City of Waterford
General Plan Update
Vision 2025

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City of Waterford
General Plan
Vision 2025

June 21, 2007

General Plan Preface

"Make no little plans" Daniel Burnham (1846-1912)

The City of Waterford, a community of around 8,000 people, took a look at the future and saw a community that could double, triple or even quadruple its population in the next 20 to 30 years based on the experience of other small communities in the region. That is where the "vision" began.

The City decided to take charge of its growth; be in the position to tell the development community where, when and most importantly, how growth and development will occur. Thus began the City's "Waterford Vision 2025 General Plan" update program in 2004.

The City's leaders, its Planning Commission and City Council, challenged its administrator, planner engineer and other City officials to look far into the future. To develop a plan of what the City could look like with a population of 30,000 people; what would the City need to support this population?

The concept of "new-urbanism" was found to be a basic design principal that could solve many of the City's existing problems and achieve the City's long-term goals. These goals include the development of a "sustainable" community, a community that has a balance of job creating opportunities and vibrant commercial districts with "livable" neighborhoods.

The city is relatively isolated from the major growth centers of the Central Valley; the City's planning concept is to capitalize and "celebrate" this isolation.

Historically, Waterford was home to a ferry that provided north-south travel across the Tuolumne River. Later, the city was located along a railroad corridor serving the surrounding ranch land. Waterford, now, is located at the rural cross roads of the east-west trending State Highway 132 (Yosemite Boulevard) and the north south roadway system connecting Oakdale with the City of Merced (home of U.C. Merced).

With its location along the Tuolumne River, Waterford is a gateway to the recreation areas in the foothills of the Sierra and beyond. Farming, recreation and, of course, "bedrooms" form the basis of Waterford's economy. Given traditional patterns of rural growth, adjacent to major metropolitan centers, Waterford was destined to be a bedroom

community for the Modesto urban center. This was not the “vision” of Waterford’s residents and leaders, however.

The “Waterford Vision 2025 General Plan” recognizes that residential development is a necessary component of growth and will occur (is occurring) at the early phases of “City Building”. The plan, however, recognizes that it must accommodate business and industry to improve the quality of life for residents of the city in the future; a future that includes increasing energy costs, global warming, and changes in the region’s demographics and basic economic structure over the next few decades.

Waterford’s “vision” did not evolve without some resistance. Some agricultural interests were strongly opposed the “urban limit line” established along the western boundary of the city restricting urban encroachment into “prime” agricultural farm-lands. Others had concerns of the impacts of noise, traffic, and air pollution on the city’s residents with growth.

The plan recognizes that its policies are “first steps” in the fulfillment of the “urban vision” defined by the City’s residents and leadership. These first steps, however, are the beginning of “growing” Waterford into a City that will be better prepared to confront the changes that the future has to offer.

As a result of the efforts of the dedication and commitment of the City’s residents, elected and appointed officials, the Waterford “Vision 2025 General Plan” was give an Award of Merit by the Central Section, California Chapter of the American Planning Association in 2007.

Robert L. Borchard, AICP
Planning Director
City of Waterford

Waterford Vision 2025 General Plan

Chapter 1, Introduction

1.1 CITY OF WATERFORD IN THE REGION

1.1.2 Historic Setting

In 1859 a group of immigrants lead by William Wilkerson Baker settled on the south bank of the Tuolumne River about six miles upstream from the present town of Empire. A few years later, Mr. Baker crossed over to the north bank and filed a homestead.

He established a store and distributed supplies and mail to the men on their way to the gold mines in Tuolumne and Mariposa Counties to the east. He also built a ferry.

This small community became known as Bakerville and the original street pattern is still evident in the southeast portion of the community.

There are conflicting stories about how "Waterford" got its name. One source of information states that since it was common practice to ford the water on the Tuolumne River, the town was named "Waterford". After the railroad was built, the "old town" was moved to higher ground along the railroad which is the present center of the downtown area.

Another source states that when the Stockton-Merced branch of the railroad was constructed in 1890, the name Waterford was given to the Southern Pacific Station because it was near a much-used ford across the Tuolumne River. The City was incorporated as the "City of Waterford" in 1969.

1.1.2 Future Planning Concerns

Looking toward the future, there are many changes that will shape how Waterford will grow and develop toward the year 2025 and beyond. Environmental changes, such as global warming, will result in changing weather patterns and sea levels along the California coast. This will in turn mean snow pack in the Sierra and higher flow rates on rivers and streams. Changing crop patterns, development of new energy, and communications technology will also have an impact on the Central Valley and Waterford.

Most important is the continued population growth for the state as a whole and the Central Valley in particular.

It has been projected that nearly 5 million people will be added to California's population between the year 2000 and 2010; an additional 12.5 million by the year 2025. A significant portion of this population growth is expected to find its way into the central

San Joaquin Valley. The City of Waterford, like many other San Joaquin Valley communities, must be prepared to respond to the challenges and changes that population growth pressures will bring to this area.

1.2 PLAN & PROCESS

1.2.1 California Planning Law

Statutory authority for a general plan is expressed in Title 7, Division 1 of the Government Code of the State of California. Article 5, Section 65302 et seq. requires the city to adopt a comprehensive general plan to guide its future physical development. The plan may recognize local conditions in a format that is appropriate for the local agency. Although the general plan must address a number of different subjects and elements, the City may choose the degree of specificity and level of detail that is appropriate for its circumstances.

1.2.2 Plan Consistency Requirements

The law requires that cities and counties make a "consistency" finding with the General Plan for any subdivision map, zoning action, public facility plans, and many other functions of local government. Court decisions have concluded that these "consistency" determinations cannot be made if the local jurisdiction does not have a legally adequate general plan. In effect, local governments cannot issue development permits or perform many vital public functions without a general plan.

1.2.3 Legal Adequacy

The question of "legal adequacy" is addressed in the standards of state law and further guidance is provided by the General Plan Guidelines prepared by the Governor's Office of Planning and Research (OPR). In general, however, local governments have a considerable amount of discretion with respect to the form and contents of the general plan.

1.2.4 Authority and Responsibility

Local governments have the sole responsibility for the review, approval and adoption of the general plan. However, some state agencies have review and comment authority over the local government's actions. In California, the courts have been given the final authority to determine if local governments have complied with the requirements of law.

1.2.5 General Plan Elements

The law specifies that each general plan address seven issue areas, known as "elements," which must be consistent with each other. The seven required elements are land use, transportation, open space, conservation, housing, noise, and safety. The plan must analyze issues of importance to the community, set forth policies for conservation and development, and outline specific programs or actions for implementing these policies. City actions, such as those relating to the approval of development projects, zoning and subdivision ordinances, specific plans, and capital improvements must be consistent with the general plan.

1.2.6 The General Plan and the Environment

As previously noted, the general plan is the primary document that guides growth and development in a city or county. The plan is also closely linked to the state's environmental law. The California Environmental Quality Act (CEQA) recognizes the authority of the local general planning process in several areas and the environmental review

process is also an integral part of the local development review and decision making process.

As a “Project”, the general plan adoption process is subject to CEQA review. As a policy document, the General Plan provides guidance and sets standards for several areas of mandatory environmental review for other “projects” undertaken by local governments and the private sector.

In recognition of this close relationship between general plan policy and the environmental review process, the ***City of Waterford’s Vision 2025 General Plan*** has been prepared to include several recent changes in the state’s CEQA regulations and the broad authorities provided to local governments under State General Plan Law.

1.2.7 Purpose and Nature of the General Plan

A general plan is a legal document, required by state law, and guides a community's development and the use of its land.

The General Plan must be a comprehensive, long-term document, detailing proposals for the "physical development of the city, and of any land outside its boundaries which in the planning agency's judgment bears relation to its planning" (Government Code §65300 et seq.). Time horizons vary, but the typical general plan looks 20 years into the future and beyond.

On a more concrete level, preparing, adopting, and maintaining a general plan serves the following purposes:

- Establishment within local government the capacity to analyze local and regional conditions and needs in order to respond effectively to the problems and opportunities facing the community;
- Identification of the community's environmental, social, and economic goals;
- Recording the local government's policies and standards for the maintenance and improvement of existing development and the location and characteristics of future development;
- Providing citizens with information about their community and with opportunities to participate in the local planning and decision-making process;
- Improving the coordination of community development and environmental protection activities among local, regional, state, and federal agencies; and
- Establishment of a basis for subsequent planning efforts, such as preparation of specific plans, redevelopment plans, and special studies, to deal with unique problems or areas in the community.

1.2.8 Implementation

While the general plan sets out policies and identifies ways to put these policies into action, the actual implementation of the plan is a complex and lengthy process in its own right. In implementing the plan, local officials must take many separate, but interconnected actions according to the direction set out in the general plan.

These various implementing actions rest on two basic powers of local government: corporate and police powers. Using their "corporate power," local governments collect money through bonds, fees, assessments, and taxes, and spend it to provide services and facilities such as police and fire protection, streets, water systems, sewage disposal facilities, drainage facilities, and parks.

Using their "police power," local governments regulate citizens' use of their property through zoning, subdivision, and building regulations in order "to promote the health, safety, and welfare of the public." The general plan provides the framework for the exercise of these powers by local officials. By virtue of state law and case law, all discretionary and ministerial decisions, including all zoning, subdivision, and public works decisions, must be consistent with the general plan.

1.2.9 The City of Waterford Planning Process

The City of Waterford was incorporated in 1969. Up to that time, the City was an unincorporated community under the jurisdiction of Stanislaus County.

Efforts by the City of Waterford to conform to the requirements of State law date back to the early 1970's following incorporation of the City. In 1988 a major effort to bring the City into conformance with State law began with a series of public meetings conducted by the City's general plan consultant. This effort culminated in the adoption of the first Waterford General Plan in November 1991.

The Vision 2025 Update is based largely on these past planning efforts and extends the City's planning horizon to 2025 and beyond.

A major purpose of the revised plan is to take into consideration the changes in conditions and circumstances that have occurred since 1969 and, most recently, since 1991, and to express policies in a manner and format that will simplify their interpretation, administration, and application to individual development decisions. The intent of the plan is to provide that policies, guidelines, and standards be clear and direct so that property owners and citizens may easily understand its provisions, how they apply to parcels of land, and what their cumulative impact will be on environmental conditions and quality of life.

The broad purpose of the general plan is to express policies which will guide decisions on future growth, development, and conservation of resources through 2025 in a manner consistent with the goals and quality of life desired by the City's residents. Under State law many actions of private land development, such as specific plans, area plans, zoning, subdivisions, public agency projects and other decisions must be consistent with the general plan. The goals, policies and

implementation measures set forth in the plan will be applied in a manner to insure their constitutionality.

1.3 CITY OF WATERFORD GENERAL PLAN PROCESS

1.3.1 Public Involvement

The City has encouraged a high degree of public awareness of planning and development issues and participation by interested citizens in the preparation and consideration of plan policies. A series of local "workshops" was conducted throughout the planning process. Additionally, regular reports of progress and issues were provided to the City Planning Commission and City Council.

1.3.2 Plan Coordination

The general plan is generally compatible with the general plan of Stanislaus County. Areas for future expansion of the City are shown by it's sphere of influence. Although the City's plan does not regulate development outside of the City, it is applicable to lands within its sphere of influence. In some instances, the policies of the plan require the City to review and comment on proposed County actions.

1.3.3 Regional Planning Organizations

The planning process in California involves the coordination and cooperation of several levels of government in order to be effective. In the City of Waterford, several governmental entities have planning resources and authority that support the City's planning efforts.

- *The County of Stanislaus*

The County of Stanislaus operates under the same rules and standards as the City of Waterford with respect to land use planning and development review authority. The land use and development standards of lands located outside the City boundaries are subject to the rules and regulations of Stanislaus County. When these lands are located within the City's Sphere of Influence but outside the City's corporate boundaries, development projects are referred to the City for review and comment.

- *Stanislaus County Local Agency Formation Commission (LAFCO)*

LAFCO's were created by the State in 1963 in order to oversee the growing complexity of overlapping, local governmental jurisdictions. Each county in the state has its own LAFCO. LAFCO's are responsible for coordinating logical and timely changes in local government boundaries (annexations), conducting special studies which review ways to reorganize and streamline governmental structure, and preparing "Spheres of Influence" or ultimate growth boundaries for each city and special district in each county.

- *Stanislaus County Council of Governments (STANCOG)*

The Stanislaus County Council of Governments is comprised of representatives of the County of Stanislaus and the cities of Stanislaus County with broad based participation from a variety of public agencies and organizations through-out the County and the region. The primary responsibility of StanCOG is to administer the regional transportation planning efforts in the County. StanCOG also has responsibility for administering the Regional Housing Allocation process, as required by State law and serves as an information clearinghouse for local governments in Stanislaus County.

- *Central Valley Regional Air Pollution Control District (CVRAPCD)*

The City of Waterford is located within the Central Valley Air Basin. The *CVRAPCD* is an independent regional agency that receives funding from the State of California and the participating cities and counties and operates under State laws and locally adopted rules.

- *Caltrans, District 10*

The mission of the California Department of Transportation (Caltrans) is to "provide leadership on major transportation issues while working with other governmental jurisdictions to plan, develop, manage, and maintain a safe and efficient transportation system." The state is divided into twelve planning districts. Stanislaus County is in District 10, which also includes the San Joaquin Valley counties of San Joaquin, Merced, and five mountain counties (Alpine, Amador, Calaveras, Mariposa, and Tuolumne), and Solano County in the Bay Area. Caltrans has permitting authority for all access to and from Highway 132 and therefore works closely with the City to assure that these important roadways continue to function in a safe and efficient manner.

- *Central Valley Regional Water Quality Control Board (CVRWQCB)*

The Central Valley RWQCB is nine member state board with the primary duty of protecting the quality of the waters within the Central Valley Region for all beneficial uses. This duty is performed by formulating and adopting water quality control plans for specific ground and surface water basins and by prescribing and enforcing requirements on waste discharges. The Board will be responsible for approving all storm drain and wastewater discharge permits required by the City to implement it's storm water management and wastewater system master plans.

1.4 ORGANIZATION OF THE PLAN

The *Waterford Vision 2025 General Plan* is an update, expansion, and reorganization of the 1985 General Plan. This general plan consists of four separate documents--1) *City of Waterford Vision 2025 General Plan Executive Summary*; 2) *City of Waterford Vision 2025 General Plan*; 3) *City of Waterford Vision 2025 General Plan Program Environmental Impact Report (EIR);* and 4) *City of Waterford Vision 2025 General Plan Technical Appendices.*

The *City of Waterford Vision 2025 General Plan Executive Summary* provides a brief overview of the general plan with a summary of goals and policies (and implementing actions) for each subject area.

The *City of Waterford Vision 2025 General Plan* document is organized into twelve different chapters covering all the elements required by State law. Each chapter consists of text, diagrams, and other illustrations relating to an aspect of the City's growth and development. The text explains the issues and discusses them, then states Goals, Policies, and Implementing Actions. The seven mandated elements are:

- Land Use (Chapter 4),
- Circulation (Chapter 5),
- Open Space (Chapter 8),
- Conservation (Chapter 8),
- Housing (Chapter 10),
- Noise (Chapter 11), and
- Safety (Chapter 12).

Other issues are important to the City of Waterford but are not required to be separate elements under State law. These issues--Urban Expansion (Chapter 3), Public Facilities (Chapter 6), Urban Design (Chapter 7), and, Sustainable Development (Chapter 9), are covered in additional chapters of this general plan document.

The *City of Waterford Vision 2025 General Plan Program EIR* documents how the proposed plan will impact the environment in the sixteen subject areas required by the California Environmental Quality Act (CEQA). The EIR also evaluates three different growth alternatives and proposes mitigation measures to reduce environmental impacts.

1.5 LEGAL REQUIREMENTS

City actions, such as zoning, subdivision approvals, housing allocations, and capital improvements must be consistent with the general plan.

The general plan is to be used as a whole. One section is not to be used at the expense of others, but all of them should be used together, with flexibility. When optional subjects are added to the general plan, they have the same status as a mandated element, and no single chapter or subject supersedes the other.

1.5.1 Maps & Diagrams

The City's land use diagram, which is attached separately at the back of this document, is an integral part of the general plan. The diagram graphically expresses the plan's development policies by showing the desired arrangement and general location of land uses. The diagram is required to be consistent with the general plan text under California Government Code Section 65302. To be useful to City officials, staff, and the public, the land use diagram must allow anyone who uses the plan to reach the same conclusion about the designated use of any property covered by the plan.

Figure LU-4.1 is the land use diagram that presents the proposed general distribution of the uses of land within the City of Waterford and its Sphere of Influence (SOI) which also designates the City's "Planning Area".

The word "Diagram" is distinguished from "Map" in the context of a California Attorney General Opinion (67 OPS.CAL.ATTY. GEN.75 (3/7/84)) that provides a certain limited degree of flexibility in applying the land use designations to specific parcels of land. A "diagram" shows the approximate arrangement of and relationships between land uses rather than the precise location and detailed boundaries of land uses which a "map" (like a zoning map) would show.

The land use diagram and text together specify the number of people and dwelling units per net acre of land for each property planned for residences and the building intensity for all other proposed development. This building intensity is expressed in terms of a floor area ratio (FAR), which is the gross floor area permitted on a site divided by the total net land area of the lot. Other pertinent features of the land use diagram include the locations of existing and proposed parks, public schools, and other public facilities such as fire stations.

General plans also must contain a circulation element. This element shows the location and extent of existing and proposed thoroughfares, transportation routes, terminals, and other local public utilities and facilities, and correlates them with the land use element. The City of Waterford General Plan circulation maps show current and proposed arterials, collector streets, and local streets as well as bikeways. This roadway system "plan" has been tested against the planned level of development proposed in this general plan and has been found to be adequate.

Together, the land use diagram and circulation maps graphically show the managed growth of the City for the next 20 years. The general plan also contains other maps and diagrams that show various features of Waterford and help illustrate the goals and policies of the general plan.

1.5.2 Plan Contents

The *City of Waterford Vision 2025 General Plan* is organized into twelve chapters that address the following subjects:

- **Chapter 1--Introduction** provides the legal and organizational context within which the plan has been developed and describes its overall principals of administration.
- **Chapter 2—Waterford Vision 2025** provides the goal of community "Vision" within which the plan has been developed.
- **Chapter 3--Urban Expansion** sets forth the direction of future City growth. The goals, policies, and actions of this chapter guide future urban growth away from important resource lands in the area and provide a framework within which future urban expansion policies can occur.
- **Chapter 4--Land Use** contains the basic land use policies which will be used to guide residential, commercial, and industrial development in the City.
- **Chapter 5-- Transportation and Circulation** establishes policies and programs for development of an integrated municipal circulation and transportation system that accommodates all modes of transit (automobiles, bicycles, rail, air,

pedestrian, public transportation, etc.).

- **Chapter 6 -- Public Services and Facilities** addresses the public service and facility needs and the future expansion of the City's park system for an expanding municipal population, and identifies strategies for meeting those needs.

- **Chapter 7--Urban Design** provides ideas, in addition to policies, on how urban design concepts can be applied in Waterford to promote sustainable development and to maintain a high quality of life.
- **Chapter 8--Open Space & Conservation** contains goals and policies for the development and maintenance of public and private open space areas in the City and addresses the approaches for preserving the City's soil, water, wildlife, air, energy, historic/cultural resources and conservation of its other natural resources
- **Chapter 9--Sustainable Development** contains goals and policies to promote *Sustainable Growth* in the City of Waterford. In the context of the Waterford Vision 2025 Plan, "*Sustainable*" means meeting the needs of the present without compromising the ability of future generations to meet their needs. A second purpose is to minimize duplication and overlap of the environmental regulatory system in the City with respect to air, water, soil, cultural, wildlife and energy resources.
- **Chapter 10--Housing** contains policies and programs for assuring that safe and adequate housing is available to City residents.
- **Chapter 11--Noise** contains policies and programs focused on reducing urban noise levels.
- **Chapter 12--Safety** contains policies and programs addressing potential safety issues including seismic events, flooding, fire, hazardous materials, and others.

1.5.3 Goals, Policies and Actions

The heart of the general plan is the set of integrated and internally consistent "goals", "policies", and "actions" in each chapter. Goals are long range; they state finished conditions--the community's vision of what should be done and where. Policies and actions are short to intermediate range. Policies state the City's clear commitment on how these goals will be achieved. Actions carry out the policies and are specific, such as defining land areas to be rezoned or bicycle lanes to be added.

Together, policies and actions establish who will carry out the activities needed to meet the goals as well as how and when the goals will be met. Policies and actions guide day-to-day decision-making, so there is continuing progress toward the attainment of goals. Some policies and actions may need to be re-examined and revised during the course of the plan's planning horizon.

Some goals, policies, and actions are long term and cannot be carried out until necessary resources are available or timing is appropriate.

The following definitions describe the nature of the statements of goals, policies, standards, implementation programs, and quantified objectives as they are used in this document:

- ***Goal:*** The ultimate purpose of an effort stated in a way that is general in nature and immeasurable.
- ***Policy:*** A specific statement in text or diagram guiding action and implying clear commitment.
- ***Implementation Program:*** An action, procedure, program, or technique that carries out general plan policy.
- ***Standard:*** A specific, often quantified guideline, incorporated in a policy or implementation program, defining the relationship between two or more variables. Standards can often translate directly into regulatory controls.
- ***Quantified Objective (Housing only):*** The number of housing units that the City expects to be constructed and the number of households the City expects will be assisted through Housing Element programs and based on general market conditions during the time frame of the Housing Element.

An example of how the goals, policies, and implementing actions are set forth in this plan can be seen on *Table 1.2* along with a definition of each:

Table 1.1
General Plan Goal, Policy and Implementing Action format

Goal Area I-1: Definitions of Goals, Policies, and Implementing Actions
GOALS ■ **Goal = A General, Overall, and Ultimate Purpose, Aim, or End Toward Which the City Will Direct Effort**
POLICIES **I-1** Policy = A specific statement of principle or of guiding actions which implies clear commitment. A general direction that the City will follow in order to meet its goals by undertaking specific action programs. The word "shall" makes mandatory those policies in which it appears.

Policy I-1 ***A Specific Statement of Principle or of Guiding Actions.***
Implementing Actions: **1.1.a Implementing Action = An action, activity, or strategy carried out in response to adopted Policy to achieve a specific Goal.**

1.6 ASSUMPTIONS & CONSIDERATIONS

The *City of Waterford Vision 2025 General Plan* relies on several assumptions regarding existing and anticipated future conditions within the City's growth area. Specifically, these assumptions are:

1) Future population growth in the Waterford area, based on historic trends, will approach 10,400 by the year 2010 and 15,900 by the year 2030.
2) Using "high growth" methodologies, the city's population could be as high as 10,600 by 2010 and 21,300 by 2030.
3) In order to accommodate efficient levels of service delivery, regional urban development (residential, commercial and industrial) will be focused within the City's growth area and not in the unincorporated areas surrounding the City.
4) The average household size in the City will remain at approximately three people per dwelling unit.

If some of these events do not occur within the next 20 years, the general plan goals and policies will need to be reevaluated in light of changing conditions.

For purposes of assuring that adequate infrastructure is in place to serve the future growth needs of the City, a hypothetical population of 30,000 people has been used as the future service population of the city. This population "benchmark" applies to the development of plans and specifications for future expansion of sewer, water, storm water and street systems to serve the city and could be reached by 2040 under the "high growth" forecast.

1.7 ADMINISTRATION OF THE GENERAL PLAN

The general plan serves as a "constitution" for development, the foundation upon which all land use decisions are to be based. The general plan guides day-to-day decision-making. All other land use plans and regulations and capital improvement plans, including specific plans, redevelopment plans, zoning, subdivision, and capital improvement decisions, must be consistent with the general plan.

State law provides that the general plan may be amended as many as four times per year. Except for the housing element, state law does not establish a mandatory time schedule for comprehensive updates. Communities are expected to make adjustments to the General Plan as they are necessary. Comprehensive updates are usually needed when conditions have substantially changed since adoption of the General Plan, which might necessitate a major review every five years.

Once adopted, the general plan does not remain static. State law permits up to four general plan amendments per mandatory element per year (Government Code 65358[b]). Most amendments propose a change in the land use designation of a particular property.

As time goes on, the City may determine that it is necessary to revise portions of the text to reflect changing circumstances or philosophy. State law provides direction on how cities can maintain the plan as a contemporary

policy guide by requiring the Planning Department to report annually to the City Council on "the status of the plan and progress in its implementation" (Government Code 65400[b]).

1.7.1 Amending the General Plan

Amendments to the general plan may be initiated by the Planning Commission, City Council, City staff, or the general public. Detailed information on the procedure, timing, and costs for amendments is available from the City Planning Department. All amendments require application to the City and public hearings before the Planning Commission and City Council. Environmental review in accordance with the provisions of the California Environmental Quality Act also will be required for every general plan amendment.

California case law has found that any decision on a general plan amendment should be supported by findings of fact. These findings are the rationale for making a decision either to approve or deny a project. While specific findings may be applied on a project-by-project basis, at least the following standard findings should be made for each General Plan Amendment:

1) The proposed amendment is in the public interest. The proposed amendment is consistent and compatible with the rest of the general plan.
2) The potential effects of the proposed amendment have been evaluated and have been determined not to be detrimental to the public health, safety, or welfare.
3) The proposed amendment has been processed in accordance with the applicable provisions of the California Environmental Quality Act and the California Government Code.

Waterford

Waterford Vision 2025 General Plan

Chapter 2 Waterford's Vision & General Plan Executive Summary

2.1 Introduction

Community planning requires a City's current decision makers and residents to choose among alternative futures that they, in all likelihood, will not benefit from. Most who participate in the *Waterford Vision 2025 General Plan* process will not be residents of Waterford in 2025.

Currently, residents enjoy Waterford's small-town feeling, surrounding agricultural and open space land, the parks, the Tuolumne River frontage, etc. They do not enjoy its limited job opportunities, the need for an urban commute, the City's limited financial resources, deteriorating street and infrastructure, and pockets of urban blight. They want better urban services and infrastructure.

2.2 GUIDING PRINCIPLES

The ***Ahwahnee*** principals have been integrated into several planning concepts generally classified as "neo-traditional" urban planning or the "new urbanist" concept that emphasizes mixed use development and non-vehicular transportation networks.

The Ahwahnee Principles and "neo-traditional" planning concepts have been implemented in the City of Waterford's Vision 2025 General Plan by adhering to the following guiding principles:

- ***Conserve natural resource areas that give form and character to the community.*** In Waterford, the landscape setting, perhaps more than any other factor, affects the physical character of the community. The policies contained in the Open Space, Conservation & Recreation Chapter, as well as others, provide for strengthening the visual and physical connection between the City and its natural elements. The Urban Expansion Chapter guides future City growth away from important resource areas.

- ***Promote an urban form that integrates housing, shops, work places, schools, parks and civic facilities.*** The development approach set forth in the Land Use Chapter and the land use diagram of this plan, is the primary means of implementing this design principal.

Ahwahnee Community Principles

1. All planning should be in the form of complete and integrated communities containing housing, shops, work places, schools, parks and civic facilities essential to the daily life of the residents.
2. Community size should be designed so that housing, jobs, daily needs and other activities are within easy walking distance of each other.
3. As many activities as possible should be located within easy walking distance of transit stops.
4. A community should contain a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within its boundaries.
5. Businesses within the community should provide a range of job types for the community's residents.
6. The location and character of the community should be consistent with a larger transit network.
7. The community should have a center focus that combines commercial, civic, cultural and recreational uses.
8. The community should contain an ample supply of specialized open space in the form of squares, greens and parks whose frequent use is encouraged through placement and design.
9. Public spaces should be designed to encourage the attention and presence of people at all hours of the day and night.
10. Each community or cluster of communities should have a well defined edge, such as agricultural greenbelts or wildlife corridors, permanently protected from development.
11. Streets, pedestrian paths and bike paths should contribute to a system of fully-connected and interesting routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees and lighting; and by discouraging high speed traffic.
12. Wherever possible, the natural terrain, drainage, and vegetation of the community should be preserved with superior examples contained within parks or greenbelts.
13. The community design should help conserve resources and minimize waste.
14. Communities should provide for the efficient use of water through the use of natural drainage, drought tolerant landscaping and recycling.
15. The street orientation, the placement of buildings and the use of shading should contribute to the energy efficiency of the community.

Ahwahnee Regional Principles

1. The regional land use planning structure should be integrated within a larger transportation network built around transit rather than freeways.
2. Regions should be bounded by and provide a continuous system of greenbelt/wildlife corridors to be determined by natural conditions.
3. Regional institutions and services (government, stadiums, museums, etc.) should be located in the urban core.
4. Materials and methods of construction should be specific to the region, exhibiting continuity of history and culture and compatibility with the climate to encourage the development of local character and community identity.

- Within this land use pattern, private and public development is guided by the principles contained in this chapter.

- ***Reinforce the elements of the community which give Waterford its unique identity.*** Through purposeful acts of community building at the city's inception, Waterford developed into a thriving and attractive community. The design and development concepts outlined in this Chapter expands on these successful early planning efforts to assure that future growth and development retains Waterford's unique character.

- ***Expand the city's non-vehicular transportation network.*** Through provisions contained in the Transportation & Circulation Chapter and supporting policies of other chapters of this plan, the City's system of bike and pedestrian paths will expand to serve new growth and development. This pedestrian network is an integral part of the successful implementation of the City's design concept.

- ***Promote pedestrian access to work, commercial, recreation and residential places.*** The success of the neo-traditional development approach relies on private development which is pedestrian-friendly. The Urban Design Chapter proposes various design approaches which will improve access and encourage walking and bicycling as a viable transportation alternative at the project level and community-wide.

- ***Reinforce the downtown as the heart of the city.*** Downtown Waterford plays an important role in the social and economic well being of the community. It is the historical identity of the City and is the direct access point to the regional highway network. Policies contained in the various chapters of this plan strengthen the role and function of Waterford's downtown area.

- ***Conserve the special qualities of existing neighborhoods and districts.*** The distinctive character of Waterford's older residential neighborhoods and downtown district is the basis of memorable features in the community. The Land Use and Urban Design Chapters of this plan provide policies and guidance for maintaining these qualities. The policies and design proposals of the Urban Design Chapter provide a basis for developing these qualities in new and expanded neighborhoods.

- ***Focus residential, commercial and employment center development to encourage public transit use.*** Successful urban centers of the future will be designed to accommodate local and regional public transportation and communication systems. Although at present population levels, public transit cannot be extensively implemented in a cost effective manner, future population levels, coupled with changing technology will make public transit a more viable option. Urban design policies, which facilitate transit-friendly development, are contained in the Land Use, Transportation, and Urban Design Chapters of the *City of Waterford Vision 2025 General Plan.*

- ***Maximize the use of city streets as public spaces.*** The streets of Waterford contribute to the public open spaces of the City and can be among its liveliest and most memorable public spaces. Design considerations which focus on accommodating the automobile to the

exclusion of all other activities and modes of transportation can diminish the public value of the City's street system. Policies contained in the Transportation & Circulation Chapter, along with the design concepts developed in the Urban Design Chapter of this plan, are aimed at balancing the need for auto movement and parking with the need for the street system to accommodate other vital community needs.

It is the primary purpose of this plan to move this City towards a better future state while preserving the quality of life that is part of living in a small rural town on the east side of the Central San Joaquin Valley.

The *Waterford Vision 2025 General Plan* is the City's primary tool for guiding a growing community towards actions that preserve much of its small town flavor and social setting. A city that has an improved economy, adequate public services and cultural facilities, and a good overall quality of life for its residents.

The result of Waterford's vision for the City is that in 2025 and beyond:

- People will be able to enjoy other forms of transportation.
- Parks and open spaces will link residential, commercial, and employment centers in such a manner as to provide an attractive pedestrian or non-vehicular alternative to driving.
- The community will have a vital economy that minimizes the need for residents to travel to other communities in the region for employment, goods and services.
- The City will provide cost effective public services and residents will enjoy parks, playgrounds and cultural facilities similar to that of other communities in the region.
- The City of Waterford will retain its small rural community charm while continuing to serve a strong regional farm and recreation economy.

2.3 Stanislaus County Vision Statement

Over the course of several years, leaders of government, business and industry throughout Stanislaus County met in an effort to define and adopt a "Vision" statement for Stanislaus County. That statement is as follows:

Land Use

VISION: We will demonstrate our resolve to produce a world class example of "DOING IT RIGHT" so that Stanislaus County remains blessed with a bounty of fertile land for agriculture. Population growth will be accommodated in communities of varying sizes ranging from larger metropolitan areas to mid-sized cities, to small rural towns and enclaves. Communities will plan, grow and evolve in a compact, efficient fashion. Large expanses of agricultural land and other open space will secure buffers between urban areas and preserve the beauty of views and vistas throughout the County.

Transportation

VISION: We will have an efficient, integrated transportation system that provides internal and external linkages and facilitates economic growth.

Education

VISION: Everyone, especially our children, will have opportunities to stimulate the mind, inspire the spirit and develop healthy bodies.

Community
VISION: Stanislaus County will contain diverse, interesting and unique social and cultural characteristics that strengthen the bonds within and between our communities, preserve local identity and enhance regional pride. Individuals and groups will commit to contributing to the well-being of their community.

Government
VISION: Our local governments will govern based on the principle of stewardship. Elected officials and government employees will hold public resources and processes in trust for citizens and they will act in service of citizens and the community, not in self-interest.

Public Safety
VISION: Recognizing that public safety is the foundation for a safe and healthy society, law enforcement, fire and life safety service agencies will provide Stanislaus County residents with the highest quality services possible in conjunction with local community involvement. To that end, all agencies will strive to collaborate and form partnerships to deliver optimum service in all aspects of public safety.

2.4 Content of General Plans

California State law (Government Code Section 65302) requires all cities and counties to have an adopted general plan. This general plan serves as the blueprint for the community's future growth and development. The general plan must address certain issues that are directly related to, and influence, land use decisions.

The law specifies that each general plan address seven issue areas, known as "elements," which must be consistent with each other. The seven required elements are land use, transportation, open space, conservation, housing, noise, and safety. The plan must analyze issues of importance to the community, set forth policies for conservation and development, and outline specific programs or actions for implementing these policies. City actions, such as those relating to the approval of development projects, zoning and subdivision ordinances, specific plans, and capital improvements must be consistent with the General Plan.

2.5 General Plan Goals and Community Visions

Along with the seven mandatory elements of the plan, the City of Waterford General Plan includes three additional "optional" elements that address specific identified community concerns. These optional elements are Urban Expansion, Urban Design and Sustainable Development. The goals of these and the mandatory elements have been formulated to reflect the community "Visions" and the requirements of State law.

The *City of Waterford Vision 2025 General Plan* aims to achieve the following goals, organized by general plan element:

2.6 Waterford's Vision for the Future

The City of Waterford supports the Stanislaus County Vision Statement. In support and furtherance of the County vision, the City supports its own "vision" for the future of the City. That statement is as follows:

2.6.1. Urban Expansion

Vision: *A community whose growth and expansion occurs in such a manner as to enhance the existing community and preserves and maintains Waterford's rural small community charm.*

Goal Area A: Urban Expansion

GOALS

- **A Compact Urban Form**
- **An Effective Agriculture/Urban Area Interface**
- **Efficient Urban Expansion**

POLICIES

UE-1. The City shall Promote annexation of developed areas within the City's Sphere of Influence.
UE-2 The City shall designate areas for new urban development which reflect the physical characteristics and environmental constraints of the planning area.
UE -3 The City shall accommodate urban development on non-prime soils whenever feasible.
UE -4 The City shall control the timing, density, and location of new land uses within its urban expansion boundaries to reflect the availability of urban and utility services.
UE -5. The City shall extend Sphere of Influence boundaries relative to all major streets and highways in the Waterford Planning Area**.**

2.6.2. Land Use

Vision: *A community with a mixture of land uses that support commercial, industrial, residential and other land uses that are logical with respect to meeting the economic, social and individual needs of the City's residents and do not create problems or incompatibilities with neighboring uses or diminish a neighbors right to use their property.*

Residential & Neighborhood Goals, Policies

Goal Area L-1: Residential & Neighborhood Development

GOALS

- **Housing Opportunities in Balance with Jobs Created in the Waterford Urban Area**.
- **A Wide Range of Residential Densities and Housing Types in the City.**
- **Preservation and Enhancement of Existing Neighborhoods.**
- **Quality Residential Environments.**
- **Pedestrian-Friendly Residential Environments.**
- **A Sense of Community.**

POLICIES

L-1.1 Promote balanced development which provides jobs, services and housing.
L-1.2 Encourage a diversity of building types, ownership, prices, designs, and site plans for residential areas throughout the City.
L-1.3 Encourage a diversity of lot sizes in residential subdivisions.
L-1.4 Conserve residential areas that are threatened by blighting influences.
L-1.5 Protect existing neighborhoods from incompatible developments.
L-1.6 Continue to pursue quality single-family and higher density residential development.
L-1.7 Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services.
L-1.8. Create livable and identifiable residential neighborhoods.

Commercial & Industrial Goals, Policies

Goal Area L-2: Economic & Business Development

GOALS

- **Increased Employment Opportunities for the Citizens of Waterford.**
- **A Diverse and Balanced Waterford Economy.**
- **Preservation/Enhancement of the City's Economic Base.**
- **High Quality Industrial Areas.**
- **Ready Access to Commercial Services Throughout the City.**
- **A Revitalized Downtown Area.**

POLICIES

L-2.1 Encourage development of appropriate commercial and industrial uses throughout the City.
L-2.2 Locate new or expanded industrial/business parks in appropriate areas.
L-2.3. Promote the retention and expansion of existing industrial and commercial businesses.
L-2.4 Provide a range of services adjacent to and within industrial/business park areas to reduce auto trips.
L-2.5 Maintain attractive industrial/business park areas.
L-2.6 Provide neighborhood commercial centers in proportion to residential development in the City.
L-2.7 Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets.
L-2.8 Encourage a mixture of uses and activities that will maintain the vitality of the downtown area.
L-2.9 *Require new development to maintain at least a Jo-Housing Balance of at least 0.5 jobs per new housing unit.*

2.6.3. Transportation & Circulation

Vision: *A community with a transportation and circulation system that is adequate to meet the economic, social and individual needs of the City's residents while promoting safety, efficiency and economy for a mobile population and that does not result in excess pollution or congestion.*

Goal Area T-1: Streets and Roads

GOALS

- **An Integrated Road System that is Safe and Efficient**
- **A Circulation System that is Convenient and Flexible**
- **A Circulation System that Minimizes Adverse Impacts upon the Community**

POLICIES

T-1.1 Design streets consistent with circulation function and affected land uses.
T-1.2 Coordinate circulation and transportation planning with pertinent regional, state and federal agencies.
T-1.3 Design major roads to maximize efficiency.
T-1.4 Promote traffic safety.
T-1.5 Minimize unnecessary travel demand on major streets.
T-1.6 Minimize adverse impacts on the environment from existing and proposed road systems.
T-1.7 Minimize street system impacts on residential neighborhoods and other sensitive land uses.

Goal Area T-2: Alternative Transportation

GOALS

- **An Efficient and Comprehensive Public Transit System**
- **A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area)**
- **A Comprehensive System of Safe and Convenient Pedestrian-ways**

POLICIES

T-2.1 Support and Enhance the Use of Public Transit.
T-2.2 Support a Safe and Effective Public Transit System.
T-2.3 Encourage the Use of Bicycles as Alternative Transportation.
T-2.4 Provide Convenient Bicycle Support Facilities to Encourage Bicycle Use.
T-2.5 Maintain and Expand the Community's Existing Bicycle Circulation System.
T-2.6 Maintain a Pedestrian-Friendly Environment.
T-2.7 Improve Planning for Pedestrians.
T-2.8 Ensure That New Development Provides the Facilities and Programs that Improve the Effectiveness of Transportation Control Measures and Congestion Management Programs.

Goal Area T-2: Alternative Transportation

GOALS

- **An Efficient and Comprehensive Public Transit System**
- **A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area)**
- **A Comprehensive System of Safe and Convenient Pedestrian-ways**

POLICIES

T-2.1 Support and enhance the use of public transit.
T-2.2 Support a safe and effective public transit system.
T-2.3 Encourage the use of bicycles as alternative transportation.
T-2.4 Provide convenient bicycle support facilities to encourage bicycle use.
T-2.5 Maintain and expand the community's existing bicycle circulation system.
T-2.6 Maintain a pedestrian-friendly environment.
T-2.7 Improve planning for pedestrians.
T-2.8 Ensure that new development provides the facilities and programs that improve the effectiveness of transportation control measures and congestion management programs.

Goal Area T-3: Vehicle Trip Reduction

GOALS

- **Living Environments which Encourage People to Use a Variety of Transportation Alternatives.**
- **A Compact Urban Design for New Growth Areas.**
- **Self-sustaining, Mixed-Use, Pedestrian-Friendly Urban Centers.**

POLICIES

T-3.1 Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.
T-3.2 Encourage in-fill development and a compact urban form.
T-3.3 Promote site designs that encourage walking, cycling, and transit use.
T-3.4 Locate and Design New Commercial Developments To Provide Good Access from Adjacent Neighborhoods and Reduce Congestion on Major Streets.

Goal Area T-3: Vehicle Trip Reduction
GOALS ■ **Living Environments which Encourage People to Use a Variety of Transportation Alternatives.** ■ **A Compact Urban Design for New Growth Areas.** ■ **Self-sustaining, Mixed-Use, Pedestrian-Friendly Urban Centers.**
POLICIES **T-3.1** Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips. **T-3.2** Encourage infill development and a compact urban form. **T-3.3** Promote site designs that encourage walking, cycling, and transit use. **T-3.4** Locate and design new commercial developments to provide good access from adjacent neighborhoods and reduce congestion on major streets.

2.6.4. Public Services & Facilities

Vision: *A community with a public service delivery system that is efficient, effective and economical and that provides a range of public services adequate to meet the economic, social and individual needs of the City's residents.*

Waterford Public Services and Facilities
GOALS ■ **Adequate Public Services and Facilities to Meet the Needs of the City's Residents** ■ **Cost-Effective Public Service Delivery Systems and Facilities** ■ **Public Services and Facilities Standards that are Applied Uniformly Throughout the City**
POLICIES **PF-1.1** Establish and Maintain Adequate & Uniform Municipal Infrastructure and Service Standards. **PF-1.2** Establish and Maintain a Program for Cost Effective Operation and Maintenance of Municipal Services and Facilities to Meet Community Needs**.** **PF-1.3** Establish and Maintain a Program for Cost Effective Expansion of Municipal Services and Facilities to Meet Future Community Growth Needs. **PF-1.4** Establish and Maintain Facility Maintenance Programs that Assure Maximum Utilization of Capital Equipment and Facilities. **PF-1.5** Assure that Expansion of the City Results in the Enhancement of Municipal Services and Facilities within Waterford Without Increasing Costs to the Existing City.

Goal Area PF-2: Open Space for Outdoor Recreation
GOALS ■ **PF-High Quality Recreational Open Space** ■ **PF -Adequate Public Recreation Facilities**
POLICIES **PF -2-1** Provide high-quality park and open space facilities to serve the needs of a growing population. **PF -2-2** Maintain the City's existing high-quality open space facilities. **PF -2-3** Develop a diverse and integrated system of park facilities throughout Waterford.

2.6.5. Urban Design

Vision: *A community that retains it rural small-town flavor with a central downtown surrounded by residential and other types of supporting development; a community whose appearance and overall architectural character promotes and reflects its unique rural setting along the Tuolumne River and its "gateway" status to the recreation areas to the east of the City.*

Goal Area UD:
GOALS ■ **A Rural Community with a Unique Identity.** ■ **A Well Defined Urban Center.** ■ **An Integrated Community-Well Connected.**
POLICIES **UD-1** Promote Urban Continuity & Connection**.** **UD-2** Promote Neighborhood Conservation & Development. **UD-3** Provide for A Vibrant Downtown Center. **UD-4** Guide the Development of Commercial Strips. **UD-5** Guide the Development of Large-Scale Commercial & Industrial Projects. **UD-6** Guide the Development of New Residential Neighborhoods. **UD-7** Guide Development of Mixed-Use Neighborhood Core Areas. **UD-8** Promote Urban Landmarks & Public Art. **UD**-9 Utilize Neo-Traditional Design Concepts in Neighborhood Revitalization Programs**.** **UD-10** Maintain and Enhance the Unique Community Appearance of Waterford.

2.5.6. Open Space, & Conservation

Vision: *A community that values, protects and conserves it valuable open space & other resources, with lands that benefit local residents and support and enhance the environment and economic base of the region.*

Goal Area A: Open Space for the Preservation of Natural Resources
GOALS ■ **OS-Maintain Waterford's Biological Resources**. ■ **OS-Maintain a High-Quality, Expanding Urban Forest** ■ **OS-Preserve Scenic Corridors and Resources** ■ **OS-Improve and Enhance Water Quality**
POLICIES **OS-A-1** Identify and preserve wildlife habitats that support rare, endangered, or threatened species. **OS-A-2** Preserve and enhance Tuolumne River and Dry Creek in their natural state throughout the planning area. **OS-A-3** Promote the protection and enhancement of designated scenic routes. **OS-A-4**. Improve and expand the City's urban forest. **OS-A-5**. Preserve and enhance water quality.

