in sales tax revenues to the City, and more than $40,000 annually in tax increments to the Agency.

The Implementation Plan Review also discusses future projects involving the Redevelopment Agency. Improvements of the aesthetics and value of the Atwater Boulevard corridor will continue to have a high priority. Another project is the provision of infrastructure improvements and housing rehabilitation or new construction on Broadway and Atwater Boulevard east of First Street. The Agency will seek to stimulate business interest in the Applegate Business
Land Use, Public Facilities and Community Infrastructure Element

Park by providing storm drainage improvements, improving the Applegate Overpass and Highway 99 interchange, and actively marketing the business park. For the Atwater Business Park, the Agency shall be the lead and set forth improvement plans for its development, provide all basic infrastructure needs for light industrial activities, and employ active marketing strategies.

GOAL LU-8. Support the efforts of the Atwater Redevelopment Agency to upgrade infrastructure, provide affordable housing opportunities, and remove blight within the Redevelopment Area.

Policy LU-8.1. The City will continue to exercise its redevelopment powers to implement the policies of the General Plan, including the acquisition of land for reuse, the funding of public improvement projects such as streets and parks, and provision of financial assistance to developers and homeowners.

Implementation Program LU-8.a. The City will identify large properties or property groups with high development potential and, where feasible, participate in their development through Redevelopment Agency powers such as land assembly, planning and financing, and selection of a master developer.

Implementation Program LU-8.b. The City through the next five-year Implementation Plan of the Redevelopment Agency, shall identify blighted areas and develop measures to eliminate blight. Measures shall include a financing mechanism.

COMPREHENSIVE ANNEXATION PLAN - DESIRED SPHERE EXPANSION

The Atwater Sphere of Influence currently encompasses 11 square miles. The Sphere of Influence includes all the land presently within the Atwater City limits, and those areas expected to ultimately be served by the City. The most significant land area within the Sphere of Influence that is currently outside of the City limits is the CAADC site to the northeast. In 1984, the Merced County Local Agency Formation Commission (LAFCO) approved the inclusion of the then-existing Castle Air Force Base site in Atwater's Sphere of Influence. The current Sphere of Influence also includes lands north of the City limits bounded by Winton Way, Gertrude Avenue, Santa Fe Drive, and Wallace Road. Lands adjacent to the southern and northwestern City limits are included as well.

The City's primary target annexation area has historically been the CAADC site. The employment and economic multipliers generated by operation of the former military base were a significant portion of the region's, and particularly the City of Atwater's, economic base. Closure of that facility and its successful conversion to civilian use are now issues of special concern to the City. However, much of the site's infrastructure would have to be improved to City standards. Future development could pay for some of the costs, but more immediate improvements would have to be funded by other means.

Upon closure of Castle Air Force Base in 1995, the City began evaluating the feasibility of annexing the site. In December 1997, the City amended its General Plan to incorporate the Reuse Plan for Castle Air Force Base as its land use plan for the site, thus ensuring legally required consistency between the plans. On May 1998, the City submitted an application to the Merced County LAFCO for annexation of the CAADC site. In response, LAFCO sent a letter to the City dated June 5, 1998 requesting further information and documents. Updated application materials were submitted to LAFCO in July 1998. At that time the City of Atwater and County of Merced resumed the process of negotiating a tax sharing agreement that would go into effect upon annexation of the CAADC site. It is unknown when this aspect of the annexation process will be resolved. If a mutually acceptable agreement is not developed, the City may elect to withdraw its application for annexation.

As part of the City of Atwater's 2000 General Plan Update, the community has evaluated
the vacant land available within its existing City limits, current (1984) Sphere of Influence, and identified the boundaries of its proposed (2000) Sphere of Influence.

Table 2-7 summarizes vacant land estimates for the various categories within Atwater’s existing City limits. This information was compiled from resources including the Merced County Association of Governments, the Merced County Assessor’s Data Base, and a vacant land map maintained by the City. This information has also been depicted in Figure 2-6.

### Table 2-7
Vacant Land Inventory for Existing Atwater City Limits

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Vacant Acres</th>
<th>Historic Absorption Rate/Year</th>
<th>Projected Absorption Rate/Year</th>
<th>Estimated Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>VLDR</td>
<td>52.00</td>
<td>44.0</td>
<td>66.0</td>
<td>&lt;1 year</td>
</tr>
<tr>
<td>LDR</td>
<td>293.0</td>
<td>21.0</td>
<td>32.0</td>
<td>9 years</td>
</tr>
<tr>
<td>MDR</td>
<td>19.00</td>
<td>3.70</td>
<td>5.50</td>
<td>3 years</td>
</tr>
<tr>
<td>HDR</td>
<td>27.00</td>
<td>0.40</td>
<td>0.60</td>
<td>45 years</td>
</tr>
<tr>
<td>COM¹</td>
<td>79.00</td>
<td>11.0</td>
<td>22.0</td>
<td>4 years</td>
</tr>
<tr>
<td>BP</td>
<td>173.5</td>
<td>4.50</td>
<td>9.00</td>
<td>19 years</td>
</tr>
<tr>
<td>MFG</td>
<td>49.00</td>
<td>4.50</td>
<td>9.00</td>
<td>5 years</td>
</tr>
</tbody>
</table>

¹ Includes all commercial categories.  
² Projected absorption rates have been estimated considering historic growth trends and anticipated development demands resulting from local and regional influences (i.e., Major circulation improvements, UC Merced Development, Prison Development and successful Reuse of the CAADC).

The amount of non-urbanized land for some categories represents less than a one year supply.

With this General Plan, the City is planning to expand its Sphere of Influence by approximately 8,636.65 acres, or 13.5 square miles. The entire area is expected to accommodate more than 20 years of development, however, some commercial and business park areas may need to be annexed in advance of development to ensure that needed infrastructure can be adequately planned for.

For general reference and infrastructure planning purposes, lands within the proposed Sphere of Influence have been broken down into four specific growth areas. As indicated in Figure 2-1, these areas include: Westside, Castle Parkway, CAADC Fringe, and Southwest Atwater.

The Westside area extends from the City’s existing western corporate limits and 1984 Sphere of Influence boundary and continues west just past the intersection of Central Avenue and State Route 99.
FIGURE 2-6
VACANT AND NON-URBANIZED LANDS
A future interchange has been proposed at the Westside Boulevard/SR 99 intersection. This major infrastructure improvement along with the extension of Bellevue Road will provide an opportunity for additional commercial and business park development along a new northern entrance into the City.

The Castle Parkway area is located south of the CAADC between Buhach and Trinidad Roads, north of SR 99. A four lane expressway is proposed through the center of this area as part of the University Access System for UC Merced. Again, the development of a major infrastructure improvement in an area immediately adjacent to the existing City limits will provide an opportunity for a mix of residential and commercial land uses. It is hoped that housing which is located within close proximity to the University Access system and designed to accommodate both students and faculty members will attract these groups to Atwater.

The CAADC Fringe area includes lands surrounding the Castle Airport and Aviation Development Center. Successful reuse of the CAADC is expected to create a demand for additional business park development in close proximity to that facility. The area is also ideally suited for business park development rather than residential or some other more sensitive land use because of the noise and compatibility concerns associated with continued use of the Airport.

Southwest Atwater consists of a tract of land located south of SR 99 and the City’s existing corporate limits and Sphere, west of the Community of McSwain, east of Bert Crane Road and north of Highway 140. Long-term future development in this area is likely to take on a predominantly residential character although agreements will be encouraged between the City and County of Merced to ensure that some separation is maintained between Atwater and the Community of McSwain.

The City’s target annexation priorities have been separated into three phases, as summarized in Table 2-9. Although a number of areas have been listed in Phase I, the actual sequence of annexation may vary depending upon the City’s ability to provide services, the desires of private property owners, and other market influences.

Table 2-9
Target Annexation Priorities

<table>
<thead>
<tr>
<th>Phase I</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Castle Parkway and Vicinity</td>
</tr>
<tr>
<td>• CAADC Fringe</td>
</tr>
<tr>
<td>• CAADC (as appropriate)</td>
</tr>
<tr>
<td>• Westside Interchange</td>
</tr>
<tr>
<td>• Southwest Atwater SP 1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase II</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Southwest Atwater SP 2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase III</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Southwest Atwater SP 3</td>
</tr>
</tbody>
</table>

Including these areas in the City’s Sphere of Influence at this time would allow the City to comment on any development proposals which might occur at these locations and impact current and future City development patterns, public service provision, and circulation routes.

GOAL LU-9. Pursue orderly expansion of the Atwater community.

Policy LU-9.1. Facilitate phased development of the City’s proposed growth areas.

Policy LU-9.2. Consider the following criteria when annexation and/or expansion of the City’s Sphere of Influence is contemplated:

- Is the soil suitable for agriculture according to the soil capability?
- Is the present parcel size a sufficient size for economic agricultural use?
- Is the land presently or recently used for agriculture?
- Will nonagricultural use create conflicts with adjacent agricultural uses?
- Have provisions been made to provide adequate levels of public services to
satisfy the demands generated by the proposed development?
• Will an individual waste disposal system contaminate the surface or ground water table?
• Will intensive use present hazards to public health, welfare, or safety?
• Will urban use impact significant open space and/or conservation values?
• Is there an adequate supply of available vacant land within the existing urban boundary to accommodate reasonably anticipated or historic growth needs over the next 10 years?
• Is the proposal consistent with the goals and policies of the City’s General Plan or Specific Plan?

Implementation Program LU-9.a. Consider the information provided in Tables 2-7 and 2-8 when evaluating the current Sphere of Influence for adequacy in accommodating projected growth in 5, 10, and 20 years, and submit an application for a revised Sphere of Influence to LAFCO. The “Proposed Sphere of Influence” depicted in Figure 2-1 and on the Land Use Diagram shall be used as a guide for the City’s future application.

GOAL LU-10. Maintain a compact urban form.

Policy LU-10.1. Apply an Urban Reserve land use designation to areas within the Planning area that are outside of the City’s anticipated 10-year growth boundaries and have not already developed with urban or rural residential land uses.

Policy LU-10.2. Annex and redesignate areas from Urban Reserve to other appropriate land uses when necessary based upon development demands.

Policy LU-10.3. Prior to annexation, lands designated as Urban Reserve may be developed consistent with current Merced County agricultural land use designations.

Implementation Program LU-10.a. Monitor the City’s inventory of vacant land for residential and non-residential land uses.

When the inventory of vacant lands for a particular category reaches 75 percent buildout, the City shall pursue any necessary Sphere of Influence modification/annexation and redesignate areas identified as Urban Reserve to maintain at least an additional 10-year supply of vacant land based upon projected demands.

GOAL LU-11. Identify appropriate locations and timing for future Business Park development.

Policy LU-11.1. Utilize the Urban Reserve/Business Park designation to identify areas considered appropriate for future Business Park development on the Land Use Diagram.

Policy LU-11.2. Annex and redesignate areas from Urban Reserve/Business Park to Business Park when appropriate based upon development demands.

Policy LU-11.3. Prior to annexation, lands designated as Urban Reserve/Business Park may be developed consistent with current Merced County agricultural land use designations.

Implementation Program LU-11.a. Monitor the City’s inventory of vacant land designated for Business Park uses surrounding the CAADC site. When these areas have reached 75 percent buildout, the City shall pursue annexation and redesignate areas noted as Urban Reserve/Business Park to Business Park. The amount of land annexed and redesignated should provide at least a 10-year supply of vacant Business Park land based upon projected demands.

GOAL LU-12. Ensure the utilization of consistent City and County development standards within proposed growth areas.

Policy LU-12.1. Encourage the County of Merced to review development proposals within Atwater’s proposed growth areas for
consistency with the development standards of the City.

**Implementation Program LU-12.a.** The City shall seek to establish a formal agreement with the County to ensure that consistent development standards are implemented within the City’s proposed growth areas. The agreement shall also include a review and approval process for land use designation changes for the unincorporated lands within the City's Sphere of Influence.

**AREAS OF INTEREST OUTSIDE THE EXISTING SPHERE OF INFLUENCE**

In addition to areas within the City’s proposed Sphere of Influence, the General Plan Land Use Diagram also identifies lands within the Planning Area that are of particular interest to the City. These lands are within the unincorporated portion of Merced County and have been designated as agricultural and/or open space lands in most instances. Long-term maintenance of these areas in agriculture is important to the City from the standpoint of protecting agricultural land outside of anticipated growth areas. Maintenance of agricultural and open space land uses in these areas also protects individual community identities by providing buffers or visual separation between Atwater and the City of Merced, as well as the communities of Winton, Franklin-Beachwood, and McSwain.

It is hoped that identifying these “Areas of Interest” will project the City of Atwater’s preferences in terms of land use and lay the groundwork for formal agreements between Atwater and the City and County of Merced.

**GOAL LU-13.** Maintain the agricultural and open space character of lands within Atwater’s “Areas of Interest.”

**Policy LU-13.1.** Encourage Merced County to continue to apply land use designations within Atwater’s Areas of Interest that will ensure the maintenance of the existing agricultural and open space character of those lands.

**Implementation Program LU-13.a.** Pursue the execution of a formal agreement with Merced County to ensure the long-term maintenance of the agricultural and open space character of lands within Atwater’s Areas of Interest.

**GOAL LU-14.** Preserve Atwater’s community identity by maintaining buffers between Atwater and the communities of Merced and Winton.

**Policy LU-14.1.** Designate land uses in the Planning Area that do not encourage urbanization of the land areas between Atwater and Merced, and Atwater and Winton.

**Policy LU-14.2.** Cooperate with the City of Merced and Merced County to explore the creation of a "greenbelt" that maintains a significant portion of the land area between Atwater and Merced, and Atwater and Winton, in open space or agricultural uses.

**Implementation Program LU-14.a.** Work with the City of Merced and Merced County, to conduct a feasibility study for the creation of greenbelts between Merced and Atwater, and Atwater and Winton. This study shall include a review of other greenbelt programs such as the Dixon/Vacaville Greenbelt in Solano County. If the study finds greenbelts to be feasible, the City shall actively assist in establishing and finding funding for a greenbelt program.

**GOAL LU-15.** Consider existing Plans for the Atwater Rural Residential Community No. 1 (McSwain), Franklin-Beachwood RRC/Specific Urban Development Plan (SUDP), and the Winton SUDP when conducting the City’s planning efforts.

**Policy LU-15.1.** Support implementation of Merced County’s existing Community Plans for the Atwater Rural Residential Community No. 1 (McSwain), the Franklin-Beachwood RRC/SUDP, and the Winton SUDP.
Policy LU-15.2. Discourage the expansion of existing RRC and SUDP boundaries within the Atwater Planning area.

Implementation Program LU-15.a. Work closely with the County of Merced if modifications to existing Community Plans for the Atwater RRC No. 1 (McSwain), the Franklin-Beachwood RRC/SUDP, and Winton SUDP is proposed in the future to ensure that impacts to the City of Atwater are considered.

Implementation Program LU-15.b. Pursue the establishment of an agreement with Merced County which assures that the existing boundaries of the Atwater RRC No. 1 (McSwain), the Franklin-Beachwood RRC/SUDP, and Winton SUDP will not be expanded within the Atwater Planning area.

IMPLEMENTATION OF LAND USE DIAGRAM

One of the most familiar methods of implementing General Plan land use policy and designations is through the Zoning Ordinance. Although separate from the General Plan, it is essential that the zoning districts utilized to implement General Plan land use designations are consistent with the intent of each designation.

The following table identifies each Atwater land use designation in the left column. Zoning districts considered compatible with each corresponding designation are shown in the right column. Because of the specific nature of zoning regulations, more than one zoning district may be compatible with a single land use designation.

<table>
<thead>
<tr>
<th>Land Use Designation</th>
<th>Zoning District(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Low Density Residential</td>
<td>RE, PD</td>
</tr>
<tr>
<td>Low Density Residential</td>
<td>R1 (10), R1(8), R1(6), R1(5), PD</td>
</tr>
<tr>
<td>Medium Density Residential</td>
<td>R1(4), R2, R1(3), R3(2.5), PD</td>
</tr>
<tr>
<td>High Density Residential</td>
<td>R3(2), R3(1.5), R3(1), PD</td>
</tr>
<tr>
<td>Residential Transition</td>
<td>RT</td>
</tr>
<tr>
<td>Commercial Transition</td>
<td>RT</td>
</tr>
<tr>
<td>Downtown Mixed Use</td>
<td>To Be Developed</td>
</tr>
<tr>
<td>Commercial</td>
<td>CO, CN, CC, CT, CG</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>M1, M2</td>
</tr>
<tr>
<td>Business Park</td>
<td>BP Overlay</td>
</tr>
<tr>
<td>CAADC</td>
<td>Mixed, BP Overlay</td>
</tr>
<tr>
<td>Institutional</td>
<td>All Districts w/ UP</td>
</tr>
<tr>
<td>School</td>
<td>All Districts w/ UP</td>
</tr>
<tr>
<td>Park</td>
<td>OS</td>
</tr>
<tr>
<td>Recreation</td>
<td>OS</td>
</tr>
<tr>
<td>Urban Reserve</td>
<td>Merced Co. Ag and Open Space Zones</td>
</tr>
<tr>
<td>Urban Reserve/Business Park</td>
<td>Merced Co. Ag and Open Space Zones</td>
</tr>
<tr>
<td>Agricultural/Area of Interest</td>
<td>Merced Co. Ag and Open Space Zones</td>
</tr>
</tbody>
</table>

Land Use Administration

Because of the scale, it may be difficult to determine the precise location of boundaries between General Plan land use designations. In order to streamline minor interpretations of the Land Use Diagram and reduce the need for General Plan amendments in such circumstances, the City of Atwater has established the following policies for land use administration procedures.


Policy LU-16.1. The City of Atwater Planning Department shall interpret land use
Land Use, Public Facilities and Community Infrastructure Element

designation boundaries and their application to individual parcels. Such actions will not constitute a General Plan Amendment.

Policy LU-16.2. In the event that a disagreement should arise between the Planning Department’s land use designation finding and the property owner’s opinion, the Planning Commission shall review the matter and make a final determination.

Policy LU-16.3. All requests to amend any portion of the General Plan shall be subject to the environmental review, public notice, hearing requirements, and consistency provisions of State law.

PUBLIC SERVICES, FACILITIES AND INFRASTRUCTURE

Because of the close relationship between growth and the demands for public services, facilities and infrastructure, the City of Atwater has chosen to consolidate the discussion of these items into one comprehensive element. The remainder of this document will focus on essential services, facilities and infrastructure necessary to support the City’s future growth, with the exception of transportation. Transportation related facilities and issues are addressed in detail within the Circulation Element.

FIRE PROTECTION

Fire protection services in the City are provided by the Atwater Fire Department. The Fire Department also provides fire protection service to the CAADC site under a contract with the JPA. Two fire stations are used by the Department. Station #1 is located on Broadway, while Station #2 is located on the flightline at the CAADC site. Public safety impact fees are currently being collected for the construction of a new fire station in the northern part of the City. The Fire Department has 17 full-time firefighters and one administrative employee. It also maintains a volunteer company of approximately 25 individuals (Dennis Sparks, pers. comm.). Target response time for fire protection services is five minutes or less. This standard is anticipated to be maintained and gradually improved as funding for the new fire station and equipment become available. The Fire Department currently has an ISO rating of 5 (Sparks, pers. comm.).