Goal Area OS-B: Open Space for the Managed Production of Resources

GOALS

- **OS-Maintain and improve regional agricultural productivity**

POLICIES

OS-B-1 Protect agricultural areas outside the City's urban growth area from urban impacts.

OS-B-2 Relieve pressures on converting areas containing large concentrations "prime" agricultural soils to urban uses by providing adequate urban development land within the Waterford urban growth area.

Goal Area OS-C: Open Space for Outdoor Recreation

GOALS

- **OS-High Quality Recreational Open Space**
- **OS-Adequate Public Recreation Facilities**
- **OS-Comprehensive Urban Trail and Bike Path System**

POLICIES

OS-C-1 Provide high-quality park and open space facilities to serve the needs of a growing population.

OS-C-2 Maintain and expand the City's Bikeway and Trail System.

Goal Area OS-D: Open Space for Public Health and Safety

GOALS

- **OS-Safe Environment For Waterford's Citizens.**

POLICIES

OS-D-1 Preserve open space areas which are necessary to maintaining public health and safety.

Goal Area OS-E: Conservation of Resources

GOALS

- **OS-Conserve Water Resources**
- **OS-Preserve and Protect Soil Resources**

POLICIES

OS-E-1 Promote water conservation throughout the planning area.

OS-E-2 Protect soil resources from the erosive forces of wind and water.

2.6.7. Sustainable Development

Vision: *A community that recognizes the value of its environmental setting and promotes planning and development practices that assure the long-term livability of the community with respect to air, water, energy and other critical environmental resources.*

Goal Area SD-1: Air Quality

GOALS

- **SD-Clean Air, Free of Toxic Substances and Odor.**
- **SD-Clean Air with Minimal Particulate Content.**
- **SD-Effective and Efficient Transportation Infrastructure.**
- **SD-Coordinated and Cooperative Inter-Governmental Air Quality Program.**

POLICIES

SD-1.1 Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the City of Waterford.

SD-1.2 Coordinate local air quality programs with regional programs and those of neighboring jurisdictions.

SD-1.3 Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and a more livable environment.

SD-1.4 Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air

quality.

SD-1.5 Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs**.**

SD-1.6 Reduce emissions of PM_{10} and other particulates with local control potential.

Goal Area 2: Cultural Resources

GOALS

- **SD-A Diverse And Rich Historic and Cultural Resource Environment**
- **SD-A Long-Term Community Historic Preservation/Improvement Program**

POLICIES

SD-2.1 Identify and preserve the City's archaeological resources.

SD-2.2. Identify and preserve the City's historic and cultural resources.

SD-2.3 Develop and promote financial incentive programs for historic preservation efforts.

Goal Area 3: Energy Resources

GOALS

- **SD-Sustainable Energy Resource Use in the City of Waterford.**
- **SD- Application of "Green" or High Performance Building Technology**

POLICIES

SD-3.1 Promote the Use of Solar Energy Technology**.**

SD-3.2 Encourage the use of energy conservation features and low-emission equipment for all new residential and commercial development.

Goal Area 4: Agricultural Resources

GOALS

- **SD-A Sustainable Agricultural Economy**
- **SD-Preserved High Value Farmland**

POLICIES

SD-3.1 Preserve the City's Prime agricultural soil resources.

Goal Area 5: Sustainable Design

GOALS

- **SD-Sustainable "Green" Buildings City of Waterford.**
- **SD- Application of "Green" or High Performance Building Technology**

POLICIES

SD-5.1. Use of Sustainable or "Green" Building Principals in Site Design and Layout.

SD-5.2. Use of Sustainable or "Green" Building Principals to promote Water Conservation.

SD-5.3. Use of Sustainable or "Green" Building Principals to promote Energy Conservation.

SD-5.4. Use of Sustainable or "Green" Building Principals to promote Interior Building Environmental Quality.

SD-5.5. Use of Sustainable or "Green" Building Principals to Assure Use of Efficient Building Materials Use.

SD-5.6. Use of Sustainable or "Green" Building Principals to Minimize Waste Generation.

2.6.8. Housing

Vision: *A community that values its diversity and provides for the varied housing needs of its residents.*

Goal Area: Housing

GOALS

- **H-1 To develop through public and private channels sufficient new housing to ensure the availability of affordable housing for all households in Waterford.**
- **H-2. To manage housing and community development in a manner which will promote the long-term integrity and value of each new housing unit and the environment in which it is located.**
- **H-3. To provide for a choice of housing locations for all residents.**
- **H-4. To maintain and improve the quality of the existing housing stock and the neighborhoods in which it is located.**
- **H-5. To promote equal access to safe and decent housing for all economic groups.**
- **H-6. To promote energy conservation activities in all residential neighborhoods**

POLICIES

H-1-a. Advocate and support proposed federal and state actions which will create a positive, stable climate for housing production.

H-1-b. Wherever appropriate, facilitate the use of federal or state programs which can assist in development of new housing consistent with identified City-wide housing needs and adopted local plans and programs.

H-1-c. Support efforts which serve to coordinate and improve the ability of the housing delivery system to effectively respond to local housing needs.

H-1-d. Accommodate and encourage development of a full range of housing types within the City.

H-1-e. Maintain a sufficient inventory of developable land to accommodate timely development of needed new housing supplies.

H-1-f. Encourage and participate in efforts designed to achieve economies and efficiencies which will facilitate the production of quality, affordable housing.

H-1-g. Promote balanced, orderly growth to minimize unnecessary developmental costs that add to the cost of housing.

H-2-a. Provide that new housing be constructed in accordance with design standards that will ensure the safety and integrity of each housing unit.

H-2-b. Encourage application of community design standards which will provide for the development of safe, attractive, and functional housing developments.

H-2-c. Manage new residential development within the context of a planning framework designed to minimize adverse impacts on the area's natural resource base and overall living environment.

H-3-a. Review and update Waterford's General Plan on an annual basis to ensure that growth trends are accommodated.

H-3-b. Encourage the development of various types of housing opportunities in all residential areas.

H-3-c. Establish density bonus procedures that encourage the provision of affordable housing.

H-4-a. Monitor the quality of the housing stock to maintain a current inventory of all substandard housing units.

H-4-b. Provide for the removal of all unsafe, substandard dwellings which cannot be economically repaired.

H-4-c. Encourage development of sound new housing on vacant land within existing neighborhoods which have the necessary service infrastructure.

H-4-d. Support and encourage all public and private efforts to rehabilitate and improve the existing housing stock.

H-4-e. Promote public awareness of the need for housing and neighborhood conservation.

H-4-f. Support actions which foster and maintain high levels of owner-occupancy, particularly in those neighborhoods in which housing quality is declining.

H-4-g. Promote development of public policies and regulations which provide incentives for proper maintenance of owner-occupied and rental housing.

H-4-h. Manage development of land within and adjacent to existing neighborhoods to avoid potentially adverse impacts on the living environment.
H-4-i. Encourage proper maintenance of essential public services and facilities in residential developments..
H-4-j. Encourage available public and private housing rehabilitation assistance programs where such action is needed to insure preservation of the living environment.
H-4-k. Facilitate maximum utilization of federal and state programs which can assist lower-income homeowners to properly maintain their dwelling units.
H-5-a. Encourage enforcement of fair housing laws throughout the City.
H-5-b. Support programs which increase employment and economic opportunities.
H-5-c. Encourage development of a range of housing for all income levels in proximity to existing and planned employment centers.
H-5-d. Encourage full utilization of federal and state housing assistance programs which can enable those persons with unmet housing needs to obtain decent housing at prices they can afford.
H-5-e. Support development of housing plans and programs, including new government subsidized housing, which maximizes housing choice for minorities and lower-income households commensurate with need.
H-5-f. Wherever possible, implement adopted land development and resource management policies without imposing regulations that have the effect of excluding housing for lower-income groups.
H-6-a. Advocate and support proposed federal and state actions to promote energy conservation.
H-6-b. Promote public awareness of the need for energy conservation.
H-6-c. Promote development of public policies and regulations that achieve a high level of energy conservation in all new and rehabilitated housing units.
H-6-d. Encourage maximum utilization of federal and state programs which assist homeowners in providing energy conservation measures.

2.6.9. Noise

Vision: *A community that takes pride in its quiet rural setting and promotes urban design principles that reduce noise levels within the urban limits of the City while providing areas where necessary noise generation from industrial or other uses can be allowed to provide for necessary economic growth in the City and region.*

Goal Area N-1: Noise

GOALS

- **A Quiet Environment.**
- **Sensitive Land Use Protected From Excessive Noise.**

POLICIES

N-1.1 Reduce surface vehicle noise.
N-1.2 Reduce equipment noise levels.
N-1.3 Reduce noise levels at the receiver where noise reduction at the source is not possible.
N-1.4 Coordinate planning efforts so that noise-sensitive land uses are not located near major noise sources.
N-1.5 Mitigate all significant noise impacts as a condition of project approval for sensitive land uses.

2.6.10. Safety

Vision: *A community that promotes and provides a safe and healthy environment for its residents and visitors.*

Goal Area 1: Disaster Preparedness
GOALS ■ **General Disaster Preparedness.**
POLICIES **S-1.1** Develop and maintain emergency preparedness procedures for the City.
Goal Area 2: Seismic Safety
GOALS ■ **Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity.**
POLICIES **S-2.1** Reduce the potential danger from earthquake and seismic-related activity from existing buildings where necessary. **S-2.2** Encourage the improvement of all public facilities and infrastructure such as natural gas, fuel, sewer, water, and electrical lines and equipment with up-to-date seismic safety features. **S-2.3** Restrict urban development in all areas with potential ground failure characteristics.
Goal Area 3: Flooding
GOALS ■ **A City Free From Other Than Street Flooding.**
POLICIES **S-3.1** Endeavor to maintain the existing City and the Urban Growth Area out of the 100-year floodplain. **S-3.2** Maintain essential City services in the event of flooding or dam failure.
Goal Area 4: Fire Protection
GOALS ■ **Fire and Hazardous Material Safety for the Residents of the City and For Those Working in Fire Suppression.**
POLICIES **S-4.1** In cooperation with the Consolidated Fire Protection District, promote the concept of fire protection master planning with fire safety goals, missions, and supporting objectives for the community. **S-4.2** Work with the Consolidated Fire Protection District to maintain a reasonable level of accessibility and infrastructure support for fire suppression, disaster, and other emergency services.
Goal Area 5: Crime
GOALS ■ **Reduced Criminal Activity and An Increased Feeling of Safety and Security in the Community.**
POLICIES **S-5.1** Provide superior community-based police services. **S-5.2** Provide services and personnel necessary to maintain community order and public safety.

Waterford Vision 2025 General Plan

Chapter 3 Urban Expansion

2025 Urban Growth and Expansion Vision: A community whose growth and expansion occurs in such a manner as to enhance the existing community and preserves and maintains Waterford's rural small community charm.

3.1 BACKGROUND & SETTING

The City of Waterford is the easternmost incorporated city in Stanislaus County. Planning in the City is affected by planning policies of the County. Conversely, City planning and policy decisions can dramatically affect the rural and suburban areas outside the City's incorporated limits.

3.1.1 Intergovernmental Coordination

Typical problems that can result from lack of coordination between city and county planning policy are:

- Development or establishment of incompatible land uses in close proximity to each other.
- Premature urban expansion without adequate supporting infrastructure or service.
- Development of low-density "suburban" type of housing in areas which could be more appropriately used for "urban" densities or uses.
- Inefficient land use and circulation patterns that can lead to increased public service costs.

The Stanislaus County General Plan, in response to the potential problems of uncoordinated development, implements an "Urban Centered" concept for development in the un-incorporated areas of the County.

This Urban Expansion Chapter addresses the location and timing of new development in the City's planned expansion area. The policies of this chapter address: 1) expected future growth, 2) density of future growth areas, and 3) the distribution of future growth.

Policies and standards of this chapter are based on projected population growth of the City. Various methods have been utilized in projecting the City's long term growth. However, timing of annexations within the growth area is based upon actual development demand.

The overall approach of the Waterford City General Plan is to develop a strategy to accommodate future population growth in the most efficient manner possible. As a result, the policies of this chapter are primarily concerned

with the distribution of projected future population growth.

Conservation and efficiency are the guiding vision of this chapter. Like many other Central Valley cities, Waterford has its origins tied directly to agricultural production. Agriculture is, and will continue to be, a major contributor to the overall economic health of the City.

As the City grows, expansion will inevitably encroach onto productive crop land. The City of Waterford is fortunate in that it is not entirely surrounded by prime and/or highly productive agriculturally significant soils. The Waterford General Plan utilizes the Urban Expansion policies to guide urban growth towards the least productive soils in the region and to buffer adjacent agricultural lands from urban development.

3.2 LONG RANGE PLANNING

3.2.1 Guiding Policies for Urban Expansion-City Form

Waterford has long played a role as a service center within an agricultural landscape and as a focus of trade and commerce along the Tuolumne River in eastern Stanislaus County. This civic role and importance within the region can be heightened through physical improvements to the form, structure and character of the City and a better definition of City edges and entries.

Maintain the City's compact form. Waterford has a relatively compact focus, contained, for the most part, within the "semi-circle" bounded by the MID Main Canal and extending from the historic railroad track right-of-way near downtown and the Tuolumne River corridor to the south. This "semi-circle" (generally depicted in *Figure UE-1* roughly circumscribes the outer limits of the urbanized area today. The "semi-circle" does not perfectly describe present or desired future urbanization. The generally semi-circular shape of the development area is useful as a conceptual diagram that can be heightened to create a stronger sense of both the community and its landscape setting.

Maintain efficient and cost effective service delivery systems. The City of Waterford, due to the land form that the City occupies, has potential to result in high maintenance and operational costs for utility and other service systems. Central to any urban expansion proposal will be the ability of the new service area to be efficiently linked to existing utility systems or the development of new cost effective utility and infrastructure systems.

Preserve agricultural lands and open space outside the City's growth boundaries. This can be accomplished through cooperation with Stanislaus County, including support of programs and policies such as transitional uses and buffers along the City's urban boundaries, and large-parcel zoning. One

of the ways to reinforce the form of the City is to establish a greenbelt. Particularly on the west side of the city, such a greenbelt or open space system is established by virtue of this general plan. In other areas, appropriate buffers and transitions should be studied and appropriate standards established in the City's zoning ordinance.

3.2.2 Waterford Future Growth Alternatives

The City has examined several growth alternatives with respect to the direction of future urban expansion as part of past planning efforts. The four growth scenarios considered were as follows:

I) *"The Western (Linear) City"*-- Scenario I proposed growth to the west along Highway 132 toward the City of Modesto. This scenario scored well in terms of near term accessibility and access to downtown from Highway 132, but would have posed problems with respect to aggravating future traffic congestion on Highway 132 and, more importantly, creating serious encroachment into the very productive "Prime" agricultural land west of the City.

II) *"The Eastern (Linear) City"*-- Scenario II showed considerable growth to the east along Highway 132 towards the recreation areas bordering the Tuolumne River and to the east (the Modesto Reservoir). This scenario had a high-degree of livability. However, it would have impacted Highway 132 and focused regional traffic impacts on the Highway 132/Oakdale-Waterford Highway intersection.

III) *"The Southern City"*-- Scenario III projected major southerly growth beyond the Tuolumne River toward the unincorporated community of Hickman. This scenario had easy access to the Oakdale-Waterford Highway (Hickman Road), and its north-south connectivity between the Oakdale-Merced urban areas to the north and south. It would also have direct access to Highway 132 and the Modesto urban area. This expansion would have encroached on the community of Hickman and would have been constrained, with respect to future connectivity to the existing community area, by the Tuolumne River. There would have been substantial costs for expansion of street, water, and sewer infrastructure across the River corridor.

IV) "The Northern City"-- Scenario IV envisioned growth to the north and northeast towards the Modesto Reservoir. This scenario seeks to avoid "Prime" agricultural lands to the west and allows for the efficient and relatively inexpensive provision of public services. This growth scenario also maximized utilization of local and regional street and road infrastructure.

3.3 URBAN EXPANSION

3.3.1 SOI Boundaries/Process

There are three basic boundaries which define the City in relation to the County; the City limit line (discussed under Section 3.3 which follows), the Urban Planning boundary, and the Sphere of Influence or SOI.

The Sphere of Influence is defined in the California Government Code (Section 56076) as "a plan for the probable ultimate physical boundaries and service area for a local agency as determined by LAFCO." In order for an annexation to be approved by the Local Agency Formation Commission (LAFCO), the territory must be within the Sphere of Influence. State law also requires that the City be notified of any proposed land use changes or developments within its sphere of influence and be given a chance to comment on those proposals.

3.3.2 Expanding the SOI

As part of the Waterford 2025 General Plan Update, the City is proposing an expansion of its Urban Planning Area boundaries and Sphere of Influence. This expansion is necessary to accommodate the City's growth over the next 30 years (the life of the General Plan and beyond). A detailed discussion of the justification for the expanded Urban Planning Area /SOI can be found under the heading "Urban Planning Area/SOI Expansion" which follows.

The Stanislaus County LAFCO has adopted a set of LAFCO goals, objectives, and policies to address local concerns and priorities regarding annexations. The following enumerated items comprise the statement of purpose adopted by Stanislaus LAFCO for spheres of influence:

1. To promote orderly growth of communities, whether or not services are provided by a city or district (board governed or independently governed);

2. To promote coordination of cooperative planning efforts among the county, cities, special districts, and identifiable communities by encouraging compatibility in their respective general plans;

3. To guide timely changes in jurisdiction by approving annexations, reorganizations etc., within a sphere of influence only when reasonable and feasible provision of adequate services is assured;

4. To encourage economical use and extension of facilities by assisting governmental agencies in planning the logical and economical extension of governmental facilities and services, thereby avoiding duplication of services;

5. To provide assistance to property owners in relating to the proper agency to comprehensively plan for the use of their property;

6. To review, update, and/or change existing spheres of influence periodically to reflect planned, coordinated changes in factors which impact spheres of influence; and,

7. To encourage the establishment of urban-type services only within an adopted sphere of influence.

LAFCO emphasizes that a sphere of influence is a planning tool and the establishment of a sphere of influence, or the inclusion of territory within a sphere of influence of an existing governmental entity, does not automatically mean that the area is being proposed for annexation or development.

Once LAFCO has approved the City's sphere based on the above criteria, future annexation requests from the City for areas inside the sphere will be reviewed by LAFCO for factors, including their appropriateness, relevant phasing policies, the availability and adequacy of public services, and their consistency with overall LAFCO policies.

The *Stanislaus County General Plan* Land Use Element contains policies regarding growth and development within a city's approved sphere of influence. In the County General Plan, the Urban Transition land use designation is to be applied to these un-incorporated areas of a city's LAFCO approved sphere of influence. Areas included in this designation are typically zoned Agricultural.

Urban Planning Area /SOI Expansion

With this general plan, the City has defined its Future Urban Growth Area to include approximately 4,458-acres and it's intention to expand its Primary Sphere of Influence (SOI) to include an area of approximately 1,608 acres. There are approximately 1,108 acres in the 2005 City limits. (see figure UE-1)

3.3.3 Land Use Development Capacity

Within the Waterford Urban Planning Area sufficient land has been set aside to accommodate the City's projected growth needs well beyond the year 2025. Additional growth capacity has been accommodated in the Urban Planning Area to minimize the potential adverse effects of creating a limited urban land inventory.

When projecting growth needs in future years, it is recognized that circumstances may arise which could not reasonably be predicted. Growth may occur at a more rapid pace or at a much slower pace than projected. The Waterford City General Plan has been prepared to accommodate the most optimistic growth projections to assure that adequate infrastructure can be planned for optimum build-out of the City.

The City of Waterford has population forecasting techniques to determine a range of expected population levels that will occur within the community within the 2025 planning horizon and beyond. Additionally, the City has set a threshold population level of 30,000 to provide a benchmark for planners and engineers to design major infrastructure elements for the City (sewer, water, storm drain and street and highway system).

At the same time, annexation of unincorporated areas within the Urban Planning Area are proposed to reflect the standards of state law and LAFCO policies in light of available/planned infrastructure such as streets, sewer collection lines and treatment/disposal capacity, water system capacity, storm water drainage systems and other necessary infrastructure needs.

3.4 ANNEXATIONS

All property enclosed within the City limit line is part of and under the jurisdiction of the City of Waterford.

The Waterford City Council is a five member body, elected at large, and is responsible for making land use and development decisions within the City. The City Council and the City Planning Commission constitute the City's "planning agency" as defined by state law.

All decisions regarding land use, circulation, public services, etc. within the City limits are made by the City Council. Although the City is still part of the County, the County Board of Supervisors has no direct decision-making authority regarding land use matters within the City limits for the most part.

When property is annexed, the City limit line is changed to include that property. Annexations must be approved by the City Council and LAFCO. LAFCO's were created by the state to oversee changes in jurisdictional boundaries. Locally, LAFCO is made up of two members of the board of supervisors, two members that represent the nine incorporated cities in Stanislaus County, and one independent public member.

To be eligible for annexation to the City, a property must be within the City's adopted sphere of influence boundary and contiguous (directly adjacent) to the City limit line. If the City agrees to annex the property, it is agreeing to provide City services (i.e. sewer, water, police, garbage, etc.) to the property.

Within the unincorporated expansion areas of the City's primary sphere of influence, annexation and development shall be considered timely only if adequate infrastructure is in place or can be provided within a reasonable time frame relative to the approval of the annexation and development proposal.

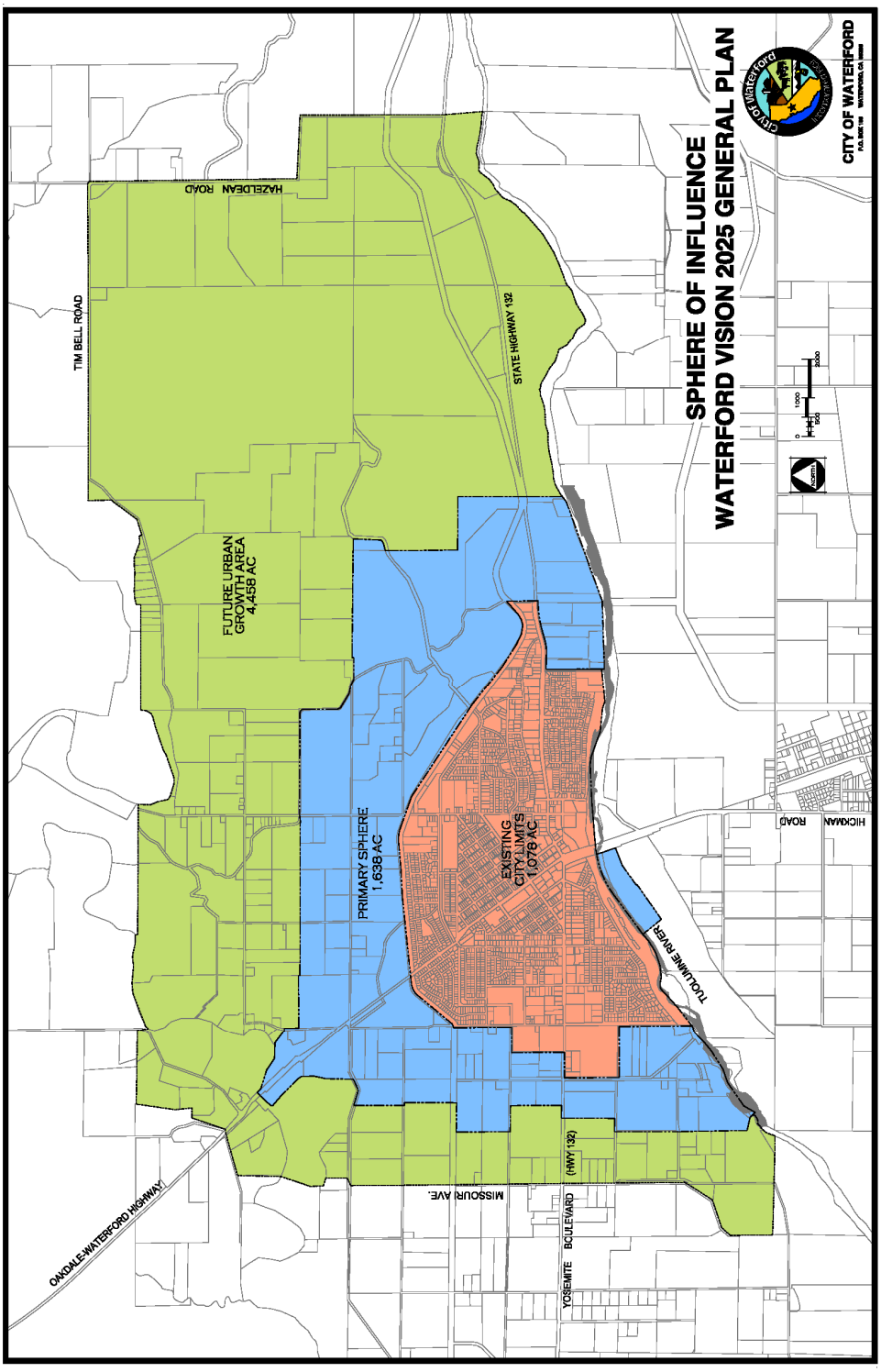
To discourage "premature" conversion of agriculture land in the City's SOI and Urban Expansion Area, development permit review must be initiated with an annexation application and is subject to review and approval of the Stanislaus County LAFCO. Within these areas, development shall be generally consistent with the type and extent of land uses described in the Land Use Element.

In accordance with the policies of the Stanislaus County General Plan and state law, development proposals shall not be approved within the unincorporated areas of the City's Urban Planning Area if it is not found to be consistent with the goals and policies of the *Waterford Vision 2025 General Plan*

3.5 URBAN EXPANSION GOALS, POLICIES AND ACTIONS

In accordance with the above, the City of Waterford has established the following goals, policies and actions relative to urban expansion and annexations.

City of Waterford Planned Urban Growth Area & Sphere of Influence
Figure UE-1



CITY OF WATERFORD Urban Expansion Goals

Goal Area A: Urban Expansion

GOALS

- **A Compact Urban Form**
- **An Effective Agriculture/Urban Area Interface**
- **Efficient Urban Expansion**

POLICIES

UE-1. The City shall Promote annexation of developed areas within the City's Sphere of Influence.

UE-2 The City shall designate areas for new urban development which reflect the physical characteristics and environmental constraints of the planning area.

UE -3 The City shall accommodate urban development on non-prime soils whenever feasible.

UE -4 The City shall control the timing, density, and location of new land uses within its urban expansion boundaries to reflect the availability of urban and utility services.

UE -5. The City shall extend Sphere of Influence boundaries relative to all major streets and highways in the Waterford Planning Area**.**

Policy UE-1

The City Shall Promote Annexation of Developed Areas Within the City's Sphere of Influence.

Unincorporated suburban development within the City's Planning Area can result in problems of public protection service delivery to residents, in addition to posing potential long term problems to residents with respect to maintenance of on-site water systems and wastewater disposal (septic) systems. Residents of these areas, while directly impacted by the City's planning decision-making process, have no direct voice in municipal affairs. In the interest of both the City and the residents of these unincorporated suburban residents, these developed areas should be annexed to the City of Waterford.

Implementing Programs.

UE-1a. Review City improvement and development policies relative to removing unnecessary obstacles to incorporation.

City policies relative to mandatory connection to the City's sewer and water system should be reviewed. Consideration should be given to establishment of policies which would allow residents, presently served by private sewer and water systems, to remain on these systems unless they pose a problem to public health and safety.

UE-1b. Provide assistance to residents of unincorporated areas to address public health and safety concerns of on-site water and sewer systems.

The City may assist residents with coordinated expansion of utility service, where desired by the residents, and in support of an annexation petition.

UE-1c. Review and revise zoning standards which restrict limited agricultural uses on large-lot residential development.
City's "Rural" zoning standards provide buffer areas between agricultural areas and the City's urbanized areas and should be developed to reflect the County "Rural Residential" standards of use and development intensity.
UE-1d. Annexations of land within the City's Sphere shall avoid "leap frog" type of development.
Developments that, because of land owner interests in converting agricultural land to urban uses, often result in the annexation of large tracts of agricultural land that remain undeveloped for many years and create agricultural islands in the urban landscape. This practice shall be discouraged by requiring that development proposals include these areas and the timing of development shall be established in such a manner as to eliminate the creation of "agricultural islands" in the City's urban area.
UE-1e. Encourage development on infill sites by amending the Zoning and Subdivision Ordinances to better accommodate such requests.

There are areas within the existing incorporated limits of the City which are undeveloped or under-developed. These areas provide development opportunities which will somewhat relieve the need to expand the City's urban limits. Many of these sites are vacant and/or undeveloped due to their unique site constraints. A review and possible revision of City policies and standards relative to these sites is appropriate.

Policy UE-2

Designate Areas For New Urban Development Which Reflect the Physical Characteristics and Environmental Constraints of the Planning Area.

The City of Waterford is situated in an area which contains physical characteristics and environmental constraints which would be adversely impacted by poor urban expansion policy. It is in the long term interest of the City to promote urban expansion policies which protect and promote avoidance of sensitive environmental and resource areas.

Implementing Programs.
UE -2a. Preserve, protect and enhance aquifer recharge areas and avoid flood prone areas.
Urban expansion should be directed away from areas which provide recharge of regional groundwater resources or are subject to extreme flooding.

UE-2b. Preserve, protect and enhance significant stands of vegetation and riparian habitat.
Urban expansion should be directed away from areas with significant stands of trees or other vegetation and large concentrations of sensitive riparian habitat. It is recognized that localities within the City's planning areas which have not been developed with intensive agriculture often contain biologically important sites. To accommodate future urban expansion needs, the need for agricultural preservation must be balanced against the biological resources of the area. In this respect, "significant", as applied to biological resources needs, to be defined in terms of sensitivity rankings of various plant and animal species found in a habitat area.

Policy UE-3

The City Shall Accommodate Urban Development on Non-Prime Soils Whenever Feasible.

The City of Waterford is situated within a portion of the County containing large tracts of "Prime" agricultural soils. Fortunately, some areas surrounding the City do not have extensive tracts of Prime agricultural soils and urban expansion can be accommodated without significantly impacting the agricultural resources of the region.

Implementing Programs.
UE-3a. Minimize development impacts on significant concentrations of prime agricultural soils and minimize impacts on adjacent productive ranch land containing soils classified as "Prime".
.Amendments to the City's Sphere of Influence, which encompass large tracts of Prime soil, will be required to demonstrate that other non-Prime soils cannot be reasonably utilized for the urban purpose proposed while maintaining a "compact urban form" for efficient service delivery. Where practical, development proposals may include use concepts (open space-park land/community gardens, etc.) which would benefit from the existence of Prime soils. Other measures to address the conversion of Prime soils, on a smaller scale, my include acquisition of development rights on other tracts of Prime soils in the area which may be threatened by urbanization.
UE-3b. Require all new development to occur only within established urban expansion boundaries after annexation.
It is the policy of the City of Waterford that urban development within its Sphere of Influence become part of the City. The City will generally oppose development proposed within the Sphere of Influence but not proposed for annexation to the City.

UE-3c. Create clearly defined buffer zones, in cooperation with the County, between the City urban area and the agriculturally significant areas within which unincorporated rural residential development will be allowed.
The General Agriculture (AG) land use classification of both the City and the County is considered an appropriate buffer between agricultural areas and the more urbanized areas of the City. These areas range in density from ***one to three*** residential units to the acre with the lower density (***one*** unit to the acre) more appropriately applied to lands located along the agricultural land interface. The City may consider the higher density areas (***three units*** to the acre) as appropriate for the extension of sewer and water service upon annexation.

UE-3d. Limit the expansion of City services to only those areas within an established urban expansion boundary.
City services, including sewer, water, public protection services, etc., shall only be extended to areas within the incorporated limits of the City.

UE-3e. Maintain a clear set of procedures for coordinating new development with the County and continue to require mutual agreement for all amendments to urban expansion boundaries (URBAN PLANNING AREA) and developed urbanized areas outside City boundaries but within the City's area of interest.
The City and County are committed to providing efficient and adequate services to the residents of the Waterford urban area. To the maximum extent feasible, it is the City's policy that urban development should be provided the full range of urban services, and this can best be provided within the incorporated limits of the City.

Policy UE-4

The City Shall Control the Timing, Density, and Location of New Land Uses Within its Urban Expansion Boundaries to Reflect the Availability of Urban and Utility Services.

Urban expansion of the City of Waterford within the Sphere of Influence and future expansion within the areas north of the MID Main Canal, must occur in a manner which permits maximum utilization of the area's urban potential. Premature and scattered development without adequate infrastructure can result in inefficient utilization of land and promote sprawl. The City of Waterford is committed to expanding its urbanized area in a manner which promotes maximum utilization of its designated urban expansion area.

Implementing Programs.

UE-4a. The City shall require that all new development be contiguous to existing urban areas and have reasonable access to public services and facilities.
It is desirable for annexation proposals to be contiguous to the corporate boundaries of the City to ensure the logical extension of services and to minimize the potential for creating "county islands" within the incorporated limits of the City.

UE-4b. The City should create a means to swiftly evaluate the cost of providing various services to new development and establish clear policy for meeting those costs.

The City may consider preparation of a public facility master plan which establishes facility and service needs and mitigation fees on new development necessary to ensure that these facilities and services can be developed in a timely and cost effective manner.

UE-4c. Annexation proposals shall be "development driven" and "speculative annexations" shall be deemed unacceptable.

Annexations proposals shall be accepted for review by the City upon submittal of development plans to include utility infrastructure plans, proposals for the financing of expansion of the City's infrastructure, including roads, sewer, water and storm drain system. At a minimum, an annexation proposal shall be accompanied by a pre-zone Application and a subdivision map. On larger parcels of 20 acres or more a Specific Plan, or similar planning document, may be required to accompany any annexation proposal.

UE-4d. Plans for new development should stress energy efficiency through both land use designations and the distribution of these uses.

Annexation proposals shall be reviewed with respect to the availability of electrical and natural gas utility infrastructure.

Policy UE-5

Extend Sphere of Influence Boundaries Relative to All Major Streets and Highways in the Waterford Planning Area.

Long term plans for the development of a Highway 132 and the Oakdale/Waterford Highway will have an impact on the City's future land use policy. It is in the City's interest that land use control be maintained over land located along these traffic corridors to limit adverse traffic impacts of strip commercial development within unincorporated areas on the City's urban facilities and promote efficient future growth options.

Implementing Programs.

UE-5a. The City Waterford shall periodically review it's Sphere of Influence boundaries to ensure land use control along street and road improvements primarily serving the Waterford urban area.

The City's Sphere of Influence should be reviewed and revised as necessary to ensure that land use controls along Highway 132 and the Oakdale-Waterford Highway are maintained by the City of Waterford. In the alternative, the City may cooperate with the County in a joint land use planning effort to ensure that development along these corridors does not adversely impact the City.

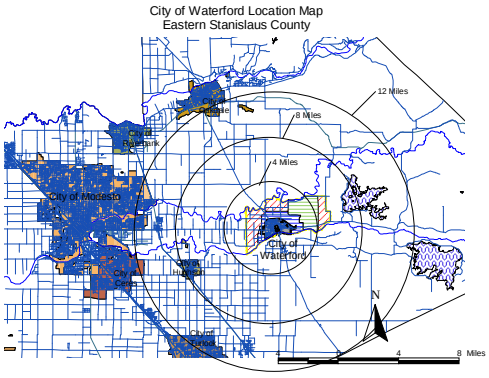
UE-5b. The City should review all County-originated industrial and commercial development permits proposed within the City's planning area for compatibility with City development standards.

Development of commercial and industrial areas along major intra-city road segments should be reviewed for consistency with the Urban Design standards. Project access and other infrastructure should be compatible with City standards to facilitate possible future incorporation by the City.

3.6 REGIONAL PLANNING ISSUES

3.6.1 Regional Circulation

The City of Waterford is relatively isolated from its incorporated neighbors (Oakdale, Hughson, Modesto, Turlock and Ceres). The unincorporated communities to the west and south of Waterford are situated along two of the main access routes into the City. Development within the communities of Empire and Hickman not only has an impact on regional circulation and access into the City of Waterford but the City's image as a center for recreation on the east side of Stanislaus County as well.



Growth and development within these two unincorporated areas will be monitored by the City of Waterford to provide some assurance that both Highway 132 (to the west) and the Oakdale-Waterford Highway (to the south) are maintained in such a manner as to provide safe and adequate circulation for regional traffic.

3.6.2 Tuolumne River Corridor

The Tuolumne River corridor is an important element of the City of Waterford's identity in addition to being an important ecological and recreational resource to the entire region. The City has concerns regarding development along this important and sensitive corridor, particularly within areas in close proximity to the City. Of particular concern is development along the Tuolumne River corridor bluff areas.

Development of the river corridor bluff line will detract from the overall recreational value of the corridor and could result in destabilizing sensitive soils in the vicinity of the bluff's edge. For this reason, the City of Waterford has designated the areas along the Tuolumne River bluff line, in the vicinity of the City's Urban Planning Area, as part of its Sphere of Influence in accordance with LAFCO policy. It does not, at this time, consider these areas as appropriate for annexation to the City but, rather, a "referral" area for proposed development or construction of improvements under Stanislaus County jurisdiction. By establishing this "referral area", the City hopes to be provided the opportunity to review and comment on growth and development proposals within this sensitive area and discourage development that threatens the Tuolumne River corridor's sensitive biotic habitat and unique recreational value.

3.6.3 Western Urban Limit or "Green" Line

The City of Waterford has two natural boundaries. To the south is the Tuolumne River and to the north is Dry Creek. To the east and west is predominantly farmland.

The western fringe of the City is characterized by Class I soils and soils otherwise classified as "Prime" under the State Department of Conservation's Soils Classification System.

To the east, soils tend to be of less quality and the terrain becomes rolling which restricts certain types of agricultural productivity.

For these reasons, the City's urban growth policies provide for expansion to the east in the future but limit future urban growth to the west. Land use standards have been proposed to limit urban expansion of the City to the west and policies have been adopted that establish larger "estate" or "ranchette" types of residential uses along the western edge of the City to discourage future urban advance into this area and provide an urban-agricultural buffer along the City's western fringe.

In support of this policy of limiting future urban advance along the west side of the City, Missouri Avenue is considered the "Urban Limit Line" or "Green Line" for the City. This policy will require close coordination with the County of Stanislaus to assure that future growth and development review by both the City and the County reinforces this policy and practice.

3.7 Specific Plans/ Master Development Plans

The City of Waterford anticipates using "Specific Plans" or "Master Development Plans" to guide development of its growth areas. These plans are to be developed as a way of master-planning large areas under consideration for development to ensure integration of the street and utility systems with the existing City street system and utility systems.

Most of these expansion areas are under the ownership of multiple property owners. The plans need to include detailed descriptions of land use, circulation, public improvements, and open space for the area as well as spelling out conditions of approval regarding the developer's obligations for installing needed infrastructure. These plans will regulate and guide future development and, therefore, it is necessary that the planning process involve owners of adjacent property in addition to all property owners within the planning area.

3.7.1 Master Development Plan

This general plan will guide the overall development of the project, coordinate the mix of land uses, provide for adequate circulation between uses, and

identify the required infrastructure and public facilities.

3.7.2 Proposed "Specific Plans"

The "specific" planning process is envisioned as an important implementation tool in the *Waterford Vision 2025 General Plan*. It is important to note, however, that it is intended to be a flexible tool that accomplishes a specific planning purpose and does not unnecessarily frustrate or overly complicate the development process.

As envisioned in this general plan, a specific plan may or may not conform with the requirements of Government Code Section 65450. A specific plan may be limited to a specific development concern or issue in a planning area. It may or may not need to conform to the public hearing processes generally required of specific plans depending on the issue(s) addressed in the plan. specific plans are discussed in the Land Use Chapter of this plan.

Waterford
Vision 2025
General Plan
Chapter 4 Land Use

2025 Land Use Planning Vision: A community with a mixture of land uses that support commercial, industrial, residential and other uses that are logical with respect to meeting the economic, social and individual needs of the City's residents and do not create problems or incompatibilities with neighboring uses or diminish a neighbor's right to use their property.

4.1 INTRODUCTION & AUTHORIZATION

The Land Use Chapter of the *Waterford Vision 2025 General Plan* establishes land use goals and policies, supported by implementation actions, for the manner in which new development will occur and existing uses and resources will be preserved in the City of Waterford.

4.1.1 Chapter Organization

The *Waterford Vision 2025 General Plan* Land Use Chapter covers two major issue areas:

1) **Residential Neighborhoods** (Section 4.3)--dealing with the preservation of existing neighborhoods and new neighborhood planning;

2) **Economic Environment** (Section 4.4)--covering economic development and commercial and industrial land uses;

This Chapter also contains discussion on the application of specific planning policies with respect to areas proposed for annexation and the implementation of "*New Urbanism*" policies and principals to development with the City.

4.1.2 New Urbanism

A critical overall guiding policy of the *Waterford Vision 2025 General Plan* is the application of "New Urbanist" or "Neo-Traditional" planning principles. The application of these principles, however, are encouraged rather than mandated through a system of incentives. These "New Urbanist" or "Neo-Traditional" planning principles are set forth in Section 4.5 of this Chapter. The incentives are essentially the ability for a property owner to develop at higher densities utilizing "New Urbanist" or "Neo-Traditional" development standards as set forth throughout this plan.

4.2 LAND USE PLAN IMPLEMENTATION

The Land Use Element is implemented primarily by the development review process and required general plan consistency findings which are required for various types of discretionary development permits in California.

4.2.1 The Land Use Diagram

The City's Land Use Diagram ***(Figure 4.1***), which is attached separately at the back of this document, is an integral part of the general plan. The Land Use Diagram presents the proposed general distribution of the uses of land within the City of Waterford and its Urban Planning Area. The word "Diagram" is distinguished from "Map" in the context of a California Attorney General Opinion (67 OPS.CAL.ATTY. GEN.75 (3/7/84)) providing a certain limited degree of flexibility in applying the land use designations to specific parcels of land.

A "diagram" shows the approximate arrangement of and relationships between land uses rather than the precise location and detailed boundaries of land uses which a "map" (like a zoning map) would show.

The diagram and text together specify the number of people and dwelling units per net acre of land for each property planned for residences and the building intensity for all other proposed development. This building intensity is expressed in terms of a floor area ratio (FAR), which is the gross floor area permitted on a site divided by the total net land area of the lot. Other pertinent features of the land use diagram include the locations of existing and proposed parks, public schools, and other public facilities such as fire stations.

4.2.2 New Urbanist or Neo-Traditional Urban Planning Principles

New Urbanism applies principles of urban design to the region in two ways. First, urbanism defined by its diversity, pedestrian scale, public space and structure of bounded neighborhoods should be applied throughout an urban setting regardless of location: in suburbs and new growth areas as well as within the City. Secondly, the entire region should be "designed" according to similar urban principles. It should, like a neighborhood, be structured by public space, its circulation system should support the pedestrian, it should be both diverse and hierarchical and it should have discernible edges.

The fundamental organizing elements of the ***New Urbanism*** are the neighborhood, the district and the corridor. Neighborhoods are urbanized areas with a balanced mix of human activity; districts are areas dominated by a single activity; corridors are connectors and separators of neighborhoods and districts. Cities and towns are made up of multiple neighborhoods and districts, organized by corridors of transportation or open space.

Neighborhoods, districts and corridors are urban elements. By contrast, suburbia, which is the result of zoning laws that separate use, is composed of pods, highways and interstitial spaces. The ***New Urbanist or Neo-Traditional*** model of urbanism is limited in area and structured around a defined center.

While population density may vary, depending on its context, each model offers a balanced mix of dwellings, workplaces, shops, civic buildings and parks. The following are the principles of an ideal ***New Urbanist or Neo-Traditional*** neighborhood design:

- The neighborhood has a center and an edge;
- The optimal size of a neighborhood is a quarter mile from center to edge;
- The neighborhood has a balanced mix of activities dwelling, shopping, working, schooling, worshipping and recreating;
- The neighborhood structures building sites and traffic on a fine network of interconnecting streets;
- The neighborhood gives priority to public space and to the appropriate location of civic buildings.

These ***New Urbanist or Neo-Traditional*** concepts are integrated into the *City of Waterford Vision 2025 General Plan.*

4.2.3 Summary of General Plan Land Use Designations

The Land Use chapter establishes the proposed general distribution and extent of land uses within the City of Waterford and its Urban Planning Area. This section contains the land use diagram and a summary of the land use designations for the *Waterford Vision 2025 General Plan.* This section was developed in compliance with Section 65302(a) of the California Government Code.

The following land use designation descriptions define the land use areas depicted on the land use diagram of this general plan. These general plan land use designations describe the extent of the uses of land within the Waterford Urban Planning Area including standards of population density and building intensity as required by Section 65302(a) of the California Government Code.