The ISO rating is a measure of fire protection service, with ratings from 1 to 10, 1 being the best.

Fire flows for the City are approximately 1,000 gallons per minute. All fire hydrants in the City, with few exceptions, are capable of delivering this flow. The Fire Chief stated that the City generally has a very good water supply and distribution system (Sparks, pers. comm.).

The 1992 Atwater General Plan anticipated that a maximum of two more fire stations would be sufficient to serve the community at buildout, and it identified five alternative sites. The City’s 2000 Planning Area also encompasses a large territory, however, the planned growth patterns for the City are fairly compact, and buildout population will be substantially less. As a result, the need for additional fire stations is not expected to change in order to provide adequate levels of service based upon the current Plan.

As part of the Annexation Feasibility Study for the CAADC, the Atwater Fire Department estimated that an additional 15 firefighters would be required to provide adequate service to the CAADC. Also, while existing equipment on the site would be useable, the Department stated that it would eventually have to be replaced. New equipment would
include a new engine, a heavy rescue vehicle, a command vehicle, and a support vehicle.

Fire protection services in the unincorporated areas are provided by the Merced County Fire Department. The County Fire Department has two stations in the vicinity of the Planning Area. Station 82 is located in downtown Atwater, at the corner of High Street and Broadway. The station is shared by the County and City Fire Departments. Station 88 is located in Winton. There is also a California Division of Forestry and Fire Protection station located on Winton Way above Santa Fe Drive.

In 1996, the Merced County Fire Department performed an assessment of current fire protection needs in the Merced area, and it projected future needs. One option that was selected as part of the preferred alternative for providing future service is the relocation of Station 82 to Applegate Road south of Highway 99. Much of Station 82's primary response area overlaps with the City of Atwater, which already has its own Fire Department. Relocation would increase the amount of County responsibility area within the station's primary response area. It would also provide better coverage to the rapidly growing McSwain-South Atwater area.

The City of Atwater's 2000 General Plan identifies a number of areas that will eventually be developed with industrial, business park and commercial uses. These changes may have an effect on the County's ability to provide service to those areas through the existing Mutual Aid Agreements that are in place. The Merced County Fire Department has indicated that it is in the process of developing plans for a fire station within the Franklin-Beachwood area, but may re-examine this location to eliminate duplication of service and maximize the level of service provided to more intensive growth areas.

GOAL LU-17. Ensure adequate fire protection for residents and businesses in the community.

Policy LU-17.1. Maintain the existing target response time of five minutes or less for emergency fire calls through adequate staffing, proper distribution of fire stations and equipment, and the use of automatic aid agreements.

Policy LU-17.2. Require all new development to contribute funding toward necessary fire facilities and equipment.

Implementation Program LU-17.a. Utilize the following factors to determine the location and type of firefighting equipment that is needed:

- The variety of structures in the area.
- The available water supply.
- The availability of outside aid.
- The amount of area to be protected.
- The kind of fires to be encountered.
- Desired response times.

Implementation Program LU-17.b. Forward all development applications to the City of Atwater Fire Department for that agency's review and input regarding fire safety and emergency access issues.

Implementation Program LU-17.c. Continue to provide fire safety education programs to reduce fire incidents and losses.

CRIME PREVENTION

Police protection services within the City of Atwater are provided by the Atwater Police Department. The Police Department currently operates from the main police station located at Bellevue Road, and it has recently opened a substation at Kelso Street in the northern section of the City. There are currently 39 employees in the Police Department. Of these employees, 29 are sworn officers, 17 of which are patrol officers (Gayle Janz, pers. comm.). For current operations, the Police Department has divided the City into two sectors, north and south. Three patrol areas are identified within each sector. There are no formal "beat" patterns.
Within the unincorporated portion of the Planning Area, services are provided by the Merced County Sheriff's Department. The Sheriff's Department has its main station in the City of Merced and substations in Los Banos and Hilmar. Calls for service in the unincorporated portion of the Planning Area would most likely be handled by the Merced station.

At the CAADC site, with one exception, security services are provided by a private security force employed by the Castle Joint Powers Authority (JPA) under a caretaker agreement with the Air Force. The Hospital Road area on the site is already within the Atwater City limits; thus, police services are provided by the City's Police Department. Studies related to the CAADC site revealed that an expansion of police services would be required should the site be annexed to the City. The Annexation Feasibility Study stated that the Police Department had prepared a service analysis in which two options for extension of services upon annexation were deemed feasible:

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Dispatcher</td>
<td>0 Dispatcher</td>
</tr>
<tr>
<td>10 Officers</td>
<td>12 Officers</td>
</tr>
<tr>
<td>2 Sergeants</td>
<td>0 Sergeants</td>
</tr>
<tr>
<td>25% Commander's Time</td>
<td>25% Commander's Time</td>
</tr>
<tr>
<td>10% Chief's Time</td>
<td>10% Chief's Time</td>
</tr>
<tr>
<td>1 Community Service Officer</td>
<td></td>
</tr>
</tbody>
</table>

The Department anticipates that revenue generated from property taxes within the CAADC site would offset the initial costs of providing law enforcement services. Additional officers and equipment will gradually be added in the future as the City’s corporate limits, development, and revenues increase.

The Police Department receives a majority of its funding from the City's General Fund. Grant funds are also utilized, when available, to provide additional revenue for various staff positions and programs. The City currently maintains a standard of 1.20 police officers per 1,000 residents. This standard is expected to be maintained in the future as additional funding becomes available.

**GOAL LU-18.** Ensure adequate law enforcement services for residents and businesses in the community.

**Policy LU-18.1.** Strive to maintain the City’s standard of 1.20 police officers per 1,000 residents.

**Policy LU-18.2.** Require all new development to contribute funding toward necessary law enforcement facilities and equipment.

**Policy LU-18.3.** Collocate police and fire facilities as appropriate to maximize efficiencies.

**Policy LU-18.4.** Promote ongoing public safety programs including but not limited to, Neighborhood Watch, child identification and fingerprinting, violence prevention, and other public education and crime prevention efforts.

**Policy LU-18.5.** Consider public safety issues in all aspects of public facility, commercial, industrial, and residential project design.

**Implementation Program LU-18.a.** Forward all new development applications to the Atwater Police Department to ensure that building and site designs consider utilization of crime prevention features and techniques.

**GENERAL GOVERNMENT FACILITIES**

Administration for the City is located in City Hall at 750 Bellevue Road. City Hall houses the public works, planning and building, and administrative services departments, as well as the City Manager and the City Clerk. City staff consists of 42 employees, excluding fire and police (Bettina McCoy, pers. comm.).
At this time there are no immediate plans to expand or modify the existing building. However, this may become necessary in the future, as the number of employees increases in conjunction with overall City growth.

**GOAL LU-19.** Facilitate the efficient provision of services to City residents by City administrative staff.

**Policy LU-19.1.** Expansion of City Hall should be considered when the ratio of workers to general office floor space drops below 225 square feet per worker. General office floor area includes corridors, waiting areas, and space for special equipment.

**Policy LU-19.2.** Determine the appropriateness and feasibility of developing satellite service centers for some City services.

**Implementation Program LU-19.a.** A committee comprised of at least three City staff members shall be appointed to periodically assess (every two years), the adequacy of the City’s existing administration facilities and opportunities to increase efficiency and/or the level of service provided to the citizens of Atwater. The findings of the Committee’s review, any specific recommendations, and potential sources of funding shall be forwarded to the City Council for consideration.

**SCHOOLS**

The entire Planning Area is located within the Merced Union High School District. As shown in Figure 2-7, the existing City limits, the CAADC area, the Westside area and most of Southwest Atwater are within the Atwater School District. The southern portion of Southwest Atwater, all of McSwain, and the western half of the Castle Parkway area are within the McSwain School District. The eastern portion of the Planning Area, most of which is expected to remain in current Merced County agricultural and open space uses, is located within the Merced City School District. A small portion of the Planning Area North of Camellia and west of Santa Fe Drive is within the Winton School District. Land uses proposed in that area include Urban Reserve, Very Low Density Residential, and Commercial.

**Elementary and Intermediate Schools**

The Atwater Elementary School District serves school-aged children in grades kindergarten through eighth (K-8). Its boundaries include the Atwater City limits, the CAADC site, and unincorporated areas west of the City. Within the Atwater District, there are eight general education facilities. Six elementary schools serve students in kindergarten through sixth grade (K-6), and one junior high school serves seventh and eighth grade students. One other school teaches students from kindergarten to the eighth grade (K-8). The total enrollment in the Atwater District for the school year 1997/98 was 4,430 students. Excluding enrollments generated by the former Castle Air Force Base, the Atwater District has experienced an 8.3 percent average annual growth rate in enrollment during the period from 1985 to 1995.

The Atwater District's 1998 Facilities Master Plan indicates that the total enrollment is currently below overall facility capacity. However, enrollment at one school - Elmer Wood Elementary - has exceeded capacity. At another school, Peggy Heller, enrollment for grades seventh through eighth (7-8) has exceeded the capacity of the facilities provided for these students. The number of students in the Atwater District is expected to increase, based on the projected increase in housing construction. Using a model that
incorporated conservative assumptions about growth, the Facilities Master Plan forecasted a total student enrollment of 5,404 by the year 2005. By this projection, the number of K-6 students would exceed current capacity by 567, and the number of 7-8 students would exceed capacity by 92. Moreover, under a state budgetary policy, class sizes in the first to third grades (1-3) are encouraged to be reduced to a student/teacher ratio no greater than 20:1. This program may be expanded to other grades in the near future, which would place even greater demands on school facilities.