City of Waterford Land Use Diagram
Figure LU-1

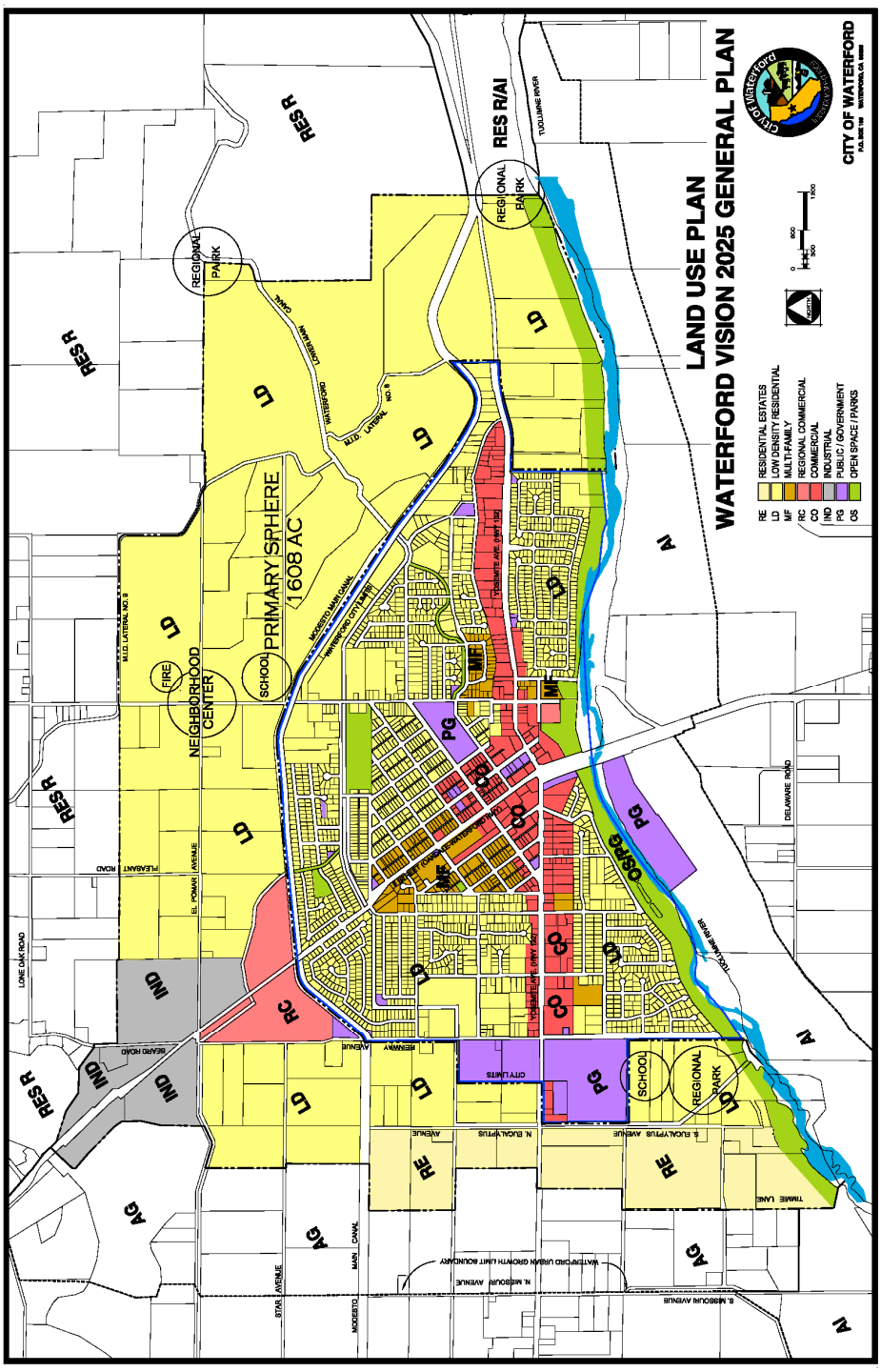


Table 4.1
Waterford General Plan Land Use Designations

The following Land Use Designation descriptions define the Land Use Areas depicted on the Land Use Diagram of this General Plan. These General Plan Land Use Designations describe the extent of the uses of land within the Waterford Urban Planning Area including standards of population density and building intensity as required by Section 65302(a) of the California Government Code.

General Plan Land Use Designations

LAND USE DESIGNATIONS	Purpose and Intent:	Locational Criteria:	Land Use Density and Intensity of Use:
RESIDENTIAL			
RE (Residential Estates)	To provide single family homes on large parcels (3 acres or more) in a semi-rural environment and provide a long term low-density residential buffer between agricultural land and other environmentally sensitive or resource areas and the urbanized areas of the City of Waterford	RE areas may be designated along the interface between the more urban areas of the City of Waterford and the boundaries of the City's UPA and/or lands adjacent to Agricultural or other Open Space areas within the City's UPA. The primary areas appropriate for this designation are the north, west and east sides of the City's Planning Area and are applied to create an agricultural "buffer" or interface area with the City's "urban" area.	The residential density within the RE area is **up to one dwelling unit per three gross acres or one person per acre is allowed.**
LD (Low Density Residential)	To provide single family residential dwellings served by City services throughout the City of Waterford. This designation consists primarily of single-family detached housing, but a diversity of single-family housing types, such as condominium and zero-lot-line residential units can be developed.	LD areas may be designated throughout the City with lower densities typically toward the edges of the City's growth, adjacent urban "buffer" areas. This residential classification can also be applied along special planning areas such as scenic corridors and open space areas.	The residential density within the LD land use classification is **a MINIMUM of 4.0 and up to 6.0 dwelling units per gross acre. Maximum population density is 18 people per acre**. *A maximum of 9-units (27-people) per acre is allowed where Neo-Traditional development policies are applied*.

RESIDENTIAL-CONT.	Purpose and Intent:	Locational Criteria:	Land Use Density and Intensity of Use:
MF (Multi-Family Residential)	To provide duplexes, triplexes, four-plexes, condominiums, zero-lot-line as well as single-family detached units on appropriate sized lots.	MF areas are typically designated close to commercial or other services and adjacent to parks and playgrounds. This land use classification should be applied in areas near major streets and thoroughfares for convenient access and on in-fill sites.	Residential density within the MF land use classification is **a minimum of 12 and maximum of 36.0 dwelling units per gross acre**. (Maximum 108 people).
RMH (Mobile Home Park Residential)	To provide designated areas within the City for the establishment and maintenance of mobile home park residential environments.	RMH areas may be designated on large parcels of land with good access to City streets and State highways. RMH sites should be well buffered from traditional single-family residential neighborhoods and may be considered appropriate low maintenance, low to medium priced senior citizen housing.	The residential density within the RMH land use classification is **6.0 to 14.0 dwelling units per gross acre. (18 to 42 people per acre)**

Commercial Land Use Designations	**Purpose and Intent:**	**Locational Criteria:**	**Land Use Intensity:**	**Notes:** **Typical Commercial Uses**
CO (Commercial)	To provide for a broad range of office commercial uses within the City of Waterford, recognizing the changing character and needs of commercial users with the advent of improved information processing technology and the overall economic base of the City and the region	CO areas should be encouraged as employment centers adjacent to established commercial areas and residential centers to minimize trip generation and vehicle trip length.	The land use intensity within the CO land use classification can vary from an average Floor Area Ratio (**FAR) of 0.6 to 1.0 square feet of building area per square foot of gross acreage** of the site. Lower FAR is appropriate for large commercial business office complexes and regional office centers, and the higher FAR is applied to core commercial or downtown centers with available or public parking.	**(CO-C)** Central or Core Area-Commercial Retail Service: is to create a sense of identity, a place of vitality, to attract commercial development that will strengthen the City's fiscal base. Provide for the shopping and service needs of residents, business and visitors as well as entertainment that creates a 24-hour presence in Waterford's downtown core retail commercial area by allowing upper-floor residential use at a higher density than the other commercial districts outside the "Core-Area". **(CO-NC)** Non-Central or Core Area-Commercial Retail Service: is to provide for the neighborhood shopping and service needs of local residents, businesses, and persons employed within the City and to enhance employment and other economic opportunities for local residents. **(CO-M)** Multiple-Use or Mixed-Use Commercial: is to permit and encourage a mix of different but compatible land use types in a planned and integrated manner. Multiple-Use Commercial areas may take any one of three forms: 1) Individual sites may be developed for any of the permitted uses. 2) Two or more separate structures, each occupied by different types of use, may occupy the same site. 3) A building may contain two or more of the permitted uses. **(CO-OR)** Office and Research Commercial: are designated for office and research-and-development uses.

Commercial Land Use Designations	**Purpose and Intent:**	**Locational Criteria:**	**Land Use Intensity:**	**Notes:** **Typical Commercial- Uses**
CO (Commercial) ***Cont.***				**(CO-IS)** Light Industrial Service Commercial: is to accommodate a broad range of light industrial and commercial-service activities within the City, thereby enhancing local opportunities for employment and economic development and providing for the service needs and businesses within the City that may be of a light industrial character. **(CO-PDO)** Pedestrian Overlay: is intended for areas with a traditional urban character, where buildings are required to be built to the street or sidewalk line, and to provide a close relationship between pedestrian and shops. Design standards will reinforce this character and require treatments that provide an interesting pedestrian environment.
CR (Regional/ Community Commercial)	***Purpose and Intent:*** To provide community and regional commercial centers serving the full depth and variety of retail goods, general merchandise, apparel, and home furnishings with one or more major department stores as the key tenants. They are distinguished from one another in that regional centers draw from the larger regional market area outside the City.	***Locational Criteria:*** CR areas are designated in areas with central access to the surrounding region by means of major City thoroughfares. Since regional centers draw their customer base from a broad area, there is only limited need for development of new regional centers within the Waterford UPA.		***Land Use Intensity:*** The land use intensity within the CR classification is a **FAR of 0.6 square feet of building area per square foot of gross acreage** of the site.

Industrial Land Use Designations	**Purpose and Intent:**	**Locational Criteria:**	**Land Use Intensity:**
IND (Industrial)	To provide for industrial uses in the Waterford UPA. This designation provides for the full range of industrial uses, including but not limited to, manufacturing, food processing, trucking, packing, and recycling, as well as those enterprises which may want to combine office and production aspects of their business in the same complex.	IND areas may be designated in a variety of locations which are served by a state highway or major arterial transportation access.	The land use intensity within the IND land use classification area is an average **FAR of approximately 0.4 to 0.6 square feet of building per square foot of gross area** of the site.
Reserve Land Use Designations	**Purpose and Intent:**	**Locational Criteria:**	**Land Use Intensity:**
RES-R (Residential Reserve)	To provide areas for future urban density residential expansion within the Waterford UPA. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need.	RES-R areas may be designated within the Waterford UPA along the urban fringe where growth is not expected within the planning period and within areas where additional planning is necessary before precise land use designations are determined.	The land use intensity within the RES-R land use classification is the same as for the Agricultural (AG) classification (1.0 dwelling unit per 40-gross acres). In accordance with the policies of the Waterford General Plan, density and intensity of use shall be governed by the Agricultural land use and AG-40 zoning of Stanislaus County until such time as the land is annexed to the City of Waterford.

Reserve Land Use Designations- ***Cont.***	**Purpose and Intent:**	**Locational Criteria:**	**Land Use Intensity:**
COM-R (Commercial Reserve)	To provide areas for future commercial expansion within the Waterford UPA. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need.	COM-R areas may be designated in and around established or designated Industrial areas within the Waterford UPA or in areas identified as having unique commercial utility due to factors such as proximity to transportation, utilities or other necessary industrial infrastructure.	The land use intensity within the COM-R land use classification is the same as for the Agricultural (AG) classification (1.0 dwelling unit per 40-gross acres). In accordance with the policies of the Waterford General Plan, density and intensity of use shall be governed by the Agricultural land use and AG-40 zoning of Stanislaus County until such time as the land is annexed to the City of Waterford.
IND-R (Industrial Reserve)	To provide areas for future industrial expansion within the Waterford UPA. This classification is to be combined with an interim use classification, such as Agriculture, which maintains existing use practices in the area but establishes expected future uses based on need.	IND-R areas may be designated in and around established or designated Industrial areas within the Waterford UPA or in areas identified as having unique industrial utility due to factors such as proximity to transportation, utilities or other necessary industrial infrastructure.	The land use intensity within the IND-R land use classification is the same as for the Agricultural (AG) classification (1.0 dwelling unit per 40-gross acres). In accordance with the policies of the Waterford General Plan, density and intensity of use shall be governed by the Agricultural land use and AG-40 zoning of Stanislaus County until such time as the land is annexed to the City of Waterford.
AI (Area of Interest)	To establish policies in areas located outside the City's Urban Planning Area and not currently planned for annexation or city service, but which are proximate to City territory, in a manner that is consistent with the Stanislaus County General Plan, but identifies issues and concerns of the City of Waterford.	AI areas are designated in areas around the City's Urban Planning Area where unique land use policy concerns have been identified by the City or County and where the City or the County has adopted specific policies to address these concerns.	Development in these Areas of Interest are generally limited to agricultural and open space uses, except for areas where substantial urban development exists. Development proposals creating parcels of less than 20 acres in size would be deemed inconsistent with the purpose and intent of this land use policy except were the parcel is being created for public use and/or benefit. In accordance with the policies of the Waterford General Plan, **density and intensity of use shall be governed by the Agricultural Land Use and AG-20 Zoning** of Stanislaus County.

OTHER LAND USE DESIGNATIONS	Purpose and Intent:	Locational Criteria:	Land Use Intensity:
P/G (Public/ Government)	To provide public facilities such as schools, fire stations, police stations, public buildings (libraries, courthouse, public offices, etc.), and similar types of public uses and facilities.	P/G areas may be designated in areas according to demonstrated public need and standard public facility location criteria and procedures applicable to the type of public use.	The lands designated for public facilities and uses are **not governed by the normal standards of density and intensity** of use applied to other land use classifications.
OS-PK (Open Space-Park/Recreation Facility)	To provide public and private open space for outdoor recreation, both passive and active. Open Space uses might include areas set aside for natural resource preservation, habitat conservation or other uses to achieve another environmental goals as established in the General Plan.	OS-PK areas may be designated in areas containing public parks, golf courses, greens, commons, playgrounds, landscape areas and similar types of private and public open spaces. Areas of important environmental or resource conservation concern may be designated as OS-PK.	Residential and commercial development is limited and/or restricted within areas classified as OS-PK. Limited service commercial activity may be accommodated within this land use classification provided it is directly related to the recreation activity conducted on site and the **FAR of the enterprise does not exceed 0.01 square foot of floor area for each square foot of site area**.
AG (Agriculture)	To provide areas within the City where agriculture, outdoor recreation, both passive and active, along with other compatible uses can be conducted.	AG areas may be designated in areas containing productive farmland (orchards, field crops, pasture, etc.), recreation areas and similar types of private uses.	Most non-agriculturally related residential and commercial development is limited and/or restricted within areas classified as AG. Limited service commercial activity may be accommodated within this land use classification provided it is directly related to the recreation or agricultural activity conducted on site and the **FAR of the enterprise does not exceed 0.01 square foot of floor area for each square foot of site area.**

Table 4-2
General Plan Land Use/Zoning Consistency Chart

GENERAL PLAN LAND USE	*Compatible Zoning District*	
Rural Estates(RE)	R-E	Rural Residential District
	P-Q	Public and Quasi-Public District
Low Density Residential (LD)	R-1	Single-Family Residential District
	P-Q	Public and Quasi-Public District
	P-D	Planned Development District
Multi-Family Residential (MF)	R-2	Duplex Residential District
	R-3	Multiple-Residential District
	P-Q	Public and Quasi-Public District
	P-D	Planned Development District
Mobile Home Park Residential (RMH)	R-M	Mobile Home Park District
	R-3	Multiple-Residential District
	P-Q	Public and Quasi-Public District
	P-D	Planned Development District
Commercial (CO)	C	Commercial Retail Services-Core Area District
	NC	Commercial Retail Services-Non-Core Area District
	M	Multiple-Use or Mixed Use Commercial District
	OR	Office and Research Commercial District
	IS	Light Industrial Service Commercial District
	PDO	Pedestrian Overlay District
	P-D	Planned Development District
	P-Q	Public and Quasi-Public District
Regional Commercial (CR)	C-R	Regional Commercial District
	P-Q	Public and Quasi-Public District
	P-D	Planned Development District
Industrial (IND)	I	Industrial
	P-Q	Public and Quasi-Public District
	P-D	Planned Development District
Area of Interest (AI)	Subject to Stanislaus County Zoning Standards	
Residential Reserve (RES-R)	A-G	Agricultural District
	P-Q	Public and Quasi-Public District
Commercial Reserve (COM-R)	A-G	Agricultural District
	P-Q	Public and Quasi-Public District
Industrial Reserve (IND-R)	A-G	Agricultural District
	P-Q	Public and Quasi-Public District
Public/Government (P/G)	P-Q	Public and Quasi-Public District
	A-G	Agricultural District
Open Space-Park/Recreation (OS-PK)	PK	Park and Open-Space
	P-Q	Public and Quasi-Public District
	A-G	Agricultural District
Agriculture (AG)	A-G	Agricultural District
	P-Q	Public and Quasi-Public District

4.2.4 Development Review Process

Implementation of the land use polices and standards set forth in the *Waterford Vision 2025 General Plan* relies primarily on the City's development review process. Within the City's incorporated limits, review of zoning permits, subdivision maps, and other discretionary development/ construction permits requires that a finding be made that the application or permit is "consistent" with the general plan.

The general plan is the primary coordinating document for land uses within the study area. A single project proposal should be submitted by property owners who are coordinating their efforts to ensure consistency with the general plan.

Schools and parks must be dedicated concurrent with commercial and residential uses. Furthermore, areas must be set aside for land uses that will be needed in later phases but where market demand needs to mature, such as Neighborhood Centers, and higher density housing areas.

Within the urban expansion areas to be annexed to the City, ***Neo-Traditional*** development concepts should be applied, wherever practical, to relatively large areas. All annexations to the City will be subject to s and or precise development plans and will need to be preceded by an executed development agreement addressing annexation fees, development impact and facility fees and timing of construction of public improvements and other elements in accordance with City policy.

The phasing of a project is critical to its success, both as a financial undertaking and as a mechanism to encourage transit use and infrastructure expansion. In order to encourage the public service agencies to provide public facilities in a timely manner to serve the needs of residents, developers are asked to dedicate sites designated for public uses concurrent with development of commercial and residential uses. Developers should also work with the City to ensure that the recommended mixture of land uses is achieved in a timely manner.

4.3 RESIDENTIAL NEIGHBORHOODS

The "neighborhood" is the focus of the residential environment in the City of Waterford. Neighborhoods typically reflect various stages of the City's development over the years.

Waterford's neighborhoods tend to be unified by architectural style which reflects the period within which most of the houses in the neighborhood were built. Over the years planning efforts have attempted to develop "neighborhood" focused schools and recreation facilities. Various housing programs have resulted in rehabilitation of some older residential neighborhood

housing and improving neighborhood infrastructure (drainage, sidewalks, streets, etc.).

4.3.1 Background & Scope

Housing is a very important issue in the City of Waterford, as it is throughout the State. State law establishes housing as a primary concern of planning by means of requiring a Housing Element. Beyond the requirement of the Housing Element, however, is the City's overall interest in preserving and enhancing its residential neighborhoods. This focus, past, present, and future, is what makes Waterford a "Special Place" to live and work.

The character of Waterford is closely related to its older, well established residential neighborhoods. The implementation of "New Urbanist" concepts will guide the development of the neighborhoods of the future.

4.3.2 Housing Element

State law establishes minimum requirements for a general plan. The law requires that the plan contain a Land Use Element which focuses on issues of urban design and development, residential densities, and intensities of use. At the same time, the law requires that a city or county adopt a Housing Element.

The Housing Element must be prepared to a very exact standard to comply with State law and focuses primarily on identifying a strategy for meeting the various housing needs in a community and improving the quality of the existing housing stock. Current law calls for the Housing Element to be updated every 5 years. The *City of Waterford Housing Element* (Chapter 9) was updated in 2005 along with this *Waterford Vision 2025 General Plan* update and will next need to be updated by the end of 2008.

While the Housing Element focuses primarily on the housing stock in a community, this section of the Land Use Element focuses on the residential neighborhoods within which this housing stock is located or is to be developed.

4.3.3 Neighborhood Preservation

Neighborhoods

Neighborhoods are the foundation of the City. Strong, healthy neighborhoods are vital to the overall well-being of the community. A "neighborhood" is a group of homes that share some common identity because of location, building style, density, or the people who live there.

Neighborhoods give people a sense of belonging, of comfort, and of refuge. They allow people to connect with their neighbors informally, to meet others casually, to share interests, and to experience the diversity of cultures, ages, and ways of living that add to the richness of the community.

Physically, neighborhood characteristics usually include a "walkable" area, a mixture of uses that relate to one another--for example, housing and a neighborhood shopping center--and a focal point like a school or park that gives identity to an area.

Each "neighborhood" in Waterford has a distinct character, depending on when it was built, the style and mixture of homes, and where it is located. Preserving the individual character of the City's neighborhoods is an important

concern for Waterford residents, but there currently exists no formal structure in which this can be accomplished. Formal neighborhood boundaries have never been established within the City and that makes addressing the concerns of individual neighborhoods more difficult.

Neighborhood Planning

As the City grows and becomes more diversified, the City can help guide residents in coordinating their activities to deal with neighborhood issues if the residents wish. Such coordinated efforts are usually more effective in solving problems than individual actions would be. Individual neighborhood plans can even be formulated with the input of neighborhood residents and coordinated by City staff to address specific problems or improvements.

Where, from time-to-time, it is felt that improved dialogue between the City and a neighborhood is needed the City should facilitate the development of a formal neighborhood planning process for dealing with neighborhood issues and soliciting citizen input on these issues.

Neighborhood Preservation

One of Waterford's major assets lies in its older, well-established residential neighborhoods. These neighborhoods often lie in close proximity to commercial or office areas and are subject to pressures for conversion to non-residential uses. Serious impacts from traffic, parking, and noise can intrude into these otherwise stable neighborhoods.

Changing patterns of ownership in older residential areas can also be a threat to neighborhood stability. An increase in rentals can lead to reduced maintenance and care for the housing units. As time goes by, this can lead to reduced property values and cause more owners to leave the neighborhood.

However, the City has recognized these disturbing factors and is taking steps to prevent the deterioration of its well-established neighborhoods through strong neighborhood preservation policies (Policies L-1.5 and L-1.8), interface regulations in the zoning ordinance, and housing rehabilitation programs (Housing Element, Chapter 10).

Creating New Neighborhoods

With the same concern, the City is striving to carefully evaluate all new development in order to create new neighborhoods with the same valued characteristics which are a part of Waterford's older residential areas. Some of these characteristics, which are often pointed to with pride, are: the streets are lined with a canopy of mature trees, a variety of architectural styles exists, exteriors and landscaping are well-maintained, traffic levels controlled and schools and parks are conveniently located. The "Neo-Traditional" or "New

Urbanist" Concepts, explained in detail in Section 4.6, is one way of creating such neighborhoods.

4.3.4 Residential Neighborhood Goals, Policies, and Actions

The goals and policies which follow reflect the City of Waterford's desire to maintain and enhance the quality of the City's residential neighborhoods.

Goal Area L-1: Residential & Neighborhood Development

GOALS

- **Housing Opportunities in Balance with Jobs Created in the Waterford Urban Area**.
- **A Wide Range of Residential Densities and Housing Types in the City.**
- **Preservation and Enhancement of Existing Neighborhoods.**
- **Quality Residential Environments.**
- **Pedestrian-Friendly Residential Environments.**
- **A Sense of Community.**

POLICIES

L-1.1 Promote balanced development which provides jobs, services and housing.
L-1.2 Encourage a diversity of building types, ownership, prices, designs, and site plans for residential areas throughout the City.
L-1.3 Encourage a diversity of lot sizes in residential subdivisions.
L-1.4 Conserve residential areas that are threatened by blighting influences.
L-1.5 Protect existing neighborhoods from incompatible developments.
L-1.6 Continue to pursue quality single-family and higher density residential development.
L-1.7 Encourage the location of multi-family developments on sites with good access to transportation, shopping, and services.
L-1.8. Create livable and identifiable residential neighborhoods.

Policy L-1.1

Promote Balanced Development Which Provides Jobs, Services and Housing.

The long term economic health of the City is enhanced by maintaining housing opportunities that accommodate the local labor force. At the same time, residential development must have adequate and appropriate services which are accessible. The balance between job growth, housing opportunity and services not only supports stable economic growth in Waterford, it also reduces vehicle trips for work commutes and services, and enhances the overall quality of life for Waterford residents.

Implementing Actions:

1.1.a Promote mixed use development combining compatible employment, service and residential elements.

Mixed use development plans would typically be proposed in the new growth areas of

Waterford in accordance with the "Neo-Traditional" or "New Urbanist" development standards. The City should consider reviewing its zoning and development codes in the established areas of the City to determine if policies and programs could be proposed which would facilitate the location of appropriate employment centers and services.

1.1.b Periodically review job growth statistics in the Waterford urban area compared to new residential development.

The City should maintain and monitor housing cost data for different types of housing in the Waterford urban service area and for different parts of the City. This data would need to be periodically compared to existing employment opportunities to determine if there is a reasonable relationship between housing and jobs and to determine if increased housing costs in a sector or area indicates demand for a particular type of housing.

1.1.c Determine the types of housing opportunities needed for the type of employment opportunities being created in the City.

The City should periodically review State employment statistics for the Waterford urban service area and determine if new housing construction has been occurring in relative balance with job growth. Value and type of housing should be somewhat related to the types of jobs being created. Over time, if it appears that normal market forces are not matching housing growth with employment, the City may need to take action to promote the appropriate type of housing development by type and location.

Policy L-1.2

Encourage a Diversity of Building Types, Ownership, Prices, Designs, and Site Plans For Residential Areas Throughout The City.

Implementing Actions:

1.2.a Encourage higher-density residential developments within walking distance (approx. 1/4 mile) of commercial centers.

The "Neo-Traditional" or "New Urbanist" concepts call for higher-density residential developments within walking distance of commercial cores. A wide range of densities, including small-lot single-family, townhouses, and apartments, can be allowed in these "Neo-Traditional" or "New Urbanist" residential areas to achieve an overall average density of at least 10 units per acre. This residential development will help ensure greater support for transit and the economic viability of the commercial uses. These principles should be applied to most of the City's new growth areas and financial incentives should be explored for promoting their use.

1.2.b Encourage residential and/or office-above-retail in the downtown area and in neighborhood commercial cores.

Additional upper floors with residential or office uses should be encouraged in order to provide a higher degree of street security at night, concentrated pedestrian activity, increased support for public transit, and a greater number of lunch-time and after-work shoppers.

1.2.c Continue to allow second units in single-family areas where appropriate.

Performance standards need to be established for second units which should require the owner to occupy the primary unit on the lot to avoid problems with "absentee" landlords in single-family neighborhoods.

1.2.d Encourage duplexes on corner lots in low-density residential areas.
The City's zoning ordinance should be amended to allow duplexes on corner lots in single-family residential areas with a conditional use permit if the lot is at least 8,000 square feet and the lot does not front only on an alley or collector or higher order street. Consideration should be given to allowing these duplexes as permitted uses as long as the same requirements are met.

1.2.e Encourage use of the "Planned Development" Zone (PD) to implement the "Neo-Traditional" or "New Urbanist" land use policies for mixed densities in residential areas within walking distance of neighborhood commercial centers.
The "Neo-Traditional" or "New Urbanist" land use development concept proposed in this general plan does not have a corresponding zoning category. Planned Development zoning could be used to implement this strategy. A "performance standard" should be developed based on the requirement that a mix of densities and housing types (small-lot single-family, townhouses, duplexes, apartments), uses, narrow streets, alley fronting garages, etc, are required in order to permit use of Neo-Traditional densities that can be allowed to achieve a minimum average density of 10 units per acre within an LD Land Use Classification.

Policy L-1.3.
Encourage a Diversity Of Lot Sizes In Residential Subdivisions.

To encourage a wide variety of housing types to meet the City's diverse housing needs, the City shall promote and pursue the following.

Implementing Action:

1.3.a Continue the use of Residential Planned Developments to provide for smaller lot sizes in single-family developments.
The City's Low-Density Residential (R-1) zones currently have 6,000-square foot minimum lot sizes. With the use of Residential Planned Developments, smaller lot sizes and other options (zero-lot-line, cluster housing, etc.) can be allowed, thus offering a variety of housing choices to meet the City's diverse housing needs.

Policy L-1.4
Conserve Residential Areas That Are Threatened by Blighting Influences.

Many of Waterford's existing residential neighborhoods are threatened by blighting influences. Waterford's neighborhoods are the life blood of the community and considerable effort must be made to avoid their deterioration.

Implementing Actions:

1.4.a Complete an inventory of non-conforming land uses throughout the City and determine if the land use designations/zoning should be changed to conform to the existing use or if changes should be made to the zoning ordinance restrictions on non-conforming uses.
A number of land uses exist throughout the City which are "non-conforming," meaning that the existing use of the property would not be allowed under the current zoning even

though the use was allowed under the zoning which was in place when it was built. These "non-conforming" uses include "Home Occupations" that have expanded beyond the "home occupation" standards, and illegal second units. Additionally, over time many garages in the older parts of the City have been converted to residential living space with the resultant loss of on-site parking and the residence becoming "non-conforming" with present codes. Under the provisions of the City's zoning ordinance "legal non-conforming uses" may continue to exist, but their survival is not encouraged. This means that they cannot be enlarged or extended nor can they be rebuilt if they are substantially destroyed. Other "non-conforming" use violations must be corrected. Non-conforming structures often have trouble obtaining financing because of these restrictions, which can lead to blight. For the most part, these non-conforming uses should not be encouraged, but an inventory of these uses should be conducted to see if there may be some existing non-conforming uses which may merit special consideration. This special consideration may lead to a change in land use/zoning designation or possible changes to the zoning ordinance restrictions.

Policy L-1.5

Protect Existing Neighborhoods From Incompatible Developments.

Waterford's existing neighborhoods should be protected from incompatible commercial and industrial uses which may cause adverse impacts to the residences.

Implementing Actions:

1.5.a Develop Interface Overlay Zone regulations for the review of proposed land uses adjacent to residential areas.

Interface Overlay regulations require conditional use permits for commercial and industrial developments directly adjacent to residential uses. The purpose of the use permit is to ensure that the residential areas are protected from possible negative effects such as obtrusive lighting, traffic, noise, loss of privacy, etc., from adjacent higher-intensity uses. Expanded setbacks, landscape buffers, height limits, restrictions on lighting and access, limited store hours, and other measures can be applied to these developments to make them better neighbors. These regulations would also apply to high density residential uses adjacent to single-family zones.

1.5.b Evaluate traffic and circulation generated by large scale commercial and industrial projects and limit their adverse impacts on residential areas.

Sometimes commercial and industrial development can cause negative impacts on residential areas without being directly adjacent to them, and, thus, would not necessarily be addressed under Interface Overlay regulations. Traffic is a particular concern. Traffic from employees or customers going to commercial and industrial areas can pass through residential areas and cause adverse impacts. Through the City's development review process, the City should watch for circulation patterns which may encourage such pass-through traffic and make alternatives available to eliminate or limit these patterns. Changes to collectors and other streets that may cause existing traffic to take new routes should also be monitored.

Policy L-1.6.

Continue to Pursue Quality Single-Family And Higher Density Residential Development.

To ensure the quality of the City's residential areas, the City shall pursue the following:

Implementing Actions:

1.6.a Continue to review proposed subdivision designs to ensure the provision of adequate circulation, public improvements, common open space, landscaping, maintenance, etc. through the development review process.

Subdivision maps are reviewed by City staff and the Planning Commission prior to approval through the public hearing process. The maps are reviewed to ensure that adequate circulation (auto, bicycle, and pedestrian), public improvements, open space, landscaping, etc. is provided.

1.6.b Multi-family projects must comply, at minimum, with the adopted standards and design guidelines contained in the "*City of Waterford's Design Standards and Guidelines.*"

Multi-family projects of three or more units are subject to the *City of Waterford Design Standards and Guidelines.* There are different standards for planned development projects, non-planned development projects of six or more units, and non-planned development projects of three to five units. Standards are set for building design, setbacks, signs, mechanical equipment, trash collection areas, fencing, landscaping, parking areas, and addressing.

Policy L-1.7.

Encourage the Location of Multi-Family Developments on Sites With Good Access to Transportation, Shopping, and Services.

Multi-family developments are crucial to meeting the housing needs of Waterford's growing population. They need to be located in appropriate areas where services are readily available to serve the needs of residents in an efficient manner.

Implementing Actions:

1.7.a Designate areas adjoining arterial streets, major transportation routes and commercial areas for multi-family development.

Through the general plan process, sufficient areas for multi-family residential development should be designated. Locations appropriate for such development include areas adjoining arterial streets, major transportation routes, and commercial areas. Potential multi-family sites which are too distant from necessary services should be discouraged.

1.7.b Use the "Neo-Traditional" or "New Urbanist" concepts to promote higher density residential development adjacent to commercial services and transit.

Multi-family development should be located in Village Residential areas for ready access

to commercial services and transit.

Policy L-1.8.
Create Livable and Identifiable Residential Neighborhoods

Implementing Actions:

1.8.a Encourage Neighborhood Watch programs and other neighborhood associations throughout the City which facilitate concern for and contact with one's neighbors.

Continue to promote Neighborhood Watch and other such programs which lead to increased interaction between neighbors.

1.8.b Define specific neighborhood boundaries using natural or man-made features, such as canals and roads, or by common community facilities (parks, schools, shopping centers). Ethnic and economic boundaries are discouraged.

As part of a neighborhood planning process, specific neighborhood boundaries will need to be determined. These neighborhood boundaries should be based on the above criteria as much as possible.

1.8.c. Develop a neighborhood planning process by which the concerns of specific neighborhoods can be addressed through neighborhood plans.

After adoption of the general plan, the City should explore various options for creating a neighborhood planning process to address the needs of individual neighborhoods. These options could include the formation of new neighborhood associations or councils or the use of existing Neighborhood Watch or similar associations. These plans should strive for a high-level of public participation at the neighborhood level.

1.8.d Promote the intermixture of different types of housing in residential areas to meet the needs of different segments of the population.

The City will continue to provide for a variety of housing types in residential areas by zoning land in a variety of densities throughout residential areas. The City shall promote the use of the "Neo-Traditional" or "New Urbanist" concepts which allow a variety of densities in "Neo-Traditional" or "New Urbanist" type residential areas within walking distance of commercial and transit services.

4.4 ECONOMIC ENVIRONMENT

4.4.1 Background & Scope

Economic Environment

The economic environment of Waterford, like other local jurisdictions, consists of a number of interconnected elements. It is also influenced by a variety of factors which can range from the overall health of the national economy to local decisions. This portion of the general plan summarizes those factors which affect the local economy and briefly analyzes what makes the local economy function. By isolating the different segments of the economy, those factors which can be realistically affected within the context of the general plan are identified. From there, policies and recommendations are proposed which will encourage the improvement

and long-range stabilization of Waterford's economy.

The City of Waterford is likely to expand, as residential growth occurs, to become one of the commercial, financial, and governmental centers for eastern Stanislaus County during the coming years. It remains relatively autonomous and centrally located between the competitive trade centers of Oakdale to the north and Modesto to the west and Turlock/Ceres to the southwest. The City of Waterford is also a service center for the vast rural/recreation areas to the east into the foothills of Tuolumne and Mariposa counties.

The seasonal fluctuation in agricultural employment and the food processing industry (in Modesto and Oakdale) is often noted as a deficiency in the local economy and is a cause of short-term variations in the local unemployment rates. Overall, unemployment in the county, which is reflective of the City as well, runs consistently above the statewide rate.

Job Development

To achieve lower unemployment rates in the community, the City can play an active role in job development. Over the years, County employment data has shown a steadily increasing ratio of services-producing employment to goods-producing employment. Services-producing employment includes jobs in government, services, wholesale trade, retail trade, transportation, public utilities, finance, insurance, and real estate. The basic job categories for goods-producing employment are agri-culture, manufacturing, construction, and mining.

Given the City's location relative to major highway, rail, and airport facilities, goods-producing employment is not a likely candidate for improving the City's jobs base.

Also, the increasing ratio of service-producing employment to goods-producing employment demonstrates an increasing urbanization of the area with clear trends away from a totally agricultural economy in the County. As Waterford's role as an urban center in the eastern region of the County increases, so will its role as a government and trade center. Increased personal income from non-agricultural employment and an increasing population, even at slow non-industrially induced rates, will continue to stimulate the services-producing employment sectors of the local economy.

The economic health of the community can provide choice, convenience, and employment for the residents of Waterford, along with profits for the developer and business owner. The general plan can be an integral part of this economic environment by clarifying the community's goals and outlining a set of actions for achieving them. This will serve to assist both local decision makers and the investor/ developer by clearly stating the City's position toward economic development.

4.4.2 Issues Affecting Industrial Development

Retaining Existing Industry

It is one of the primary goals of this general plan to properly utilize the existing industrial areas in Waterford and to protect them from encroachment by non-industrially related uses which

may affect their continued growth and expansion. Existing industries must be encouraged to expand and grow (adding new jobs) to remain competitive. Several policies later in this chapter (Section 4.5.7) address ways to achieve this goal.

Developing New Industrial Areas

At present, the City has a very limited industrial base primarily due to the City's limited access to major regional transportation facilities (highway, rail and air traffic terminals). It is not expected that the City will be able to effectively compete for these types of industries in the future.

Additionally, the present industry base of the City is located in areas that exhibit high visibility (Highway 132 corridor-Tuolumne River frontage) and will most likely be forced to relocate as a result of increased real estate values and increased pressure to improve access and site aesthetics to complement new growth and investment along this corridor.

The City's long term land use plan contains a strategy for providing an area for these existing businesses to relocate and expand in addition to providing space for new compatible industries in the area.

Business Parks

Within this general plan, the City is recommending that industrial areas become more flexible. Because of increasing air quality and traffic concerns, it is becoming desirable to provide many commercial and service activities convenient to industrial activities for easier accessibility by industrial employees.

If restaurants, health clubs, daycare centers, auto services, some offices, and limited retail activities that draw primarily from industrial areas could be located convenient to such zones, it could have substantial traffic and air quality benefits to the community as well as making it easier for industrial employees to conduct business, run errands, etc., without having to drive across town.

Overall Community Quality

Another key role of the general plan in the development of industry pertains to less tangible elements which are crucial to promoting economic growth. Many business enterprises are strongly influenced by the character of the community when choosing a location. Among paramount concerns are an adequate housing supply, freedom from deterioration and blight, the quality of schools and other public facilities and services, and the availability of cultural and recreational resources. For example, industries will not pick sites where their operations are likely to result in complaints from nearby residents, or where a firm's own traffic must strongly compete with other traffic using the same routes.

In this respect, the City's overall success in carrying out the goals of all the general plan chapters will be important to promoting economic growth. The comparative economics and locational advantages of Waterford's competitors will continue to make business promotion a challenge. However, the City's ability to maintain a high quality

of life for its residents, to present a clean, attractive appearance, and to provide efficient service levels and infrastructure will give Waterford an advantage over many of its competitors.

4.4.3 Issues Affecting Commercial Development

Commercial Setting

The *Waterford Vision 2025 General Plan* proposes the development of new commercial areas as well as the improvement of existing commercial areas.

It is the intent of the general plan to encourage the development of commercial areas which conveniently serve the residential population, provide employment opportunities, form an attractive segment of the community, and contribute to the community's tax base.

COMMERCIAL CLASSIFICATIONS

The functional classification of commercial uses by the market they serve and the size and characteristics of their operations form the basis for the commercial segment of the general plan.

Central Business District/Downtown

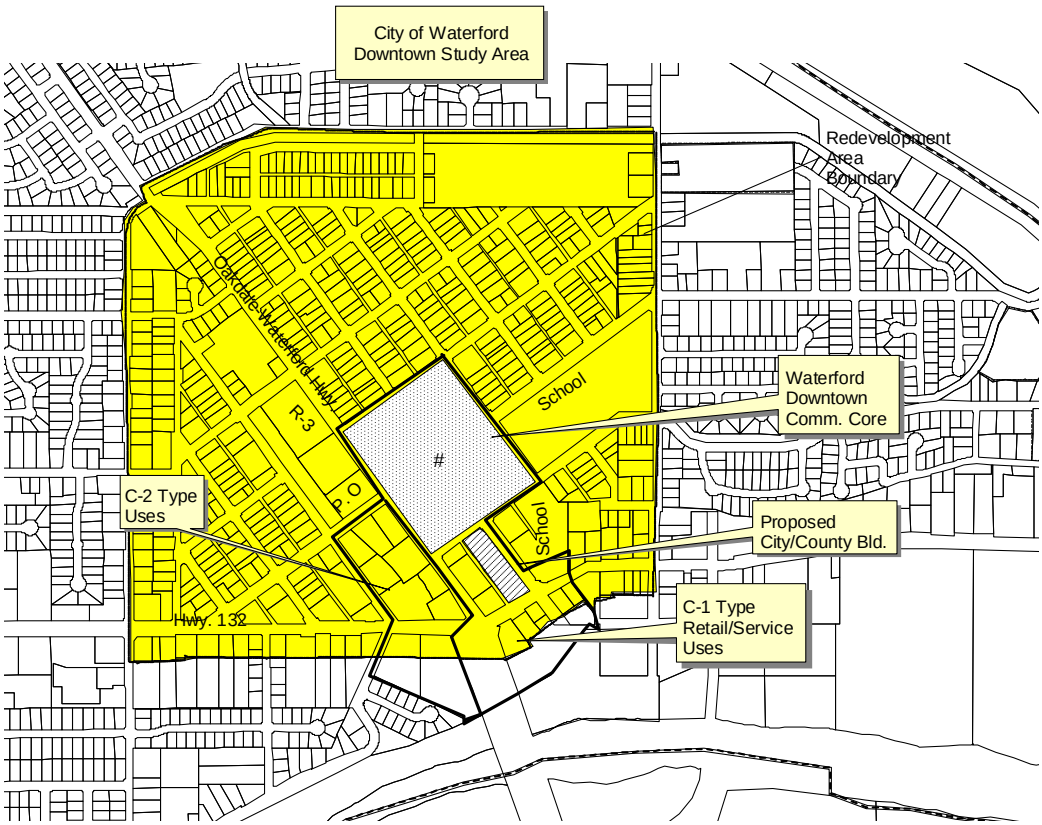
Like most older communities, Waterford's central business district was once the center of retail and business activity for the entire community. As a downtown center, it has some assets that can be developed. The downtown area historically developed east of the railroad corridor that once passed through town.

The City is deeply committed to revitalizing the downtown area. (***Figure 4.3)*** These location features serve to provide excellent access into the downtown area while limiting through traffic congestion. It is the community's plan to capitalize on this accessibility asset.

The Downtown core is a destination site for local services. Additionally, the two major regional thoroughfares, Yosemite Boulevard and the Oakdale-Waterford Highway, serve a regional population. The proximity of these two regional access routes to the downtown create a unique opportunity for business development.

The City's strategy for revitalizing downtown is set forth in this plan. The strategy attempts to re-energize the downtown commercial/service mix through the development of a downtown government service center along with construction of a civic/cultural center. Design concepts for the downtown include improvements to streets, new parking approaches, a downtown park or outdoor center, and land use policies that enhance the downtown appearance and commercial viability.

Figure 4.3
Downtown Planning Area and Redevelopment Area



Additionally, the attraction of new financial and office facilities, and the construction of a community education center for off-campus college course offerings from area universities and colleges are proposed to enhance the downtown economic base. The strategy focuses on maximum rehabilitation and retention of remaining businesses, with a special emphasis on financial uses, tourist activities, and community level shopping facilities.

This strategy is seen as complementing development of regional service and commercial retail centers, either developed or designated for development within the City.

The following "Vision for Downtown Waterford" is as follows:

> *"Downtown is Waterford's most diverse social and economic center. Downtown will continue to play a dominant role in cultural and civic activity, finance, education, and government. Downtown will become a stronger center for business, education, housing, and local and regional retail."*

A set of strategies and tactics to achieve this vision was also adopted. These strategies have been translated into general plan policies and actions (see Policy L-2.8).

4.4.4 Economic Development

The City of Waterford is challenged by its lack of transportation infrastructure (rail, freeway, air) that connects the City with major commercial/industrial centers of the region and the state. Traditionally the City has been an agricultural service center for the surrounding farm land.

With increased population and growth in the urban centers along Highway 99 corridor to the west, the City's economic growth has been sustained by its strategic location along Highway 132. This corridor provides access to the recreational resources to the east of the City. These resources include Modesto Reservoir, Turlock Lake, and the Sierra recreation areas in Tuolumne and Mariposa counties. Highway 132 also provides access to Yosemite National Park.

In recent years, the small town environment, affordable housing and recreation access has become an attractor to new residents who commute to the regional employment centers along the Highway 99 corridor to the west.

This influx of new residents has created new local employment opportunities in the retail and service sectors of the local economy. This growth has also resulted in an increase in per capita income levels for the area.

Based on an economic study prepared for the City, it is forecasted that the combination of these economic trends will result in the City growing and exceeding the median and per capita income levels of other major population centers in the area and the County as a whole.

4.4.5 Commercial and Industrial Land Needs

Commercial and industrial uses have been designated on the land use diagram based on estimated land needs. It will be important to review and update this data from time to time to make sure that the City is maintaining an adequate supply of commercial and industrial land.

Employees Per Acre

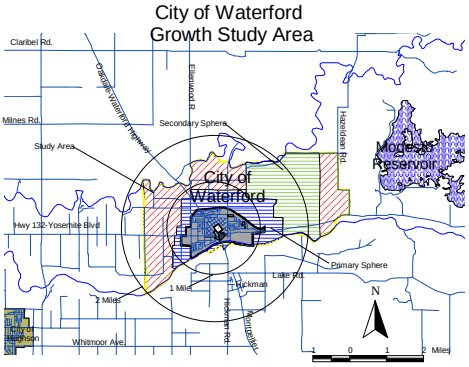
In order to translate numbers of jobs into numbers of acres of land needed, it was necessary to determine employee per acre ratios for Waterford. A considerable amount of research was done in an effort to develop an approach for deriving a reasonable employee-per-acre ratio for various industrial and commercial land uses. Because of the limited base of information available in Waterford, the City relied on work done in larger metropolitan areas and borrowed their standards.

As a result, it was determined that the following employee-per-acre ratios best described the existing and expected future needs of the City:

a) 10.0 employees per industrial acre;
b) 12.0 employees per retail commercial acre; and
c) 18.8 employees per office commercial acre.

Jobs-Housing Balance

In 2002 the City of Waterford had a Jobs-Housing Ratio of 0.35 jobs per housing unit. (0.35:1). It is determined that it is important to the long term economic stability of the City that a Job-Housing Ration of 0.5:1 or better is maintained with future growth and expansion in the City. To this end, the City has adopted a policy that all new residential development either create job creation development in conjunction with their residential development or contribute financially to the City's effort to encourage job development.



4.4.6 Commercial/Industrial Corridors

The general plan land use diagram proposes several employment areas with heavy concentrations of commercial and industrial development. These areas, seen in ***Figure 4.5,*** are generally des

1) Existing Downtown Core--Within the existing City limits, generally bounded by the Oakdale-Waterford Highway or "F" Street (to the west) with Highway 132 passing through the southern portion of the area parallel to the Tuolumne River. This area includes the downtown core of Waterford.

2) Highway 132 Corridor--Along the east and west sides of Highway 132 *from the Reinway to Skyline Boulevard. This area presently contains a mixture commercial, residential institutional and industrial uses. Future development will accommodate a mixture of uses, including higher-density residential development with an emphasis on transit access and pedestrian convenience.*

3) North Expansion Area--The area generally is located around the intersection of *El Pomar/Star Avenue* and the Oakdale/Waterford Highway. This area will support various *types of* commercial/ industrial development. This commercial core will be surrounded by higher-density residential development and will emphasize transit and pedestrian access.

4.4.7 Commercial and Industrial Goals, Policies, and Actions

Goal Area L-2: Economic & Business Development

GOALS

- **Increased Employment Opportunities for the Citizens of Waterford.**
- **A Diverse and Balanced Waterford Economy.**
- **Preservation/Enhancement of the City's Economic Base.**
- **High Quality Industrial Areas.**
- **Ready Access to Commercial Services Throughout the City.**
- **A Revitalized Downtown Area.**

POLICIES

L-2.1 Encourage development of appropriate commercial and industrial uses throughout the City.

L-2.2 Locate new or expanded industrial/business parks in appropriate areas.

L-2.3. Promote the retention and expansion of existing industrial and commercial businesses.

L-2.4 Provide a range of services adjacent to and within industrial/business park areas to reduce auto trips.

L-2.5 Maintain attractive industrial/business park areas.

L-2.6 Provide neighborhood commercial centers in proportion to residential development in the City.

L-2.7 Locate and design new commercial development to provide good access from adjacent neighborhoods and reduce congestion on major streets.

L-2.8 Encourage a mixture of uses and activities that will maintain the vitality of the downtown area.

L-2.9 *Require new development to maintain at least a Jo-Housing Balance of at least 0.5 jobs per new housing unit.*

Policy L-2.1

Encourage Development of Appropriate Commercial and Industrial Uses Throughout the City.

In order to further develop the City's economic and job base, new areas for commercial and industrial/business park development must be planned for. In addition to designating such land, the City needs to be actively involved in recruiting new industries and businesses.

Implementing Actions:

2.1.a Designate adequate amounts of commercial and industrial/business park land to serve the City's employment needs through 2025 and beyond.

Based on employment projections and employee-per-acre ratios, the amount of land needed to accommodate commercial, office, and industrial uses can be determined. The

general plan land use diagram contains sufficient amounts of appropriately designated land to meet these needs. Since these projections will change over time with changing market conditions, it will be necessary to monitor this information in order to ensure that the City's supply of commercial and industrial land remains adequate.

2.1.c Continue the City's economic development activities.

Work closely with the Chamber of Commerce, Stanislaus County Economic Development Corporation, the Business Council, economic development advisory groups, etc. to implement the City's Economic Development Business Plan.

2.1.d Develop incentives as appropriate to encourage new commercial and industrial development.

Utilize the City's redevelopment program to support and encourage commercial and industrial development within the City and expand the redevelopment area to include new industrial/business park and Regional Commercial Service areas.

2.1.e Specifically target central Waterford as an area that needs more commercial retail and office development.

Central Waterford is the retail commercial, service and office center of the City. New commercial development in the City has been located along Highway 132. The area is within the City's redevelopment area and efforts to focus new business in this area could be linked to redevelopment program support.

2.1.f Promote industrial development that offers full-time, non-seasonal employment.

Waterford's traditionally agriculture-based economy has led to large swings in regional unemployment due to the seasonal nature of agriculture. Therefore, the City should target new industries that can offer year-round employment for recruitment.

2.1.g Maintain a list of target industries for economic development purposes.

The City, in cooperation with the Stanislaus County economic development agencies, should develop and use a list of "target industries" that could appropriately locate within the City given the City's transportation limitation. The City economic development strategy will focus on industries and enterprises that value a high quality of life and utilize new "information age" technologies.

Policy L-2.2

Locate New or Expanded Industrial Parks in Appropriate Areas.

It is important to designate areas for new industrial development ahead of other uses due to the area and access needs of industry as well as the need to avoid planning for incompatible uses adjacent to industrial areas which might interfere with continued industrial operations.

Implementing Action:

2.2.a Industrial areas should be located where they will have reasonably good access to the region's air, rail, and major highway transportation links to the west.

Waterford's industrial areas need to be located where they have good access to air, rail, and/or highway transportation systems located along the Highway 99 corridor. New and expanded industrial areas proposed on the land use diagram are located to take advantage

of good access.

2.2.b Industrial reserve areas should be protected from non-industrial use or premature development through agricultural zoning until such time as the land is needed for industrial development.

The City will work closely with the County to ensure that industrial reserve areas are protected from premature or incompatible development. Generally, areas designated as "Industrial Reserve" will be combined with an interim use classification, such as Agriculture, on the County General Plan, which maintains existing use practices in the area but establishes expected future uses based on need. Industrial reserve areas are designated on the land use diagram within the Waterford urban development area.

2.2.c Parcels of land in industrial reserve areas should remain as large as possible in order to accommodate a variety of plant sizes and types in the future.

Lot splits should be discouraged in industrial reserve areas until such time as they are ready for development in order to provide maximum flexibility for future uses. The City will work with the County to ensure that industrial reserve areas are zoned for the appropriate Agriculture zones which require 20-acre or 40-acre minimum parcel sizes.

2.2.d Develop an action program which outlines priorities for annexing new industrial and commercial areas and includes plans for providing services and infrastructure to these future industrial/commercial areas.

Under the direction of the Planning Commission, the City should establish an action program for annexing new industrial and commercial areas which would include plans for providing infrastructure. Since it takes time to bring industrial sites "on-line", it is imperative that this be done in a timely manner. The first priority, which is to provide services to areas located near the intersection of Reinway and the Oakdale-Waterford Highway, has been identified.

Policy L-2.3.

Promote the Retention and Expansion of Existing Industrial and Commercial Businesses.

In order to maintain the City's economic base, it's not enough to attract new businesses. Existing businesses, if taken for granted, can leave the area, go out of business, or stop growing. By reaching out to existing businesses, the City can make sure that their current and future needs are being met as well as promote their expansion.

Implementing Actions:

2.3.a Protect industrial areas from encroachment by non-industrially-related uses.

Designate buffer areas (which may include open space areas, business parks, commercial development, and/or heavily-landscaped roadways or parkways) between industrial and residential uses. Guidelines should be established for these buffer areas to address their minimum size, development standards, etc..

2.3.b Assist existing industrial uses in relocating out of the Highway 132/Tuolumne River corridor to appropriate areas within the City's Urban Planning Area.

Industrial type uses along the Hwy 132/Tuolumne River corridor are located in one of the City's most valuable resource areas and pose problems of a traffic, community aesthetic and environmental nature. These industries are important to the City's long term

economic health and as land in this corridor becomes more valuable, it is likely that these industries would be encouraged to locate to other areas to capitalize on their land assets. The City will work with these industries to find appropriately zoned land to relocate their businesses within the City's Urban Planning Area.

2.3.c Continue to improve the permit approval process to ensure that industrial development projects are approved in a timely manner.

The City's Planning Department has, over the last few years, made considerable effort to streamline the permit approval process for residential, commercial, and industrial projects. These efforts are expected to continue. The development of design guidelines for commercial and industrial projects could be developed to make the City's expectations clearer.

2.3.d Maintain a business outreach program to ensure that the needs of existing businesses are being met.

The Planning Department along with the Chamber of Commerce, etc., will participate in various programs which contact local businesses regarding retention and expansion opportunities.

Policy L-2.4.

Provide a Range of Services Adjacent to and Within Industrial Areas to Reduce Auto Trips.

By providing services adjacent to or within industrial areas so that employees don't have to leave the area to eat lunch or run errands, the number of noon hour auto trips may be reduced.

Implementing Actions:

2.4.a Establish a zoning designation called "business park" which would allow a mix of heavy commercial, "back office," and light industrial uses.

By allowing this mix of uses, the number of auto trips may be reduced within these areas.

2.4.b Continue to allow services, such as restaurants and other retail commercial uses, which mainly serve industrial employees, to locate in industrial zones as discretionary uses.

The City's zoning codes should be modified and updated to allow restaurants which serve employees and are located in main buildings as accessory uses. Retail commercial uses which are deemed appropriate by the Planning Commission should also be allowed as conditional uses.

2.4.c Consideration should be given to providing attractive, efficient, and affordable means of public transit between industrial areas and residential areas of the City.

Transit routes should serve industrial areas so that employees can reach their jobs by means other than the private automobile. The location of industrial areas and other major employment centers will be considered as transit routes are established.

2.4.d Promote industrial mixed use centers through changes in the zoning ordinance.

Because of increasing air quality and traffic concerns, it is becoming desirable to provide many commercial and service activities convenient to industrial activities for easier

accessibility by industrial employees. If restaurants, health clubs, daycare centers, auto services, some offices, and limited retail activities that draw primarily from industrial areas could be located convenient to such zones, it could have substantial traffic and air quality benefits to the community as well as making it easier for industrial employees to conduct business, run errands, etc. without having to drive across town.

Policy L-2.5.

Maintain Attractive Industrial/Business Park Areas.

For the purpose of recruiting new businesses and retaining existing businesses and for overall City image and appearance, attractive industrial areas should be maintained..

Implementing Actions:

2.5.a Continue to require site plan review of new industrial/business park development, and the application of standards regarding landscaping, appearance, circulation, access, and parking.

The City currently requires site plan review for new industrial development and the expansion of existing industries. This staff-level review applies consistent standards regarding landscaping, access, etc. to ensure that industrial areas are developed in an attractive manner while still recognizing that industrial development standards, need to be flexible to balance aesthetic needs with operational practices. The emphasis should be placed on maintaining an attractive appearance along the perimeter of industrial areas where they are visible to other land uses and the public.

2.5.b Consider requiring the planting of parking lot trees in industrial areas, perhaps at a reduced standard instead of the one tree for each six parking spaces required in other areas, to provide shade, reduce glare, and reduce reflective heat.

The City shall require the planting of parking lot trees in industrial areas.

2.5.c Require the removal or screening of all rubbish, abandoned buildings, processing wastes, old equipment, or other forms of blight in industrial areas.

Through the site plan review process, the City requires the screening of unsightly areas from view from the public streets.

2.5.d Investigate the possibility of regulating industrial development on the basis of, or in combination with, performance standards instead of strictly by definition of specific allowable uses as in the zoning ordinance.

Performance standards, if they can be made applicable, have the capability of translating the classified industrial categories (light and heavy industrial) into a well-defined and meaningful system for identifying possible impacts of different industrial uses. Under such a system, industrial land uses can be located and administered in a more effective and flexible manner.

Policy L-2.6.

Provide Neighborhood Commercial Centers In Proportion to Residential Development in the City.

Residents of the City should have ready access to commercial services in close proximity to their homes for convenience and to eliminate the need for excessive automobile trips. Neighborhood centers with grocery, drug, video, and other stores which serve the needs of surrounding residents should be distributed throughout the City to serve most residential areas.

Implementing Actions:

2.6.a Neighborhood commercial centers should be located approximately one mile apart along major arterial streets adjacent to residential expansion areas throughout the City.

A one-mile radius is the standard service area for neighborhood commercial centers. Therefore, in order to ensure that most residents in Waterford have ready access to commercial services, neighborhood commercial centers should be located at regular intervals (approximately one for each square mile of residential development) along major streets within the City's Urban Expansion Area. Businesses proposed in the "Neighborhood" centers shall compliment but not compete with the "Downtown" or "Commercial Core" center of the City

Policy L-2.8.

Encourage a Mixture of Uses And Activities That Will Maintain the Vitality of the Downtown Area.

The City's downtown area is centered at the intersection of "E" Street and Bently Street and bounded by the Oakdale-Waterford Highway ("G" Street) to the west, Main Street to the north, "D" Street to the east and extends to the south across Highway 132. This area is in the historic core of the City and includes the site of the future City-County Building and the commercial service core area at the intersection of the Oakdale-Waterford Highway and State Highway 132.

Implementing Actions:

2.8.a Strengthen downtown cultural activities and focus on Waterford's cultural diversity.

Strategies for achieving this include development of a "satellite" college campus facility, a cultural/performing arts center, and a City-County government center as well as establishing a major annual event downtown, such as a Farmers Market, and developing a program to retain or relocate clubs and civic groups to the downtown. Emphasis on the area's multi-ethnic cultures provides a strong base for business promotion and development in the downtown area.

2.8.b Retain all existing and attract new financial service businesses, office uses, and government-related offices in downtown Waterford.

The identification of sites for additional financial activities and the recruitment of new

institutions (especially back office functions, data centers, and regional headquarters) is a top priority. Existing City and County government offices should be encouraged to remain downtown and new government-related social service offices should be encouraged to locate in the downtown.

2.8.c Create a compact, walkable retail-service core with multi-cultural offerings and mixed-use development.

The *City of Waterford's Vision 2025 General Plan* has designated a "downtown" area within which the retail core area of the City has been established. To complement this "core" area, uses and activities, such as professional services, government offices, recreation, education and entertainment, are to be developed.

2.8.d Develop a mix of regionally-oriented businesses along Highway 132 and the intersections of Reinway and the Waterford-Oakdale Highway and the intersections of El Pomar and the Waterford-Oakdale Highway and Tim Bell.

These areas are deemed appropriate for focused retail service centers and visitor-serving businesses. Special care should be taken to manage traffic and circulation to ensure that development along the regional traffic corridors do not become limiting to regional commute and service traffic.

2.8.e Develop more office space downtown through renovation and new construction.

The City will attempt to create more office space downtown for all types of businesses and services concentrated in or near the retail core.

2.8.f Develop downtown educational and training facilities and activities.

Strategies include the development of a consolidated education center (including Modesto Junior College, CSU-Stanislaus and UC Merced satellite locations for higher education, and adult education and training) and a downtown day care center. Major industrial/commercial businesses in the region, such Beard Park Industrial tenants, could capitalize on this location and the education center for much of their needed employee training.

2.8.g. Establish a program to utilize redevelopment funds to upgrade downtown's appearance and infrastructure, to develop new public projects to implement the Downtown strategy, to assist in the development and financing of private projects, and to market the downtown area.

The Waterford Redevelopment Agency has been used for all these purposes in the past and should continue to pursue these goals.

Policy L-2.9.

Require New Development to Maintain at least a Job-Housing Balance of at least 0.5 Jobs Per New Housing Unit Ratio.

It has been determined by the City that the long-term economic stability of Waterford requires that there be a minimum of one half of one job for each residential unit in the City. This ratio accounts for some retirement housing and accommodates some level of inter-city job commute in future years.

Implementing Actions:

2.8.a All new residential development will be required to create at least one-half of a

new job in the community for each residential unit built or proposed to be built or contribute funds to the City to be used to support the City's job creation program.

A fee is to be established by the City based on job creation ratios of 10 employees per industrial acre; 12-employees per retail acre and 18.8 employees per office/commercial service acre or an average of 13.6 employees per employment base acre. The fee will be based on the costs of providing infrastructure (Streets, sewer, water, storm-water and related utilities) for a developed employment base acre. The fee will contain will also include a contribution to the improvement of the Waterford Downtown District (sidewalks, curbs, building façade improvements, education center and related downtown improvement programs).

2.8.b The City of Waterford will identify a program for making strategic investments to support job creation in the City.

Strategic investments in job creation will include implementation of the Waterford Downtown Strategy and development of the commercial/industrial land located on the north side of the City near the El Pomar/Start Avenue-Oakdale Waterford Highway intersection. Credits may be given for other developer sponsored projects that are consistent with the General Plan and City policy but fee contributions would be limited to the above listed job-creation strategic investments.

4.5 NEW URBANISM DEVELOPMENT ENCOURAGED

Concepts of "New Urbanism" or "Traditional Neighborhood Development" are encouraged by the City of Waterford. These development approaches promote sustainable development in the City of Waterford through:

- Creating more efficient land use, minimizing agricultural land lost to urban development,
- Promoting compact and pedestrian-friendly neighborhoods,
- Promoting a mixture of higher density uses surrounding activity centers,
- Providing higher density residential uses surrounding retail, recreational, and governmental uses that promotes the effective delivery of urban services,
- Provides a physical design that will reduce the number of vehicle trips generated by the new development, and
- Provides a mixture of housing types that will result in neighborhoods of diverse economic background, rather than segregating different economic groups in isolated neighborhoods.

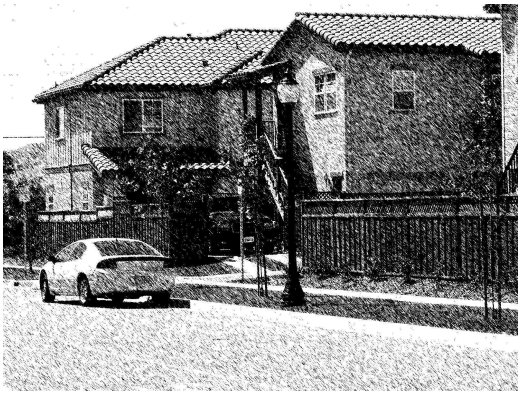
"New Urbanism" or "Traditional Neighborhood Development" is characterized, in the *Waterford Vision 2025 General Plan* as having the following characteristics:

- Development focused around a "Neighborhood Center".
- Street patterns that are developed along a "grid" design or concentric "grid" that provide neighborhood

access and discourage "through" traffic.

- Narrow tree-lined streets with pedestrian amenities and designs that facilitate non-vehicular access to service centers, recreation and schools.
- Reduced private "yard" space and larger "communal" open-space areas that encourage neighborhood interaction.
- Narrow front yard areas with alley access to garages and carports.
- Mixed uses and mixed residential densities are provided within each neighborhood.

In order to encourage "Traditional Neighborhood Development" in the City of Waterford, development density and use standards shall be modified within the "LDR" land use classification to permit mixed uses, densities and modified development standards. These shall be implemented through use of PD zoning, s or some other form of development regulation as accommodated by the city's municipal code.



Within the areas designated as "LDR" on the *Waterford Vision 2025 General Plan* land use map, "Traditional Neighborhood Development" is allowed provided that the following ~~minimum~~ standards are met *to a substantial degree as determined by the Waterford Planning Commission*:

STANDARD 1

New developments within each future growth area shall be made up of one or more "neighborhoods." Each neighborhood shall follow a transect of land uses from an urban neighborhood center to a parkway edge.

STANDARD 2

A neighborhood center shall be defined by and shall be required to have the following urban characteristics:

a) A civic or public open space such as a plaza or green shall be located in the neighborhood center.
b) Retail space, office space, and residential uses shall be located in the neighborhood center, often in multi-use buildings.
c) Except for schools, institutional uses should also be located in the neighborhood center.
d) Streets in the neighborhood center shall be thoroughly interconnected with the surrounding street system to provide easy, multiple accesses for cars, pedestrians, and bicycles.
e) All buildings in the neighborhood center shall be permitted to satisfy their parking requirements with spaces located both on-and off-street within 1/8 mile of the building. All off-street parking shall be placed behind or under buildings in order to present a continuous building façade to the public street.

STANDARD 3

Each neighborhood or group of neighborhoods within each future growth area shall provide for a mix of housing, workplaces, retail, and institutional uses including schools, and shall include land designated for public parks/recreation.

STANDARD 4

Development within each future growth area shall be consistent with the following policies:

a) The outer edge of development in each neighborhood shall not be more than a 20-minute walk from the neighborhood center.
b) The average housing densities within blocks shall decrease from neighborhood center to neighborhood edge (transect).

The neighborhood edge shall be bordered either by a natural corridor, a landscaped buffer adjacent to an arterial, major collector or higher order street, or the edge of an adjacent neighborhood across a pedestrian-friendly boulevard or parkway; sound walls should not be allowed.

STANDARD 5

In order to preserve prime agricultural land, and to achieve the other benefits of compact urban design, new neighborhoods shall be required to achieve a minimum average density of 9-units per net residential developable acre, exclusive of open space, parks, schools, streets and other non-developable areas.

STANDARD 6

New residential developments shall not achieve the required average density of 9 units per net residential developable acre through an exclusive mix of low-density and high-density units. At least 40% of the housing units in new residential developments shall be of housing types that fall within the range of 7-14 units per net residential developable acre.

STANDARD 8

Residential developers shall be encouraged to design new residential developments with as many discreet lot sizes and housing types as is feasible, in the interest of offering a greater number of choices across the broad range of housing prices. Several lot sizes and housing types within each block shall be encouraged to provide variety and texture within the block, as well as throughout each neighborhood. Clustering a large group of any single housing type in several large blocks shall be avoided.

STANDARD 9

The street network within each future growth area shall have the following characteristics:

a) Traffic shall be channeled from major arterials around groups of neighborhoods on boulevards which shall have a maximum of two travel lanes and a bike lane in each direction with a large 20’ to 30’ landscaped median. The center medians shall allow access to every neighborhood street. Large lot homes with large front setbacks and garage access only from rear alleys shall face onto the boulevards.

b) Parkways may be used to channel traffic from major arterials and boulevards to, but not through, neighborhood commercial centers. Each parkway shall have one narrow travel lane and a bike lane in each direction, with a large 20' to 30' landscaped median. The center medians shall allow access to every neighborhood street. Homes with garage access only from rear alleys shall face onto the parkways. The front setbacks shall progressively decrease as residential areas approach the neighborhood center.

c) Each neighborhood shall be connected in as many locations as possible to the parkways and boulevards to disburse and calm the traffic as it leaves and enters the residential neighborhood. Collector street systems shall not be allowed.

d) Open spaces, schools, parks and other natural amenities shall be fronted by streets or public spaces, and shall not be privatized behind backyards.

e) "Gated" single-family home communities shall not be permitted.

f) Individual blocks should generally average less than 600 feet in length and less than 1800 feet in perimeter, measured at the right of way line.

g) Cul-de-sacs shall be avoided unless natural terrain conditions demand them.

h) The street network shall be thoroughly interconnected.

i) Streets in the neighborhood commercial center shall have parking on both sides. Head in and angle parking is preferred in the commercial center with a maximum of two 12-foot travel lanes.

j) In order to slow traffic, standard residential streets shall be no more than 32 feet wide with parking on both sides in the last block before the street connects to a parkway or boulevard, and shall be reduced in stages to 28 feet or less with parking on both sides once away from the parkways and boulevards. In addition, the corner curb radius shall be no more then 10 feet where the neighborhood streets connect to the parkways and boulevards and shall not exceed 4 feet elsewhere within the neighborhoods.

k) Rear alleys shall be strongly encouraged but it is recognized that it is not always practical. In no case, however, is the garage to be permitted in the front of the dwelling unit (facing the street). Rear alleys must be paved and landscaped and must be maintained by a landscape and lighting district, or comparable, permanent financing mechanism.

4.6 SPECIFIC PLANS/ MASTER DEVELOPMENT PLANS

The City of Waterford anticipates using "Specific Plans" or "Master Development Plans" to guide development of its growth areas. These plans are to be developed as a way of master-planning large areas under

consideration for development to ensure integration of the street and utility systems with the existing City street system and utility systems.

Most of these expansion areas are under the ownership of multiple property owners. The plans need to include detailed descriptions of land use, circulation, public improvements, and open space for the area as well as spelling out conditions of approval regarding the developer's obligations for installing needed infrastructure. These plans will regulate and guide future development and, therefore, it is necessary that the planning process involve owners of adjacent property in addition to all property owners within the planning area.

4.6.1 Master Development Plan

This general plan will guide the overall development of the project, coordinate the mix of land uses, provide for adequate circulation between uses, and identify the required infrastructure and public facilities.

4.6.2 Proposed "Specific Plans"

The "specific" planning process is envisioned as an important implementation tool in the *Waterford Vision 2025 General Plan*. It is important to note, however, that it is intended to be a flexible tool that accomplishes a specific planning purpose and does not unnecessarily frustrate or overly complicate the development process.

As envisioned in this general plan, a specific plan may or may not conform with the requirements of Government Code Section 65450. A specific plan may be limited to a specific development concern or issue in a planning area. It may or may not need to conform to the public hearing processes generally required of specific plans depending on the issue(s) addressed in the plan.

North Waterford Specific Plan Needs

The expansion areas of Waterford have land uses proposed in the land use diagram which provide specific direction for the development of this area. Future specific planning concerns in this area should focus on the issues of infrastructure, timing and phasing of development, and the means by which infrastructure and other necessary improvements can be financed.

These issues need to address area-wide concerns beyond an individual property or development site. This planning effort, unless it results in a substantial modification to the planned use of land in the area, would not normally require public hearings or review beyond that normally required for the specific development entitlement requested. (i.e. subdivision map, annexation, re-zoning, etc.)

The following guiding principles should be used in developing Specific Plans:

1) "Neo-Traditional" or "New Urbanist" concepts should be maintained and implemented as part of the planning process. To this degree, the plan should focus on the regional implementation of specific elements of the plan.

2) Rehabilitation, re-designation, and redevelopment of existing blighted uses should be considered (for example, the auto wrecking yard near Highway 132 and the mixed residential and heavy commercial areas east of the Oakdale-Waterford Highway along the Highway 132 Corridor).

3) Plans which include or are adjacent to established neighborhoods will address the needs of these neighborhoods and potential adverse impacts resulting from plan implementation.

4) The planning process shall be focused on the planning issue or concern which must be resolved for the planning area and to this degree, provide data, information or policy clarification necessary to carry out the *Waterford Vision 2025 General Plan.*

5) In instances where the plan results in changes in land use from existing policy, extensive public participation by area residents and property owners in the planning process will be emphasized.

The City shall undertake the development of these specific plans subsequent to the adoption of the general plan. Some of these plans, however, are being developed concurrent with the drafting of this general plan update. The costs of developing these plans will be assessed on those builders and developers who benefit from the plan as development takes place in the future.

Waterford Vision 2025 General Plan

Chapter 5 Transportation &Circulation

2025 Transportation & Circulation Vision: A community with a transportation and circulation system that is adequate to meet the economic, social and individual needs of the City's residents while promoting safety, efficiency and economy for a mobile population and does not result in excess pollution or congestion.

5.1 INTRODUCTION AND INTENT

The Transportation & Circulation Chapter is a state-required component of the *Waterford Vision 2025 General Plan*. Circulation is concerned with the movement of people and goods through and around the City. Transportation is concerned with the means by which these movements are made. This chapter addresses the City's major road system, local street patterns, air facilities, bus and rail transit, and bicycle and pedestrian-ways. The goal is to identify the most effective ways to plan for circulation while enhancing the community and protecting the environment.

State law recognizes that circulation and land use are especially related and emphasizes a definite correlation between these two required general plan elements. California Government Code Section 65302 requires Circulation elements to identify:

> *"...The general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the Land Use Element...".*

The goals and policies presented here are intended to coordinate transportation/ circulation with land use and other pertinent areas of the general plan, while promoting the efficient movement of people, goods and services within the Waterford area. The overall public benefit is twofold. The public enjoys a broader choice of realistic options for circulating through the urban area. Secondly, their trips are easier and more efficient.

5.1.1 Coordination of Land Use and Circulation

The *Waterford Vision 2025 General Plan* contains land use policies aimed at concentrating higher residential densities and major trip destinations in the vicinity of major roadways and near public transit facilities.

Specific goals and policies linking land use to transportation/circulation concerns

are found in various locations within this plan, including the Land Use, Urban Expansion, and Urban Design Chapters.
The location and intensity of development has an effect on traffic levels in the surrounding area and on the City as a whole. Transportation engineers have developed several mathematical tools to monitor the relationship between land use and the transportation system. One tool is the traffic forecasting model. This model forecasts traffic volumes and simulates traffic conditions under future land use scenarios based on a) estimates of traffic which will be generated by new development; b) streets the traffic will use; c) and the amount of new traffic the street system can ultimately accommodate.

To evaluate the general plan land use plan, the City developed a traffic model, based on the Stanislaus County Council of Governments (StanCOG) regional model, for the Waterford Urban Planning Area. The resulting roadway level of service capacity is summarized on ***Table 5.1.*** Major street projects needed to support the planned land uses in the City are summarized in ***Table 5.2***. The resulting Circulation Plan (map) is shown in ***Figure 5.1***.

5.2 CIRCULATION PLANNING

People continue to drive more. Vehicle miles of travel and the number of automobiles registered per person have continued to increase throughout the State. Shifts in employment patterns and other factors have concentrated auto use during peak daily use periods.

5.2.1 *Waterford's Historic Circulation Planning*

Historic growth of the City is based on its key role in regional circulation and transportation: As a "ford" to the Tuolumne River, a rail station for the eastern portion of the Stanislaus County and now a cross-roads between east-west (Highway 132) and north-south (Waterford/Oakdale Highway) traffic.

The City's street pattern reflects early growth with the older portions of the City having a street layout that was oriented to the alignment of the now-abandoned rail road corridor to the modern alignment paralleling the alignment of State Highway 132. Neighborhood and local streets also reflect the historic growth patterns of the City with the older portions of town accessed by streets and alley-ways and the latest development containing the "traffic-calming" design dominated by the extensive use of cul-de-sacs and looping roads or "courts".

5.2.2 Opportunities and Challenges

The transportation/ circulation environment of Waterford offers a number of challenges and opportunities. When considering circulation alternatives, Waterford has year-round weather that is quite favorable to non-automobile options.

City of Waterford Circulation Plan
Figure TC 1

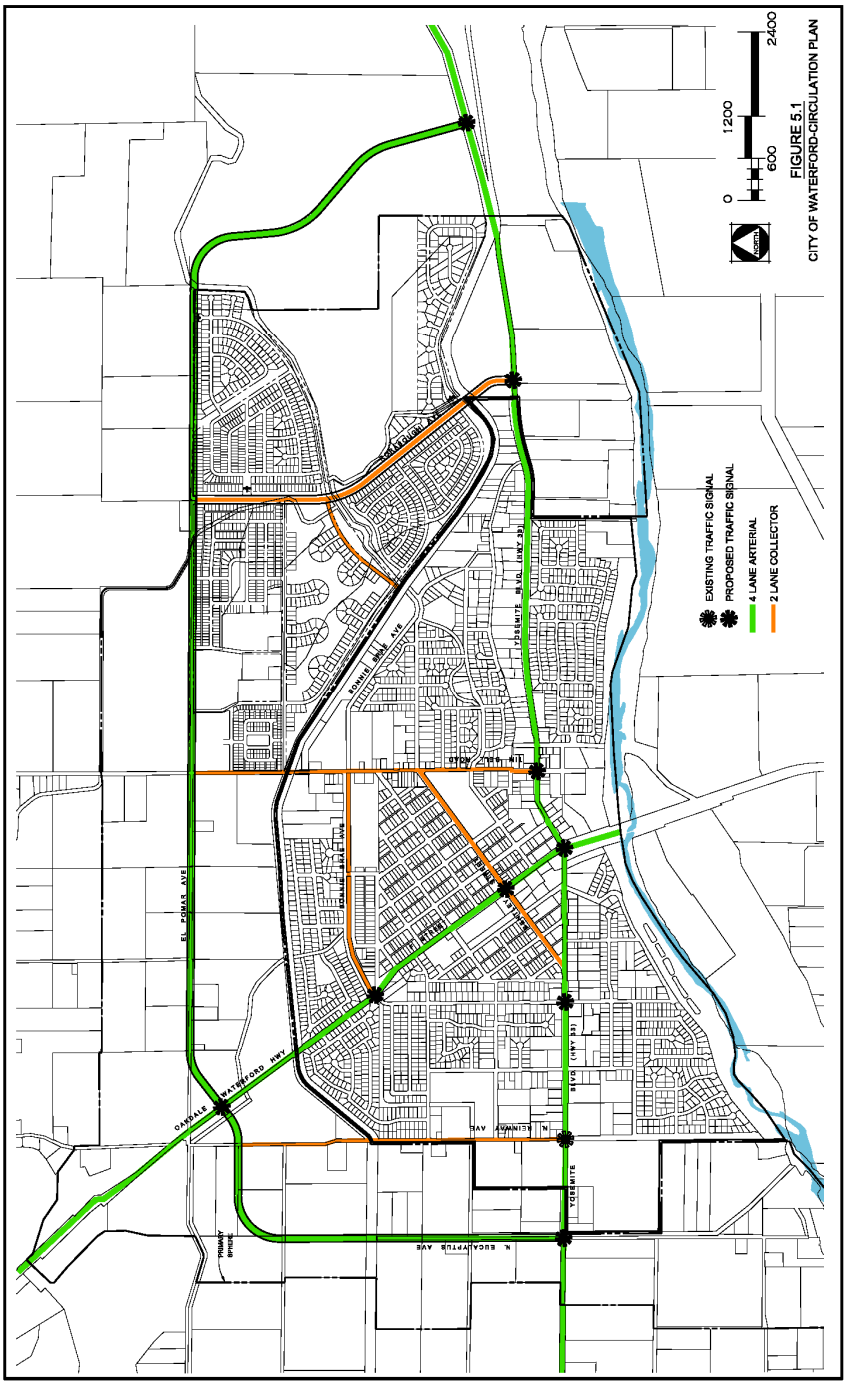


Table 5.1
Needed Major Improvement Transportation Projects

Project #	***Project Type***	***Location***
1	Four+ Turn Lanes	Yosemite Blvd. From Urban Limit to Eucalyptus.
2	Four+ Turn Lane	Yosemite Blvd. From Eucalyptus to Reinway
3	Four+ Turn Lane	Yosemite Blvd. From Reinway to Western Ave.
4	Four+ Turn Lane	Yosemite Blvd. From Western Ave. To "F" Street
5	Four+ Turn Lane	Yosemite Blvd. From "F" Street to Tim Bell Rd.
6	Four+ Turn Lane	Yosemite Blvd. From Tim Bell Road to Skyline Blvd.
7	Four+ Turn Lane	Yosemite Blvd. From Skyline Blvd. to Rorabaugh Rd.
8	Four+ Turn Lane	Yosemite Blvd. From Rorabaugh Rd. to Urban Limit
9	Four+ Turn Lane	"F" Street From Urban Limit (south) to Yosemite Blvd.
10	Four+ Turn Lane	"F" Street From Yosemite Blvd. to Urban Limit (north)
11	Two+ Turn Lane	Eucalyptus From Yosemite Blvd. to Star Ave.
12	Two+ Turn Lane	Reinway from Yosemite Blvd. to Star Ave.
13	Two+ Turn Lane	Tim Bell From Yosemite Blvd. to El Pomar
14	Two+ Turn Lane	Rorabaugh Rd. from Yosemite Blvd. to El Pomar (new)
15	Two+ Turn Lane	El Pomar from Oakdale-Waterford to Urban Limit (E)
16	Two+ Turn Lane	Star Ave. from Eucalyptus to Oakdale-Waterford
17	New Inters/Link	El Pomar to Star Ave. (across Oakdale-Waterford)
18	Signal/Inters. Imp.	Yosemite Blvd. and Eucalyptus
19	Signal/Inters. Imp.	Yosemite Blvd. and Reinway
20	Signal/Inters. Imp.	Yosemite Blvd. and Pasadena
21	Signal/Inters. Imp.	Yosemite Blvd. and Tim Bell
22	Signal/Inters. Imp.	Yosemite Blvd. and Rorabaugh Rd.
23	Signal/Inters. Imp.	Bentley and Oakdale Waterford
24	Signal/Inters. Imp.	Bentley and Tim Bell
25	Signal/Inters. Imp.	Bonnie Brea and Oakdale-Waterford
26	Signal/Inters. Imp.	El Pomar and Oakdale-Waterford
27	Add Bridge 2-Lane	"F" Street Bridge-Tuolumne River

Table 5.2
Major Street Improvement Projects

Roadway	***Segment***	***2030 ADT***	***Classification***	***2030 LOS***
East-West Roadways				
Yosemite Blvd. (Hwy. 132)	(W) Urban Limit to Eucalyptus	17,182	Arterial 4-Lanes +	C+
"	Eucalyptus to Reinway	13,976	"	C+
"	Reinway to Western Ave.	15,266	"	C+
"	Western Ave. To Oakdale-Waterford Hwy	14,663	"	C+
"	Oakdale-Waterford Hwy. to Tim Bell Rd.	14,087	"	C+
"	Tim Bell Road to Skyline Blvd.	19,257	"	C+
"	Skyline Blvd. to Rorabaugh Rd.	12,039	"	C+
"	Rorabaugh Rd. to Urban Limit (E)	12,244	"	C+
Star Ave.	(W) Urban Limit to Eucalyptus	3,624	2-Lane Collector	C+
"	Eucalyptus to Reinway	8,338	2-Lane Collector+	C+
"	Reinway to Oakdale-Waterford Hwy	12,269	2-Lane Arterial (Future 4-Lane +)	C+
El Pomar	Oakdale-Waterford Hwy. to Pleasant Ave.	15,280	4-Lane Arterial +	C+
"	Pleasant Ave. to Tim Bell Rd.	13,819	2-Lane Arterial (Future 4-Lane +)	C+
"	Tim Bell Rd. to midpoint.	10,742	"	C+
"	Mid-point to Rorabaugh Rd.	2,773	"	A
"	Rorabaugh Rd. to Urban Limit (E)	2,365	"	A
North-South Roadways				C+
Oakdale-Waterford (F St.)	(N) Urban Limit to Star/El Pomar	17,310	4-Lane Arterial +	C+
"	Star/El Pomar to Bonnie Brea	16,695	"	C+
"	Bonnie Brea to Dorsey	16,647	"	C+
"	Dorsey to Yosemite Blvd. (Hwy 132)	15,815	"	C+
"	Yosemite Blvd. (Hwy 132 to Urban Limit (S)	19,890	"	C+
Rorabaugh Rd.	Yosemite Blvd. to El Pomar	2,500D	2-Lane Collector+	C+
Eucalyptus	Yosemite Blvd. to Star Ave.	5,700D	2-Lane Collector+	C+
Reinway	Yosemite Blvd. to Star Ave.	7,000D	2-Lane Collector+	C+
Tim Bell	Yosemite Blvd. to Bonnie Brea.	5,000D	2-Lane Collector+	C+
"	Bonnie Brea to El Pomar	7,000D	2-Lane Arterial+	C+

Note: D= (Design ADT)

NOTE: This table is derived from the Traffic Model prepared by KD Anderson, Transportation Engineers, in support of the Circulation Element of the *Waterford Vision 2025 General Plan Update*.

5.2.3 Coordination of Circulation System Planning

Coordination between various transportation planning agencies is an important method of managing traffic growth as well as local and regional traffic problems. It is important that land use and transportation/circulation policies be carefully coordinated on a regional level.

As an example, a large number of subdivision lots/dwellings in a location even miles from Waterford can create peak hour traffic impacts on particular urban area roadways if most of the subdivision residents commute to and from work in Waterford at similar times.

The Stanislaus County Council of Governments (StanCOG) is Stanislaus County's regional (county-wide) planning agency, responsible for coordinating circulation planning with the State. StanCOG, through a governing board composed of representatives from Stanislaus County and each of its incorporated communities, a) assesses regional transportation needs; b) establishes related transportation priorities; c) provides regional transportation planning; and d) administers regional programs.

The California Department of Transportation (Caltrans), in addition to state-wide transportation-related responsibilities, assists and guides delivery of local and regional transportation services, through coordination with StanCOG.

Caltrans also has direct contact with the City of Waterford and other local agencies for local projects that have connection to or impact upon planning, including a well-balanced jobs to housing relationship, which in turn can reduce the length and number of commute trips in the Waterford urban area.

Stanislaus County's land use and circulation decisions in the region have significant potential for affecting the City's circulation system as do decisions made in the City of Modesto.

Congestion Management Program

An example of a regional issue involving all of these agencies is the major air quality problem that exists within the San Joaquin Valley, making the valley area a special target for federal/state coordinated regional circulation planning efforts. StanCOG, as the coordinator of federal/state requirements that apply to the County, oversees the actions of local jurisdictions that impact state roads and local principal arterial roads through the area's Congestion Management Program (CMP).

The CMP is required of every county with an urbanized area of 50,000 or more people. It requires an integrated approach to making land use and transportation planning decisions.