The extra 7-8 grade students could be accommodated by the addition of modular classrooms at the schools serving these students. However, a new elementary school would be needed by 2003 to handle the extra number of K-6 students. The Facilities Master Plan recommends a 10-acre parcel north of Juniper Avenue and within the current Bellevue Elementary School attendance boundary as the site on which to construct the new school. The estimated cost of the new school would be approximately $5,650,000. It is also estimated that another $14,866,000 would be needed to modernize existing school facilities. The Atwater District currently collects the maximum allowable development impact fee of $1.84 per square foot of new residential construction, part of which goes to the Merced Union High School District. Proceeds from this fee were calculated to be insufficient to fund the facilities needed for projected increases in the number of students. Other funding options, such as a general obligation bond and a Mello-Roos district, have been suggested.

Also in the City, there is one parochial school (St. Anthony's) and two other private schools operated by religious organizations.

Outside Atwater, in the southeastern portion of the Study Area, the McSwain Union Elementary School District provides K-8 education. The McSwain School District presently holds title to a 15-acre site located at Buhach Road and Moran Avenue and is in the process of obtaining the adjacent 25 acres from Merced County. Current planning calls for construction of a school/park facility on this property.

The District has estimated that at full buildout, the City’s General Plan would generate approximately 746 additional students that would need to be served by their facilities. This number is based on the student generation rates calculated in their June 1999 Development Fee Justification Study, prepared by Michael Paoli & Associates.

In order to provide such services, the District has recommended that a 20-acre school site be designated for the construction of a new campus. This site should be located within a residential zone, away from industrial and commercial sites. The District also indicated that the General Plan should ensure ease of access for school pupil transportation via school bus, including adequate driving lanes and appropriate loading zones for pupils. A future school site has been indicated on the Land Use Diagram. This location should be considered approximate. Minor adjustments to the location may be necessary based upon land availability, safety, and access concerns. Modifications to the school site location would not require a General Plan amendment.

High Schools

Within the Study Area, high school education is provided by the Merced Union High School District. The District has four comprehensive high schools and one continuation school. One of the comprehensive high schools is Atwater High School, located along Winton Way. Enrollment figures for 1999 indicate that 2,600 students presently attend Atwater High School. According to a Development Fee Justification Study prepared for the District, enrollment at Atwater High is 761 students over the high school's capacity. The District, has prepared working drawings for the modernization of Atwater High School. Preliminary plans include the renovation of both permanent and portable classrooms, the gymnasium, and the library.

The District has plans to construct another high school in the Atwater area - Buhach High School, near the intersection of Buhach Road.
and Avenue Two southeast of the City. The new high school will have an initial capacity for 1,504 students, but plans indicate that ultimate capacity will be 1,700 students. Acquisition of land for Buhach High School took place in 1991, but the closure of Castle Air Force Base postponed the need for opening the facility. Buhach High will open in September 2000 or 2001 depending upon state funding.

Upon reviewing the City of Atwater’s 2000 General Plan Land Use Diagram, representatives from the Merced Union High School District have estimated that at General Plan buildout, approximately 5,160 high school students will be need to be accommodated based upon the current student yield per household. The projected capacity of Atwater High School and the proposed Buhach High School is 4,000 students combined.

1,160 students above projected capacity is noted as insufficient to justify a third high school, however, it is enough to make both high schools very crowded.

In 1997, the Merced Union High School District charged a residential development fee of $1.84 per square foot. The elementary school districts within the District boundaries receive two-thirds of the proceeds; the District keeps the remainder. On January 1998, the State Allocation Board authorized an increase in the maximum statutory development fees to $1.93 per square foot for residential development. Commercial/industrial development fees also were authorized to be increased from a maximum of $0.30 per square foot to $0.31. The District currently does not charge commercial/industrial development fees, but it may do so in the future if revenues from residential development fees are inadequate to fund new facilities that handle demand generated by new development. Within the Winton and McSwain Elementary School Districts, a fee on new residential development of $3.41 per square foot has recently been authorized.

The elementary school district would receive 59 percent of the proceeds, and the high school district would receive the remainder.

Post-Secondary Education

There are no colleges or other institutions of higher learning within the City. The nearest college is Merced Community College in the City of Merced. Merced is also home to a branch of Chapman University, a private university that specializes in education for working adults. Other colleges within a 60-minute commute from the City include Modesto Community College, California State University Stanislaus in Turlock, Fresno Community College and California State University Fresno. The University of California plans to build a campus north of Merced, adjacent to Lake Yosemite. The new campus, which will be called UC Merced, is scheduled to teach its first classes in 2005.

GOAL LU-20. Provide primary and secondary educational facilities to accommodate projected enrollments.

Policy LU-20.1. Work with local school districts to identify appropriate locations for future school sites and facilities.

Implementation Program LU-20.a. The City shall monitor residential growth within the City and make that information available to local school districts to facilitate school planning efforts.

Implementation Program LU-20.b. The City shall explore opportunities for new school facilities to include "joint use" facilities for other City, County, and secondary education service provider programs and services.

GOAL LU-21. Maintain and enhance the quality of educational opportunities available to Atwater residents.
**Policy LU-21.1.** Support efforts by the Atwater Elementary School District, McSwain School District, Merced City School District, Winton School District, and the Merced Union High School District to secure adequate funding for new facilities by Proposition 1A funding, under the provisions of SB 50, as appropriate.

**Policy LU-21.2.** Continue to support the collection of school fees consistent with the maximum allowable amount permitted under state law.

**Policy LU-21.3.** Provide adequate infrastructure for new school facilities in a timely manner.

**Implementation Program LU-21.a.** The City shall provide timely and accurate information required by the school districts for any school facilities needs analysis conducted in order to secure adequate funding via development fees, as required by SB 50.

**Implementation Program LU-21.b.** The City shall revise its Capital Improvement Program to schedule and fund necessary infrastructure improvements in areas where new school facilities will be constructed before such facilities are scheduled to be open.

**Libraries**

There is one library within the City limits - the Atwater Branch of the Merced County Library, located on Third Street. This facility is part of the Merced County Library system. Service at the Atwater branch has been reduced in recent years due to budget cutbacks. A library loan program has been eliminated, and reference services have been reduced. The library relies on volunteers and a support organization for services such as staff support and the purchase of books. However, the library does offer reading programs for children. Service in Spanish is also available. The building contains a meeting room that may be used by the public, but only by nonprofit groups. Near term improvements in library services and capabilities include a computer with Internet access and computerization of the Atwater branch’s checkout process. Otherwise, there are no immediate plans for any major changes in library service at this time (Amanda Kelly, pers. comm.).

**Goal LU-22.1.** Promote the maintenance and enhancement of library services and facilities that are available to the community.

**Policy LU-22.1.** Encourage the efforts of the Merced County Library to continue to improve the quality and availability of library resources and services offered at the Atwater branch facility.

**Park and Recreational Facilities**

The National Recreation and Parks Association (NRPA) has developed definitions for types of recreational facilities which, with modifications, are as follows:

**Mini-Park:** A specialized facility that serves a concentrated or limited population or specific groups such as tots or senior citizens. This facility should be located within neighborhoods and in close proximity to apartment complexes, townhouse development, or housing for the elderly.

**Neighborhood Park:** Area for intense recreational activities such as field games, court games, crafts, playground apparatus, skating, picnicking, wading pools, etc. Neighborhood park sites should be suited to neighborhood populations and geographically located for safe walking and bicycle access for intense development and easy access.
Community Park: Area of diverse recreational value including intense recreational facilities such as athletic complexes and pools, as well as more passive uses such as picnicking, viewing, nature study, and other types of recreational development.

Regional Park/Park Preserve: Area of natural or ornamental quality for outdoor recreation such as picnicking, boating, fishing, swimming, camping, and trail uses, with much of the land reserved for conservation and natural resource management.

State law and policies, as expressed particularly in the requirements for the Open Space Element of the General Plan, promote the retention of open space for recreational purposes. Beyond the general requirements, however, no specific standards have been established. Rather, it has been left to the local governments to decide how much land should be set aside as open space. The NRPA has established guidelines for the amount of recreational land necessary to serve a given population. These guidelines, presented in Table 2-11 below, are oriented largely toward more metropolitan areas. For example, a "neighborhood park" as defined by NRPA would serve a population of up to 5,000 people. Therefore, the NRPA advises each jurisdiction to establish its own standards that are tailored to the unique characteristics of the area, rather than to adopt the guidelines verbatim.

The Atwater Recreation Department manages park and recreational facilities in the City, including the Atwater Community Center. There are 18 parks within the City. Table 2-12 lists all of the City parks, along with the acreages and facilities offered. Within the Atwater City limits, there are 77.62 park acres, which is approximately 3.37 park acres per 1,000 population. This is below the ratios recommended in the NRPA guidelines. However, the City is not required to maintain a particular parkland ratio.

Approximately 119 acres have been designated as Park on the 2000 General Plan Land Use Diagram. This does not include any parkland which may be designated in the Southwest Atwater Specific Plan areas or the approximately 123 acres designated as Recreation. If all of the land currently designated as Park is developed with public park facilities in the future, and the buildout population of 64,172 persons is achieved, a standard of 1.85 acres of parkland per 1,000 population would be maintained. The actual ratio of parkland per 1,000 population that is developed is expected to be much higher as sites are identified, acquired, and developed in the Southwest Atwater Specific Plan areas.