Figure 5.2
City of Waterford Regional Circulation

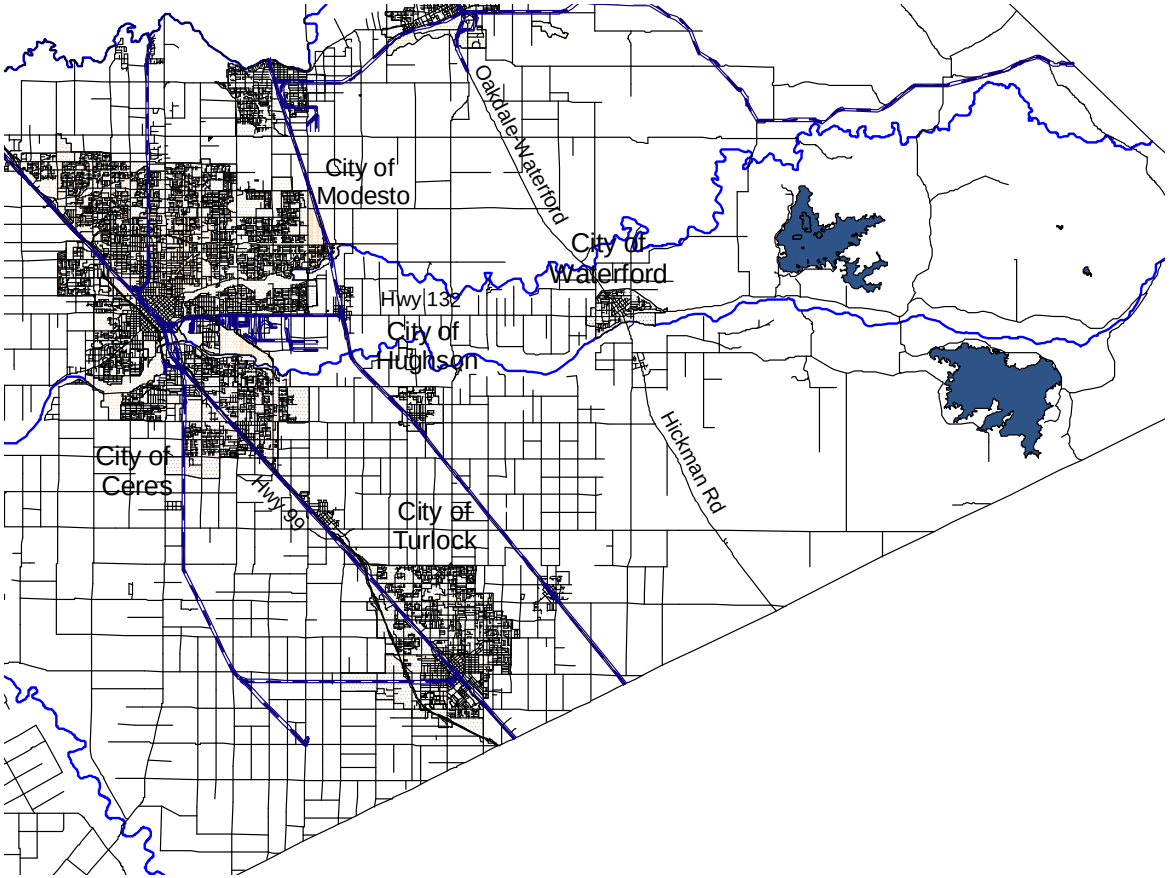


Table 5.3
Waterford Regional Street System
Traffic Volume Model Forecast 2030

Seg. No.	*Name*	*Segment*	*County Design Standard*	*2030 ADT*
	North South Segments			
1	Oakdale-Waterford Hwy	Waterford N. to Milnes Rd.	Major 4-Lane	20,926
2	Oakdale-Waterford Hwy	Milnes Rd. N. to Claribel Rd.	Major 4-Lane	16,369
3	Oakdale-Waterford Hwy	Claribel Rd. N. to Albers Rd.	Major 4-Lane	5,469
4	Hickman Road	Waterford S. to Lake Rd.	Major 4-Lane	19,890
5	Hickman Road	Lake Rd. S. to Whitmore Ave.	Major 4-Lane	17,033
6	Hickman Road	Whitmore Ave. S. to Keyes Rd.	Collector	5,553
7	Albers Rd.	Yosemite Blvd (132) N. to Milnes Rd.	Expressway 6-Lane	15,967
8	Albers Rd.	Milnes Rd. N. to Claribel Rd.	Expressway 6-Lane	15,459
9	Geer Rd	Yosemite Blvd. (132) S. to Whitmore	Expressway 6-Lane	20,282
10	Downie	Whitmore Rd. S. to Service Rd.	Local	6,765
11	Downie	Service Rd. S. to Grayson Rd.	Local	3,960
12	Downie	Grayson Rd. S. to Keyes Rd.	Local	2,524
13	Gratton	Whitmore Rd. S. to Service Rd	Collector	1,493
14	Gratton	Service Rd. S. to Grayson Rd	Collector	4,045
15	Gratton	Grayson Rd. S. to Keyes Rd.	Collector	2,468
16	Berkeley	Whitmore Rd. S. to Service Rd	Local	1,785
17	Berkeley	Service Rd. S. to Grayson Rd.	Local	3,572
18	Berkeley	Grayson Rd. S. to Keyes Rd.	Local	3,782
19	Santa Fe	Geer Rd.. S. to Berkeley Rd	Expressway 4-Lane	16,637
20		.		
21	***East-West Segments***			
22	Claribel Rd.	Oakdale-Waterford Hwy. W. to Albers Rd.	Expressway 6-Lane	15,335
23	Claribel Rd.	Albers Rd. To W. Bently Rd.	Expressway 6-Lane	24,069
24	Claribel Rd.	Bently W. to Langworth	Expressway 6-Lane	30,747
25	Milnes Rd.	Oakdale-Waterford Hwy. W. to Albers Rd.	Major 4-Lane	4,783
26	Yosemite Blvd. (132)	Waterford E. to Hazeldean Rd.	Expressway 4-Lane	10,747
27	Yosemite Blvd. (132)	Waterford W. to McEwen Rd.	Expressway 4-Lane	17,999
28	Yosemite Blvd (132)	McEwen Rd. W. to Albers Rd.	Expressway 4-Lane	19,766
16	Yosemite Blvd. (132)	Albers Rd. W. to Community of Empire	Expressway 4-Lane	15,018
17	Whitmore Ave.	Hickman Rd. W. To Downie.	Major 4-Lane	14,328
29	Whitmore Ave.	Downie Rd. W. to Gratton Rd.	Major 4-Lane	7,654
30	Whitmore Ave.	Gratton Rd. W. to Berkeley Rd.	Major 4-Lane	3,903
31	Whitmore Ave.	Berkeley Rd. W. to Geer Rd	Major 4-Lane	4,207
32	Service Rd.	Downie Rd. W. to Gratton Rd.	Local	6,374
33	Service Rd.	Gratton Rd. W. to Berkeley Rd.	Local	2,819
34	Service Rd.	Berkeley Rd. W. to Geer. Rd.	Local	4,767
35	Grayson Rd.	Downie Rd. W. to Gratton Rd.	Local	942
36	Grayson Rd.	Gratton Rd. W. to Berkeley Rd.	Local	613

The overall objective of the CMP is to relieve traffic congestion on State highways and principal local arterials. In turn, this can be expected to reduce air pollution impacts from traffic, and help improve air quality.

5.3 ELEMENTS OF THE CIRCULATION SYSTEM

5.3.1 *Regional Circulation System*

Inter-Regional Circulation

Three routes currently provide regional access for the City of Waterford (***Figure 5.2***). State Route 99 is an important north/south highway connecting the major cities of the Great Central Valley. It is a four to six lane facility extending from Interstate 5 south of Bakersfield at its southern end to Interstate 5 south of Redding at its northern end. It passes through the cities of Bakersfield, Visalia, Fresno, Merced, Modesto, Lodi, Stockton, and Sacramento. State Route 99 serves as the primary farm-to-market route for the transportation of agricultural products, as a major commuter route within many of the cities it serves, and as a popular route for recreational traffic.

Regional Access

Waterford accesses the Inter-Regional transportation systems via State Highway 132 (east-west) and the Oakdale-Waterford and Hickman Road (north-south) road systems. These regional road systems provide access to surrounding communities such as Modesto, Oakdale, Riverbank, Turlock, Hughson etc., and the all major transportation systems (rail, air, water and intra/inter-state highway networks.

5.3.2 *Functional Road Classification and Design Standards*

City and regional streets and highways are classified by categories that reflect their importance and function. Freeways are the highest level of roadway, with fully controlled access, high operating speeds and volumes, and highest design standards. Local streets and alleys are the lowest functional classification, with low speeds and volumes and direct access to adjacent property.

General street section concepts are provided in this plan. Specific design requirements are found in the City of Waterford's Standard Designs of Common Engineering Structures, which are amended on a regular basis.

Roadway characteristics and standards described in the Circulation Element apply to most common situations and generally should be considered as minimums. However, detailed traffic and design studies for specific development projects or roadway improvements may indicate that higher levels of improvements are required or that other standards may be permitted. Like other infrastructure, circulation improvements will be required as development occurs (See Chapter 6, Public Services and Facilities, for related policies regarding the timing of improvements.)

5.3.3 *Streets and Highways*

Major Road System

The City anticipates developing a one-mile grid system of major north-south and east-west arterials in the expanded urban area. At present, the City utilizes State Highway 132 and the Oakdale-

Waterford Highway as its Major (Arterial) road system.

The circulation system plan for projected new growth areas to the north of Waterford will provide for one-mile grids formed by major arterial and arterial roadways relying on El Pomar (east-west), Eucalyptus, Tim Bell and Hazeldine Roads (north-south) as key alignments for this future system. This system will, however, create key congestion points at the present intersections of:

- Highway 132 and Waterford/Oakdale Highway.
- El Pomar and Waterford/Oakdale Highway.

Other key intersections are:

- Eucalyptus and Highway 132
- Reinway and Highway 132
- Pasadena and Highway 132
- Tim Bell and Highway 132
- Tim Bell and Highway 132
- Tim Bell and El Pomar
- Bentley and Oakdale-Waterford
- Bentley and Tim Bell
- Bonnie Brea and Oakdale-Waterford.

Another key objective of this circulation network is to provide a high level of accessibility to the City's "Downtown" area. This will require development of "linkage" between the northern and eastern growth areas through established neighborhoods to the downtown area. These linkages will rely primarily on Bentley and Welch Streets.

Tuolumne River Bridge (Hickman Road River Crossing

The Tuolumne River Bridge is a two-lane bridge that will need to be upgraded to a four-lane crossing. At present, there is capacity on this structure to handle forecasted traffic loads through the year 2020 or 2025 operating as a LOS of "E" or "F". Programs need to be put in place that will assure funding for this structure by the year 2020.

Rights-of-Way and Access Spacing

The prospective arterial grid system has two basic requirements if it is to be successful; 1) adequate right-of-way (ROW) preservation to accommodate the amount of traffic expected from major future growth, and 2) strict access control to maintain efficient movement for this greatly expanded traffic.

In order for the street system to function properly, enough capacity must be built into the roadways to handle the traffic for the next 20 to 50 years and beyond. For that purpose, the rights-of-way (ROW) for major arterials, such as Highway 132, Eucalyptus, El Pomar, Tim Bell and ultimately Hazeldine, need to be substantial.

Table 5.4
City of Waterford
Summary of Street and Highway Standards

ROAD CLASSIFICATION	RIGHT-OF-WAY	# OF LANES	DRIVEWAY ACCESS RESTRICTIONS	STREET INTERSECTION SPACING	PARKING
Arterial	95 feet	4-5	[1]Partial	1/5 - 1/2 mile	No
Divided Arterial	118 feet	4-5	[1]Partial	1/5 - 1/2 mile	No
Major Collector	[2]68-75 ft	2-5	[3]Partial	As needed	[3]Permitted in Selected Areas
Collector	68-75 ft	2	[5]Partial	As needed	[5]Permitted in Selected Areas
Local	59-60 ft	2	No	As needed	Permitted

[1] Generally no direct access to adjacent property. Right-turn-in/right-turn-out local streets or combined access driveways may be permitted at the City's discretion at 1/8 mile points.

[2] Less (68 feet) right-of-way (ROW) may be permitted where supported by a traffic analysis to assure that the narrower street would not be overloaded. Analysis would include trip generation and distribution based on existing and future land use and circulation system. Additional width may be necessary at intersections where analysis shows need for turn lane(s).

[3] Generally no direct access (fronting lots and residential driveways) allowed.

[5] Fronting lots would be permitted on Collectors where a traffic analysis shows daily traffic volumes will not exceed 1,500 vehicles under ultimate conditions. Driveways or other direct access and parking are to be avoided if feasible within 300 feet of an existing signalized intersection or an intersection with realistic prospects for future signalization

NOTE: These are general standards appropriate for most situations. Higher standards may be required or less standards may be permitted based on detailed design studies. Expanded ROW may be required at intersections to accommodate turn lanes. On-street parking may be deleted if adequate, convenient off-street parking is provided in a subdivision design. A subdivision design deleting on-street bicycle lanes may be permitted if an adequate, convenient Class I bicycle path(s) is available (subject to possible reimbursement and/or maintenance costs for existing system).

Currently adopted standards are contained in the City of Waterford Standard Designs of Common Engineering Structures. Also refer to "Neo-Traditional" Street Sections in this document.

Along with the amount of right-of-way, access control greatly affects street capacity. Every street has a maximum traffic-carrying capacity -- the maximum number of vehicles that can be carried at a particular speed past any given point.

To maintain this capacity, speed must be maintained.

Therefore, unnecessary disruptions to peak hour traffic flow must be avoided. Carefully controlling the number of intersections, limiting the need for or restricting cross traffic movements and limiting the number of direct mid-block

access (driveway) points are the key to maintaining such roadway's efficiency. The intersections that are allowed must also be located at specific distances from each other. This in turn allows future traffic signals to be located at proper distances to provide the most efficient timing possible. The more effective the timing coordination, the more efficient the system (more vehicles carried more quickly over a given period of time).

5.3.5 Public Transportation Services

Transit System

The City of Waterford is served by a local public bus system (StaRT). The City continues to contribute its representative portion of funds necessary for the operation of the expanded, regional system. These funds help to maintain the existing system as well as provide for new equipment such as communications gear, bus shelters, and replacement vehicles.

A public bus system is expected to remain the most cost-effective method of public transportation for the community in the foreseeable future. A key factor is the amount of assistance contributed by other levels of government to help operate and maintain the system.

5.3.6 Private Transportation

The future of private transit operators (taxis, vanpools, etc.) is difficult to predict because of the volatile nature of the business in recent years. Future service levels of intercity transit will be influenced by changing market forces and state and federal government regulations.

Demand for service to and from the Waterford area can be expected to increase. With increasing demands brought about by air quality and congestion management, the private intercity operations in Stanislaus County and the San Joaquin Valley could be expanded. It should be noted that if the private sector is unable to respond to this commuter demand, some of the demand could shift to the public sector.

5.3.7 Social Service

The City of Waterford is one of several agencies, public and private, that provides social service transportation Throughout Stanislaus County. Demand response service is available for senior citizens and handicapped persons residing within the community. Special fare discounts are typically provided for seniors and physically-challenged persons.

5.3.8 Rail Service

Passenger Service

There are two railroad companies that operate through Stanislaus County. Both the Union Pacific Transportation Company (U.P.) and Atchison, Topeka and Santa Fe (A.T. & S.F.) Railroads provide freight service to Modesto, while the A.T. & S.F. also provides Amtrak passenger service.

The Amtrak San Joaquins provide passenger rail service in Modesto, to the west. These trains provide direct passenger service from Oakland and Stockton to Bakersfield, with bus feeder routes at both ends of the service, running to southern California and Sacramento, respectively. Provision of direct rail service to both Los Angeles and Sacramento remains both a local and

State objective as a primary way for improving service and increasing rider-ship.

5.3.9 Bicycle/Trail System

Bicycles

The City of Waterford has adopted a Bicycle Master Plan in support of this Circulation Element. This Plan defines standards for bicycle route improvements and designates routes. This plan provides connections to the regional bicycle route system. The Bicycle Plan will be updated from time to time in response to changing needs.

5.3.10 Pedestrian Circulation

Pedestrian ways should provide safe and convenient movement to major pedestrian destinations. The needs of school children and the special problems of the handicapped are of special importance. Care must be taken where development is phased or non-contiguous to provide adequate and safe pedestrian facilities at all times.

Both sidewalks and separate paths can be provided for pedestrian movement. As with bicycles, separate public easements or rights-of-way provide unique opportunities for pedestrian circulation.

Indirect street systems, found in modern subdivisions, are often inconvenient to the pedestrian. The planning of residential areas needs to recognize pedestrian movements, whether to schools, parks, shopping, or public transit routes. A system of pedestrian ways can also serve a secondary use as bicycle access to local streets and other portions of the bicycle path system.

5.3.11 Air Service

Both commercial and private air service are available in the City of Modesto, the closest airport facility to the City of Waterford.

5.4 CIRCULATION SYSTEM IMPROVEMENT ISSUES

Ultimate build-out of the City's proposed Sphere of influence area is anticipated to require significant public improvements to the circulation system. Based on traffic projections, the system will need new or improved major streets, bridges, and traffic signals. Additionally, there will be a need for improvements to the regional circulation system connecting the City with neighboring urban areas including Modesto, Turlock and Oakdale.

With such improvements, the circulation system would be expected to maintain satisfactory movement in and around the community. Overall, levels of service (LOS) for major streets would not fall below standards currently expected by the public. Limited areas (downtown, etc.), however, may experience significant traffic congestion at peak hours.

5.4.1 Level of Service (LOS)

Level-of-Service (LOS) standards is one method for expressing how well traffic is moving on a road or through an intersection in relation to the capacity of that road or intersection. LOS ranks the quality of traffic movement on a scale of A through F.

Often LOS is used to specifically describe "worst-case" situations, or traffic flow during "peak-hour" times. Typically, as in Waterford, there are three peak-hour periods (when the largest number of vehicles are on the road together) during the typical weekday, centered generally around 8:00 a.m., noon, and 5:00 p.m.

Table 5.5
Level of Service Traffic Description

Level of Service (LOS)	**Traffic Condition**
LOS "A"	Free flow conditions - Low volumes - High operating speed-Uninterrupted flow - No restriction on maneuverability-Drivers maintain desired speeds - Little or no delays
LOS "B"	Stable flow condition -Operating speeds beginning to be restricted
LOS "C"	Stable flow but speed and maneuverability restricted by higher traffic volumes - Satisfactory operating speed for urban conditions-Delays at signals
LOS "D"	Approaching unstable flow - Low speeds - Major delays at signals-Little freedom to maneuver
LOS "E"	Lower operating speeds -Volume at or near capacity -Unstable flow-Major delays and stoppages
LOS "F"	-Forced flow conditions -Low speeds -Volumes below capacity, may be zero - Stoppages for long periods because of downstream congestion

For use in determining LOS, traffic conditions are evaluated by numerous factors, including vehicle speed, travel time (how long it takes a vehicle to get a specified distance), volume and capacity (how many vehicles are on the road compared to how many vehicles the road can carry before efficient traffic flow begins to suffer), freedom to maneuver, traffic interruptions, and safety. Level of Service "A" represents free-flow conditions. Level of Service "F" reflects traffic jams, or more traffic than the street has room for. These conditions are described in ***Table 5.5***.

Level of Service standards can be used to help analyze the potential impacts of prospective land use changes and growth to routes and intersections. When service drops below a particular level, a road segment or intersection can be considered deficient and in need of capacity improvements.

Level of Service is influenced by a number of factors. These include existence of on-street (curbside) parking, frequency and spacing of traffic signals, number and frequency of intersecting side streets and curb cuts, level of pedestrian activity, and existence of left-turn pockets and right-turn lanes.

Ironically, LOS "A," or the "best" condition in terms of freedom for an individual vehicle to move on a particular road segment, may not be best from other perspectives. LOS "A" indicates that a road has very little traffic on it in relation to how much traffic it could carry. Such a situation is appealing for a local neighborhood street. It could be very inefficient for a major street, though, indicating that the public might not be getting full value from that roadway.

At the other extreme, Level "F" means that the cost per vehicle using the roadway has been reduced. However, other costs to the drivers, such as large time delays, number of accidents, maintenance problems, air pollution levels, etc., all continue to increase.

The preferred LOS levels are typically "C" and "D," particularly for larger roads and major intersections. With LOS "C" the road provides stable operation but is still underutilized to some degree. LOS "D" represents a fine balance between the relatively large number of vehicles served and the generally acceptable level of service provided.

It is the intent of the City's standards and policies for new and upgraded intersections and road segments to be designed and built to function at LOS "D" ("tolerable delay"), at least, during peak traffic periods.

Maintaining a Level of Service "D" at existing intersections is not always feasible, appropriate, or necessary, however. People may expect and tolerate varying levels of congestion depending on location (e.g. central Waterford) and time of day. Heavier traffic can also be a reason to encourage greater pedestrian activity and heavier transit use in such areas. Other factors may make higher levels of service infeasible. In central Waterford, for example, widening existing streets could create great disruption to stable, older neighborhoods. In these areas, "significant delays" (LOS "E") or even LOS "F" may have to be acceptable at peak hours.

Transportation System Management (TSM) strategies discussed in Section 5.5 can be used to alleviate some of this congestion.

The projected LOS levels for Waterford's major streets can be found in Table 5.1.

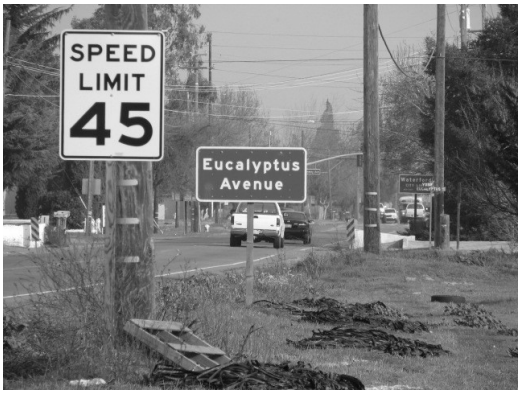
5.4.2 Tim Bell Road

The improvement of Tim Bell Avenue, as a major roadway within the City's north-south grid system, includes many of the difficulties of planning over time. In the City's grid of major north-south streets, Tim Bell is the link between Highway 33 and the planned City growth areas to the north and northeast. This roadway connects these population centers to downtown Waterford via Bently and Welch Streets. Significant improvements to this roadway will be required to permit it to function at its planned level of service.

5.4.3 Eucalyptus Avenue

Improvements to Eucalyptus will require a complete reconstruction of this roadway, from Highway 132 to its planned connection to the Oakdale-Waterford Highway including a new bridge across the MID Main Canal. As a

rural roadway, that accommodates normal and low density development, full curb and sidewalk improvements will only be required on the eastern side of the roadway.



5.4.4 Star Avenue

Improvements to Star will require improvement to a two-lane collector standard with limited curb improvements to accommodate drainage needs to the roadway.

5.4.5 El Pomar Road

Improvements to El Pomar will require a complete reconstruction of this roadway, from its connection with Eucalyptus Avenue near the Oakdale-Waterford Highway, to the edge of the City's proposed Sphere of influence boundary to the east; ultimately this roadway is planned to extend to Hazeldine Road. An intermediary connection to Highway 132 is planned along the eastern boundary of the Sphere. As this roadway will be expected to carry some truck traffic by-passing the downtown area of Waterford, it should be constructed to a standard to support heavy trucks.

5.4.6 Rorabaugh Road

Improvements to this roadway as a "collector" will provide connection between El Pomar and Highway 132. As this roadway will be expected to carry some truck traffic by-passing the downtown area of Waterford, it should be constructed to a standard to support heavy trucks.

5.4.7 Collectors

"Collector" is a term describing, typically, a residential street that collects traffic from, and distributes traffic to, the local streets of a neighborhood. On a map the system might look like a group of smaller twigs connecting into a larger tree limb (the collector).

Ideally a residential collector serves as a simple conduit for local traffic. The collector carries such traffic to nearby attractors such as a shopping center, school, or community facility, or to a major roadway (minor arterial, or larger street) for a longer trip within the City or beyond.

There are two major, and often conflicting, functions for residential collectors. This conflict creates a delicate balance. On the one hand, it is a residential street and as such is expected to fit into the quiet, safe setting of the surrounding neighborhood. On the other hand, a collector designed to efficiently fulfill its function of carrying traffic through and out of the area has the potential for factors such as noise and speed which negatively impact the residential setting.

When neighborhoods become concerned about the impacts of a collector, they can create a strong lobby for imposing measures that will affect traffic flow, such as installation of stop signs. In some cases these may be generally

effective within the larger street system. In other instances, such measures may simply force some traffic to find another route, which merely moves undesirable impacts to another neighborhood.

Growth and change can increase the role of existing collectors beyond their expected level of operation. These factors may also force the role of a collector onto local streets that are not really designed as collectors. There are streets in existing residential areas of Waterford that have been called upon to serve such expanded roles.

Such streets often share similar characteristics, including substantial length, significant traffic destinations such as a major land use(s) or major roadway (often at both ends), and unimpeded access to such major destinations (a "straight-shot" traffic corridor with no real inconveniences to the motorists involved.) These circumstances tend to make it convenient for traffic from beyond the adjoining residential areas to use these streets as "through-ways" to get from one major destination to another, without the need to use an arterial or other major traffic carrier.

The system of arterial/major arterial one-mile major road "grids" that has been designed to border Neighborhoods in the City's new growth areas also contains a network of neighborhoods collectors internal to these grids. These collector sub-systems illustrate several basic concepts designed to reduce past concerns relating to collectors:

1) Collector access points onto the arterials bordering the individual neighborhoods are located at very specific distances from each other and from nearby arterials (in order to allow the arterials to function as effectively as possible while allowing collector traffic to exit from the neighborhood as efficiently as possible.)

2) Collectors are not intended to offer "straight-shot" corridors through the neighborhood (a common way to reduce through traffic from outside the area is the use of road "off-sets"). Neighborhood residents could be expected to continue to use this internal system as the most convenient way of getting to local destinations, while outsiders simply driving through the area could be expected to find them more difficult to use.

Other factors also contribute to neighborhood conflict with collectors. One involves subdivision design that forces local residents to back their automobiles out of residential driveways onto a collector. This disrupts traffic flow and increases the opportunity for accidents. Another factor is the conflict with parked cars. Parked vehicles have a natural tendency to slow collector traffic but also decrease visibility. Each creates an impact upon local residents and over time can create increasing tensions regarding collectors.

While there are residential driveway design options to avoid automobiles backing into traffic (circular driveways, hammerhead driveways, etc.), smaller lot sizes generally do not have sufficient room for such alternatives. A workable option, which has the added advantage

of reducing the need for on-street parking, is to avoid fronting lots on collectors. On the other hand, such residential subdivision designs that orient lots only to side streets create limits on subdivision design flexibility which can reduce the overall number of lots obtained, while increasing the amount of streets.

An acceptable compromise is to avoid fronting residential lots on streets deemed "major" residential collectors. This would eliminate driveway and parked car conflicts with collector traffic on the most significant residential collectors.

Experience indicates that an important factor in neighborhood security can be the ability of neighbors to maintain surveillance on local activities. Design features, such as open-end cul-de-sacs, would be important in allowing residents oriented away from major collectors to continue to observe local activities within the entire neighborhood.

Other residential streets are not major collectors but collect/distribute traffic in a more limited fashion. A likely point of conflict on such streets is the approach to its intersection with a major street. While a requirement preventing fronting lots along the entire length of such minor collectors might not be realistic, such a provision in the vicinity of main access points could reduce traffic conflicts for the entire neighborhood.

5.4.8 MID Main Canal Bridges

Currently there are 3 bridges for local traffic over the Modesto Irrigation District's Main Canal in the Waterford urban area: Reinway Avenue, the Oakdale-Waterford Highway and Tim Bell Road. All serve north-south bound traffic and are critical circulation points in a community that is planning for extended north-south growth. As traffic increases substantially with future growth, the bridge locations will become increasing bottlenecks. Because of size and cost constraints, expansion of these bridges could be difficult.

Completion of the El Pomar (east-west) arterial, which includes an additional crossing at Eucalyptus and to the east toward Hazeldine Road, would assist in distributing north-south traffic more evenly across MID Main Canal and reduce congestion throughout the urban area.

5.4.9 Intersections at Issue

Both street segments (the portion of a street between two specified points) and street intersections (the point of meeting or intersection between a minimum of two streets) can be used to measure traffic impacts on a street circulation system. LOS described above, measures how well traffic is moving on a road segment or at a street intersection in relation to the capacity of that portion of the circulation system.

Other yardsticks for measuring/ comparing intersections are accident rates or length of waiting time per driver. Accidents can be generally classified into two main groupings for traffic purposes; those that are related to driver error that may have some chance of being addressed through a physical modification of the intersection, and those caused by external factors such as drug/alcohol use.

It is anticipated that a significant upgrading of City streets in proximity to Highway 132 will be required in order to keep the state highway operating at a viable level-of-service in the future. This is possible if large numbers of short or local trips can be kept off the highway by offering efficient options.

5.5 TRANSPORTATION SYSTEM MANAGEMENT (TSM)

With ever-increasing traffic volumes and limited resources to expand the capacity of some of the existing streets, transportation system management will play an important role in the future. The goal of transportation system management is to improve the movement of people and goods.

This can be done by expanding the carrying capacity of streets and transit systems, primarily through the implementation of short-run, low cost strategies. The strategies are to be used to prolong or avoid costly expansions of the facility or service.

Traffic signal timing or coordination, additional lanes at intersections, transit service enhancements, parking management and traffic management are all examples of transportation system management strategies which can be expected to be used in the future. Ridesharing programs, preferential treatment for high occupancy vehicles (HOV's), park-and-ride lots, one-way streets, the provision of bicycle facilities, and the promotion of variable work hours and telecommuting are also strategies that will be promoted by the City of Waterford but have application primarily on a regional or inter-regional basis and implemented by StanCog in its transportation planning efforts.

Coupled with air quality and congestion management, these strategies may result in near-term improvement of the operating characteristics of existing facilities and services.

5.6 TRANSPORTATION AND CIRCULATION GOALS, POLICIES, AND ACTIONS

Goal Area T-1: Streets and Roads

GOALS

- **An Integrated Road System that is Safe and Efficient**
- **A Circulation System that is Convenient and Flexible**
- **A Circulation System that Minimizes Adverse Impacts upon the Community**

POLICIES

T-1.1 Design Streets Consistent with Circulation Function and Affected Land Uses.

T-1.2 Coordinate Circulation and Transportation Planning with Pertinent Regional, State and Federal Agencies.

T-1.3 Design Major Roads to Maximize Efficiency.

T-1.4 Promote Traffic Safety.

T-1.5 Minimize Unnecessary Travel Demand on Major Streets.

T-1.6 Minimize Adverse Impacts on the Environment from Existing and Proposed Road Systems.

T-1.7 Minimize Street System Impacts on Residential Neighborhoods and Other Sensitive Land Uses.

Policy T-1.1
Design Streets Consistent with Circulation Function and Affected Land Uses.

It is extremely important to coordinate circulation and land use planning. Street systems are intended to move motor vehicles, but streets also are expected to provide access to near-by land uses. Smaller streets called upon to carry heavy traffic to major activity centers can create large circulation problems. Large streets carrying heavy traffic through residential or other sensitive land use areas can create significant conflicts.

Implementing Actions:

1.1.a Implement the general plan circulation plan (Figure 5.1) as development occurs.

The City will implement the general plan circulation plan as development occurs in new growth areas and in developed areas, as feasible. This may be accomplished through the dedication of needed right-of-way or transportation easements, the construction of roadway improvements, and/or the payment of fees, consistent with the impacts of new development.

1.1.b Whenever feasible, implement a system of arterials and higher order streets in new growth areas based upon the adopted concept of arterials.

The adopted concept of arterials is designed to carefully separate streets by circulation function, and locate land uses consistent with these functions (Figure 5.1). Arterials and higher order streets will carry the heavy, higher-speed traffic to adjacent commercial, industrial and other major destinations. Collectors and local streets will be designed for local, neighborhood traffic that is either traveling towards a neighborhood destination or is exiting the area. It is important to try to apply these same principles to the extent possible in planning partially developed areas that have incomplete road networks.

1.1.c Evaluate existing streets in older portions of the City, and identify means of upgrading the system where necessary.

As in-fill development and redevelopment occurs, existing street systems should be evaluated to determine if there are ways that circulation efficiency can be improved without causing undue impacts on the neighborhoods.

1.1.d Design and build residential collector streets that balance as effectively as possible competing needs to be safe and efficient.

The community needs to continue to seek and evaluate design options and other ways that might help to reconcile the competing functions of residential collector streets (to be safe for local neighborhood residents while being reasonably efficient traffic carriers). The City also needs to distinguish collector streets ("major collectors") that, because of certain characteristics, are likely as time passes to experience increasing traffic pressures and impacts on adjacent residential settings.

1.1.e Study projected future areas of city expansion prior to development to identify the most effective circulation pattern(s).

Conceptual circulation planning should identify potential points of concern as early as possible in the planning process in order to obtain the most effective land use and circulation decisions. Circulation patterns should be based upon such factors as current patterns of land ownership, existing land use activities, present circulation patterns, and adopted land use plans.

1.1.f Evaluate the area in proximity to the Highway 132 and Tim Bell intersection to obtain at least preliminary information regarding the general extent of area required to achieve an acceptable alignment of the intersection.

It is important for both the City and potentially affected property owners in the area to have some idea of the possible adjustments that will be needed in order to provide a better aligned intersection.

1.1.g Evaluate the current Tim Bell driveway access points to determine if a more appropriate access locations could be developed to minimize cars backing onto the roadway.

Specific evaluation of existing driveway encroachments should be studied to determine if alternative access can be developed to conform with the City's arterial access standards.

Policy T-1.2
Coordinate Circulation and Transportation Planning with Pertinent Regional, State and Federal Agencies.

Traffic-related problems including significant concerns over air quality in the great Central Valley have helped to forge requirements for more and more inter-governmental cooperation and planning, often tied to prospective State and Federal funding. The City needs to remain active in these efforts, while also periodically reviewing its position within these procedures.

Implementing Actions:

1.2.a Work with StanCog to carry out the Congestion Management Plan (CMP).

The Congestion Management Plan (CMP) has been designed to insure that governmental agencies evaluate and take actions to mitigate prospective traffic impacts (on state highways and principal local arterials) from development projects in their area. This can be an important, informative tool for effective planning for future circulation.

1.2.b Coordinate local circulation/transportation plans and improvements with interested area and regional agencies.

Many aspects of planning continue to become more regionally-oriented. The City works with numerous other bodies, including Stanislaus County, Stanislaus Association of Governments (StanCog), and Caltrans (the California Department of Transportation), concerning transportation and circulation matters.

1.2.c Identify a hierarchy pattern of major streets within the City's general plan and sphere of influence areas, and work with the County of Stanislaus to retain unimpeded future rights-of-way to accommodate the current general plan period and projected future growth.

It is extremely important that prospective rights-of-way (ROW) be protected from permanent development whenever feasible, not only within the City and in its immediate growth areas but also in areas projected for longer term growth. This will benefit both the City and County, in terms of reduced costs as well as potential efficiencies to be gained from sufficient roadways.

Policy T-1.3
Design Major Roads to Maximize Efficiency.

Based upon the physical characteristics of a particular roadway, it is possible to calculate the maximum "peak-hour carrying capacity" for that road. Carrying capacity refers to the maximum number of motor vehicles the road can carry past a given point within a specific period of time, at a pre-determined realistic or reasonable speed. If the number of vehicles were to exceed this maximum capacity, the vehicles will begin to slow down, which in turn reduces the number of vehicles the road can safely carry. Every intersecting street, as well as every curb cut, that allows vehicles to interrupt the traffic flow, either by slowing down to exit or by entering the road, affects both the speed and number of peak-hour vehicles the roadway can accommodate.

Implementing Actions:

1.3.a Adhere, to the greatest possible extent, to the standards adopted for spacing streets that intersect arterials and higher order roadways.

The locations at which streets intersect a major roadway and the spacing or distance between such intersecting streets are important factors affecting how well the major road fulfills its traffic carrying responsibility. The growth of traffic over time, along with accompanying disruptions such as increasing numbers of vehicle accidents, can significantly affect the efficiency of intersections.

Spacing is a critical element in any subsequent need for installing traffic signals. Effectively spaced traffic signals can be efficiently synchronized. This allows greater peak hour efficiency with more vehicles traveling farther, and faster, during these problem periods. As spacing becomes less consistent traffic signals can themselves cause disruption and be less effective for moving traffic.

Poor locations and/or spacing create problems that even signals will not be able to overcome. Proper distances involve one-eighth and/or one-quarter mile spacing for streets intersecting with divided and higher order arterials, and one-mile distances for streets intersecting with expressways.

1.3.b Improve traffic flow of all new arterial streets to the greatest possible extent by the use of median strips of sufficient width to facilitate vehicle movement.

Medians of sufficient width provide the necessary space for turning lanes that help to keep traffic moving efficiently. They also allow a safe haven for cross-traffic vehicles where there are median openings for such traffic. In addition, they may act as a safety island for pedestrians who may be crossing, and add a measure of safety for separating traffic traveling in different directions.

1.3.c Improve traffic flow of arterials and other major roadways, whenever possible, by avoiding or eliminating on-street parking.

On-street parking affects traffic speed and movement, and can increase safety problems along major roadways.

1.3.d Work to insure that land uses fronting major streets have shared access across adjacent properties and provide sufficient on-site parking to avoid depending upon on-street parking.

Shared access across adjacent properties helps to improve the efficiency of major streets by allowing traffic movements between adjacent properties to take place on-site and off the public street. On-street (curb-side) parking on major streets may be eliminated if traffic conditions warrant. Elimination of curb-side parking can create a negative impact on adjacent land uses and its residents/customers if they have grown to depend upon it. Occasionally site plans may orient a land use activity in a way that makes on-street (curb-side) parking more convenient to an entrance than on-site parking. Such designs should be discouraged . On the other hand, care should be taken to consider the location of public transit stops (which are unlikely to change) and the provision of convenient access to these stops.

1.3.e Promote the provision of on-site visitor parking in multi-family projects.

It is important to consider whenever possible the provision of on-site visitor parking in multi-family complexes so that on-street parking (which could be restricted in the future along major roadways) is not solely relied upon.

1.3.f Whenever feasible, avoid, or eliminate, unnecessary or poorly placed median openings.

Median breaks can cause interruptions in the free flow of traffic on a major street. Effective placement of these openings helps to minimize traffic disruptions and works to maximize major street efficiency.

1.3.g Avoid residential "fronting lots" on major collectors and higher order streets.

Residential traffic entering or leaving private driveways that front upon major collectors and other higher order streets (that are intended to efficiently carry traffic) create safety conflicts with traffic and affect traffic movement, particularly during peak traffic periods and if vehicles are backing onto the street. When the front of the house faces directly onto the street, residents also tend to be concerned about high-speed traffic passing by their front yards where children may play and where noise impacts are greater.

1.3.h Obtain, whenever feasible, necessary rights-of-way in proximity to major intersections for needed turn lanes.

Intersections can become bottlenecks to efficient traffic movement. A key to maintaining smooth-flowing traffic is to avoid as much as possible the disruption of through traffic by turning traffic. Turn lanes of sufficient length are effective for removing traffic that is slowing to turn, with a minimum of impact upon through traffic. This can be especially important in older areas of the City where widening the entire street may not be possible, but where expanded intersections can reduce congestion.

1.3.i In new growth areas, obtain expanded arterial intersection rights-of-way (ROW) requirements.

As development projects are proposed in new growth areas, the expanded arterial intersection ROW. should be dedicated so that turn lanes can be established in these

intersections when traffic conditions warrant.

1.3.j Maintain the land use and access restrictions identified for major collector and higher order street intersections.

Streets have functions that are often at odds with each other. Major roads are expected to carry large amounts of traffic at reasonable speeds. Each intersection, driveway access, or median break that allows other traffic to enter or otherwise disrupt the traffic flow of a major street reduces efficiency (traffic-carrying ability) on that major street. An intersection of two major streets becomes a point where each disruptive movement within proximity to the intersection has heightened potential to affect traffic flows on each street. Major traffic entering and leaving large commercial complexes or other major vehicle destinations create a variety of traffic movements that can magnify disruptions on traffic flow. Avoiding driveway access movements in the vicinity of major intersections promises to help maximize traffic flows and therefore reduce air quality impacts at those intersections.

1.3.k Approve driveway access locations only if consistent with approved minimum acceptable distances from major intersections, except in unusual circumstances.

Driveways can help disrupt major street traffic flows. Over time a driveway can be expanded, land uses can intensify, and other changes can take place that can significantly increase the impacts of a driveway on major street traffic. It is important to maintain adopted driveway location standards, and to avoid driveway locations that can conflict with major street intersections. It is also important to consider the ultimate build-out of the area when determining needs at the time of initial construction.

Policy T-1.4
Promote Traffic Safety.

As traffic levels on a street approach the street's effective capacity, and as various factors affect how a roadway functions, safety is also affected. This interrelationship lends itself to some repetition among implementing actions relating to safety.

Implementing Actions:

1.4.a If fronting driveways cannot be avoided on a major collector or higher order street (see Action 1.3.g), seek design solutions that will allow automobiles to avoid backing out.

There are driveway designs that allow residential vehicles to avoid backing out into street traffic. Examples are circular driveways or the provision of "hammerhead" turn-arounds on site. Typically, however, such designs are more workable with larger residential lots, and the most effective solution remains the avoidance of direct residential driveway access if at all possible where backing traffic will create particular disruptions.

1.4.b Allow only adopted spacing of streets intersecting and traffic signals on any arterial or higher order street, unless prior actions or unusual circumstances make this infeasible.

Effective intersection spacing contributes to more efficient traffic flow and helps reduce unnecessary stop-and-go traffic.

1.4.c Promote increased traffic safety with special attention to hazards which could cause personal injury.

Continue to maintain existing practices related to safety such as: maintain adopted sight-line requirements (line of uninterrupted vision along which a vehicle operator can see traffic, bicycles or pedestrians approaching from an intersecting street) at designated street intersections; continue to monitor street intersections to identify unusual levels of traffic accidents; etc. Evaluate ways to increase the effectiveness of traffic safety efforts.

1.4.d Reserve adequate road and intersection right-of-way to provide for the needs of traffic safety.

Sufficient right-of-way for facilities such as right and left turn lanes helps to improve traffic movements in the vicinity of intersections.

1.4.e Continue, as feasible, to mitigate or reduce safety hazards and program improvements to congested intersections before they become significant problems.

It is important to implement improvements, as feasible. It is also important to recognize that it is often more cost effective to avoid creating significant traffic conflicts than it is to attempt to reduce or mitigate them once they have become problems. The City should continue to review development applications to mitigate prospective concerns as they are identified.

1.4.f Seek to improve or correct the specific problem locations identified as "Circulation System Improvement Problems" in the City's Circulation Element.

Pursue all available inter-governmental assistance and other sources, as feasible, for help to mitigate problem intersections and other identified site specific problems within the City's circulation system.

Policy T-1.5
Minimize Unnecessary Travel Demand on Major Streets.

Traditional circulation patterns often tend to make it inconvenient for a driver to make a neighborhood or other local trip without getting onto a major street. It is important to have a circulation system that provides the flexibility to allow neighborhood and other trips on local roads, while encouraging non-local trips to use the major road system.

Implementing Actions:

1.5.a Encourage design of local and collector streets within neighborhoods to provide multiple, reasonably direct routes to local neighborhood destinations .

It is important to build flexibility into neighborhood circulation for reaching local destinations. At the same time, it is important to provide the opportunity for a local driver to reach the nearest major (arterial) road directly and quickly if the destination is more distant. These needs must be carefully balanced with the need to discourage outside traffic from taking shortcuts through residential neighborhoods. In other words, routes may need to be less direct in order to discourage such shortcuts but not so indirect as to make it difficult for neighborhood residents to reach their destinations.

1.5.b Avoid, whenever feasible, neighborhood street system designs that make it more convenient for a local resident to use an arterial street to reach an in-neighborhood destination than to remain on the local street system.

Often local street circulation patterns, whether intended or not, include barriers to the local driver who seeks to go to certain nearby destinations. The result is often that the driver is forced to go onto the major street system in order to reach a destination adjacent to the local neighborhood. This also usually means that a bicycle rider or pedestrian would have been forced into the same inconvenient, out-of-the-way trip, which is often the reason such trips are made only by automobile.

Policy T-1.6
Minimize Adverse Impacts on the Environment from Existing and Proposed Road Systems.

In an automobile-oriented economy growing urban areas like Waterford have significant and growing numbers of vehicle trips per day. The amount of fossil fuels used and the amount of air pollution created each day by these trips are just two ways in which the environment is affected by Waterford's traffic. The more efficient traffic movement is the less fuel is consumed and the less air pollution is created. As traffic movements become less efficient (more stops, more slowing down and speeding up, etc.), the more traffic-related impacts are created on the environment.

Implementing Actions:

1.6.a Continue working to minimize environmental impacts associated with heavily traveled traffic corridors, such as high noise levels and stop and go traffic situations (which contribute heavily to air pollution problems).

Noise impacts can be reduced by such methods as solid walls and heavy landscape barriers, such as trees or heavy foliage. In the case of new roads it may be relatively easy to find the opportunity to use these design methods. In older residential areas, however, with houses facing directly onto roadways that are becoming more heavily traveled, options to use noise barriers are typically more constrained. The use of some types of barriers on medians (if space is available) may reduce some noise but, perhaps as important, reduces visual impacts.

1.6.b Make a strong commitment to increase the number of people per vehicle so that the existing street system is utilized to its fullest.

Continue to support StanCOG efforts to encourage and promote carpooling and other alternatives to single-occupancy vehicles. Consider the use of HOV lanes if and when they become feasible to use in Waterford.

1.6.c Consider ways to encourage employers to reduce impacts upon the existing street system.

Examples could include encouraging of large employers to promote carpooling and other transportation alternatives within their work force, as well as encouragement, if feasible, of staggered working hours.

1.6.d Avoid neighborhood street system designs, whenever possible, that require a local resident to travel away from a local destination in order to reach it.

Street systems at times force inefficiency by requiring vehicles and pedestrians to double-back (illustration) or double the distance they travel in order to reach a nearby destination. Such situations should be avoided if at all possible.

1.6.e Install traffic control devices only where warranted except in unusual circumstances.

Caltrans has established a rating system for determining where traffic control devices, such as stop signs and traffic signals, should be installed. This "warrant" system considers such factors as the numbers of accidents, traffic volume, numbers of pedestrians, and the presence of schools. Traffic control devices should only be installed where they meet the minimum requirements of this warrant system. "Unwarranted" signals and signs may cause excessive delay, disobedience of traffic regulations, circuitous travel on alternative routes to avoid the devices, and increased accident frequency. These conditions negatively impact air quality and the efficiency and safety of the circulation system.

Policy T-1.7
Minimize Street System Impacts on Residential Neighborhoods and Other Sensitive Land Uses.

One of the key elements in fostering quality residential neighborhoods is the reduction of adverse traffic impacts. Impacts of noise, high speed traffic or high traffic volume results in a reduction in a neighborhood's desirability and can result in de-stabilizing a residential neighborhood.

Implementing Actions:

1.7.a To the greatest extent feasible, maintain a distinct hierarchy of streets that will provide for major roadways between neighborhoods rather than through neighborhood areas.

Major streets on the perimeter of neighborhoods promise to cause the least amount of disruption to those areas. In new growth areas arterials and higher order streets should be located to form the boundaries of neighborhoods by placing them parallel to each other at one mile intervals, perpendicular to similarly spaced major street patterns to form approximate one-mile square neighborhoods areas. These centers are intended to be oriented around local activities such as parks and schools, as well as some level of commercial activity that would be located at the neighborhood edge with the intent to also avoid unnecessary intrusion through the neighborhood.

1.8.b Whenever feasible, approve street circulation patterns that discourage exterior traffic from driving through neighborhoods.

The intent is to make local trips, within the neighborhood or shortly beyond, convenient for the local resident while at the same time making it inconvenient for the driver from outside that neighborhood to use the same road system as a short cut during a longer trip. This is a critical distinction. If a street system is designed to be "perfectly convenient" for the local driver, it will almost surely be as convenient for outside drivers who speed through that neighborhood on their way somewhere else.

Goal Area T-2: Alternative Transportation

GOALS

- **An Efficient and Comprehensive Public Transit System**
- **A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area)**
- **A Comprehensive System of Safe and Convenient Pedestrian-ways**

POLICIES

T-2.1 Support and Enhance the Use of Public Transit.
T-2.2 Support a Safe and Effective Public Transit System.
T-2.3 Encourage the Use of Bicycles as Alternative Transportation.
T-2.4 Provide Convenient Bicycle Support Facilities to Encourage Bicycle Use.
T-2.5 Maintain and Expand the Community's Existing Bicycle Circulation System.
T-2.6 Maintain a Pedestrian-Friendly Environment.
T-2.7 Improve Planning for Pedestrians.
T-2.8 Ensure That New Development Provides the Facilities and Programs that Improve the Effectiveness of Transportation Control Measures and Congestion Management Programs.

Policy T-2.1
Support and Enhance the Use of Public Transit.

Continue to cooperate with StanCOG and other interested administrations and agencies to develop ways and seek methods for making public transit more successful in the Waterford area.

Implementing Actions:

2.1.a Promote land development patterns and site design criteria that support and enhance the use of public transit.

While public transit ridership has not been particularly significant in the past in Waterford, it has provided an important service to focused groups within the community. As Waterford grows and as other factors change, it is more than likely that the use of public transit will increase in this area. It is important for the City to carefully evaluate how it can most effectively plan for this expanded demand before it happens. In this way, the City can seek to maintain flexibility to facilitate expected future public transit demands.

2.1.b Whenever feasible, avoid residential subdivision designs that require pedestrians to duplicate walking distance (double-back) to reach public transit routes.

A key to public transit is to make the system readily available. Land planning that actually builds barriers into the system for prospective transit users does not encourage transit use.

2.1.c Whenever feasible, avoid creating barriers that prevent convenient access to current or prospective public transit routes.

The intent is simply to make neighborhood design more flexible in order to provide more

realistic options for a future that can be expected to require them.

2.1.d Work with the local public transit system to seek Federal, State, and other funding sources which provide major funding for transit equipment, maintenance, and operation. Support legislation that will provide additional funding.

The City has received considerable assistance over many years from outside funding sources to supplement City expenditures for transit equipment, maintenance and operation. This should continue with the consolidated transit system.

2.1.e Support and participate in regional public transit planning

Through StanCOG and the County public transportation agency, the City of Waterford should continue to participate in planning efforts which promote improvements to the regional and local public transit systems.

2.1.f Plan for multi-modal transfer sites that incorporate auto parking areas, bike parking, transit, pedestrian and bicycle paths, and park and ride pick-up points.

Identify locations where transportation systems converge and designate the area as a potential multi-modal transfer site in the general plan.

2.1.g Encourage park and ride lots at suitable locations serving long distance and local commuters.

There are many ways for providing such facilities. The City should evaluate possible alternatives, including:

1) working with Caltrans and the Air District (SJVUAPCD) to identify suitable sites, which could be designated on the general plan land use and circulation plans;
2) consideration of funding of park-and-ride lots as mitigation during CEQA review of residential development projects;
3) coordinating with appropriate transportation agencies and major employers to establish express buses and vanpools to increase the patronage of park-and-ride lots; and,
5) allowing developers to reach agreements with auto-oriented shopping center owners to use commercial parking lots as park-and-ride lots and multi-modal transfer sites.

Policy T-2.2
Support a Safe and Effective Public Transit System.

Cost effective, efficient public transportation is important in any effort to provide a level of service necessary to attract increasing public ridership.

Implementing Actions:

2.2.a Include public transportation access in the review process for major public and private development projects, as well as all significant land use design proposals considered by the City.

In view of the urban area's growth potential it is important for public transportation management to take a long range view of how land and site planning can possibly affect future public transit options.

2.2.b Provide transit stops on major streets.

The City needs to evaluate where future bus routes are likely to go and obtain, as feasible, facilities for such service.

2.2.c Avoid, whenever possible, public transportation transfer points that force passengers to cross major vehicle routes on foot.

If feasible, public transit route transfer points should be located at one point, such as in conjunction with a major commercial area, so that passengers can go from one route to another with minimum inconvenience.

2.2.d Provide off-street passenger loading/unloading at major public transportation destinations (shopping centers, etc.), whenever possible.

This is more convenient for a higher percentage of passengers and also facilitates transfers, easing passenger problems in inclement weather, etc.

Policy T-2.3
Encourage the Use of Bicycles as Alternative Transportation.

Studies have indicated that bicycles are the most efficient form of transportation ever devised from the standpoint of energy expended versus distance/speed attained. Given Waterford's attractive climate and flat terrain, bicycle transportation can be very effective.

Implementing Actions:

2.3.a Encourage area employers to promote bicycle use through incentive programs or other means.

A number of governmental agencies are concentrated in the central portion of the City, which the City and other large employers successful methods for increasing bicycle ridership.

2.3.b Study options and opportunities for extending the off-street trail (pedestrian and bicycle path) system to and through those portions of the City of Waterford south of Highway 132.

This is a proposed topic for study/evaluation after completion of this general plan process.

2.3.c Continue to support, whenever feasible, local efforts to promote cycling.

In recent years private promotion has brought a series of special cycling races/events to the Waterford area. These events have been worthwhile public relation events for both the Waterford area and for cycling, and have helped to promote public awareness of the potential for bicycle riding in this area.

2.3.d Seek to involve a cross-section of actual bicycle users in bicycle planning efforts and transportation-related bicycle activities.

Bicycle users may be valuable resource people for bicycle-related planning efforts. It is important to remember that there are very different bicycle populations. There are recreational bicycle users, those who commute to work, and also the "semi-professional riders" who are intense cyclists. There may be large differences of opinion between these groups regarding various bicycle topics, and broader input is needed in order to obtain a reasonable array of information and usable advice.

Policy T-2.4
Provide Convenient Bicycle Support Facilities to Encourage Bicycle Use.

Because bicycles are light and mobile, it is extremely important that facilities be provided to secure them. Support facilities that help to make bicycle use convenient are important in encouraging a greater level of bicycle usage.

Implementing Actions:

2.4.a Develop guidelines for public and private development relating to the design and location of bicycle parking facilities.

It is not good enough to provide parking facilities merely consistent with those provided for automobiles. If a bicycle rider is forced to park a bicycle in an inconvenient area, subject to bad weather, or walk just as far in inclement weather as someone using a car, incentive is greatly reduced for the average rider. Bicycle parking needs to be protected, needs to be more convenient than that provided for cars, etc. There have to be special advantages granted to those willing to ride, to make bicycling a realistic option.

2.4.b Design criteria in the construction of all bicycle trails, lanes and routes (Class I, II, and III bikeways) should conform to the State of California "Planning and Design Criteria for Bikeways in California;" Class I bikeways should have grade separation with all major streets, where possible.

The off-road bicycle/pedestrian trail system in the Waterford region, financed in part by State and Federal funding, meets the construction standards required in order to obtain this assistance. Experience over many years with the existing standards has indicated a high level of public acceptance and satisfaction as well.

2.4.c Consider providing bicycle racks on buses.

The provision of bicycle racks on buses has proven in other areas to be an effective tool for promoting bicycle and transit use.

Policy T-2.5
Maintain and Expand the Community's Existing Bicycle Circulation System.

The City of Waterford and Stanislaus County have cooperated to develop an impressive regional bicycle system in the Waterford/Modesto Reservoir area. This has helped to place this area in a position to attract major cycling events. The bicycle system is also an important community and regional recreational asset. In addition, location of the University of California in proximity to Lake Yosemite will make an attractive and usable regional system much more useful and valuable.

Implementing Actions:

2.5.a Coordinate implementation and planning of the Bicycle Transportation Plan with the County of Waterford.

The City and County have a tradition of working together on off-road bicycle/pedestrian trails, as evidenced by the existing regional trail system tying together Waterford and a significant portion of the greater urban area, including Modesto Reservoir.

2.5.b Pursue all available revenue sources for implementing the Bicycle

Transportation Plan.
The City has been very successful over many years in obtaining monies that have helped to put the existing bicycle/pedestrian trail system in place. These efforts should continue.

Policy T-2.6
Maintain a Pedestrian-Friendly Environment.

It is extremely important for the City to work to insure its ability to obtain, whenever feasible the most efficient, most flexible, pedestrian access to important community destinations.

Implementing Actions:

2.6.a Retain park-strip and street tree planting requirements in residential areas.
Park-strips offer distance from a street and thus a degree of security to a pedestrian. This is particularly important for younger children, especially those who may be actively engaged in an activity such as bicycle riding, roller skating or skateboarding. Street trees increase the feeling of security, help air quality, and the overhead canopies they form across residential streets are a strong aesthetic encouragement to pedestrians.

2.6.b Locate streetlights, street signs, fire hydrants, and other obstacles so they do not obstruct sidewalks and other pedestrian-ways.
It is important to keep pedestrian-ways/sidewalks clear of any intruding City equipment. (The American with Disabilities Act requires a minimum of four feet of unobstructed width.) This is another reason for making sure that sufficient rights-of-way are obtained to match not only current but prospective traffic demands in order to avoid future street expansions that leave too little room for sidewalks.

2.6.c Continue to improve corner curb cuts to accommodate wheelchairs.
This is a federal and State requirement. The City of Waterford has also incorporated the provision into its design standards. These curb cuts also assist baby strollers and carts.

2.6.d Work to maintain safe and convenient streetscape for pedestrians.
This is especially important in the central business district and other urban areas that attract significant amounts of pedestrian traffic. The City has been involved with activities that serve as examples of what can be done, such as increased non-motor vehicle police presence and the use of citizen volunteers.

2.6.e Continue to require sidewalks and pedestrian-ways for subdivisions and other development projects.
The City requires the provision of sidewalks in all new developments, except in industrial areas. This requirement should be maintained.

2.6.f Continue to encourage safe and convenient pedestrian environments in the central business district and other major commercial areas that attract a great deal of pedestrian traffic.
The City has been involved with activities that serve as examples of what can be done, such as increased non-motor vehicle police presence and the use of citizen volunteers.

2.6.g Continue to encourage the provision of plazas, malls, arcades, and walk-throughs.
These can be important pedestrian links in high-traffic areas that are visible and can be maintained.

2.6.h Encourage the planting of shade trees and, as a minimum plan for the prospective establishment of rest areas with seating facilities along major pedestrian-ways .

These facilities can be important in making an inviting pedestrian environment. If such facilities are not feasible at the time of initial planning of such areas, consideration should be given to flexible designs that would facilitate later redesign/reconstruction at minimum cost if the facilities can be made available.

2.6.i Continue to review and evaluate possible options for dealing with the issue of incomplete pedestrian access to development projects that will be major pedestrian destinations.

State of California provisions require access for the elderly and handicapped to public use facilities (such as government buildings) and privately funded facilities intended for public use (commercial establishments, etc.). City design standards require on-site sidewalks for individual development projects. In recent years development of some major projects in growth areas that are not fully built out have resulted in the problem of large segments of missing sidewalk. These missing segments, while not located on project property, have invariably been on the most direct pedestrian/bicycle route to or from the major pedestrian destination.

Policy T-2.7
Improve Planning for Pedestrians.

Providing a pleasant pedestrian environment can often be achieved with very little cost or effort, but it is often overlooked when overall circulation needs are evaluated. By making planning for pedestrian access an integral part of the circulation planning process, significant enhancements to pedestrian access within and around Waterford's neighborhoods can be accomplished. Significant air quality benefits can be derived from promoting pedestrian-friendly environments.

Implementing Actions:

2.7.a Seek to provide more flexible, more usable pedestrian access opportunities to land uses and land use combinations that are prospective pedestrian destinations (sports club facilities, schools, government facilities, parks, public open space areas, etc.)

Examples include both public and private facilities. Schools, parks, trail systems and government centers are all activity areas that could be greatly enhanced by having one or more connecting pedestrian links to a nearby street(s), trail system, etc. A special case commercial example might be an athletic or sports club that could experience greater foot or bicycle traffic if made more accessible to other than motor vehicle traffic. Obvious prospective destinations such as commercial centers are often walled off from all direct access except motor vehicles using major streets.

2.7.b Evaluate the future need for sidewalks in business parks and industrially-zoned areas.

Increasing regional air quality problems are leading to requirements that make major job centers such as industrial areas more logical destinations for public or other forms of collective transit. This, in turn, may lead to a greater need for pedestrian distribution

within these areas. An evaluation should consider any efficient and potentially cost-effective options.

2.7.c Continue to review land use and project proposals with the intent to avoid pedestrian barriers that prevent, or create unnecessarily circuitous, access to community and commercial areas.

It is important to continue to seek enhanced pedestrian access to major destinations such as shopping centers, schools, recreational areas, etc.

Policy T-2.8
Ensure That New Development Provides the Facilities and Programs that Improve the Effectiveness of Transportation Control Measures and Congestion Management Programs.

State and federal legislation requires local government to include strategies to increase the efficiency of transportation infrastructure and to reduce vehicle trips in their transportation plans. Transportation control measures are most effective when infrastructure is in place that supports alternative transportation modes. This would include community-wide transportation improvements and on-site improvements at individual worksites and businesses. The City of Waterford can support these strategies by encouraging developers to construct infrastructure that reduces congestion and/or trips.

Implementing Actions:

2.8.a Consider measures to increase the capacity of the existing road network prior to constructing more capacity (additional lanes, new freeways, etc.).

Measures that may be included in local and regional transportation plans and capital improvement plans that may increase the capacity and reduce congestion on existing roads include the following:

- Establish an integrated and synchronized traffic signal network for major thoroughfares to assure smooth-flowing traffic through intersections and to minimize congestion through maintenance of stable traffic flow at intersections.
- Convert congested streets to one-way couplets where it would improve traffic flow and congestion.
- Modify intersections using turn restrictions, channelization, etc. where necessary and feasible.

2.8.b Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives.

Encourage new development to provide on-site facilities that encourage employees to use alternative transportation modes as air quality and transportation mitigation measures. Some examples include:

- Showers and lockers provided in office buildings
- Safe and secure bicycle parking areas

- On-site employee cafeterias and eating areas
- Convenient access to transit waiting areas from offices

The City may provide reduced parking requirements as an incentive for projects to incorporate measures proven to reduce employee commute trips or customer trips.

Some methods employers may use to encourage trip reduction and increased average vehicle ridership include:

- Rideshare matching, transit subsidies, vanpool subsidies, flexible work schedules, compressed work weeks, telecommuting, shuttle services, parking management, guaranteed ride home, and preferential or subsidized parking for ride-sharing vehicles.
- Encourage employers to provide preferential or subsidized parking for ride-sharing vehicles.
- Developers can provide the land use patterns and site designs that increase commuters' ability to walk, bicycle, or use transit to get to work.

Goal Area T-3: Vehicle Trip Reduction

GOALS

- **Living Environments which Encourage People to Use a Variety of Transportation Alternatives.**
- **A Compact Urban Design for New Growth Areas.**
- **Self-sustaining, Mixed-Use, Pedestrian-Friendly Urban Centers.**

POLICIES

T-3.1 Create land use patterns that will encourage people to walk, bicycle, or use public transit for an increased number of their daily trips.

T-3.2 Encourage in-fill development and a compact urban form.

T-3.3 Promote site designs that encourage walking, cycling, and transit use.

T-3.4 Locate and Design New Commercial Developments To Provide Good Access from Adjacent Neighborhoods and Reduce Congestion on Major Streets.

Policy 3.1

Create Land Use Patterns That Will Encourage People to Walk, Bicycle, or Use Public Transit For an Increased Number of Their Daily Trips.

Many larger urban areas in the San Joaquin Valley are not conducive to walking, cycling, and transit use. Typical office developments have low employment densities and are often isolated from commercial services, forcing people to drive to eat lunch or to complete errands. High-density residential projects often have little, if any, commercial development nearby or discourage pedestrian access to commercial uses with block walls and large parking lots. The most common single family lot size of 6,000 to 10,000 square feet leads to population densities too low to support frequent and direct transit service.

The predominant suburban development patterns force all local trips for shopping, recreation, school, as well as commute trips onto the arterial street system. This leads to ever wider, more congested arterial streets which in turn discourage people from walking or cycling to even nearby destinations.

Implementing Actions:

3.1.a Encourage pedestrian or transit-friendly designs at suitable locations.

Most of the new growth areas in north and northeast Waterford would be appropriate for pedestrian- and transit-friendly developments. Encourage the preparation of specific, community or similar development plans for new large scale development which incorporates the goals and policies of the general plan's Urban Design Chapter.

3.1.b Work to preserve and enhance existing neighborhoods and commercial districts which have transit and pedestrian-friendly designs.

Pursue redevelopment projects to improve the image of pedestrian-friendly neighborhoods and shopping districts using pedestrian amenities, street trees, transit facilities, etc.

3.1.c Plan areas for higher density development within 1/4 mile of Waterford's "Downtown" and other locations identified as transit hubs and commercial centers.

Review and revise, as necessary, the City's development and the zoning ordinance standards and maps designating high-density land uses in areas planned for transit hubs and commercial centers.

3.1.d Encourage higher housing densities in areas served by the full range of urban services.

- Encourage high and medium-density housing at sites within walking distance of transit and neighborhood commercial services during general plan updates and developer initiated general plan amendments.
- Consider higher housing densities for areas around existing and planned transit hubs.
- Encourage developers to take advantage of density bonus provisions of the zoning ordinance for projects located around transit hubs on existing or planned transit corridors.

3.1.e Encourage mixed-use developments that provide commercial services such as day care centers, restaurants, banks, and stores near employment centers.

Establish mixed-use zone district standards. Tailor the allowed uses to those best suited for a pedestrian environment.

3.1.f Work closely with school districts to help them choose school site locations that allow students to safely walk or bicycle from their homes.

When specific plans or subdivisions propose school sites for dedication, accept sites that emphasize the ability of students to safely walk or bicycle to school. Incorporate school sites into larger neighborhood activity centers where practical; this concept could include parks, day care facilities, and neighborhood commercial uses. Schools will be encouraged to locate adjacent to Neo-Traditional or New Urbanist residential Areas.

3.1.g Encourage regional shopping malls/centers at sites supported by a full range of transportation options.

Identify sites with access to a major arterial road. The site could be a regional transit hub and major pedestrian-oriented activity center to increase transit mode share.

3.1.h Consider air quality and mobility when reviewing any proposed change to the land use pattern of the community.

This step could be part of a CEQA process established by the City of Waterford in reviewing general plan amendments.

Policy T-3.2
Encourage In-fill Development and a Compact Urban Form.

Sprawling, low-density and discontiguous development discourages the use of alternative transportation modes and increases travel distances. Infrastructure costs and most environmental impacts are less when development is more compact.

Implementing Actions:

3.2.a Encourage in-fill of vacant parcels.

- Conduct a survey of vacant lands. Develop strategies for encouraging their development with appropriate uses, particularly in and around the downtown commercial core of the City.
- Encourage in-fill projects that are determined to be compatible with existing development and discourage in-fill projects that require reduced development and/or improvement standards in order to succeed.
- Encourage growth to occur in and around activity centers, transportation nodes, underutilized infrastructure systems, and redevelopment areas.
- Work with land owners to re-designate vacant lands suitable for higher densities or for transit/pedestrian-oriented developments during General plan updates and periodic reviews particularly in and around the Waterford downtown commercial core.

3.2.b Encourage in-fill and redevelopment projects within the urban area that could enhance the effectiveness of the transit system.

- Encourage projects that increase pedestrian activity and mixed uses.
- Encourage commercial uses that are complementary to urban employment centers.
- Strategically locate high-density development to provide good transit access.

Policy T-3.3
Promote Site Designs That Encourage Walking, Cycling, and Transit Use.

Most developments are designed to provide the most direct and convenient access by car at the exclusion of other modes of transportation. It is possible to design sites in ways that encourage less polluting transportation modes and still support access by motor vehicle.

Implementing Actions:

3.3.a Encourage project designs which increase the convenience, safety and comfort of people using transit, walking or cycling.

Review the City's zoning ordinance for possible amendment to include air quality design

standards. Design standards must be general enough to apply under all but the most unusual circumstances to avoid the need for numerous zone variances and modifications. Some design measures like sidewalk widths and landscaping requirements are very appropriate for design standards. Design measures dealing with parking lot designs and building facades may be better left as guidelines because of site-to-site differences.

3.3.b Encourage all subdivision street and lot designs, commercial site plans, and multi-family site plans to improve access by transit, bicycle, and walking.

Review the City's development review procedures and modifythem, as appropriate, to include policies that accommodate access and internal circulation by alternative transportation modes. Develop design guidelines that illustrate preferred designs.

Just a few examples of design measures that could be recommended during design review include:

- Direct pedestrian access to commercial centers from surrounding neighborhoods.
- Intra-development designs that incorporate integrated street patterns rather than designs which limit ingress and egress options to the development and restrict traffic to a limited number of arterials.
- Primary ground-floor commercial building entrances should orient to plazas, parks, or pedestrian-oriented streets, as feasible, not to interior blocks or parking lots.
- Promote the use of trees and plants in travel-way landscaping and residences.
- Building facades should be varied and articulated to provide visual interest to pedestrians.
- Street trees should be spaced no further than 40 feet on center in planter strips or tree wells. Tree species should be selected to create a unified image for the street and provide an effective canopy.
- Sidewalks should provide an unobstructed path. Larger sidewalk dimensions are desirable in core commercial areas where pedestrian activity will be greatest.
- Encourage the use of front porches, bay windows, and balconies which face onto the street to increase social interaction and provide heightened security for residential streets.

Policy T-3.4

Locate and Design New Commercial Developments To Provide Good Access from Adjacent Neighborhoods and Reduce Congestion on Major Streets.

Neighborhood, regional, community, and neighborhood commercial areas throughout the City serve many adjacent neighborhoods. Their locations along arterials and major collectors also offer these commercial areas good visibility from passing motorists, which allows them to serve more than just their immediate neighbors. Sometimes, however, this leads to the reduced efficiency of these roadways if commercial driveways are allowed to proliferate in areas near major intersections. These problems can be minimized if commercial developments are located and designed carefully.

Implementing Actions:

3.4.a New retail commercial designations shall be located along arterials or major collectors at their intersections with collector streets (at 1/4 mile or 1/2 mile locations) in new growth areas. These commercial areas should <u>not</u> be located at the intersections of two arterials.

Locating commercial developments at the corners of two major streets is fairly common practice in cities throughout the County. However, these locations, while offering maximum visibility to drive-by traffic, often lead to access and circulation problems. Conflicts often arise between slower motorists entering or leaving these commercial areas and motorists using the arterials for higher speed cross-town trips. These conflicts not only decrease the efficiency of the intersection over time (the number of vehicles able to pass through the intersection within a certain period), but can lead to increasingly difficult access to and from these centers by customers. Locations away from these major intersections, but still along arterials at collector street intersections, offer the combined benefits of high visibility and easier access for both drive-by traffic and for adjacent residential areas.

3.4.b Commercial centers shall be designed to provide direct vehicular and pedestrian access from surrounding neighborhoods. In no case shall trips which could be internal (from adjacent neighborhood to center) be forced onto an arterial or major collector.

Commercial centers should allow vehicular and pedestrian access from adjacent neighborhoods through the use of internal street access, driveways off of residential streets, and pedestrian access-ways.

3.4.c The number of commercial driveways on major streets shall be minimized and located in areas where they will cause minimal conflicts with traffic flow on major streets and through intersections.

Commercial driveways should be kept to a minimum on major streets and located in areas away from intersections where they can cause conflicts with intersection turning movements, traffic flow, and signal loop/detection areas. When possible, they should be placed adjacent to whichever property lines are the farthest distance from the intersection; but in no case should driveways be closer than *100 feet* from an intersection.

3.4.d Cross-access and shared driveways between adjacent commercial uses shall be provided as much as feasible.

Adjacent commercial uses should allow access between them without customer traffic having to go back out onto the public streets to travel between uses. Driveways should be shared as much as feasible between adjacent businesses to minimize the number required on major streets. This should be applied to all new development, as much as feasible, and to existing development, whenever possible.

3.4.e Commercial developments shall be designed to encourage pedestrian, bicycle, and transit access.

Sidewalks, pedestrian access-ways, bike racks and/or lockers, on-site transit stops, and transit shelters are among the design features that can be used in commercial areas to encourage alternative modes of access for their customers.

5.7 ISSUES REQUIRING FURTHER STUDY

As Waterford grows circulation/transportation issues and concerns, and the planning related to these matters, becomes more complicated. Because of increasing constraints (financing is a good example) the time-frames within which issues are projected to be addressed are also expanding in many cases. Under these circumstances some important issues may be identified during the general plan process that require evaluation beyond that available within the constraints of the plan preparation. Some of those issues have already been identified and are described below.

5.7.1 Access to the West

Access to the urban centers along the Highway 99 corridor will need to be carefully studied as part of a joint City-County planning effort.

5.7.2 Expanded Off-Street Bicycle Plan

The City should work with Stanislaus County, Modesto and Turlock Irrigation Districts, State parks and Caltrans to develop a regional bicycle network strategy that includes the growth in the City's growth areas and connects the City's river park trail system with recreation areas to the east around the Modesto Reservoir and Turlock Lake.

5.7.3 Financing Circulation Improvements

A major part of the overall public facilities financing plan (discussed in the Public Facilities Chapter) is the timing and financing of needed circulation improvements. Various strategies for financing the construction of the major roadway projects summarized in ***Table 5.1*** will be considered. These strategies may include use of gas tax money, state and federal grants, a transportation sales tax, assessment districts, construction of needed improvements by developers, and developer impact fees. This plan will be reviewed annually to make sure that the infrastructure priorities of the community are being met as Waterford grows.

Waterford Vision 2025 General Plan

Chapter 6 Public Services & Facilities

2025 Public Services & Facilities Vision: A community with a public service delivery system that is efficient, effective and economical and that provides a range of public services adequate to meet the economic, social and individual needs of the City's residents.

6.1 INTRODUCTION

Public places provide a shared sense of belonging for all citizens of the City of Waterford. They foster a humane and caring community and promote pride and mutual respect. Children develop much of their sense of community and well being from their schools, neighborhood parks, and other public places. These do more than provide public services; they are symbols of Waterford and a necessary part of the collective self-esteem of the community.

The Land Use Element of the general plan is required to address the general location and distribution of "recreation facilities, educational facilities, and public buildings and grounds" [*Government Code Section 65302(a)*], but a separate "public facilities element" is not required under state law. The City of Waterford has chosen to prepare a "Public Facilities Element" because of the challenge of providing public services and facilities to a growing community.

The goals and policies contained in this chapter address the provision of public services and facilities necessary to meet the demands of the residents of the City of Waterford now and into the future. The General plan postulates what facilities may be needed or desired in the future. This includes looking for the most cost-effective and efficient ways of providing services as well as searching for alternative means of financing capital improvements.

A wide variety of public services and facilities are addressed in this chapter, including services provided by other public agencies that affect citizens within the City of Waterford, and thus require coordination with the City. These services include:

- Water,
- Wastewater,
- Schools,
- Fire and Police Protection,
- Parks and Recreation,
- Storm Drainage/Flood Control,
- Library and Cultural Services, and
- General Public Facilities

Transportation and transit services are addressed in the Transportation and Circulation Element (Chapter 5). This

chapter does not address private sector and quasi-public utility services such as electrical service, telecommunications services, private sector utility gas providers and similar private or quasi-public services.

This element's purpose is to assess the current status of these services in terms of system capacity and demand and to evaluate future capacity in relation to projected growth. This element is further intended to clarify service availability and to identify the costs of public service improvements associated with land use decisions. This element is designed to assure that public services are available when needed.

Additionally, state law requires that a *Park and Recreation Master Plan* be used as the basis for establishing standards of park land dedication and imposition of park and recreation fees under the Quimby Act. This chapter has been developed to meet the requirements of the Quimby Act and serve as a policy basis for updating the City's existing Parks and Recreation Master Plan.

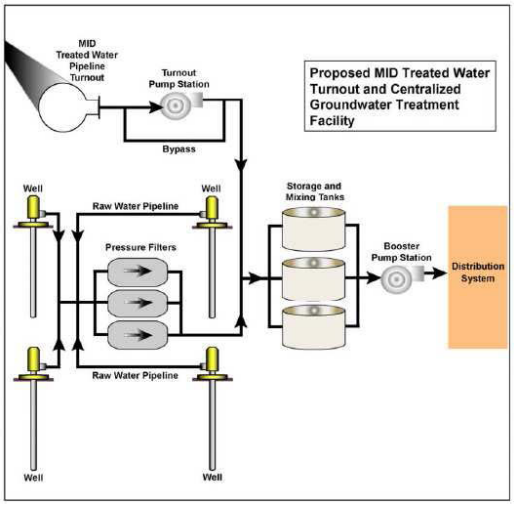
6.2 PUBLIC SERVICES & FACILITIES SETTING

6.2.1 General

This chapter does not prioritize or offer a method of prioritizing specific projects. Where more detailed information is provided for specific projects or types of services, such policies contained in this chapter are to be used as guidelines for requiring the preparation of various master plans or studies to clearly define the need, priority, or method of providing services and facilities. In addition, use of the City's Capital Improvements Program (CIP) can establish the means of correlating public projects with the needs of the community and available funding sources. This section describes the status of the public services.

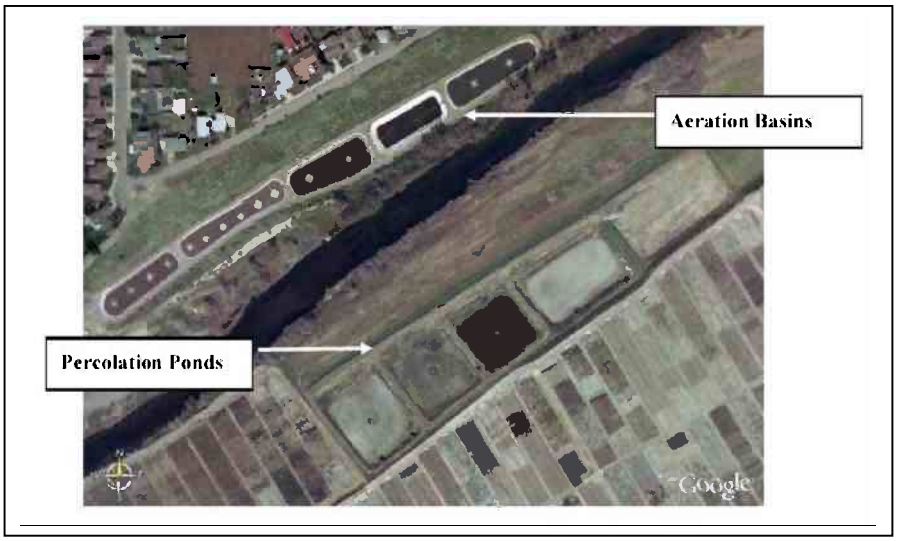
6.2.2 Water

Brief Background The City of Modesto purchased and operated the old Del Este private water system that serves most ot the older parts of the City. The City of Waterford also owns and operates a water system that serves an area that was not part of the Del Este system (River Pointe) The City will develop new water systems to serve areas under development throughout the City and its growth areas. It is hoped that, at some point in time, the city can acquire the Del Este system from the City of Modesto.



At present, Waterford's water supply relies on ground water exclusively. The City's Urban Water Management Plan (UWMP) addresses current and future water demands for the City. The UWMP concludes that growth in the annexation area will increase water demand for urban uses. Sufficient water supplies,

treatment systems, and distribution facilities are necessities for serving urban areas. It is expected that the City of Waterford will supply future growth in the City with its own groundwater well system. In addition, the City will pursue agreements with the Modesto Irrigation District (MID) to secure a permanent surface water supply.



Urban Water Management Planning
In accordance with State Law, the City of Waterford has prepared and must maintain an Urban Water Management Plan. This Plan reflects the urban growth area of the City and identified the future water resources necessary to support that growth. A Water System Master Plan has also been prepared for the City that identifies the strategy for developing these water resources as population growth occurs in the Urban Expansion Area of the City.

Service Standard Provide an adequate, reliable, and safe water supply, storage and distribution system to meet the City's potable water and fire flow needs as set forth in the City's approved Water System Master Plan and Urban Water Management Plan.

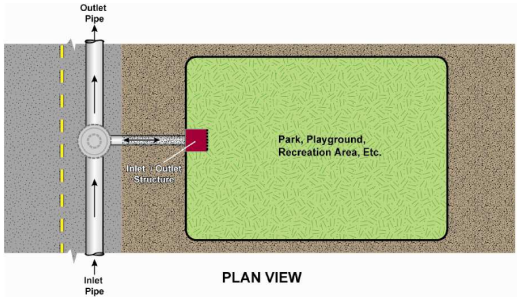
6.2.3 ***Wastewater Brief Background***
The City's wastewater treatment system currently operates and maintains a wastewater collection, treatment and disposal system with a capacity of one million gallons per day (mgd). The system meets existing requirements for the Central Valley Regional Water Quality Control Board. However, the system does not meet secondary treatment standards, nor will it meet future discharge standards, if not upgraded. The existing system is a "one-pass" biological treatment system, which reduces the strength of the sewage by using aerated ponds followed by percolation basins.

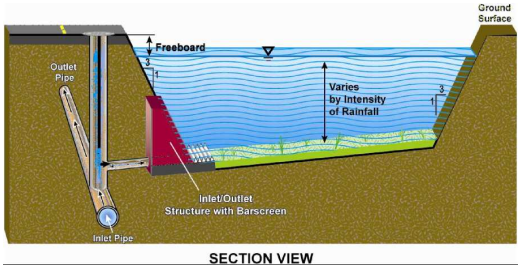
The existing wastewater treatment system is located along the Tuolumne River west of the Hickman Road Bridge. Wastewater is collected throughout the City and then treated in four reinforced concrete aeration ponds. Effluents from the storage ponds is then pumped to four drying beds across the Tuolumne River.

Future Forecast
The Wastewater Treatment Plant Master Plan provides guidance to the City for maintenance of adequate treatment capacity to meet future growth needs of the City. The Plan will be maintained and updated to reflect changes in growth potential in addition to changes in

technology and the regulatory environment.

Service Standard Provide an adequate wastewater collection and treatment capacity for existing and planned development in Waterford as set forth in the City's approved Sewer and Wastewater Treatment Master Plans.





6.2.4 Storm Drainage/Flood Control

Brief Background The City's storm drainage system is generally linked to the natural drainage system in the region. The primary drainage pattern for the City is south towards the Tuolumne River basin. Culverts and other types of facilities have been constructed over the years to facilitate the movement of floodwaters to the natural drainage system. Waterford has been subject to localized flooding and a number of improvements have been installed to drain the area.

Future Forecast The City recognizes that it needs to complete a storm drain master plan and begin to provide new and upgraded drainage facilities. As development occurs, drainage improvements will need to be constructed in identified zones where development is proposed in planning area in accordance with the City's adopted Drainage Plan.

Service Standard As the future peak flows increase with proposed new development, it is recommended that storm water detention facilities be provided to detain these excess flows so that peak runoffs and velocities in the main channels do not exceed the existing storm conditions. This will eliminate additional flooding due to increased discharge because of urbanization.

The criteria to attenuate storm water discharges from new development to pre-developed quantities, however, is based on the assumption that the channels and crossing structures downstream can handle the existing storm runoffs. New discharge standards implemented by the Environmental Protection Agency are requiring municipalities to execute some sort of treatment program for storm water before it is directly discharged into the surface water system.

6.2.5 Schools

Brief Background Public schools are operated by school districts, which are autonomous governmental agencies separate from the City. The Waterford Unified School District serves pre-kindergarten through the 12th grade. The district encompasses the City of Waterford, but extends to outlying rural areas. The district's boundaries border Oakdale to the north, Roberts Ferry to

the east, Hickman to the south, and Empire and Modesto to the west.

The development and funding of school facilities is beyond the jurisdiction of the City, but location decisions regarding school facilities must, by law, involve City review. They have their own elected officials and source of funding. The City of Waterford is fortunate to have access to several high quality institutions of higher education. These institutions include:

Modesto Junior College This college offers a two-year college curriculum in a variety of subject areas.

CSU-Stanislaus California State University, Stanislaus is located in Turlock, southwest of the City of Waterford. The university offers advance degrees and undergraduate degrees in a verity of career fields. Classes offered on-campus and off-campus throughout the university service area.

UC Merced The 1995 decision of the Regents of the University of California to locate its tenth campus at Lake Yosemite will create tremendous higher educational opportunities for students throughout the San Joaquin Valley and Sierra foothill region.

Adult Education

Modern education services have an expanded mission with respect to providing adult education services. These services focus on advancement of an adult's educational level and provide career advancement opportunities to adults of all age groups. Another important aspect of adult education is meeting the on-going need for professional development and the updating of working individuals with respect to advances in their fields of endeavor. Adult education services provided by the local school district and the regional institutions of higher education play an important role in the community of Waterford. These adult education services are a critical link to modern technological advancement and the area's labor force. As such, the region's adult education resources become an important element in the City's economic development efforts.

Future Forecast The district has recently planned to expand the Richard Moon Elementary School.

As part of the general plan and annexation process, the Waterford Unified School District has recently prepared a comprehensive master plan in order to determine the projected district need for new facilities. (This is based on the number of new schools, needed for student capacities for elementary, middle and high schools). The school district has identified the need for an additional seven or eight schools based on a forecast population of 30,000. School locations are conceptually indicated on the land use plan to assist the City and school district in their efforts to locate and prioritize school locations.

K-12 Local Schools

Service Standards The State Office of Education administers these standards for school facilities.

Location Standard The City has limited jurisdiction with respect to the location decisions of the local school districts. The City, however, is committed to

supporting school districts in their efforts to expand facilities to meet growth demands. For this reason, this chapter contains guidelines for the location of school facilities. School facilities should be sited according to the following criteria. While it is unlikely that every site can meet all criteria, every site should meet most of these criteria. The ideal site should be:

- At least ten (10) usable acres for an elementary school, twenty-five (25) usable acres for a middle/junior high school, and fifty (50) usable acres for a senior high school, to adequately accommodate the loading and unloading of students, future expansion of facilities, and for design flexibility.
- Located near residential development to reduce bussing requirements, reduce walking distances for young children, encourage after-hours use of facilities by the public and discourage vandalism.
- Located adjacent to a street or road that can safely accommodate bike, foot and/or vehicular traffic. Sites should have no more than two sides with street frontage. Urban high schools are best located adjacent to collectors that can handle the increased traffic volume of student drivers and there should be a signal at the entrance to the school
- Topographically and environmentally safe and suitable to reduce site preparation costs and permit maximum use of the site for physical activities.
- A sufficient area of usable acreage on one level and configured to not limit the design of buildings and to provide field and parking space.
- Surrounded by land uses that minimize the amount of noise and traffic generated, that is often associated with commercial and heavy industrial areas.
- Located directly adjacent to parks, which enables joint field and recreation facility uses.
- Vacant and undeveloped to reduce financial and political costs of site acquisition.
- Located where utilities and services (e.g., cable television, fire protection, and emergency medical services) are or will be readily available to reduce site development costs.
- Near imminent development of adjacent properties to insure that road and other necessary off-site improvements are available in a timely manner.
- A safe distance, i.e., as required by law, from contaminants or toxins in the soil or ground water from landfills, fuel tanks, agricultural areas, power lines, utility dSAeasements, et.
- Outside floodplains, on stable soils, and away from fault lines.
- Near a system of alternative transportation corridors integrating bike lanes, riding and hiking trails, and mass transit, where appropriate.

6.2.6 Public Safety & Fire Protection

Brief Background The City contracts with the Stanislaus Consolidated Fire Protection District (SCFPD) for fire protection services. The SCFPD also serves the City of Riverbank, the communities of Empire, Hickman, La Grange and the Beard Industrial Tract.

The SCFPD provides fire suppression, emergency first responder, and rescue services, as well as public education programs for schools, community organizations and other members of the community. In addition, the SCFPD works with the City of Waterford to adopt and enforce codes and ordinances relative to fire and life safety, and reviews development projects within the City for potential impacts on fire protection services.

Future Forecast The SCFPD has become concerned recently regarding the increasing demand for services within the City. The SCFPD projects this increased demand will require additional staff. In order to serve a City of Waterford population of approximately 30,000 and maintain a ratio of (1) fire fighter per 1,000 population, the City would need to be covered by (30) firefighters, (1) battalion chief, (2) staff, and the fire chief. There will also be a need for additional fire stations strategically located within the City of Waterford to ensure that an emergency call is responded to, within 5 minutes 80% of the time. When the population reaches between 11,000 and 12,000, the fire district will need to study the need to add an additional fire station, as well as the relocation of the current fire station. The Stanislaus Consolidated Fire Protection District will continue to closely monitor the emergency fire and life safety services needed for the City.

Police Protection

Brief Background The City of Waterford contracts with the Stanislaus County Sheriffs Department for police services.

The Sheriffs Department breaks Stanislaus County into six "area commands" and the City of Waterford is located in the Southeast Area Command area, which also includes the unincorporated cities of Hickman and La Grange. This area is approximately 250 square miles in size. In the Waterford substation, located at 320 "E" Street in the City, there are six sworn officers, one sergeant, one lieutenant, and one clerk, in addition to the City's police chief who is also the Southeast Area commander.

Future Forecast The Sheriffs Department has experienced staffing shortages in the past, but the near-term goal is to fill the current unfilled staffing needs for 24-hour coverage in the Southeast Area. The department is developing plans to add a deputy to the community of Hickman and the surrounding area.

In order to serve a City of Waterford population of approximately 30,000 and maintain a ratio of one officer per 1,000 population, the City would need coverage by 30 officers (25 staff, 4 sergeants, 1 lieutenant, and the police chief). There would also need to be four clerks and two community service officers. In partnership with Stanislaus County, the City of Waterford has acquired a site to develop a new East County Sheriff's substation adjacent to the new City administration offices on Highway 132.

Service Standard Fire and police services are provided in a manner that ensures adequate response times for emergencies. The City shall maintain a ratio of (1) fire fighter and (1) police office per 1,000 population with a response time standard of 5 minutes for emergency calls, 80% of the time within the City.

Fire Protection
Location Standard
The location of fire and police facilities is a critical factor in providing adequate fire and police protection to the citizens of Waterford. The time and distance traveled to the scene of an emergency can determine whether public safety efforts will be successful. The goals, policies, and actions in this section address location criteria and distribution goals for new fire and police facilities.

When sighting new firehouse facilities consider the following guidelines:

a) Fire stations should be located on streets close to and leading into major or secondary thoroughfares.
b) Stations should be so located as to minimize delays caused by incomplete street patterns.
c) Station should be near the center of its primary service area, measured in terms of driving time to the periphery of this area.
d) Stations should be convenient to high value areas of commercial or industrial districts, but not located in them unless such a location is necessary to maintain the required service radius.
e) Stations should be located, as much as feasible, away from other uses that may be sensitive to the noise impacts of frequent alarms.
f) Stations and their designed sites will fit in with their surroundings, including consideration of open spaces, off-street parking, landscaping, and general appearances, especially when located in residential districts.
g) In residential service areas, stations should be located in or near those section that have the highest density**.**

Police Protection
Location Standard Due to the nature of police facilities, they need to be located in a central location within the City, to ensure easier access to all major or arterial roadways. The City has acquired a site to develop a new east county Sheriff's substation adjacent to the new City administration offices on Highway 132.

6.2.7 Parks and Recreation
Brief Background
Acquisition, development, maintenance and operation resources for the City's park and recreation system must compete with many other vital City services. Historically, the system's expansion and development is driven by new development.

Table 6-1
2005 Waterford City Park Land Inventory
By Type

Summary	Number	Improved Acres	Unimproved Acres	Total Acres
Total Community Parks	**2**	**11.6**	**2.5**	**14.1**
Total Neighborhood Park	**0**	**0**	**0**	**0**
Total Linear Parks	**5**	**3.1**	**4.1**	**7.2**
Total Mini-Parks	**3**	**3.2**	**0.4**	**3.6**
TOTAL	**10**	**17.9**	**7.0**	**24.9**

The Waterford park system consists of both active and passive recreational areas, including a variety of park types. The City has approximately 15 acres of active parkland, more than 3 acres of "greenways" or linear strip parks and more than 6 acres of undeveloped parkland, which includes the recently acquired parks along the Tuolumne River corridor.

In Waterford, the inventory of recreation facilities such as sports fields used by the public is relatively low. The City itself provides only one facility, Beard Park. The City relies heavily on the local school district for athletic fields and gymnasiums.

This future planning should address the existing system needs and improvements as well as development and expansion to meet the expected population growth.

Long-term maintenance and operation resources are extremely vulnerable to the limited City budget resources. To assure continued development and adequate maintenance of the system in future years is a long- term developed strategy.

Designated on the land use diagram are potential future park sites. A "general" designation to identify the areas of potential future needs. Specific site locations, however, will require more specific planning and may be included in the City's Parks and Recreation Master Plan.

Future Forecast Waterford's existing park facilities do not meet its current needs. In addition, future growth will continue to impact the community's ability to provide and maintain park facilities.