Even before the closure of Castle Air Force Base, some of the recreational facilities on the base have been open to the public.

### NRPA Recreation Land Guidelines

<table>
<thead>
<tr>
<th>Type of Park</th>
<th>Service Area Radius</th>
<th>Desirable Size (Acres)</th>
<th>Acres per 1,000 Pop.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mini-park</td>
<td>&lt; 1/4 mile</td>
<td>1 acre or less</td>
<td>0.25 - 0.5</td>
</tr>
<tr>
<td>Neighborhood Park</td>
<td>½ - 1 mile</td>
<td>15+ acres</td>
<td>1.0 - 2.0</td>
</tr>
<tr>
<td>Community Park</td>
<td>1 - 2 miles</td>
<td>25+ acres</td>
<td>5.0 - 8.0</td>
</tr>
<tr>
<td>Regional Park</td>
<td>1 hour drive</td>
<td>200 - 1,000 acres</td>
<td>Variable</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>6.25 - 10.5</strong></td>
</tr>
</tbody>
</table>

Table 2-11
### Table 2-12
**City of Atwater Existing Parks**

<table>
<thead>
<tr>
<th>Park Name</th>
<th>Acreage</th>
<th>Location</th>
<th>Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albani Park</td>
<td>5.00</td>
<td>East Grove Ave.</td>
<td>Picnic tables, soccer fields</td>
</tr>
<tr>
<td>Bloss Park and Grounds</td>
<td>1.70</td>
<td>Area bounded by Broadway, First St., Drakeley Ave. and Second St.</td>
<td>Picnic tables, decorative fountain, rose garden, Bloss House Museum</td>
</tr>
<tr>
<td>Veterans Park</td>
<td>17.90</td>
<td>Buhach Rd. @ N. Bellevue Rd.</td>
<td>Playground equipment, picnic tables, barbecues, picnic shelter, ball fields with dugouts and lights, tennis court, basketball court</td>
</tr>
<tr>
<td>Cedar Park</td>
<td>0.90</td>
<td>Cedar Ave. @ N. Bellevue Rd.</td>
<td>Playground equipment, barbecues, picnic tables</td>
</tr>
<tr>
<td>Civic Center Grounds</td>
<td>3.87</td>
<td>750 Bellevue Rd.</td>
<td>Picnic table, decorative fountain, rose garden</td>
</tr>
<tr>
<td>Community Center Grounds</td>
<td>3.70</td>
<td>760 E. Bellevue Rd.</td>
<td>Decorative fountain, benches</td>
</tr>
<tr>
<td>E.L. Walters Park</td>
<td>2.30</td>
<td>Alabama St. @ Village Circle Dr.</td>
<td>Playground equipment, picnic tables</td>
</tr>
<tr>
<td>Girl Scout Hut Open Space</td>
<td>1.47</td>
<td>1659 Second St.</td>
<td>Picnic tables, fire pit, clubhouse</td>
</tr>
<tr>
<td>Heller Park</td>
<td>0.74</td>
<td>Heller Ave. @ Herman St.</td>
<td>Playground equipment, barbecue, picnic tables, tennis court</td>
</tr>
<tr>
<td>Joan Faul Park</td>
<td>9.90</td>
<td>2001 Bridgewater St.</td>
<td>Playground equipment, picnic tables, restroom facility, soccer fields</td>
</tr>
<tr>
<td>Manuel Bairos Park</td>
<td>4.80</td>
<td>Lakeview Dr. @ Shoreline Dr.</td>
<td>(unimproved)</td>
</tr>
<tr>
<td>Memorial Ball Park</td>
<td>2.49</td>
<td>Elm St. @ Packers St.</td>
<td>Baseball field with dugouts, backstop, scorerroom, concession stand, lights and restroom facilities</td>
</tr>
<tr>
<td>Osborn Park</td>
<td>14.00</td>
<td>Bellevue Rd. @ Livingston Canal</td>
<td>Playground equipment, picnic tables, barbecues, lighted tennis courts, ball fields, concession stands, scoreboards, restroom facilities, horseshoe pits</td>
</tr>
<tr>
<td>Power Line Open Space</td>
<td>1.77</td>
<td>Channel Ave. @ Shaffer Rd.</td>
<td>Open turf</td>
</tr>
<tr>
<td>Ralston Park</td>
<td>4.84</td>
<td>Third St. between Fir Ave. and Grove Ave.</td>
<td>Playground equipment, picnic tables, barbecues, tennis court, restroom facilities, picnic shelter</td>
</tr>
<tr>
<td>Sandlewood Basin</td>
<td>1.75</td>
<td>Winton Way @ 250’ South of Carter Way</td>
<td>Open turf</td>
</tr>
<tr>
<td>Winton Way Park</td>
<td>0.41</td>
<td>1392 Winton Way @ Elm Ave.</td>
<td>Picnic tables</td>
</tr>
</tbody>
</table>

Source: City of Atwater (Recreation Superintendent's Office)

Veterans Park, located at the intersection of Bellevue and Buhach Roads, contains a picnic area that was open to the public during working hours. It also has a youth center, softball, and football/soccer fields. Veterans Park is now managed by the Atwater Recreation Department. Other base facilities now potentially available to the public include a gymnasium and a recreation center. Southeast of the gymnasium are two baseball fields, a football/soccer field, a running track, and a cross-country running course. Located in the same block as the recreation center are a large outdoor swimming pool and tennis courts. Another pool and more tennis courts are located near the Officers' Club building.

In addition to the parks, there are other facilities in the City that are used for recreational activities. The Atwater Community Center, located at 760 East Bellevue Road, contains a multi-use room and a senior citizens’ room, along with kitchen and restroom facilities. Future plans...
for the Community Center include the expansion of the multi-use room, the addition of a teen room, and an arts and crafts room. The Youth Center at Veterans Park has an indoor basketball court and several activity rooms. The facility hosts a Boys and Girls Club. Another specialized recreational facility is the Rancho Del Rey golf course, a private facility located within the southeastern section of the City, but under the jurisdiction of Merced County.

Beyond the Atwater City limits, a county park is located in Winton. Another county park, outside the Study Area, is Lake Yosemite northeast of Merced. This park offers boating, swimming, fishing, waterskiing, windsurfing, and picnic areas. The Merced Irrigation District manages the Lake McClure-McSwain Recreation area 27 miles northeast of Merced. There are campsites available, along with picnic areas, boating, waterskiing, fishing, swimming, and hiking activities. Approximately 75 miles northeast of Atwater is Yosemite National Park, a highly popular attraction offering numerous scenic vistas and recreational opportunities.

GOAL LU-23. Develop a comprehensive strategy for parkland acquisition, construction, and maintenance which meets the community’s adopted standards for recreation facilities.

Policy LU-23.1. Strive to maintain or exceed a minimum standard of 3.0 acres of public park land per 1,000 population.

Policy LU-23.2. Ensure that park and recreation facilities are distributed equitably throughout the community.

Policy LU-23.3. Identify areas of the City that are deficient in park and recreational facilities and assign top priority for future park construction to these areas.

Policy LU-23.4. Incorporate park and recreation facilities within the CAADC into the City’s park system, as appropriate.

Policy LU-23.5. Encourage private ownership and operation of park and recreation facilities located within the CAADC that are not incorporated into the City’s system.

Implementation Program LU-23.a. Prepare a master plan for City parks and recreational facilities that prioritizes needs, identifies sites for new facilities, and establishes funding mechanisms. The financial strategy may include, but is not limited to, parkland fees, grant funding, public-private partnerships, and opportunity purchases.

WATER SUPPLY, TREATMENT AND DISTRIBUTION

The City obtains water for domestic use from a system consisting of groundwater wells and a one million-gallon elevated tank that is used for peaking storage and fire flows (Figure 2-8). Residents and businesses in the unincorporated areas obtain their domestic water from either private wells or small water companies. Small water companies, which may have from 15 to 199
FIGURE 2-8
EXISTING WATER SYSTEM

LEGEND:

- Water Well and Number
- 1 Million Gallon Reservoir
- Existing Water Line 10” or Greater Diameter Shown in Inches
connections, serve their customers through small water systems emanating from their wells.

There are 10 operating wells used by the City. An additional well (#10) is used only on a standby basis because of the presence of dibromochloropropane (DBCP) and EDB in the water. The wells are operated by individual pressure switches at the wellheads, which regulate pressures between approximately 45 and 65 pounds per square inch (psi). The City estimates that the operating wells have a total production capacity of 17,600 gallons per minute (gpm). In 1997, the wells produced approximately 2.66 billion gallons of water to satisfy demands within the City. On average, 5,067 gpm of water were pumped per day. All groundwater is treated with chlorine before it is distributed through the City's water conveyance system.

The City has a network system of pipelines that distribute the water from the wells and the storage reservoir. The pipes vary in size from 4 inches to 14 inches in diameter. Existing pipelines that are 10 inches in diameter or larger are shown in Figure 2-8.

There are areas that have historically had periods of low water pressure. Some of the areas are in the older part of town and areas east of Shaffer Road. These areas have smaller sized lines and will continue having lower water pressure unless funding becomes available to retrofit the areas with larger lines. The City is connecting the smaller lines on Shaffer Road when the road is being reconstructed. This will connect many of the smaller lines to a 12-inch mainline and should increase the pressure. The northeast area has also experienced low water pressure. A 1997 report by Boyle Engineering Corporation identified a section of Buhach Road where the installation of a 2,350-foot length of 12-inch pipe would increase the water pressures in the northeast part of the City.