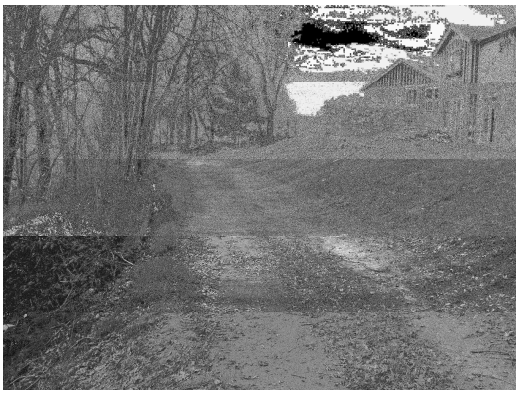
Service Standard A variety of park types shall be provided in a timely manner in accordance with the pace of new development. Overall, a minimum of 5 acres of parkland will be provided per 1000 residents in the City, of which 1.75 acres should be in community parks and 1.50 acres should be neighborhood parks.

"Greenway" trails or linear strip parks acres should provide bicycle and pedestrian access throughout the City and its growth areas. In addition to the five acres of City park-land per 1,000 people, the parks system is supplemented by natural open-space, landscape buffers along the MID canal system, school grounds, church grounds and two new City-County regional parks along the Tuolumne River of 35 to 40 acres each. These supplemental

recreation opportunities are not included in the standard.

It is important to keep in mind that the adequacy of the City of Waterford's park system should not merely be judged on the ratio of park acreage to total population. Location, facilities and user demand are equally important.

Generally, City parks are divided into different types including; mini, neighborhood, community and linear parks. The concept of types, or hierarchy, provides for park and recreation needs at varying levels; however, there is some overlap among the various types of parks and their uses. Translated into physical form, they create a system of parks.



Greenways Greenways are open spaces or developed landscaped areas that follow linear corridors such as river or creek corridors, canals, trails corridors, abandoned rights-of-way, and other elongated features.

Greenways weave through the residential neighborhoods connecting larger public uses (schools, open space, commercial uses), and provide many points of physical and visual access to the park sites.

Some greenways may also act as mini-parks because of play and exercise equipment placed along the paths. Other greenways act as valuable open space greenbelts through a neighborhood. This type of park usually contains trails, landscaped or natural areas, viewpoints and seating areas. Neighborhood park facilities may be incorporated when space is available.

The City of Waterford is acquiring property and/or easements along its southern boundary abutting the Tuolumne River. The purpose of the Tuolumne River Parkland Acquisition Program is to protect an important environmental resource along the river. The river provides habitat corridors for fish and wildlife. It also serves the functional purpose of carrying off storm water runoff during the rainy season.

The ultimate goal of the Tuolumne River parkland project is to preserve and enhance existing passive recreational uses along the riverfront area and provide for development of new public recreational uses.

Mini-Parks These parks accommodate casual, spur of the moment recreational needs and function more as an extension of the front yards of adjoining residents. Facilities within mini-parks should be flexible but should also meet the needs of a changing neighborhood population.

At the same time they can be tailored to the landscaping characteristics of the neighborhood. For instance, tot-lots could be provided in neighborhoods heavily populated by children. Elderly

residents may desire meeting places or garden areas.

Teen-agers may prefer surfaced courts for ball games, rollerblading and skateboarding. Mini parks may be developed in new residential areas, but due to the size, maintenance costs and limited recreational value, additional min-parks are not recommended for the City. The City has considered reducing its current inventory of this park type by possibly selling the undeveloped Triangle and Bretheren parks.

Neighborhood Parks These parks serve a larger area than a mini-park and have a wider variety of facilities to serve a larger and more diverse population. They are generally about 5 acres in size and serve an area of approximately one-half mile radius. Facilities within neighborhood parks vary depending on the recreational resources available in the neighborhood. Some neighborhoods may have school facilities, which supplement the City's park facilities resources.

In some instances, neighborhood park facilities approach community park standards (i.e., swimming pool, lighted baseball diamonds and community meeting hall). Although there is a hierarchy to parks, there also exists certain overlap among the different levels of parks and their uses.

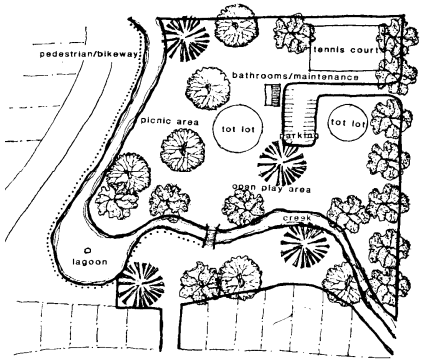


Figure PF-1 A typical Neighborhood Park provides a variety of recreation and open space elements for all age groups.

Community Parks These parks serve significant portions of urban area based on size and type of facilities. As a minimum, a community park serves several neighborhoods. A community park is the nucleus of the park system and is usually the location where members of the community congregate for city-wide functions or programs.

The community park is usually 15 acres in size and includes neighborhood playground facilities as well as appropriate facilities for city-wide use. Or, it may be more open space oriented providing the community a break within the urban environment or contact with nature and pleasant surroundings in which to engage in a variety of active and passive recreational activities.

Features of a community park may include large picnic areas, swimming pool, baseball diamonds, nature trails, soccer fields, playgrounds, community building or other city-wide activity areas.

Regional Parks These parks serve the regional needs of the region based on size and type of facilities. As a minimum, a regional park serves several

urban areas and is linked to normal recreation (ball fields, playgrounds, etc.), but is linked to a major natural resources such as a lake or the river. A regional park is the nucleus of the county-wide or regional park system.

The regional park is usually 35 to 50 acres in size and can include a variety of recreation facilities as well as appropriate facilities for region-wide use. Or, it may be more open space oriented providing linking a natural resource area, such as a lake or river to visitors to the nature and pleasant surroundings in which to engage in a variety of active and passive recreational activities.

Features of a community park may include large picnic areas, swimming pool, ball fields, nature trails, playgrounds, community buildings or other region-wide activity areas.

Location Standard When feasible, use the following criteria to locate parks:

a. No household should have to walk more than approximately one-half to three-quarters of a mile to a park site.
b. Parks should be located adjacent to schools as much as feasible.
c. Provide visual, pedestrian and vehicular access to all parks by requiring them to front on public streets on as many sides as possible and not be surrounded by privately owned property. Adequate parking facilities should be provided.
d. Neighborhood park sites should front on at least one side on a collector street, with the remaining sides on local streets. Community or Regional parks may front on arterials or major collectors.
e. Park sites should be located so as to incorporate naturally-occurring open space features, such as significant stands of trees, riparian and wildlife habitat, scenic vistas, and creeks and drainage canals.
f. Park sites should be located adjacent to bikeway facilities.
g. Park sites should be located near higher-density residential areas as much as possible.
h. Parks should have access to nearby subdivision and greenways by means of cul-de-sacs, access easements, etc.

School Park Facilities:
A5-to 10-acre neighborhood park should be associated with each elementary and junior high school. These schools and school parks should be centrally located, placed at the edge of a neighborhood center and along greenways when possible.

Greenways and Linear Parks Standard*:*
There should be at least 1.75 acres of greenways or linear parks provided per 1,000 residents. Greenways should be designed in association with bike paths, trails and pedestrian-ways and follow the river corridor, local creeks and canals, power line easements, etc.

Linear park design should emphasize access. Access has a major effect on whether a linear park is used. If a linear park is hidden, tucked away in a neighborhood, enclosed by high fences and non-maintained, the public may avoid using them and they may become unsafe.

Linear Park Design & Improvement Standards When feasible, the following criteria to design and develop greenways or linear parks should be used:

a. Activities are generally passive in nature.
b. Linear parks and greenways should be at least 50 feet wide.
c. Paved pathways should be designed to accommodate maintenance and patrol vehicles.
d. Adjacent land uses should be protected by fences or other features to control access.
e. Natural areas in greenways or linear parks should be maintained for fire and weed abatement.
f. Developers should be encouraged to provide pathways within their proposed developments to link with the City's overall linear park system.

Neighborhood Park General Standard: Neighborhood parks should be distributed so most areas are less than one mile from any park. Within any square mile quadrant bound by arterial roads a total of 1.50 acres of neighborhood parks should be provided per 1,000 residents in the City.

In the location, design and maintenance of neighborhood parks, it should be kept in mind that they are fundamental features of livable and enjoyable higher density neighborhoods. Neighborhood park sites should reinforce retail and residential areas by creating "town squares" suitable for informal gatherings, public events, as well as recreation. Neighborhood parks should create a formal focus in a neighborhood area.

Neighborhood Park Design & Improvement Standards When feasible, the following criteria to design and develop neighborhood parks should be used:

a. The acquisition of neighborhood parkland should occur far in advance of its need.
b. The construction of a neighborhood park should occur when the area it will serve reaches about 75% developed (measured by either acreage or population).
c. Neighborhood parks should be no smaller than about three acres in size, with optimum size being 5 acres.
d. At least 50% of the site should be flat and usable, and provide space for both active and passive uses.
e. Appropriate facilities include:
    - Unstructured open play areas and practice sports fields
    - Children's playground
    - Basketball courts
    - Tennis courts
    - Picnic Areas
    - Shelter building
    - Trails and/or pathways
    - Natural open space
    - Site amenities (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.)

Community Park General Standard: There should be at least 1.75 acres of community parks provided per 1,000 residents. Community parks are usually 15 acres in size or greater. Community parks are major recreation facilities and contain many ball fields, play areas, picnic opportunities and other facilities.

Community Park Design and Development Standards When feasible, at least two-thirds of the site should be available for active recreation use and buffers of open space should separate areas from nearby homes. The following criteria to design and develop community parks should be used:

a. Because of the size, the acquisition of community parkland should occur far in advance of its need.
b. The construction of a community park should occur when the area it will serve reaches about 50% developed (measured by either acreage or population).
c. Community parks should be no smaller than about ten acres in size, with optimum size being 15 acres.
d. Appropriate facilities include:
    - Designated sport fields – softball, baseball, soccer, etc.
    - Sand or grass volleyball courts
    - Open multi-use grass area
    - children's playground
    - Restrooms
    - Picnic area
    - Picnic shelters
    - Trails/pathway system
    - Site amenities (picnic tables, benches, bike racks, drinking fountains, trash receptacles, etc.)

Regional Park Standard:
Regional parks, within the setting of the City of Waterford, occupy a unique position. Given the economic circumstances of the community, its isolation from mainstream transportation systems, and vast natural resource amenities, recreation is one of the main non-agricultural industries that can be developed in Waterford and the region.

In this regard, regional park facilities serve as both a "recreation" resource to the community and a primary industry. In the context of regional park planning within the City of Waterford, these regional facilities can be privately owned and operated recreation facilities such as resorts, stables, golf courses, water-parks, and similar types of "for-profit" types of recreation. Regional parks can also be in the form of conventional public facilities that include nature areas, improved sport facilities, services, concessions, etc.

There are no set regional acreage standards for regional parks. The acreage of the park should be established in accordance with regional needs and the types of regional recreational resources the park is designed to accommodate. Regional parks are usually 30 acres or greater in size.

Regional Park Design and Development Standards When feasible, at least one-quarter of the site should be available for active recreation use. Buffers of open space should separate areas from nearby homes use the following criteria to design and develop regional parks should be used:

1. Because of the size, the acquisition of parkland should occur far in advance of its need.
2. The construction of improvements in a regional park should occur as resources become available. Typically, nature trails or other access amenities are not costly and

can be developed over time with limited budgets.

Regional parks should be no smaller than about 30 acres in size, with optimum size being 50-acres. Golf courses and some resort types of developments will require 150 acres in site area or more.

Two regional parks are located at the eastern and western limits of the Tuolumne River Park/Trail system. These parks are intended to be developed with "trail head" type of facilities and services for the Tuolumne River Trail system as well as meet other regional recreational needs.

6.2.8 Library and Cultural Services Brief Background The City of Waterford relies on Stanislaus County for library services. The Stanislaus County public library system serves the Waterford community through its library located on "E" Street. The system offers books, books on tape/cd, videotapes, magazines, newspapers and premium online databases. These items may be requested at any branch and can be transferred to the preferred locations by the library's delivery system, usually within a few days.

Service Standard Provide an environment in which community literacy and cultural opportunities are enhanced.

6.2.9 General Public Facilities
Brief Background. The City of Waterford owns and operates several community facilities to serve the needs of its citizens. Community facilities include City Hall, located at 320 "E" Street, the City corporation yard, the City waste water treatment facility, the library and the community center, located at Beard Park.

In partnership with the County of Stanislaus, the City of Waterford has acquired a site to develop new City of Waterford administrative offices, a new east county sheriff's substation, and an expanded County branch library. Several locations were explored, and the chosen site is located along "E" Street between Yosemite Boulevard (Hwy 132) and Welch Street.

Service Standard Provide high quality community facilities to serve Waterford's diverse existing and future needs.

Location Standard General public facilities, including the City Hall, should be located to facilitate access with adequate parking for the convenience of the public.

Other Infrastructure
The issues affecting the placement and/or relocation of additional transmission lines are aesthetics, the possible reduction of usable land, and the safety of surrounding residents. In order to reduce visual impacts, transmission lines rated below 45 KV should be underground when possible; this also reduces maintenance costs.

The placement of distribution and transmission lines, whether under-ground or above, affects the use of land by restricting the placement of most structures within utility easements. The use of large amounts of land for public utility easements also removes land from

the tax roles. The safe placement of transmission lines and towers reduces and/or eliminates hazards between structures, and crop dusting activities.

Demand for additional electric service will occur with the residential, commercial and industrial growth projected in the Land Use Element. The Modesto Irrigation District (MID) and PG&E have indicated that electricity and gas are readily available to accommodate growth throughout the entire San Joaquin Valley through the year 2025 and beyond. Future development will necessitate the rerouting of some transmission lines and may require an additional MID substation.

There is no immediate need to abandon any of the canals as a result of development of agricultural parcels within the Waterford SOI. However, many cities do require the undergrounding of drains and canals as urban development replaces agricultural land. This reduces safety hazards, minimizes any disruption to local road networks and increases canal efficiency. This solution is costly however, and unless MID changes its policy, development adjacent to canals will only be required to fence off their areas. The City will work with MID on this matter to arrive at a satisfactory solution.

6.3 PUBLIC SERVICES AND FACILITIES PLANNING

6.3.1 Brief Background

Waterford's future growth will require planning for the expansion of its infrastructure. Infrastructure is the underlying foundation of a city, constituting basic public services used to support and serve urban development. It is what the City relies upon as a framework to provide and maintain a healthy and safe urban living environment.

The purpose of the Public Facilities Chapter of the City of Waterford general plan can be stated as follows:

To give guidance to City officials on the provision of high quality, well maintained, physical systems and facilities that serve the social, economic, cultural, safety, and other needs of the community, and that are equitably distributed and are available at the time of development to serve new growth.

This chapter contains six main policy areas:

- Adequate public facilities and services,
- Funding for capital facilities,
- Programming for capital facilities,
- Maintenance of capital facilities,
- Economic development and neighborhood revitalization, and
- Capital facilities location and design.

These six major policy areas have been approached from several directions. They must address the necessary state, regional and county coordination, the capital facilities requirements of Waterford, and they must relate to other planning areas such as land use, transportation, and utilities.

6.3.2 Adequate Public Facilities and Services

It is the intent of the City to provide adequate public facilities and services for both existing and new development. Such facilities and services will be designed to meet the capital facility

needs of the community and to support the City of Waterford land use growth and development concept.

The City recognizes that the provision of facilities and services is necessary in a community to provide for the health, safety and welfare of the community.

Such facilities and services are, potable water, sanitary sewer, storm water management, law enforcement, fire, emergency medical service, schools, parks, libraries and City administrative facilities (City Hall, the City Council chambers, etc.). The City of Waterford intends to provide these facilities and services concurrent with development impact or within a reasonable time. The City intends to monitor the level of service provided for such facilities and services on a regular basis to ensure they are adequate and that appropriate levels of capital resources are expended.

Certain types of the above-mentioned facilities are difficult to site because of their nature, but are still essential to the city, county, region or state. Many of these facilities are ones that serve an area or population larger than the city itself. The City of Waterford intends to encourage such facilities to locate within the City as appropriate. In siting such facilities, the surrounding land uses, land use compatibility, the capital facility needs of the community and region, and financial considerations should all be reviewed.

In the long term, approximately 20 years, the City of Waterford intends to achieve or exceed the level of service standards common in other urban areas of Stanislaus County. This process will occur in accordance with the capital improvement planning (CIP) process and the requirements of AB 1600 and related state statutes with respect to impact fee implementation.

When designating level of service standards, the City of Waterford will consider the public health and safety, community goals and desires, funding resources available and possible phasing of standards to achieve the desired level of service.

Because adopted level of service standards affect the amount of growth and development, the quality of public facilities and services, and the amount of taxes and impact fees, the City will establish reasonable standards that allow orderly growth and development and that are within the City's financial capacity.

6.3.3 Funding for Capital Facilities

Finding money for capital improvements has become increasingly difficult. The cost for new projects and for rehabilitation of old facilities is increasing beyond what cities can afford. Also, the citizens are becoming reluctant to tax themselves further via general obligation bonds to pay for expensive facilities unless there are compelling reasons for the improvements.

Besides bonds, other common sources of money are state and federal grant programs. These funds are usually restricted to specific types of improvements and are often one-time funds for unique purposes. Therefore, such grants limit the local facilities and programs for which they are available.

In spite of the financial obstacles facing local governments today, the City of Waterford intends to provide funding for adequate public facilities and services for existing development and new growth.

The City will review its entire financial picture on a regular basis to ensure knowledgeable and appropriate expenditures are made to meet the capital facility needs of the community. The City of Waterford will review existing revenue sources and develop potential new sources to fund capital facilities needed for new growth, community revitalization and economic development, and for the maintenance of existing facilities.

6.3.4 Programming for Capital Facilities

A *Capital Improvement Program* (CIP) shall be prepared, adopted and maintained by the City. The City intends to coordinate the selecting and budgeting of all capital projects and to review, update and modify capital projects on a regular basis in order to ensure the provision of adequate public facilities and services.

The community's capital facility needs and its financial capacity will be reviewed systematically and regularly to facilitate appropriate and informed decisions regarding capital facility projects and expenditures. In reviewing capital facility needs, the needs of the county and region will also be considered. This systematic review must be consistent and contain all identified funded and unfunded capital projects. The purposes of the CIP are to:

- Identify present and future needs for physical improvements in the City.
- Identify the potential costs of requested improvements.
- Identify possible sources of revenue to pay for the requested improvements.
- Develop a procedure for the city council to set priorities among requested improvements.
- Promote coordination of construction programs among public agencies and private interest.
- Provide an effective tool for implementing the general plan.

Level of Service Standard

The City has limited resources to allocate among the several capital facility planning areas. By establishing the level of service standards for each of the capital facility planning areas and adjusting the available revenues, the City establishes the relative priorities among the types of facilities. Priorities also need to be considered and set for different capital improvements or projects within any given type of facility or service. These decisions will be made each time the City performs its capital facility programming. In making such decisions, revenues, generally, should be allocated in accordance with the following priority listing:

1. Repair, remodeling, renovation or replacement of obsolete or worn out facilities that contribute to achieving or maintaining standards for established levels of service.

2. New or expanded facilities that reduce or eliminate deficiencies in levels of service for existing demand.

3. New facilities and improvements to existing facilities that eliminate public hazards not otherwise eliminated by facility improvements prioritized under 1 or 2 above.

4. New or expanded facilities that provide the adopted levels of service for new development and redevelopment during the next six fiscal years. If the planned capacity of facilities is insufficient to serve all applicants for development permits, the projects should be scheduled to serve development in the following priority:

   (a) previously approved permits for redevelopment,
   (b) previously approved permits for new development,
   (c) new permits for redevelopment, and
   (d) new permits for new development.

5. New facilities and improvements to existing facilities that significantly reduce the operating cost of providing a service or facility or otherwise mitigate impacts of facilities on future operating budgets.

6. New facilities that exceed the adopted level of service standards for new growth during the next six years by either providing excess capacity that is needed beyond the next six years or by providing higher quality facilities than usual City design specifications for the facility.

7. Facilities not described by 1 through 6 above, but which the City is obligated to complete by a written agreement executed prior to the adoption of this plan.

Improvements that provide level of service standards beyond the adopted level may be constructed. However, such improvements must not make improvements needed to achieve or maintain the adopted level of service standard financially infeasible and must be consistent with the goals and policies of the *City of Waterford Vision 2025 General Plan*.

This review of capital projects and their funding should be performed at least biennially as part of the City's budget process for two reasons. The first reason is to ensure an ongoing review of capital needs. The second reason is so the capital and operating budgets can be considered together.

Traditionally, in times of fiscal restraint, allocations for capital improvements are reduced or eliminated because of operating costs. However, because of the City of Waterford’s intent to provide adequate public facilities and services to serve existing and new development, capital improvements can no longer be put on the back burner.

Actual revenue does not always match projected revenue. In cases where revenue falls short of the projection the City will review the capital facilities programming effort and reassess its overall growth strategy.

Occasionally, unexpected money becomes available through donations or new grant programs. In some instances, the City may use such funds for capital improvements.

Additionally, new growth and development will be expected to support

the overall capital facility goals of the City and financially participate in the maintenance of the City's existing infrastructure improvement/maintenance efforts.

The selecting of capital projects and budgeting process will also require coordination among the City departments and other agencies that provide capital facilities and services as well as coordination with other jurisdictions and on the regional level. Coordination will also be required between the various elements of the *City of Waterford Vision 2025 General Plan*. It is especially important for the capital facilities program to be consistent with the land use, transportation and other elements of this Plan.

Another issue concerning the selecting and budgeting of capital projects is the fiscal impact of major public projects or projects involving the expansion of capacity or service areas. The City of Waterford intends to consider the fiscal impacts of such projects when deciding what projects to develop and budget.

6.3.5 Maintenance of Capital Facilities

Maintenance of existing capital facilities is important to protect the public's investment in them. The City intends to maintain its capital facilities. One way to ensure such maintenance is through a comprehensive maintenance program. Any comprehensive maintenance program should contain an inventory of existing facilities including:

1. Facility age
2. Condition
3. Extent of use
4. Remaining useful life
5. Maintenance history.

This complete assessment of existing capital items helps in determining future maintenance, repair and replacement needs and is necessary to make good investment decisions.

In order to choose between maintenance, repair, replacement or abandonment of an existing capital facility, it is necessary to know the condition and the rate of deterioration and compare this with the costs of and needs for a new facility. Other advantages of routine preventative maintenance include the possible reduction or postponement of replacement costs and the avoidance of unexpected costs and emergency repairs.

The maintenance and replacement of existing capital improvements must be considered first before planning for major investments in new facilities. The expected use, demand and future growth of the City needs to be compared to see if the current capital facilities can meet the needs of the future. The City of Waterford intends to consider the maintenance, rehabilitation or reuse of existing facilities as one way to meet the capital needs of the population.

The City will consider requests for maintenance and repair of capital investments and requests for new capital facilities concurrently, because maintenance or possible upgrade of existing facilities may be a viable method of meeting the community's needs.

Evaluating maintenance needs at the same time as requests for new facilities, gives the City the entire capital needs

picture. All the necessary information to make selection and expenditure decisions will be available and the decision makers can determine whether existing facilities can meet the community's capital needs, or whether new facilities will be necessary.

Finally, the City intends to consider the future maintenance and repair costs of new capital items when making selection and expenditure decisions on new capital facilities. It may well be that a change in design or materials could result in future maintenance savings. If the City cannot pay for subsequent operating and maintenance costs of a facility, that facility should not be provided.

6.3.6 Economic Development and Neighborhood Revitalization

Economic development and neighborhood revitalization are two very important concerns of the City of Waterford. They are both vital to a community's health and well-being and they are directly related to the quality of life of the community's citizens.

Capital improvements are one of the most direct ways that officials can influence the development of their city and neighborhoods. It is perhaps the best method of transforming plans into reality. Therefore, linking economic development with capital facilities planning is essential. Providing quality infrastructure is also crucial to a community's economic development and its neighborhood quality.

As funds for capital expenditures become increasingly scarce, the City will be trying to achieve maximum leverage from its public investment. It is the City's intent to strategically use public funds to assist and encourage private investment and development that will foster economic diversity and viability and preserve quality neighborhoods. The City intends to allocate resources to strengthen the economic base, diversify industrial and commercial enterprises, increase employment opportunities, increase the income level of residents, and enhance and revitalize its neighborhoods.

Because capital needs often exceed the ability to pay for them, choices must be made and the potential return to be gained from different capital improvements takes on a significantly greater importance. Therefore, the City of Waterford intends to use its limited resources to its best advantage by strengthening the link between economic development planning and capital facilities planning, and emphasizing the support role that infrastructure and capital improvements provide to development and neighborhoods.

In the past, a link between economic development and capital facilities planning has existed, but it needs to be strengthened. Economic development planning in the City has tended to focus on responding to specific needs and requirements of specific firms and industries. It is a flexible process that is able to respond to changing demands and needs. Capital improvement planning is longer term and hence is difficult to use to foresee economic development needs and opportunities.

More closely linking these two types of planning will provide great benefits and will improve both economic and capital

facilities planning. The long-range nature of capital facilities planning will force economic planning to look farther into the future and to analyze the entire economic community rather than focusing on individual businesses.

This will allow the City of Waterford's economic needs to be identified and goals to be established. Once economic goals are developed, the City can begin to identify what public investments are needed to support these objectives. Enlistment of the private sector in identifying needs, developing goals, and setting objectives will be beneficial.

Historically, infrastructure and capital improvements were used extensively to attract development to a community. The relationship between public infrastructure and private investment was one of the most critical incentives to allocate funds for improving and building capital facilities. The building of infrastructure was considered an investment that was paid off by private economic activity.

Today, most of the city's infrastructure is in place and its capacities established. The economic advantage of having infrastructure and capital facilities is less clear because most other cities also have such facilities. However, the quality and type of infrastructure available is an important factor in a business's decision on where to locate originally and on whether to expand at an existing location or to move.

It is also important to residents and potential residents. Because a deteriorating infrastructure may well be an economic deterrent, it is desirable for the City to maintain its facilities to both attract and retain private enterprise and residents. Therefore, the City of Waterford intends to emphasize the role that infrastructure and capital facilities play in the development of the City and the quality of its neighborhoods.

6.3.7 Capital Facilities Location and Design

The location and design of capital facilities are important to a community and have become two of many issues which cause citizen concern. The siting of facilities must complement the needs of the public and environment and ensure compatibility with surrounding land uses. The City of Waterford intends to meet the needs of the community:

- By providing public facilities and services that are equitably distributed throughout the community,
- That are located and designed to be safe and convenient to the people they serve,
- That provide flexibility of use and maximum efficiency, and
- That are compatible with adjacent uses and the environment.

Siting of future facilities will become increasingly difficult as the available supply of land diminishes and because, in some cases, public reaction to siting choices may be negative. Also, siting of capital facilities is not always considered prior to providing service to new development; this can leave poor choices for placing facilities. Some facilities are more difficult to site than others.

The City realizes that all capital facilities, including those that are difficult to site, provide needed public

services. The City of Waterford will coordinate with other jurisdictions in the region to site capital facilities and will not exclude such facilities from its jurisdiction. The City will also work with surrounding jurisdictions to identify lands useful for public purposes, some of which would be appropriate for capital facilities.

Because capital facilities may serve the community for long periods and become a part of the community, their design is important. The City intends to consider aesthetics in the design of all public facilities subject to public view.

Facilities should be located and designed to create a minimum disturbance of the aesthetics, social interactions, and urban design of the community. Public projects should provide for public access and should include elements for public use and enjoyment such as landscaping, furniture, art and lighting, where appropriate. Landscaping should be provided to beautify and screen areas and to improve compatibility with adjacent development.

Landscaping should be designed to provide variety similar to that observed in the neighborhood with special consideration for drought tolerant plants that conserve water and help ensure plant survival. Naturally occurring land forms and ecosystems should be protected and enhanced where possible. Parking lots for public facilities should be limited in area and visual impact.

6.3.8 Capital Facilities & Infrastructure Extension to Future Growth Areas

Planning and development of new capital facilities and infrastructure is done typically to implement new technologies, replace warn out facilities or to extend services and facilities in response to new growth needs. Most new growth needs occur in areas outside the existing urban setting of Waterford.

When extending municipal services and facilities to areas being converted to urban uses, special consideration needs to be given to the timing and location of infrastructure development programs to assure that these new and extended facilities enhance or at least complement existing City facilities. In this regard, that all new growth areas should be adjacent to existing urban development and should not extend through areas that are not likely to be “urbanized” within the immediate future.

Furthermore, infrastructure that serves new urbanized areas must be based on the City’s comprehensive master plans for service (sewer, water, storm drain, streets, and other utilities) and should not utilize “interim” or “on-site” solutions that would hinder the City from achieving its long term infrastructure goals or implementing its long term public services planning efforts.

The extension of Waterford’s municipal services and utilities to presently undeveloped areas of the City should fully implement the public services and facilities plan or identify areas where the plan is deficient or can be improved.

In all cases, it is the policy of the City of Waterford that ***New Urban Growth Shall Improve the Circumstances of the City of Waterford and Benefit the Community as a Whole***. This is particularly true with respect to the impact of urban expansion on the City's services and infrastructure. ***In no case will the City consider adding a new urban area to the existing City limits where that addition can be found, by the City Council, to adversely impact the current level of urban services in the City, or result in costly new improvement costs that would need to be born by the citizens of Waterford.***

6.4 PUBLIC SERVICE GOALS

Waterford Public Services and Facilities

GOALS

- **Adequate Public Services and Facilities to Meet the Needs of the City's Residents**
- **Cost-Effective Public Service Delivery Systems and Facilities**
- **Public Services and Facilities Standards that are Applied Uniformly Throughout the City**

POLICIES

PF-1.1 Establish and Maintain Adequate & Uniform Municipal Infrastructure and Service Standards.

PF-1.2 Establish and Maintain a Program for Cost Effective Operation and Maintenance of Municipal Services and Facilities to Meet Community Needs**.**

PF-1.3 Establish and Maintain a Program for Cost Effective Expansion of Municipal Services and Facilities to Meet Future Community Growth Needs.

PF-1.4 Establish and Maintain Facility Maintenance Programs that Assure Maximum Utilization of Capital Equipment and Facilities.

PF-1.5 Assure that Expansion of the City Results in the Enhancement of Municipal Services and Facilities within Waterford Without Increasing Costs to the Existing City.

Policy PF-1.1
Establish and Maintain Adequate & Uniform Municipal Infrastructure Service Standards.

Service Standards for all municipal services and facilities evolve through time as a result of improved technology and an overall public expectation that "life is improving" as a result of effective governmental management. At the same time, newly developing areas tend to have improvements and services that reflect modern technologies and design strategies that create differentials between neighborhoods and areas within the City.

Implementing Actions:

1.1.a Maintain and periodically review and update City level of service standards for each type of public facility and service provided in the City in accordance with appropriate nationally recognized service standards.

1.1.b Periodically educate staff, administrators and policy makers regarding technological innovation that can be used to improve service standards and reduce costs of maintaining established service standards

1.1.c Through long-range coordinated planning, anticipate utility and other public service needs of possible future annexation areas, and develop strategies for extending the benefits of these future improvements to existing service areas.

1.1.d Pursue advanced telecommunications technology improvements throughout the City in both public and private sector infrastructure and improved operational capacity.

1.1.e Evaluate the implications and costs of application of new service standards to older areas of the City and develop strategies for upgrading these standards City-wide at the time of updating the Standard.

1.1.f. Municipal Service Standards shall be established in the City's Capital Improvement Program (CIP) and reviewed periodically as part of the CIP Update and Implementation process.

1.1.g Review and coordinate Service Standards/Specifications with adjoining service jurisdictions for purposes of promoting compatibility.

Policy PF-1.2
Establish and Maintain a Program for Cost Effective Improvement of Municipal Services and Facilities to Meet Community Needs.

Improvements in the cost-effective operation and maintenance of public facilities and to assure that public services are provided in a manner that is also cost-effective periodic review and monitoring of existing operations is required.

Implementing Actions:

1.2.a. Utilize the City's capital improvement planning (CIP) process to identify and prioritize capital improvement and facility needs for the City.

1.2.b. Cooperative arrangements for joint use facilities, such as school and park facilities, should be studied for opportunities to reduce duplication and improve service delivery and facility use.

1.2.c Carefully evaluate potential benefits to be gained by the development of proposed capital facilities with the City's ability to operate and maintain such facilities.

1.2.d Coordinate identified municipal service standards with facility needs in the City's long-term list of needed capital improvement and facility needs.

1.2.e Apply redevelopment tax increment financing techniques for the improvement/replacement of infrastructure in older portions of the City**.**

1.2.f Support and encourage efforts of cooperative planning, design and development of public facilities with other government jurisdictions and with the private sector to maximize efficiency, reduce costs, and minimize impacts on the environment.

1.2.g Study the development of capital improvement projects that improve the City's operational efficiency or reduce costs by increasing the capacity, use, and/or life expectancy of existing facilities.

1.2.h. Encourage the adaptive reuse of existing buildings as community or public

facilities in recognition of scarce resources.

1.2.i. Consider the maintenance, rehabilitation, or reuse of existing facilities as one way to meet the capital needs of the population.

1.2.j.Promote public improvement projects that also stimulate the economy by expanding employment opportunities, by strengthening the tax base, or by encouraging private investment opportunities.

1.2.k.Stress the development of capital improvement projects that promote tourism and convention trade.

1.2.l.Encourage capital improvements in areas in need of neighborhood revitalization.

1.2.m.Emphasize capital improvement projects which promote the conservation, preservation or revitalization of commercial, industrial, and residential areas of the city

1.2.n.Initiate and encourage programs to improve and maintain the physical environment of the business community.

1.2.o.Improve opportunities for new businesses and commercial developments to locate in a well-balanced system of competitive centers.

1.2.p.Recognize that the needs for public safety services may vary with the characteristics of the different neighborhoods and their residents, and provide services to each of the neighborhoods at a level commensurate with the needs of each.

Policy PF-1.3
Establish and Maintain a Program for Cost Effective Expansion of Municipal Services and Facilities to Meet Future Community Growth Needs.

Expansion of infrastructure and services needs to be coordinated with other utility and service providers and advance planning needs to occur with respect to "backbone" system improvements in advance of need.

Implementing Actions:

1.3.a The City shall prepare and maintain master plans for the provision of sewer, water, storm drainage, streets and roadways and other public facilities and infrastructure for the service of the existing City and for the planned expansion of the City boundaries.

1.3.b. New development shall not be approved unless adequate public facilities or services needed to serve the development are available at the time the demand for the facility or service is created or within a reasonable time as determined by the City.

1.3.c Through coordinated long-range planning, anticipate utility and other public service needs of possible future annexation areas, and when feasible, develop utility capacities to meet these needs. Coordinate with MID and PG&E, and communication service providers on the future rerouting of transmission lines to accommodate growth throughout the City.

1.3.d. Growth and development throughout the urban area should be regulated, stimulated, and otherwise guided toward the development of compact concentrated

areas to reduce cost and operating inefficiencies, facilitate economical and efficient provision of adequate utility service, public facilities and public services, and expand transportation options to the public.

1.3.e Establish and maintain a growth impact fee program that adequately supports the costs of developing new public infrastructure providing municipal services to new residents, businesses and industry.

1.3.f. Promote capital projects that are energy efficient or enhance energy conservation efforts by the City and its residents.

1.3.g. Promote expansion of established community facilities, where appropriate, to allow for their continued usefulness provided the neighborhood and area are not detrimentally affected.

1.3.h. Encourage the design of new and the improvement of existing community facility sites and structures in a manner which permits their intended functions to be performed safely, efficiently and effectively and which minimizes ongoing maintenance costs.

1.3.i Locate community facilities so as to be convenient, safe, and close to the areas they serve, with access to arterial streets and public transportation.

1.3.j. Encourage community facilities to be located and designed to obtain maximum flexibility, utility, and multiple use.

1.3.k. Encourage the acquisition of building sites for public and quasi-public purposes to be of sufficient size to meet future as well as present needs.

1.3.l. Consider land use compatibility, capital facility needs, and financial costs when siting essential public facilities.

Policy PF-1.4
Establish and Maintain Facility Maintenance Programs that Assure Maximum Utilization of Capital Equipment and Facilities.

All capital improvement programs and facility development programs must consider long term costs of facility and or system maintenance and operation and the long term impact on the City's budget.

Implementing Actions:

1.4.a. Continue to develop facility and equipment maintenance and replacement schedules to assure maximum utility of public assets.

1.4.b. Coordinate with the state, the Stanislaus County Council of Governments, Stanislaus County, and other adjacent local government agencies in an effort to provide a set of standardized codes and regulations relating to capital facilities and community improvement within the Waterford Urban Planning Area.

1.4.c Cooperate with the State, the Stanislaus County Council of Governments, Stanislaus County and other adjacent local government agencies in joint maintenance operations such as utility line replacements and street improvements.

1.4.e Review CIP projects and priorities with respect to long-term maintenance obligations to assure sustainability of service and facilities in light of future revenue

potentials of the City**.**

1.4.f. When reviewing new development and the expansion of services and/or facilities, consider establishing local or neighborhood service/maintenance districts for services and facilities that are not City-wide in scope.

Policy PF-1.5
Assure that Expansion of the City Results in the Enhancement of Municipal Services and Facilities with in Waterford Without Increasing Costs to The Existing City.

Expansion of the City's boundaries and service area provides an opportunity for new residents to enjoy the amenities and lifestyle of residing in Waterford. At the same time, expansion of the City can result in an erosion of existing service levels. As stated in this policy, growth and expansion of the City shall result in a net benefit to the present City as a whole with respect to municipal services and facilities, or it will not be deemed appropriate for the City.

Implementing Actions:

1.5.a. New development shall contribute its fair share of the cost of on-and off-site public infrastructure and services. This shall include installation of public facilities, payment of impact fees, and participation in the maintenance and update of the City's CIP.

1.5.b Annexation proposals shall not be considered unless they contain comprehensive infrastructure plans that address the costs and timing of extending municipal services to the newly annexed area.

1.5.c. Ensure that those public facilities and services necessary to support City expansion shall be adequate to serve the development at the time the development is available for occupancy or use without decreasing current service levels below locally established minimum standards.

1.5.d. Maintain a close, collaborative relationship with the school district to maximize public benefit, and collaborate with schools, from preschool to college level, in fostering educational programs to benefit the community.

1.5.e Communicate with schools to provide access to school facilities for neighborhood and community activities, and encourage joint planning with school districts in determining the location of new educational facilities.

1.5.f. The City shall work with the school district to coordinate development to ensure the adequate provision of school facilities and during updates of the school facilities master plan.

1.5.g. Emergency service facility siting standards shall include criteria which ensures that response time standards are maintained throughout the community to the maximum degree feasible.

1.5.h In the development and review of the City's CIP, the list shall be developed that promotes an environment in which community literacy and cultural opportunities are enhanced.

1.5.i. Encourage the planning and implementation of a cultural and performing arts

program, facilities and operations.

1.5.j Extension of infrastructure to newly annexed areas shall utilize the City's master plans for sewer, streets, storm drain, water and other infrastructure.

1.5.k. Interim infrastructure improvement plans may be approved by the City, that do not conform with the City's adopted master plans, however, the developer will post appropriate bonds for the amount necessary to fully implement the master planned improvements prior to initiation of project construction.

Goal Area PF-2: Open Space for Outdoor Recreation

GOALS

- **PF-High Quality Recreational Open Space**
- **PF -Adequate Public Recreation Facilities**

POLICIES

PF -2-1 Provide high-quality park and open space facilities to serve the needs of a growing population.

PF -2-2 Maintain the City's existing high-quality open space facilities.

PF -2-3 Develop a diverse and integrated system of park facilities throughout Waterford.

Policy PF-2-1
Provide High-Quality Park and Open Space Facilities to Serve the Needs of a Growing Population.

The City of Waterford has benefited from the foresight of early leaders in the City's development with respect to parks and open space. The City's growth has historically incorporated its natural open space resources along the Tuolumne River and other lesser drainage courses into an overall open space network which has become a major source of civic pride. The City is committed to continuing this high standard of park and open space development in the expansion areas to the north and south of the existing city.

Implementing Actions:

PF -2-1a Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation and open space needs of an expanding population.

Overall, a total of 5 acres of parkland should be provided per 1,000 residents in the City, of which 1.5 acres should be in community parks and 3.5 acres should be in various forms of neighborhood parks, including village greens, school parks and other neighborhood parks. "Greenway" trails should provide bicycle and pedestrian access throughout the City and its growth areas. Additional "regional" park facilities will be required to meet the regional recreation needs of the County and support the recreation economy of the City and County.

PF -2-1b Continue to implement the City's Parks and Open Space Master Plan and undertake a comprehensive update of the plan after adoption of the general plan.

The City's Parks and Open Space Master Plan provides specific system design and implementation standards for the development of the City's park system. This plan serves

as a basis for requiring development recreation dedications as well as a guide for public facilities expenditures in the parks and recreation category. This plan requires periodic update and will need to be revised to reflect the City's expanded growth area and the parks and open space opportunities.

PF -2-1c Continue to encourage joint use agreements between the City and local school districts to combine park and school facilities when feasible.

This policy supports and complements other joint use facility policies of the Public Facilities chapter of this general plan. A 5 to 10 acre neighborhood park should be associated with each elementary and junior high school. These schools and school parks should be centrally located, placed at the edge of a Village or neighborhood center, and along greenways, when possible.

PF -2-1d Use the City's park dedication ordinance to develop the City's park system.

When feasible, use the following criteria to locate parks:

a. No household should have to walk more than approximately one-half to three-quarters of a mile to a park site.
b. Parks should be located adjacent to schools as much as feasible.
c. Provide visual, pedestrian, and vehicular access to all parks by requiring them to front on public streets on as many sides as possible and not be surrounded by privately owned property. Adequate parking facilities should be provided where needed.
d. Neighborhood park sites should front on a collector street on at least one side, with the remaining sides on local streets. Community or regional parks may front on arterials.
e. Park sites should be located so as to incorporate naturally-occurring open space features, such as significant stands of trees, riparian and wildlife habitat, scenic vistas, and creeks and drainage canals.
f. Park sites should be located adjacent to bikeway facilities.
g. Park sites should be located near higher-density residential areas as much as possible.
h. Parks should have access to nearby subdivisions and greenways by means of cul-de-sacs, access easements, etc.

PF -2-1e Design and develop parks which are compatible with adjacent land uses through the establishment of a park planning process that is responsive to community and neighborhood input.

Existing parks should be evaluated periodically by the Recreation and Parks Commission to ensure that they are meeting the needs of the neighborhoods in which they are located, and programs for expansion/ relocation/reconfiguration should be established when needed.

Policy PF-2-2
Maintain the City's Existing High-Quality Open Space Facilities.

Resources for parks and recreation programs and facilities are derived from the same sources which go to provide essential public services such as public protection. Within the municipal finance structure of the City, it can be expected that other municipal needs

may limit the resources which can be dedicated to maintaining and improving existing park and recreation facilities. At present, park and open space expansion is funded largely though exactions and dedications resulting from growth and development. These resources cannot necessarily be applied to the maintenance and upgrading of existing facilities. For these reasons, the City is committed to exploring new alternatives for meeting the park and open space maintenance obligations for existing facilities.

Implementing Actions:

PF -2-2a Design park facilities so that a high quality of maintenance will occur with the minimum effort.

This should include the use of sturdy, low-maintenance plant materials, equipment, and surfaces. Where practical, existing facilities should be upgraded utilizing low maintenance materials and design techniques.

PF -2-2b Encourage community participation in park maintenance and improvement programs.

Community and neighborhood groups should be encouraged to "adopt-a-park" or playground and become involved in the planning, upgrading, and maintenance of the park and its facilities. Monthly or semi-annual neighborhood park special events or programs can be planned involving park users, neighborhood residents, and local service organizations in park clean-up and maintenance efforts. These events could also be used as fund raising events for needed park improvements.

PF -2-2c Explore park concession opportunities as a revenue source for park improvements and maintenance.

In appropriate park locations the City may consider establishment of concession stands or vending machine locations which could be leased to concessionaires; revenues would be deposited into a park maintenance and improvement fund. Concession operators may include local youth service groups, neighborhood or community groups, and the concessions could be operated to raise money for other charitable purposes.

PF -2-2d Involve neighborhood involvement in policing and park security efforts.

In cooperation with the Police Department, involve the "Community Action Network" or similar groups in providing park security to discourage vandalism.

Policy PF-2-3
Develop a Diverse and Integrated System of Park Facilities Throughout Waterford.

Throughout the City, a system of park and open space facilities should exist which includes neighborhood parks, community parks, greenways, and parks which are part of the urban village design concept. This park system should be developed to serve all age, social, and economic groups in all the geographic areas of the City.

Implementing Actions:

PF -2-3a Community parks should be distributed throughout the city.

There should be at least 1.5 acres of community park provided per 1000 residents. Community parks are usually 15 acres in size or greater. Community parks are major recreation facilities and contain many ball fields, playlots, picnic opportunities and other

facilities. They must be located along a greenway and should be at the junction of two greenways when possible. Greenways, streets, and landscaping should be used to minimize and buffer residences from the noise and nighttime lighting associated with ball fields.