The existing million gallon storage tank has only one connection into the water system grid that is 10 inches or larger. The tank would be more effective if there were at least two large line connections into the 12-inch grid.

When redevelopment of the two former base housing projects is considered, the existing water infrastructure should be reviewed to determine the size and quality of lines and how the projects will effect the City system.

If annexation of the CAADC is pursued in the future, it will trigger the need for more wells and connections into the existing City infrastructure. One consideration is the single 12-inch pipeline at Buhach Road and Santa Fe Drive. Detailed system analysis will need to be completed to see whether there should be a second connection or whether additional wells installed at Castle will be sufficient. This analysis has already been triggered in part by recent requests by the Prison Board to connect to the City’s system.

Until a detailed Master Water Plan is developed, proposed projects in the northeast portion of the City may need to analyze the need for larger lines as part of the development process. The City has required development to extend the 10-inch line from Juniper to Broadway in the Southeast part of town. There has historically been good water pressure in the northwest part of town, despite the lines being no larger than 8-inch diameter. Wells 3 and 10 are out of production due to chemical contamination. Wells 9 and 15 are on a stand-by status due to chemical contamination. Well 16 is currently operated by system demand to assist in the TCE removal at the CAADC. By not operating well 16, the TCE plume may not migrate away from the removal equipment at Castle. This project is being studied by Jacobs Engineering.
The City publishes an annual water quality report. The reports from 1993 to 1997 state that the water supplied by the City meets or exceeds all of the standards set by the State of California and by the federal government. City records indicate the amount of chlorine used in the system monthly, and the residual chlorine is tracked.

Due to concerns over groundwater contamination from trichloroethylene (TCE) from the former Castle Air Force Base, regional DBCP and EDB contamination problems and additional City growth, Wells 16, 17, 18, 19, and 20 were added to the City system. These wells are all located in the northeast and southeast parts of the City, in proximity to the CAADC site. The new wells were drilled deeper than previous wells, and they are generally sealed down to approximately 300 feet below ground level to reduce the possibility of contamination. The Groundwater Resources section of Chapter 4.0 discusses groundwater contamination in more detail.

The CAADC site currently obtains all of its water from on-site wells. Most of the older, shallower wells that have existed on the site have been taken out of service due to poor water quality or other problems. The airfield and the area to the south are currently served by two newer wells which are approximately 900 feet deep. Combined, these two wells have a maximum production capacity of 2,400 gpm. Three older wells have been serving minor facilities within the northeast properties on the site. Additional connection to the City’s system is being considered to serve the Prison facility.

The Merced Irrigation District (MID) and the cities of Merced County recently cooperated in a regional groundwater study. The Merced Water Supply Plan, which emerged from the study, concluded that groundwater would be the major source of potable water for the County. The plan describes methods and locations for construction of groundwater recharge basins. The City will be involved in the groundwater recharge and monitoring plan.

Through the preparation of the 2000 General Plan update, the City has identified four primary growth areas. Land use designations have been applied in the Westside, CAADC Fringe, and Castle Parkway areas which can be used to estimate the level of infrastructure necessary to provide water, sewer, and storm drain services in those locations. Land use designations in the Southwest Atwater area will be applied in the future through the preparation of three individual Specific Plans. Since the proposed mix and configuration of land uses in these areas has not been defined at this time, the infrastructure needs for the Southwest Atwater Specific Plan areas will be evaluated in conjunction with the preparation of each individual plan.

The preliminary infrastructure analysis prepared by Garcia-Davis-Ringler Engineering (GDR) for the 2000 General Plan evaluated water facility demand and infrastructure needs to serve the Castle Fringe area which has been divided into three sub-areas referred to as 1A, 1B, and 2. The Castle Parkway area has been identified in the analysis as Area 3. The Westside area is identified as Area 4.

Water usage rates used in the analysis are described below:

- **Business Park** - 1,500 gallons per acre per day (GPD).
- **Commercial** - 1,500 (GPD).
- **Residential** - 175 gallons per capita per day (GPCD). Density for residential uses was calculated as follows:
  - LDR - 5.0 du/acre with 3.0 persons/unit.
  - MDR - 11.0 du/acre with 3.0 persons/unit.
  - HDR - 25.0 du/acre with 3.0 persons/unit.

Table 2-13 estimates the average daily water demand associated with the identified growth areas at buildout.

Based upon the information provided in Table 2-13, the system expansion average daily use or demand is estimated to be approximately 6.8 MGD. Using a peaking factor of 1.7 for maximum day, the system would require six wells at an average of 1,700 gallons per minute (gpm) to provide maximum day plus fire flow (8,090 gpm + 2,000 gpm). The number of wells will be determined on the ultimate yield of each well and may require more than six. The existing and planned
storage tanks in the City and at the CAADC are proposed to handle peak hour flows of 12,100 gpm, using a peak hour rate of 1.5 times maximum day. The Castle AFB Annexation Feasibility Study (1996) stated that the CAADC was expected to utilize 2.65 to 3.0 MGD at buildout and that there would be a grid system of 12-inch and 16-inch lines, at least one production well and another 500,000-gallon storage tank. No map was included in the study, but it was assumed that these components would tie into the proposed expansion grid in the northeast portion of the City.

Figure 2-9 depicts the layout of the preliminary water plan that has been developed based upon the findings of the GDR analysis. The preliminary cost estimate for all identified water system improvements, including operating and maintenance costs and a supply and distribution system for the CAADC, is $13,282,500 (1999 dollars).

The City can continue to provide portable water to future development. As described within the GDR analysis, this will require the drilling of more wells and expanding the existing conveyance infrastructure. The City is in the process of completing a Water System Master Plan, which will facilitate long range planning, and provide more definitive information regarding precise system improvements and refined cost estimates. From this information a system phasing and financing strategy can be developed.

The City will also continue to monitor the ongoing groundwater cleanup by the Air Force at the CAADC site, as those efforts will influence the placement of future wells and could affect the water quality of existing wells. There are presently no substantial water supply limitations that would prevent the reuse or expansion of the CAADC site. The newer wells are deep enough to escape the contamination problems that exist at the shallower wells.

### Table 2-13
Estimated Water Demand
Atwater Growth Areas

<table>
<thead>
<tr>
<th>Acres</th>
<th>Use</th>
<th>Capita</th>
<th>Water/ GPD</th>
<th>Water/ MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>750.0</td>
<td>UR/BP</td>
<td>--</td>
<td>1,125,000</td>
<td>1.125</td>
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<tr>
<td>550.0</td>
<td>UR/BP</td>
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<td>22.0</td>
<td>COM</td>
<td>--</td>
<td>33,000</td>
<td>0.033</td>
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<tr>
<td>14.0</td>
<td>MDR</td>
<td>462</td>
<td>80,850</td>
<td>0.08085</td>
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<tr>
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<td>529.0</td>
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<td>1.388625</td>
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<tr>
<td>162.0</td>
<td>LDR</td>
<td>2430</td>
<td>425,250</td>
<td>0.42525</td>
</tr>
<tr>
<td>3,752.0</td>
<td>All</td>
<td>13,701</td>
<td>6,853,550</td>
<td>6.85</td>
</tr>
</tbody>
</table>

Source: GDR Engineering

### SEWAGE COLLECTION AND TREATMENT

The City provides sewage disposal and treatment using a pipeline system, pump stations, and a wastewater treatment plant (WWTP) that serves Atwater, Winton, and the CAADC site. Figure 2-10 depicts the existing sewer system in the City, including the location of pipelines 10 inches or larger in diameter. The treatment plant, located south of Highway 99, handles an average flow of 3.0 million gallons per day (MGD). Based on the Atwater Operations
FIGURE 2-10
EXISTING SEWER SYSTEM
and Maintenance manual, the design average dry weather treatment capacity for the treatment plant is 6.0 MGD. This is based on a maximum flow from the Davis Cannery of 0.7 MGD. City staff has stated that the Davis Cannery no longer uses the treatment plant, thus increasing the capacity available for use by other development. The wet weather design hydraulic capacity of the plant is 12.0 MGD, with a regulation restriction of 10.0 MGD. The City’s wastewater system does not receive significant quantities of infiltration during the wet season.

The facility presently consists of the following unit processes: influent pumping, flow metering, preliminary treatment, trickling filter, and secondary treatment. Secondary treatment includes: conventional activated sludge, final clarifiers, return sludge pumping, chlorination with chlorine contact chambers, and dechlorination. Solids handling facilities include anaerobic digestion, sludge storage, sludge thickening (gravity belt thickeners), liquid sludge transport, sludge drying beds (back-up only), and sludge application on an agricultural site owned and operated by the City. The City has obtained permits from the County of Merced to apply sludge on a private farm for soil amendments.

Effluent from the plant is discharged to the Atwater Drain, a tributary to Bear Creek, which flows to the San Joaquin River. The secondary treatment system is designed to utilize a trickling filter for roughing ahead of an extended aeration-activated sludge system. The roughing filter is not currently needed during tomato canning season, since the cannery no longer uses the wastewater treatment plant.

The City system uses pipes to convey the wastewater to the WWTP. The pipe sizes vary from 6 inches in diameter to 33 inches in diameter. Transport of wastewater is partially handled by gravity flow, but lift stations are required to adequately deliver wastewater to the treatment plant. There are 15 lift stations available for use, with pumping capacities ranging from 100 gpm to 900 gpm.

The plant operator of the Atwater WWTP has identified some recurring problems: primary clarifier restrictions, influent flow surges, odors, and old/new activated sludge (RAS) systems. These problems will be addressed in the near future. Currently, the City is installing energy-efficient upgrade improvements to the plant. The improvements will upgrade the sludge system, split the flow to aeration basins, renovate digester number 1, provide thickened sludge pumps, and convert the aeration basin to SSB and sludge piping modifications. The estimated cost for the improvements is $602,000.

Castle AFB had a base flow of 0.53 MGD when it was fully operational. Current flows at the CAADC site are well below that. The flow requirements for the buildout scenario of the land use plan will be approximately 2.65 to 3.0 MGD, assuming nonagricultural type uses that might require substantial capacity set asides. To accommodate full buildout of the CAADC, it will be necessary to utilize the second 12-inch force main from the base connecting to the City’s system at the existing tie-in point. Additional pumping capacity will also be necessary, and the current treatment agreement between the Castle JPA and the City will need to be amended to allow flows in excess of one million gallons.

The RWQCB has noted that there are numerous locations within the CAADC where the sewer lines are broken or are subject to root intrusion. There is also some concern that portions of the system are approaching the end of their lifetime and may require replacement in the near future. Two options for addressing sanitary sewer collection system deficiencies were suggested in the 1996 Castle AFB Annexation Feasibility Study. The first option would defer the replacement of trunk lines by correcting deficiencies at specific locations. The preliminary cost estimate for this approach is $250,000. Under the second option, the City would assume the responsibility for the replacement of key trunk lines, which are those greater than eight inches in diameter. Individual projects would bear the responsibility for connection to the main lines, even if it requires off-site extensions of smaller lateral lines connecting to the system. The second option also includes lift station pump upgrades. The preliminary cost estimates, including operations and
maintenance costs, range between $425,000 and $1,046,600.

In the near term, the extension of some sewer lines will be required to service the Price Property Development and the new high school in the eastern section of the City. The applicant for the Price development has plans to install sewer lines along Juniper Avenue, along the west side of the Rancho Del Rey golf course, and along Broadway and Green Sands Avenues. These lines would run directly to the treatment plant; thus, the development would not impact existing sewer lines.

The preliminary infrastructure analysis prepared by Garcia-Davis-Ringler Engineering (GDR) for the 2000 General Plan evaluated sanitary sewer facility demand and infrastructure needs to serve the Castle Fringe area which has been divided into three sub-areas referred to as 1A, 1B, and 2. The Castle Parkway area has been identified in the analysis as Area 3. The Westside area is identified as Area 4.

Sewer usage rates used in the analysis are described below:

- **Business Park** - 1,200 gallons per acre per day (GPD).
- **Commercial** - 1,200 (GPD).
- **Residential** - 100 gallons per capita per day (GPCD). Density for residential uses was calculated as follows:
  - LDR - 5.0 du/acre with 3.0 persons/unit.
  - MDR - 11.0 du/acre with 3.0 persons/unit.
  - HDR - 25.0 du/acre with 3.0 persons/unit.

Table 2-14 estimates the average daily sanitary sewer demand associated with the identified growth areas at buildout.

From Table 2-14, the system expansion average daily use or demand is estimated to be approximately 4.93 MGD. For their report, GDR assumed 5.0 MGD.

### Table 2-14
Estimated Sanitary Sewer Demand
Atwater Growth Areas

<table>
<thead>
<tr>
<th>Acres</th>
<th>Use</th>
<th>Capita</th>
<th>Sewer/ GPD</th>
<th>Sewer/ MGD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 1A</td>
<td>750.0</td>
<td>UR/BP</td>
<td>900,000</td>
<td>0.9</td>
</tr>
<tr>
<td>Area 1B</td>
<td>550.0</td>
<td>UR/BP</td>
<td>660,000</td>
<td>0.66</td>
</tr>
<tr>
<td>Area 2</td>
<td>520.0</td>
<td>BP</td>
<td>624,000</td>
<td>0.624</td>
</tr>
<tr>
<td></td>
<td>22.0</td>
<td>COM</td>
<td>26,400</td>
<td>0.0264</td>
</tr>
<tr>
<td></td>
<td>14.0</td>
<td>MDR</td>
<td>462</td>
<td>0.0462</td>
</tr>
<tr>
<td>Area 3</td>
<td>371.0</td>
<td>BP</td>
<td>445,200</td>
<td>0.4452</td>
</tr>
<tr>
<td></td>
<td>382.0</td>
<td>COM</td>
<td>458,400</td>
<td>0.4584</td>
</tr>
<tr>
<td></td>
<td>78.0</td>
<td>MDR</td>
<td>2,574</td>
<td>0.2574</td>
</tr>
<tr>
<td></td>
<td>529.0</td>
<td>LDR</td>
<td>7,935</td>
<td>0.7935</td>
</tr>
<tr>
<td>Area 4</td>
<td>152.0</td>
<td>BP</td>
<td>182,400</td>
<td>0.1824</td>
</tr>
<tr>
<td></td>
<td>218.0</td>
<td>COM</td>
<td>261,600</td>
<td>0.2616</td>
</tr>
<tr>
<td></td>
<td>4.0</td>
<td>HDR</td>
<td>300</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>162.0</td>
<td>LDR</td>
<td>2430</td>
<td>0.243</td>
</tr>
<tr>
<td>Total for All Areas</td>
<td>3,752.0</td>
<td>All</td>
<td>13,701</td>
<td>4,928,100</td>
</tr>
</tbody>
</table>

Source: GDR Engineering

Figure 2-11 depicts the layout of the preliminary sanitary sewer plan that has been developed based upon the findings of the GDR analysis. The sewer system was laid out using a series of 10-inch to 21-inch sewer lines and includes lift stations, as well as force mains. The existing treatment plant currently handles approximately 3.0 MGD. The design average dry weather treatment capacity for the treatment plant is 6.0 MGD. As previously discussed, the CAADC at buildout is estimated to generate 2.65 to 3.0 MGD. If only 2.65 MGD were utilized by the CAADC, the remaining 0.35 MGD could be allocated for residential use and would serve approximately 3,500 persons.
In order to accommodate future development within the identified growth areas, a second wastewater treatment plant would be needed. The capacity of the new treatment plant should be at least 5.0 MGD. Preliminary cost estimates for all identified sanitary system improvements and operating and maintenance costs, other than those already discussed for the CAADC, range between $36,497,260 and $56,497,260 (1999 dollars).

Atwater can continue to provide sewage disposal and treatment for development, but improvements and new construction must be planned, designed, and constructed. The City will need to prepare a Sewer System Master Plan to facilitate long range planning, and provide more definitive information regarding precise system improvements and refined cost estimates. From this information a system phasing and financing strategy can be developed.

**STORM DRAINAGE**

The City’s storm drainage system generally consists of detention basins and detention basins with a discharge to a natural drain or Merced Irrigation District (MID) canal. Figure 2-12 shows the pipeline facilities 24 inches or greater in diameter, storm drain basins, and pump stations. There are 13 detention basins and 16 storm water lift stations in the City, with pumping capacities ranging from 75 gpm to 8,000 gpm.

The City has an agreement with MID for storm water discharge that includes a fee for maintenance of the canal system. MID has a limited amount of storm water to be disposed of through its irrigation system, due to the canal system having less capacity as it moves downstream. MID sets a maximum rate of discharge for each development, and the water from the development is metered into the canal system. MID requires that discharge into their facilities must cease whenever the facility at the point of discharge cannot carry any additional flow. It also requires that the interface between the collection and disposal systems must have a detention basin, which collects any runoff that cannot be discharged into the MID facility until capacity within the facility becomes available. The City drains a major portion of its storm drain water through the Atwater Drain, south of the City. The Atwater Drain has a fixed discharge rate; thus, the City has to meter the flows through the small channel.

The CAADC site is presently served by a combination of storm water lines, surface drainage facilities, and channels. All of the channels eventually merge, and the collected storm water exits the Castle property at the southernmost corner of the site adjacent to Santa Fe Drive. The discharged storm water is emptied into Canal Creek, which is maintained by MID. The northeast properties utilize the same type of drainage system that discharges in Canal Creek in the same vicinity. Most of the CAADC facilities generally employ direct discharge without detention. More recent construction has incorporated storm drain detention ponds. The facilities delay discharge during heavy rains so that additional demand on existing facilities is spread out over time by containment and subsequent pumping. New construction at the CAADC would be required to provide similar detention systems.

The Merced County Critical Area Flooding and Drainage Plan, prepared in 1983 for the Merced County Association of Governments (MCAG), discussed some aspects of the City’s existing and proposed storm drainage system. The City is located within a “Critical Area” of Merced County, which is approximately 180 square miles in size and includes, along with Atwater, the cities of Merced and Livingston and the communities of Planada, LeGrand, and Winton. This area received its designation due to the population growth and its anticipated impact on existing drainage systems. The Flooding and Drainage Plan looked at both collection and disposal systems for surface runoff.

The Atwater Study area, shown in Figure 2-13 has six disposal waterways that cross or are adjacent to it. They are the Livingston and Atwater Canals, the Buhach and West Buhach Laterals, and the Parriera and Atwater Drains. According to the 1983 Flooding and Drainage Plan, the City has a number of storm drainage systems, many of which do not have 10-year design capacity.
FIGURE 2-12
EXISTING STORM DRAIN SYSTEM
FIGURE 2-13
MERCE COUNTY CRITICAL AREA FLOODING AND DRAINAGE PLAN
ATWATER STUDY AREA
The level of service required in the Critical Area for the design of collection systems is that which can collect runoff from a 10-year storm (a storm of a particular intensity that occurs once every 10 years on average). The storm drainage map for Atwater in the Flooding and Drainage Plan indicated several proposed improvements, mainly the construction of more pipelines for storm water collection. Most of the proposed new pipelines are located in the center of the City and in its southeastern and southwestern corners. Since most of the proposed drainage systems would drain into MID canals, ponding, and pumping would be required. However, as discussed below, the City has not officially adopted the Flooding and Drainage Plan with the accompanying storm drainage map.

While the City has used the Flooding and Drainage Plan as a guide for infrastructure layout for new development, the 1992 General Plan deemed that plan deficient in some respects. The plan did not cover the entire Specific Urban Development Plan (SUDP) area for Atwater recognized as the ultimate growth boundary of the community in the Merced County General Plan. Land use changes which would increase runoff and could cause localized flooding were not taken into consideration. Finally, the timeline of the Flooding and Drainage Plan extended to only the year 2000. The General Plan concluded that the City would need to either develop a Storm Drain Master Plan or to participate in an update of the Flooding and Drainage Plan.

The preliminary infrastructure analysis prepared by Garcia-Davis-Ringler Engineering (GDR) for the 2000 General Plan evaluated volume of storm water runoff that would be generated and the storm drain facilities that would be needed to serve the Castle Fringe area which has been divided into three sub-areas referred to as 1A, 1B, and 2. The Castle Parkway area has been identified in the analysis as Area 3. The Westside area is identified as Area 4.

Storm drain parameters from the Nolte Report, which are still considered applicable, were used to estimate volumes and facility needs. These parameters include:

- Storage of a 50 year storm in the basin.
- VAR/12 formula for storage.
- \[ V = 50 \text{ year rainfall} = 2.74 \text{ inches/hour}. \]
- Composite V factor:
  - Areas 1 and 2 = 0.7
  - Areas 3 and 4 = 0.6

Table 2-15 estimates the storm drainage volumes associated with the identified growth areas at buildout.

<table>
<thead>
<tr>
<th>Acres</th>
<th>Drainage Coefficient</th>
<th>Rain In./Hr.</th>
<th>VAR/12 Cubic Yd.</th>
<th>VAR/12 Ac. Ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Area 1A</td>
<td>750.0</td>
<td>0.7</td>
<td>2.74</td>
<td>193,398</td>
</tr>
<tr>
<td>Area 1B</td>
<td>550.0</td>
<td>0.7</td>
<td>2.74</td>
<td>141,825</td>
</tr>
<tr>
<td>Area 2</td>
<td>520.0</td>
<td>0.7</td>
<td>2.74</td>
<td>143,373</td>
</tr>
<tr>
<td>Area 3</td>
<td>371.0</td>
<td>0.6</td>
<td>2.74</td>
<td>305,017</td>
</tr>
<tr>
<td>Area 4</td>
<td>152.0</td>
<td>0.6</td>
<td>2.74</td>
<td>118,470</td>
</tr>
<tr>
<td>Total for All Areas</td>
<td>3,752.0</td>
<td>Varies</td>
<td>2.74</td>
<td>902,083</td>
</tr>
</tbody>
</table>

Source: GDR Engineering

Based upon the volumes indicated in Table 2-15, the storm drain system expansion depicted in Figure 2-14 was laid out with a series of 48-inch to 72-inch pipelines and retention basins and lift stations. The individual systems will require storage and a point of positive discharge. The point of discharge is not indicated, but the concept of storm drain lines and basins is shown. Typically basins will be emptied within 48 hours.

The preliminary cost estimate for all identified drainage system improvements including those for the CAADC, and system operation and maintenance, is $11,399,080 (1999 dollars).
The City will need to prepare a Storm Drainage Master Plan to facilitate long range planning, and provide more definitive information regarding precise system improvements and refined cost estimates. From this information a system phasing and financing strategy can be developed.

In the interim, Atwater can continue to provide storm drainage for development. Each development will need to develop its own storm drainage system, the type and extent of which to be determined on a case-by-case basis. The systems will generally be retention basins or detention basins with a positive discharge. Atwater will be limited by the amount of discharge into the Atwater Drain and MID facilities. The CAADC site will be limited by the amount that can be discharged into Canal Creek.

Another factor which must be considered when addressing storm drainage is the location of various flood hazard zones within the Study Area. Figure 5-3 within the Safety Element of this General Plan depicts the location of flood hazard zones that have been established by the Federal Emergency Management Agency (FEMA).

GOAL LU-24. Develop and implement Master Facility Plans for sewer, water, and storm drainage.

Policy LU-24.1. Prepare and adopt comprehensive Master Facility Plans for water, sewer, and storm drainage systems which address the City’s proposed growth areas. The plans should focus on identifying specific future needs, and planning and financing projects designed to meet these needs.

Implementation Program LU-24.a. The City shall incorporate proposed projects from adopted Master Facility Plans into its Capital Improvement Program.

GOAL LU-25. Develop a comprehensive financing strategy for public infrastructure improvements.

Policy LU-25.1. Prepare a financing strategy to accompany the City’s Capital Improvement Program. Funding strategies may include, but are not limited to, redevelopment financing, impact fees, assessment districts, and state and federal grant and loan programs.

Implementation Program LU-25.a. Require new development to pay its fair share of costs associated with providing public improvements and services.

SOLID WASTE COLLECTION AND DISPOSAL

The City generated approximately 23,570.87 tons of solid waste in 1990. Approximately 30.6 percent of the solid waste generated in the City is residential, 30.1 percent is commercial, 17.1 percent is self-haul, 15.2 percent is building and construction, and 7 percent is industrial. Solid waste in the City is collected by a private contractor, Browning Ferris Industries. The waste is transported and disposed in the Merced County Landfill, off State Highway 59. It was previously estimated that the landfill would reach capacity by 1995. The County has plans to expand the landfill by 200 acres, which would extend its useful life another 19 years. Efforts to reduce the amount of wastes which are diverted from the landfill are described in detail within the Open Space and Conservation Element under the topic of Source Reduction and Recycling.

ELECTRICITY AND NATURAL GAS

Major electrical transmission lines run through the Study Area, as depicted in Figure 2-15. One goes along Applegate Road Winton Way, extending from a line south of the City to a substation northeast of Cressey. Another line runs south of the City near Rose and Mulberry Avenues. Two lines run between Bellevue Road and Santa Fe Avenue southeast of the CAADC site before converging at a substation at the intersection of Shaffer Road and Santa Fe Avenue.

Electrical and natural gas service has been provided by Pacific Gas & Electric (PG&E), primarily from fossil fuel and hydroelectric sources. According to the current General Plan, future supplies were anticipated to be
FIGURE 2-15
MAJOR ELECTRIC TRANSMISSION LINES AND SUBSTATIONS
adequate, and no transmission problems were foreseen. Beginning in March 1998, California deregulated the electric utility industry, allowing utility customers to select from a variety of electricity suppliers. Thus, PG&E is no longer the sole supplier of electricity. However, it is still responsible for the transmission of electricity and for the maintenance of the delivery system.

At the CAADC site, electrical service, including maintenance, is provided by the Merced Irrigation District (MID). Electricity from MID is generated by the McSwain and New Exchequer Dams in Mariposa County. Powerhouses at both dams generated a total of 460,979,000 kilowatt hours (kwh) of electricity in 1997. On average, both dams have generated 332,992,155 kwh per year since their completion in 1967. MID is pursuing a larger role in the provision of electricity to the eastern part of Merced County. In 1996, it built the Pioneer Substation and began delivery of retail electric power with service to the Foster Farms plant in Livingston. MID has prepared an Electric Utility Development Plan to extend electrical service to Livingston, Atwater, and Merced. The plan calls for the expansion of the Pioneer Substation to provide service to other Livingston customers and to serve as a base for a 115 kilovolt line extension to Atwater and Merced. Line extensions are proposed to eastern and western Atwater and Castle Airport, among other places. Proposed substations in Atwater and Castle will be built as required.

As shown in Figure 2-16, the Highway 99 corridor contains a major natural gas main and crude oil pipelines. The gas main pipeline has an offshoot line running directly north through town, beginning approximately at the intersection of Atwater Boulevard and First Street. A "product pipeline" ran diagonally across the southwestern City limits to the intersection of Buhach Road and Highway 99, where two fuel storage tanks held jet fuel for use at Castle Air Force Base. The line subsequently ran north to the base. It is not known if this pipeline is still in use.

The Mojave Pipeline Company, a subsidiary of El Paso Energy Company, had plans to construct an extension of a natural gas pipeline from the Mojave Desert through the San Joaquin Valley to the San Francisco Bay Area. The proposed pipeline route would have gone through the City within the Union Pacific Railroad right-of-way. However, the pipeline has not been constructed, and the project is not listed in El Paso Energy's most recent five-year strategic plan (L. Simmons, pers. comm.).

**TELEPHONE AND CABLE TELEVISION**

Pacific Bell provides local telephone service to the Study Area. Cable television service is provided by TCI Cable. Both companies have indicated that they can accommodate future demand for their services in the Atwater area. However, TCI stated that cable service infrastructure located on the CAADC site would have to be extended and upgraded to provide adequate service there.

**GOAL LU-26.** Encourage the conformance of utility systems to community design standards while retaining their essential functions.

**Policy LU-26.1.** Require that new utilities or necessary extensions for new development and redevelopment projects be installed underground.

**Policy LU-26.2.** Pursue a variety of financing options to accomplish undergrounding of existing overhead utility lines in developed areas of the City.

**GOAL LU-27.** Promote adequate levels of utility services provided by private companies and ensure that these are constructed to minimize negative effects on surrounding development.

**Policy LU-27.1.** Communicate the City's major development and redevelopment plans with utility companies and coordinate the planning and extension of all utility facilities.

**Policy LU-27.2.** Promote technological improvements and upgrading of utility services throughout the community.
FIGURE 2-16
MAJOR NATURAL GAS & OIL PIPELINES