PF -2-3b Neighborhood parks and village greens are to be located within Villages. Neighborhood parks should be distributed so most areas are less than one-mile from any park. Within any square mile quadrant bound by arterial roads, a total of 3.5 acres of neighborhood parks should be provided per 1000 residents. In the location, design and maintenance of neighborhood parks, it should be kept in mind that they are fundamental features of livable and enjoyable higher density neighborhoods. Neighborhood park sites should reinforce retail and residential areas by creating "town squares" suitable for informal gatherings, public events, as well as recreation. Neighborhood parks should create a formal focus in villages.

PF -2-3c Greenways should be designed to connect various park sites, schools, and other public places with paths exclusively for pedestrians and bicyclists. Greenways weave through the residential neighborhoods connecting larger public uses (schools, open space, commercial uses) and provide many points of physical and visual access to the park sites. Some greenways may also act as mini-parks because of play and exercise equipment placed along the paths. Greenways act as valuable greenbelts of open space through a neighborhood. Greenways should be designed in association with bike paths, trails and pedestrian ways and follow creeks, canals, power line easements, etc.

Greenway design should emphasize access. Access has a major effect on whether a greenway is used. If a greenway is hidden, tucked away in a neighborhood, enclosed by high fences and un-maintained, the public may avoid using them and they may become unsafe.

PF -2-3d Regional Parks should be designed and designated to serve both regional and local recreation needs. The regional parks system utilizes the natural open space resources of the Waterford area to meet the demands of a variety of recreational needs. These regional facilities can be either publicly or privately owned and operated. Examples of public facilities include regional ball field facilities and sports centers, open space, and passive recreation areas. Privately owned and operated regional park facilities can include golf courses, equestrian centers, shooting ranges, fishing and sports club, and recreation/resort facilities. The two regional parks designated at the east and west ends of the Tuolumne River Trail system should also be improved to provide "trail head" types of facilities and services.

6.5 IMPLEMENTATION

This section identifies implementation strategies for making decisions concerning the financing and provision of capital facilities and services. It also identifies the activities necessary to carry out those decisions. The Public Facilities Chapter is unique in that it not only contains strategies for implementation but is in itself a necessary step for implementing other elements of the *City of Waterford Vision 2025 General plan*. Successful implementation of the seven major policy areas involves coordinating all the elements of *City of Waterford Vision 2025 General Plan* and all the

components of the capital facilities planning effort.

In order for the plan to be a meaningful tool in capital facility planning, the policies need to be implemented through a variety of methods including the development of procedures and programs, the adoption of regulations and the study of potential revenue sources. The plan not only expresses a philosophy, but states specific actions in the form of strategies to assure that the philosophy gets transformed into action in administrative, legislative, and programmatic activities.

By accomplishing the recommended strategies, the City Council can be assured that actions at the staff level are consistent and compatible with their expressed intent. Both the local government officials and agency service providers can use this plan as a basis for continued joint planning of capital facilities and services.

6.5.1 Implementation Strategies

The objectives concerning the provision of capital facilities and services that are outlined in this Chapter cannot be achieved through goals and policies alone. Goals and policies provide ongoing guidance, but action to achieve objectives can only be addressed through strategies.

The "strategies" carry out the intent of the policies and may contain activities that are specific tasks required to accomplish the strategy. The strategies range from general to specific and respond to both immediate and long-term needs. Some recommended strategies may require an expenditure of money from either public or private sources, or both, while others may require a change in administrative procedures or municipal regulations. Strategies do not lend themselves to a listing by order of priority. They are all important enough to be implemented concurrently, although emphasis may be placed on one or more specific recommendations at a particular time. The Public Facilities Chapter gives more specific direction regarding implementation. Over time, individual strategies or activities will be implemented through the six-year program. At that time, the specific strategy or activity will be developed into an objective and further detail in the form of tasks will be provided.

The strategies are directed toward the seven policy areas: Adequate Public Facilities and Services; Funding for Capital Facilities; Programming for Capital Facilities; Maintenance of Capital Facilities; Economic Development and Neighborhood Revitalization; and Capital Facilities Location and Design. They are set forth below with any accompanying activities.

6.5.2 Adequate Public Facilities and Services

Strategy: Develop, implement and administer a concurrency management system to ensure provision of adequate public facilities and services.

Activities:

- Maintain and update an inventory of all facilities, including the condition and capacity of the facilities.
- Review and update level of service standards.

- Regularly review capital facility needs and adjust the concurrency management system as necessary.

6.5.3 Funding for Capital Facilities

Strategy: Continue to research and update available options to finance capital facility projects, improvements, and maintenance, and seek additional revenue sources.

Activities:

- Review existing sources of revenue available for funding of capital facilities.
- Identify potential new sources of revenue for funding of capital facilities. Include such sources in the *Capital Improvement Program*.
- Establish an interdepartmental finance team to develop and explore different financial options to be used in capital facilities management and development.
- Support efforts of the California League of Cities to develop potential amendments to state law to provide additional or greater sources of revenue for capital facilities, and work to achieve such amendments.
- Identify ways to reduce the costs of capital facilities and improvements by utilizing new materials and technologies.
- Review option of implementing a Redevelopment program in the City.

Strategy: Establish a process to determine priorities for capital investment.

- Use the interdepartmental finance team to assist in establishing such a process.
- Define the scope and range of capital investments.
- Review potential factors to use for determining priorities.
- Establish capital facilities investment priorities.

6.5.4 Programming for Capital Facilities

Strategy: Establish and use a process to review and determine the selection and budgeting of all capital projects.

Activities:

- Review and update all components of such a process at least biennially including facility inventory, level of service standards, capital facility needs, and financial capacity analysis.
- Develop a project tracking system to monitor capital project development and expenditure of funds on individual capital projects.
- Develop a financial management system to monitor the expenditure of all capital facility resources. Use the interdepartmental finance team to assist in the development of such system.
- Develop procedures concerning analysis of fiscal impact of projects meeting the threshold as defined in this Public Facilities Chapter and the City's *Capital Improvement Program* including the detail of analysis required and when it is required.
- Maintain and use the Capital Facilities Technical Team to coordinate planning between City departments, outside agencies and special districts.
- Monitor the effect of capital expenditures on the *City of*

Waterford Vision 2025 General Plan growth and development concept.

Strategy: Evaluate various methods of balancing proposed capital projects and funding, including lowering level of service standards, increasing revenue, reducing demand, and creating service areas.

6.5.5 Maintenance of Capital Facilities

Strategy: Research and prioritize various maintenance approaches.

Activities:

- Identify maintenance options.
- Prepare a cost/benefit analysis of the maintenance approaches.
- Identify the consequences of deferred maintenance.

Strategy: Develop a comprehensive schedule for the maintenance of all capital facilities including funding for such maintenance.

Activities:

- Develop and maintain a comprehensive inventory of existing facilities that includes age, condition, intent of use, useful life, maintenance history, and maintenance requirements.
- Identify a schedule for the major renovation and replacement of capital facilities that are deteriorated, inefficient, obsolete or of insufficient capacity.
- Establish a maintenance program for each new facility upon construction.

6.5.6 Economic Development and Neighborhood Revitalization

Strategy: Strengthen the link between capital facilities and services planning and economic development planning.

Activities:

- Address capital facility and infrastructure needs in an economic development plan.
- Develop a process to identify and fund the infrastructure improvements needed to meet the economic development goals of the City. Involve the business community in these efforts.
- Explore options to maximize the economic development and neighborhood revitalization impacts of capital facility improvements and expenditures.

6.5.7 Capital Facilities Location and Design

Strategy: Incorporate into the urban design plan capital facilities location and design measures.

Strategy: Review the City Zoning Code special use permit requirements to ensure adequate provisions to site essential public facilities and county-wide and statewide facilities are included. Amend as necessary.

6.6 PUBLIC FACILITIES FINANCING

Since the passage of Proposition 13 in 1978 California cities have been faced with unprecedented challenges in financing capital improvements necessary to community growth. No longer can cities simply adjust property tax rates to raise needed money. Instead, cities have turned to a variety of other means to finance critically needed facilities.

The City of Waterford is no exception to this problem. Because the City has

grown rapidly since its founding, the community is having problems keeping up with improving capital facilities such as roads, bridges, and parks. The projected growth of the community far outpaces the amount of money available to pay for this needed infrastructure.

The City has traditionally financed needed capital facilities from its general fund, grants from state and federal governments, developer contributions, sewer and water funds accumulated from user fees, and some miscellaneous sources.

The City's general fund, however, is under increasing pressure just to pay for City operations. State and federal grants are decreasing. Other sources of revenue are basically driven by development, but are small in comparison to the size of the overall need. A gap continues to widen between the existing base of revenues and the needs for funding.

6.6.1 Urban Services Financing

At present, municipalities in California are relatively limited in the number of options they have for raising revenue to meet capital facilities needs. Most available mechanisms are tied directly to growth, or to an increased cost of an "enterprise" service (e.g., water and sewer service), or for new or increased services within a defined sub-area or special district.

Allocation of Public Services and Facilities Financial Burden

Public services and facility costs are typically allocated between three "need" categories; 1) existing, 2) growth, and 3) regional. Various types of services and facilities have different ratios of assigned costs between the three need categories. As an example, the use of a sate highway (SR-132) is used by more regional traffic than a local residential street. Funding sources vary between the "need" categories as well. The following is a brief description of potential funding sources that are available.

6.6.2 Existing Public Service and Facility Needs

Typically, existing public service and facility needs are addressed through the normal municipal budget process and can include funding from various funding sources including, but not limited to, taxes, fees, intergovernmental transfers, interest income on deposited funds, etc. To fund shortfalls in existing facility and service need, there are several approaches that can be examined.

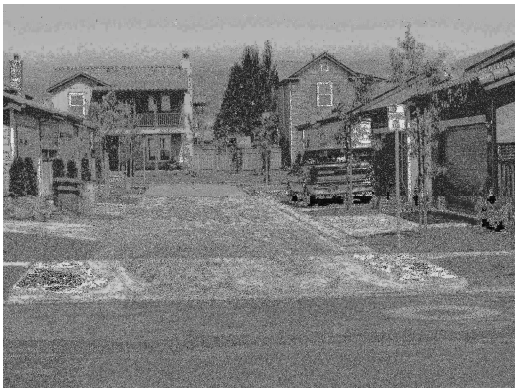
User Fees. User fees is one of the City's funding mechanisms that is not tied to development. Typically, some park and community facilities are subject to user fees, as are water and wastewater services.

Inter-Governmental Transfers. State and federal funds, in the form of grants or some other form of earmarked fund, may become available to meet special community needs. The funds, however, are often earmarked for a specific service population (poor, elderly, etc.) or a specific purpose, such as streets and highways, water/ wastewater improvements, law enforcement, etc. Most of the time these funds are limited to facility development and/or improvement and cannot be used for operating or maintenance costs.

Redevelopment. Under state law, local governments can use the "tax increment" of a redevelopment area to assist in financing necessary public improvements and provide some types of governmental services. The funds can only be applied, however, within a "redevelopment' area or to projects that primarily benefit the "redevelopment" area.

Taxes. Municipalities have the ability to impose new taxes (sales and property) subject to a super-majority voter approval (2/3rds).

General Fund. Existing "general" municipal revenues can be allocated to address deficiencies in public service for facility levels. Allocating the limited funds between competing demands is always one of the most difficult aspects of the local government budgetary process.



6.6.3 Growth Induced Public Service and Facility Needs

Growth in population creates new facility and service needs in a community. Typically, this growth is directly related to new development however, not all new growth can be directly linked to new development. In the case of increased family size, new growth can occur within the existing built environment.

Some types of new development do not directly translate into new population growth such as industrial or commercial development. This is particularly true of industries or businesses that serve a regional population or draw from a regional labor force.

Another particularly nettlesome aspect of assigning burden to "growth" is the issue of "social equity." At a broad philosophical level, "new" growth is assigned a burden that was not applicable to "old" growth due to changes that have occurred in the tax laws in California.

Traditionally, many of these "growth" impacts were financed through the general tax burden of a community and shared equally by all. Under the present system, "new" residents must pay a higher entry cost into a community than did their predecessors.

The issue of "growth" impact fee systems also create political problems for local communities with respect to assigning a level of burden. At the state level, the law mandates that the community maintain an "affordable" housing effort implemented through the programs established in the Housing Element of the City's general plan.

These programs have the potential to transfer "growth" costs to another economic segment of the community, thereby raising the "affordability" threshold for the individuals above the "low-moderate" income brackets.

Additionally, "growth" impact fees must reflect the regional economic setting and affect all types of growth. Growth occurs from both people moving to a community (in-migration) and from people being born in a community (natural increase).

If "growth" impact fees do not match the local or regional economic setting with respect to employment and income, a community can experience dislocation; older residents or families may be forced out of the local housing market and/or the local housing market may only be affordable to people moving into the area.

Typical sources of funding that can be used to address "growth" related public service and facility needs include:

Impact Fees. The development impact fee is the standard mechanism in California for recapturing development-related facility costs. Whether all costs are indeed recovered with impact fees or with a combination of mechanisms, the fee is a useful tool for measuring the estimated cost of development on a standardized basis (typically the dwelling unit or dwelling unit equivalent or DUE). Advantages of impact fees include their (1) straightforward benefit/burden structure, and (2) relative ease and low cost of administration. Potential drawbacks, include:

- Short-term volatility of fee income linked to development/construction/economic cycles,
- Lack of creditworthiness (fee revenues cannot be used to secure debt), and
- Lack of sensitivity to inflation (although they can be indexed to a CPI).

Another important limitation of impact fees is that they cannot be used to fund ongoing costs of service operations and facility maintenance. Operations and maintenance typically need be linked to some sort of special district financing mechanism.

Dedications. Development can be conditioned to dedicate land and/or improvements as part of the development approval process. Dedications can include roadways, parks, open space, and major public facilities, such as firehouses, libraries, schools, etc. Like impact fees, dedications do not address long-term service provision costs or the maintenance and operations of facilities.

Special Districts. The use of special districts is common for large development projects and is a means of both financing public infrastructure and paying the ongoing maintenance and operation costs of providing a public service.

Special financing districts can be useful tools for addressing development-related costs through the issuance of debt, particularly when funding is needed for costly facilities before development has commenced or sales have reached significant levels. Debt financing also permits the encumbrance of private property, something that is not possible with other development financing mechanism.

While special districts can be an important tool in meeting the service and

facility needs of growth, there are some limitations and drawbacks such as:

- The long-term administrative implications to a local government,
- The complexity of administering special districts, and
- The vulnerability of special district finance techniques to the political climate.

6.6.4 Regional Growth Impacts on Public Services and Facilities

Regional impacts of public services and facilities are fairly straightforward like highway traffic. Other regional impacts are not as clear-cut such as the local impacts of regional industrial or commercial development.

Inter-governmental transfers. Regional facility and service demands are typically met through regional service and facility providers such as the State of California or the County of Stanislaus. Streets and highways are the most common types of facilities that provide regional services in the City.

Waterford Vision 2025 General Plan

Chapter 7 Urban Design

2025 Urban Design Vision: A community that retains it rural small-town flavor with a central downtown surrounded by residential and other types of supporting development; a community whose appearance and overall architectural character promotes and reflects its unique rural setting along the Tuolumne River and its "gateway" status to the recreation areas to the east of the City.

7.1 BACKGROUND & SETTING

Waterford is a distinctive community, situated on the eastern side of the central San Joaquin Valley on the edge of the Sierra foothills and bordering the Tuolumne River. Waterford originally developed within a series of gridded streets aligned with the rail tracks, framed by the Tuolumne River which courses along the southern boundary of the City. Over the past hundred years or so, Waterford has become a livable, amenable place, with walkable, tree-lined streets, accessible natural areas along the Tuolumne River and surrounded by orchards and farmland. Somewhat removed from major urban growth centers to the west, Waterford combines the qualities of a friendly small town situated at the intersection of two major regional arterials and nestled between the urban centers to the west and recreational resource areas to the east.

This element builds on the positive qualities of Waterford. It introduces policies aimed at protecting the natural resources of the City and enhancing its livability as it progresses into the 21st century. It embraces the concept of landscape preservation around the City and, as an extension of the Tuolumne River corridor, encourages the extension of the sense of the landscape into the City. Within the City, the element advances the notion (carried through the entire general plan) of encouraging a hierarchy of mixed-use districts that can create a model of neighborliness and the design of environments that discourage auto dependence and emphasize transit, pedestrian, and bicycle movement.

7.2 THE AHWAHNEE PRINCIPALS

Urban design is not merely a set of urban aesthetic standards but rather encompasses design elements which enhance the livability of the community and promote a "sustainable" urban environment.

In the context of urban design and development, "sustainable" has been generally defined as building an environmentally and economically sustainable city. A "sustainable city" is a city designed, constructed, and operated to efficiently use natural resources, minimize waste, and to manage and conserve them for the use of present and future generations.

Perhaps a more concise description of a "sustainable city" design policy is contained in the *Ahwahnee Principles* formulated by a group of architects under the auspices of the Local Government Commission in 1991.

The *Ahwahnee Principles* define a community where housing and all the things needed to meet the daily needs of residents are located within walking distance of one another. They call for returning to higher population densities around transit stops to provide the critical mass of people and activities needed to make transit economically viable. The *Ahwahnee Principles* also call for housing which provides places to live for a variety of people within a single neighborhood. They also promote the concept of mixed use and transit-friendly commercial and employment centers.

7.3 GENERAL PLANNING CONTEXT

Community design is of critical importance to decisions that are made regarding general growth and development. Under state law, however, community design is not a mandatory element of a general plan and, where included, frequently has a limited focus.

In Waterford, a different approach has been taken, with community design taking a key position in the community planning process and establishing principles at the outset for the formulation of this plan element.

7.3.1 Relationship to Other General Plan Elements

The Urban Design Element is intended to influence the physical form of the community, and express an urban vision for the future. While other plan elements provide depth in specialized areas, such as transportation, housing, and open space, the Urban Design Element is more comprehensive in scope, and brings together many of the ideas that are discussed in other plan elements.

- The Land Use Element addresses policies related to the physical extent of urban development; residential, commercial, industrial, and public uses, density and intensity, the creation of neighborhood mixed-use districts, and requirements for special development areas.
- The Urban Expansion Element addresses the overall direction of growth and expansion of the City in future years and gives guidance to policy makers regarding future

annexation of land into the City limits.

- The Transportation Element sets forth the functional characteristics of desired circulation patterns and specifically gives guidance for a greater focus on transit, pedestrian and bicycle movement.
- The Open Space-Conservation and Sustainable Development elements establish policies related to the integration of natural features within the community, protection of biological resources, and the use of open space for resource protection in new development.

7.3.2 Application and Scope

The *Waterford Vision 2025 General Plan* Urban Design Chapter (Element) is intended to provide a broad framework for making incremental decisions on the direction of growth and development. From urban expansion through the design of circulation systems, designation of land use patterns to the review of individual project construction plans, the Urban Design Element contains policies and standards that integrate the City's goals with respect to "Neo-Traditional/New Urbanist" approaches to "city building".

7.4 URBAN DESIGN "VISION

Urban design is a grouping of concepts and guidelines which are used to describe the image or character of the City's environment. In attempting to influence the type, location, and character of both private and public development, urban design policies provide the tools to help create a desirable relationship between the pressures for new development and the pressures for conservation.

The Urban Design Chapter of the *Waterford Vision 2025 General Plan* promotes the "Vision" of Waterford as:

"A community that retains it rural small-town flavor with a central down-town surrounded by residential and other types of supporting development; a community whose appearance and overall architectural character promotes and reflects its unique rural setting along the Tuolumne River and its "gateway" status to the recreation areas to the east of the City".

7.5 GUIDING PRINCIPLES

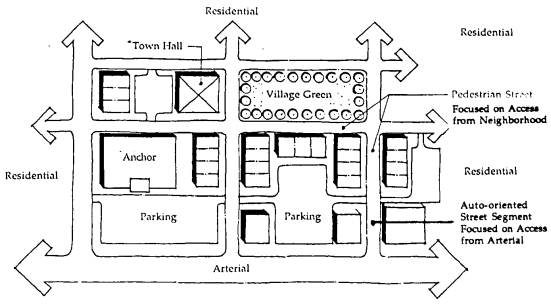
The following guiding principles provide a basis for the urban design goals and policies of this chapter as well as the subsequent elements of the general plan, in the implementation of the City's urban design "vision".

- **Heighten the sense of the natural landscape.**

The identity of the City, to a great extent, comes from its landscape setting. Plan policies contained within this element, as well as others, strengthen the visual and physical connection between the City and the surrounding landscape.

- **Reinforce the unique identity of Waterford.**

Through purposeful acts of community building at the City's inception, Waterford developed a strong early identity as a city. The policies of this plan are intended to recognize and strengthen the fundamental elements that contribute to Waterford's sense of "townness"—the pattern of streets and open spaces, focal points, entries, landmark buildings, and clear edges.



- **Emphasize the role of downtown as the heart of the community.**

Downtown Waterford plays an important role in the social as well as economic well-being of the community. It is the symbolic centerpiece of the community and focus of civic life and social activity. Policies contained within this element provide for preserving and strengthening the role that the downtown plays in the community.

- **Enhance the special qualities of existing neighborhoods and districts.**

Waterford's residential neighborhoods define, for most residents, the livability and attractiveness of the community as a whole. The individuality and distinct characteristics of the neighborhoods and the quality of life they provide should be maintained and enhanced.

- **Reintegrate transitioning industrial and commercial districts.**

The plan also sets forth policies for transitioning commercial districts to reestablish a more positive relationship with the surrounding City. Policies provide for the infill and revitalization of under-utilized areas and encourage more attractive development.

- **Establish linking elements that provide continuity and connection within the City.**

The plan policies provide for a clear and coherent system of green streets, Tuolumne River walkway, walkways along canal corridors, and linear open spaces that provide continuity and connection through the community. Guidelines emphasize the amenity of these linkages for pedestrians and bicycles, as well as automobiles.

- **Reclaim streets as public space.**

Streets comprise the major open spaces of cities and can be among the liveliest and most memorable public places within the community. Plan policies are aimed at balancing the need to facilitate auto circulation and parking with the desire for the street to play an important role in creating a sense of place.

- **Emulate the positive qualities of traditional Waterford neighbor-hoods in new development.**

Many older neighborhoods are distinguished by a clear organizational pattern, an interconnected network of tree-lined streets, and an attractive housing stock. Plan policies are aimed at building on these elements in new residential neighborhoods.

7.6 CITY FORM

Waterford has long played a role as a service center for the surrounding agricultural landscape and as a focus of trade and commerce along the Tuolumne River and the recreation resource areas in eastern Stanislaus County. This civic role and importance within the region can be heightened through physical improvements to the form, structure, and character of the City and a better definition of City edges and entries.

Historic development patterns of the City create unique challenges to the integration of the City's street system as well as the design, development and redevelopment of its utility infrastructure. The following policies are provided as standards for guiding future urban design decision-making.

- **Reinforce the compact form of the City**.

Waterford has a relatively compact focus, contained, for the most part, within the "semi-circle" bounded by the MID Main Canal and extending from the historic railroad track right-of-way near downtown to the edge of the diagonally aligned streets which reflect the original railroad town layout and the Tuolumne River corridor to the south. This "semi-circle" roughly circumscribes the outer limits of the traditional downtown area today. The semi-circle does not perfectly describe present or desired future urbanization. The generally semi-circular shape of development is useful as a conceptual diagram, should be heightened to create a stronger sense of both the sense of "place" of the community and it's serene landscape setting.

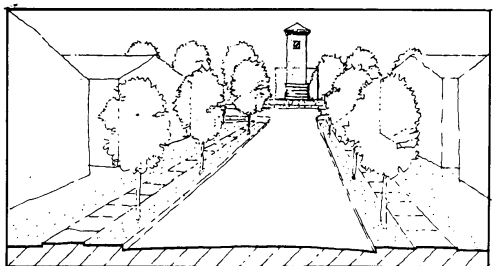
Future urban expansion will be defined by the boundaries formed by the Tuolumne River to the south and Dry Creek to the north. Western expansion limits are not defined by any natural feature but rather by existence of the rich agricultural lands that exist along the City's western boundary. To the east, urban expansion will be defined by the natural habitat areas that exist along the edges of the Modesto Reservoir.

- **Create a clear definition of the physical extent of the City.**

Sharpening the distinctions between natural and urbanized landscapes contributes to a sense of place. Natural and physical features, such as Highway 132, the Tuolumne River corridor, the irrigation canal system, elevation changes to the east and northeast, orchards and the railroad corridor, as indicated in below, are important elements in creating a clear definition of the physical extent of the City. In the future, portions of Dry Creek, as well as the rolling foothills on the east, the bluff lines on the Tuolumne River to the south, and agricultural lands on the north and west, although not contiguous, will generally define the physical extent of the City.

- **Preserve agricultural lands and open space outside the City's growth boundaries.**

This can be accomplished through cooperation with Stanislaus County, including support of programs and policies, such as transitional uses and buffers along the City's urban boundaries, and large-parcel zoning. One of the ways to reinforce the form of the City is to establish a greenbelt. Particularly on the west side of the City, such a greenbelt or open space system should be explored. In other areas, appropriate buffers and transitions should be studied and appropriate standards established in the City's zoning ordinance.



- **Emphasize key City entrances.**

There are a number of entrances that are important in establishing a sense of arrival and departure in Waterford and in creating a stronger sense of regional identity. They are:

a) The area near the intersection of Highway 132 and Eucalyptus Avenue to the west which roughly defines the City's western limit between urban development and agricultural resource areas.

b) The area near the intersection of the Waterford-Oakdale Highway and Dry Creek which defines the City's northern limits.

c) The area on the south side of the Waterford-Oakdale Highway near the Tuolumne River Bridge that defines the City's southern urban limits.

d) The area in the vicinity of Highway 132, between the MID Main Canal and the Tuolumne River corridor, that frames the entrance into the City's eastern limits.

7.7 URBAN GROWTH & DESIGN

The City of Waterford has gone through several phases of growth and expansion over the years. These phases are reflected in the layout of the City's street system.

Of course, at its earliest phase of development, the City's center was focused on the "ford" across the Tuolumne River located in the vicinity of North Appling Road. Subsequent development was planned along the railroad right-of-way and the older streets in the City were laid out in a grid pattern that reflected the railroad corridor's north-south orientation.

The second stage of development in the City conformed to the east-west alignment of Highway 132 and the

Modesto Irrigation District canal that formed the early northern boundary of the City.

Subsequent (modern) development has expanded into the surrounding areas in a more or less concentric pattern around the core (historic) City area. At present, the City is bounded by the Tuolumne River to the south and the Modesto Irrigation District (MID) Main Canal to the north.

To complement this "historic" growth pattern, based on the traditional "grid" system of streets, future City expansion is proposed to follow "Neo-Traditional" approaches to urban growth. This approach, which is also referred to as "New Urbanist" design, emphasizes neighborhood character modeled after the traditional "grid" street pattern with alley-ways, that stress "walkability" and pedestrian-friendly design.

7.7.1 Urban "Neo-Traditional" or "New Urbanist" Design

The *Waterford Design Guidelines* establish a vision for an area expected to contain most growth in Waterford for the next 20 years.

The fundamental building block for the conceptual land use plan and design guidelines is the *Village*, a compact, mixed-use district that will accommodate projected growth, help maintain Waterford's present quality of life, and help ensure its continued economic vitality.

The Village design achieves these goals by encouraging pedestrian and transit travel, and by planning for more than single-use, low density developments that can generate traffic congestion, air pollution, a scarcity of affordable housing, monotonous landscapes, and poor utilization of environmental and land resources.

The Waterford application of the "Neo-Traditional" or "New Urbanist" approach to land use planning is to treat the existing downtown commercial core as the "central core" and radiate residential and other uses from this existing central "core" area.

7.7.2 Mixed Uses

"Neo-Traditional" or "New Urbanist" designs promote development of residential, services and employment centers so as to minimize reliance on the automobile to the maximum extent feasible. The "Neo-Traditional" or "New Urbanist" philosophy of land use planning promotes development of a mixed-use plan that promotes the location of commercial, employment, and residential development in relatively close proximity to each other.

The *Mixed-Use* approach to the "Neo-Traditional" or "New Urbanist" planning takes the typical elements of urban growth-retail centers, single family and multifamily housing, roads, and public

services and reorganizes them to form a more efficient and pedestrian-friendly development pattern.

7.8 URBAN DESIGN GOALS, POLICIES AND ACTIONS

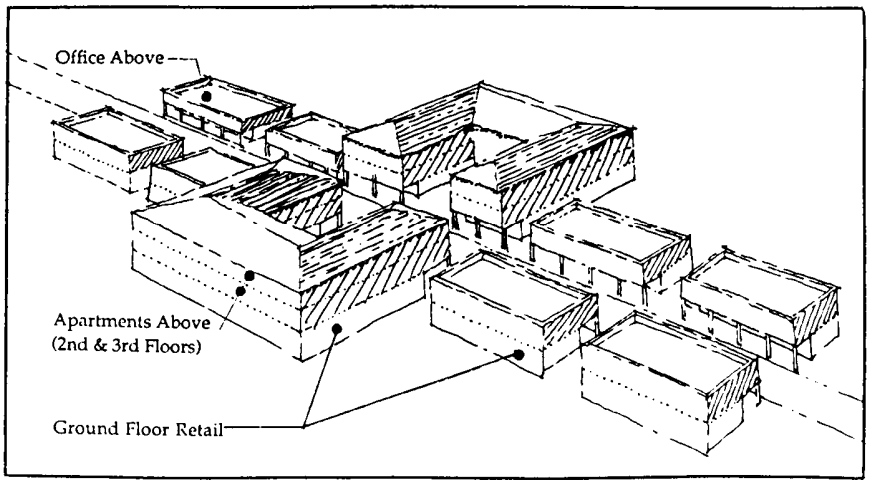
The Urban Design Element responds to issues and opportunities identified as a part of the general plan process. The element is organized to address the following topics identified as important to the character of the city as a whole:

- City Form
- Continuity and Connection
- Neighborhood Conservation
- Transitioning Districts
- Large-Scale Commercial and Industrial Projects
- New Residential Neighborhoods
- Landmarks and Public Art

Consistent with other elements of the plan, this element provides guiding and implementing policies by specific topic area. In addition, accompanying text and diagrams provide additional guidance in an illustrative fashion, indicating how policies may be applied. The diagrams and descriptive text are conceptual in nature. They are intended to expand upon the intent of the policies, provide examples, and initiate discussion on potential solutions to identified issues.

They are not intended to be used as a specific design solution or as a mandatory requirement of the plan, nor should they be construed as a set of standards to be applied universally. Rather, each image and the text which follows each policy are designed to illustrate possibilities to be considered with more specific studies. The intention of the Urban Design Element is to foster creativity and design excellence within the context of community values, and adopted principles and objectives. Priority is placed on the design of specific buildings, streets, and open spaces that add to the livability and quality of the community as a whole.

In accordance with the above, the City of Waterford has established the following goals, policies and actions relative to urban design.



7.8 CITY OF WATERFORD Proposed Urban Design Goals

Goal Area UD:

GOALS

- **A Rural Community with a Unique Identity.**
- **A Well Defined Urban Center.**
- **An Integrated Community-Well Connected.**

POLICIES

UD-1 Promote Urban Continuity & Connection**.**
UD-2 Promote Neighborhood Conservation & Development.
UD-3 Provide for A Vibrant Downtown Center.
UD-4 Guide the Development of Commercial Strips.
UD-5 Guide the Development of Large-Scale Commercial & Industrial Projects.
UD-6 Guide the Development of New Residential Neighborhoods.
UD-7 Guide Development of Mixed-Use Neighborhood Core Areas.
UD-8 Promote Urban Landmarks & Public Art.
UD-9 Utilize Neo-Traditional Design Concepts in Neighborhood Revitalization Programs**.**
UD-10 Maintain and Enhance the Unique Community Appearance of Waterford.

Policy UD-1
Promote Urban Continuity & Connection.

Clear and continuous linkages through the community reinforce a sense of community structure and orientation within the urban environment. Within Waterford, there are several existing elements—the railroad corridor, Highway 132, certain streets, the Tuolumne River corridor, and the MID Canal corridors— that can be enhanced and strengthened to provide paths of continuity and connection through the community.

Implementing Actions:

UD-1a. ***Make improvements to the major corridors traversing the city to heighten their visibility and accessibility.***

The major linear corridors are those that extend into and through the entire City. They primarily include the railroad corridor("F" Street/Oakdale-Waterford Highway), the River and MID Canal, Tim Bell, Waterford-Oakdale Highway, Highway 132 and Reinway street corridors. These should be improved with streetscape improvements, planting and other treatments within limits of existing development or rights of-way.

UD-1b. ***Design street River Parkway and MID Canal corridor improvements in consideration of their hierarchical role and function within the larger system.***

It is important to visually convey the relative importance of each corridor. For instance, the Tuolumne River Parkway and MID Main Canal should depict prominence within the hierarchy of City water corridors, as does Highway 132 within the system of roadways. These concepts need to be carried forth in the basic elements of civic design so that visual appearance is tied more closely to role within the organization of the City.

UD-1c. ***Extend new street patterns that heighten the sense of the water corridors and***

that are connected to existing patterns of development.

The physical patterning of the community can create a stronger orientation to the waterways as well as a framework for new development that provides for higher density neighborhoods. The historic grid pattern was generally aligned to the railroad tracks. New grid patterns do not necessarily need to be composed of straight, parallel streets with a repetitive scale and grain, but can integrate arching, straight and diagonal alignments, with allowances for topography and interruptions caused by the waterways. However, they should open up views and physical access to the water corridor and urban "trail" environments.

UD-1d. ***Place restrictions on the overall scale and size of major arterials, so as to avoid creating barriers within the City fabric.***

The overall dimension and treatment of streets greatly influences the character of a city and the nature of uses within it. For instance, limiting the paved dimensions of streets or the number of lanes within residential neighborhoods are effective ways of ensuring that the functions of a street for traffic movement do not exceed the desires of the community for livable, pedestrian-oriented streets. In Waterford, streets do not need to exceed four lanes (not including turn lanes) to fulfill necessary traffic functions. In most cases, a two-lane configuration with a separate turn-lane and controlled access are sufficient to meet the City's most intense traffic needs**.**

UD-1e. ***Establish special design guidelines for scenic roads.***

Scenic roads are those that have a unique orientation and alignment or are notable for their landscaping and streetscape. Some of the streets which would fall into this category include Highway 132 (east of the Waterford-Oakdale Highway), and the Waterford-Oakdale Highway, to the Dry Creek Bridge. Design guidelines should be developed that build on the unique qualities of these roadway segments.

UD-1f. ***Heighten the visual prominence of water corridors which help to establish a sense of orientation and identity within the City.***

Water corridors which traverse the City can be improved to give further identity to the city and create closer ties to the natural landscape. Enhancement of these water corridors can include landscaping and mandatory setbacks for all new development to further contribute to the visual structure and ecological diversity of Waterford.

UD-1g. ***Open up waterways to public view and access.***

The water corridors can be made more visible and accessible by appropriate landscaping, frontage roads, and the alignment of streets which directly lead to water corridors. The possibility of developing waterways with one side more public and active and the other more passive and natural, provides opportunities to achieve both recreational and environmental objectives for these important areas. Such a treatment may not be possible in already developed areas, except through incremental opportunity purchases, but a new standard can be established in areas of new development.

UD-1h. ***Extend the amenity value of the waterways.***

The water corridors represent a significant amenity that should be made more public and visible. They should be extended back into the community through a "necklace" of connected open spaces creating a continuity of diverse visual experiences.

UD-1i. ***Within the developed core of the City, diminish the barrier effect of the waterways.***

The barrier effect of the waterways within the urbanized City should be lessened and the waterways themselves made more visible and, where possible, accessible. Waterways should become "seams" within the fabric of the City, not separators. Waterways within the existing City are frequently hidden from view and are only visible at periodic crossings due to liability concerns of the City and concerns over public safety. Bridges should be designed for bikes and pedestrians as well as autos and should not hinder pedestrian and bicycle movement beneath them along the water corridor.

Policy UD-2
Promote Neighborhood Conservation & Development.

From a community design perspective, gracious residential neighborhoods form the fabric of the community and can be one of Waterford's greatest assets. Many of the older neighborhoods are comprised of finer-grained elements, i.e., tree-lined streets that are open and welcoming in character; block and street patterns that are scaled to the pedestrian and encourage continuity in movement; diversity in lot sizes and housing types; and an orientation to landmarks, open space, and surrounding neighborhoods.

Implementing Actions:

UD-2a. ***Reinforce the individual character of existing residential neighborhoods and districts*.**

Waterford is comprised of a diversity of different neighborhoods and districts. *Districts can be defined as larger portions of the City or non-residential areas distinguished by similar characteristics in use or intensity of use*. Generally, neighborhoods have similar qualities, such as geographic location, physical characteristics, or clear boundaries. They may encompass several blocks and be distinguished by housing of a similar age, style, or type, or a focus on a specific community resource (waterway, school, retail center, etc), or edge conditions (highway, waterway, change in housing, etc.). The distinctions between neighborhoods and districts should be reinforced and programs established for neighborhood conservation and enhancement.

UD-2b. ***Encourage neighborhood rehabilitation and improvement.***

Some of Waterford's neighborhoods are nearing a century in age—particularly those adjacent to downtown and associated with the first and second plattings of the City. While the scale, grain and pattern of these neighborhoods can be emulated, the maturity and abundance of street trees, detailing, use of materials and variety of house types that are unique to their era, and the lived-in appeal make it more difficult to replicate in new development. In some cases, these established neighborhoods are in need of improvement and reinvestment to continue to maintain the same degree of attractiveness and livability over the next century as they have in the past. This includes public actions, such as street or park improvements, as well as private actions related to building rehabilitation and renovation.

UD-2c. ***Protect and enhance the urban forest that reinforces the image and identity of the community and its older neighborhoods***.

Waterford's older neighborhoods have a special identity, gained to a great extent from a canopy of mature trees that contrasts with the open fields and foothills and ameliorates

the influence of the climate in hot summer months. While additions to the urban forest are important, it is equally important to protect and enhance the existing resource as it ages over time.

UD-2d. ***Encourage positive transitions in scale and character where new development and extensive expansions of existing buildings are proposed.***

The character of a neighborhood comes from the large-scale patterns of streets, house location and orientation, landscaping, and front yard setbacks and garage locations, but it is also influenced by the relationships of adjoining residences to one another. When neighborhoods begin to be "infilled" or redeveloped with parcels of a much higher density or scale, it is important to ensure that the overall character is not destroyed. Specific attention needs to be placed on proposed parcel sizes, building footprint, heights, relationships to the street, and linkages to the surrounding neighborhood by foot.

Policy UD-3
Provide for A Vibrant Downtown Center.

Waterford's downtown provides a focus for the community and is the civic and cultural center of the City. The following policies are aimed at reinforcing the role of the downtown in community life and as a vital, people-oriented place.

Implementing Actions:

UD-3a. Reinforce the physical framework which defines the downtown district.

There are a number of key elements which help to physically define the downtown as a district. Downtown is framed by Main Street to the north, and the Tuolumne River to the south. In addition, "F" and "D" Streets frame the downtown on the west and east. These elements should be more prominent within the downtown, and more positive relationships (in terms of activity) should be developed. The intersection "E" Street & Main Street should be the major downtown intersection capitalizing on the cultural aspects of the "Library & Learning Center". The Fire Department can be modified to contribute more positively to the street scene and present a more unified, reinforced theme. This intersection should present a public open space for small community events which will encourage movement into the downtown on off-hours.

UD-3b. Encourage new development that is urban in scale, treatment, and character.

New development should reflect in scale, character and pedestrian orientation the urban traditions of downtown. Lot sizes should be maintained at fifty-foot widths and building heights should respect context. Traditional store & office fronts should be utilized which further reinforce the "historic" nature of the part of Waterford. Traditional materials will further enhance this effect.

UD-3c. Encourage the preservation and enhancement of buildings of special historic and/or architectural interest.

Downtown has a concentration of buildings and landscapes of historic. The downtown historic character contributes greatly to the sense of place, and efforts should be made to identify, preserve, and enhance this image. Efforts should be made to encourage owners to maintain these buildings and landscapes, especially with respect to their historic elements.

UD-3d. Maintain and enhance a strong pedestrian scale and orientation within the downtown through the design of buildings and streets.
Pedestrian-scale signage and pedestrian lighting, continuous street trees, wide sidewalks, canopies, bicycle parking areas, open areas, benches, public art, and continuity of ground floor activity are among the elements to be emphasized in reinforcing the pedestrian character of downtown**.** In addition, such measures as build-to lines, restrictions on surface parking, curb cut limitations, and minimum building heights are useful in defining the "wall" of the street and in framing the activities which happen in public spaces. Specific design guidelines should be developed to define approaches best suited to downtown. *Traffic lighting and pedestrian lighting should be separate systems which serve the separate needs. The pedestrian lighting can be lower and warmer and should include power outlets for "street events" Pedestrian crosswalks of differential material should be utilized in the core area.*

UD-3e. Define Waterford's "Downtown".
Through comprehensive planning to establish a clear vision and specific direction for the downtown, identify public projects and funding*. Public process should be initiated to determine projects of priority and budget resources to complete these projects.*

UD-3f. Encourage a lively streetscape environment with buildings and activities oriented to the street and sidewalk areas at ground level.
Buildings should be encouraged to incorporate ground floor treatments of interest to the pedestrian, including, for example, the use of large windows, tall ground floor pedestrian entrances, canopies, arcades, and sidewalk cafes. The feasibility of establishing greater access and use of public rights-of-way in the downtown area should be explored. *Public parking should be encouraged within ½ block of the "E" Street corridor with easy pedestrian access to the street. A public open space will allow a variety of "off-hour" activities and provide a "landmark" site.*

UD-3g. Maintain the scale and fine-grained fabric of the downtown.
The block and parcel sizes of development in the downtown help create a pedestrian environment that is attractive to visitors and residents alike. *The traditional lot sizes should be respected to maintain the "rhythm" typical of the historic fabric, even if within the same building's frontage. Lot divisions in commercial areas should be considered only as part of a complete development proposal which includes construction of new commercial space.*

UD-3h. Establish a more positive relationship to the Tuolumne River near the downtown area.
Specific opportunities exist in the downtown for reorienting development *which promotes "vistas" and pedestrian access* to the river. Rather than turning away from the river and locating parking lots and storage areas along it, cafes, plazas and activities, which focus on this resource and create active public space, should be encouraged *above the bluff of the river course.*

UD-3i. Improve the physical linkages to the Tuolumne River Parkway through development of special pedestrian street crossings of Highway 132, urban trails, and other bicycle and pedestrian improvements.
Highway 132 is a physical barrier to this goal and efforts should be made to minimize the effects of this barrier. Special crossings with well-lit pedestrian cross-walks and

pavement flashers may provide greater safety. Once the "River Park" is accessed a trail system should be developed which promotes pedestrian or bicycle connection between the "downtown" area and the residential areas to the east.

The future development of the downtown government center, extended campus education center, and cultural facilities will become major activity areas which support the downtown. Linkages to the downtown facilities should be expanded for pedestrians and bicyclists so that the downtown continues to benefit from the patronage of the downtown community and surrounding neighborhoods.

UD-3j. Encourage special events, festivities and celebrations within streets and public spaces.

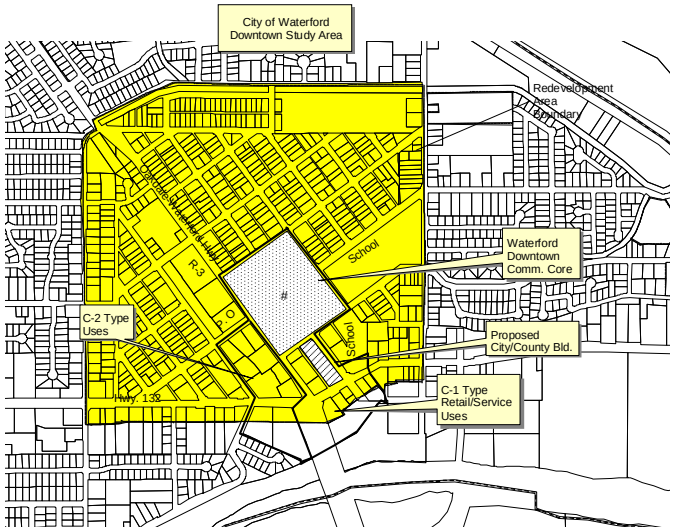
Streets and other public spaces within the downtown should be designed and programmed so that they can be utilized for seasonal celebrations and special day and nighttime events. *Establishment of a "Business Improvement District" may provide a means of funding this activity*. Cultural arts and special events programming and the ongoing management and maintenance of public spaces (including streets) can possibly be guided by the Fine Arts Commission, or other volunteer and City staff efforts. These activities will help to provide an additional attraction within the downtown.

UD-3k. Provide visible landmarks to enhance the "Sense of place" and orient the community to the downtown features.

These may include plazas, a clock element, arches, kiosk and the like. These can be publicly funded and will contribute to the overall understanding of the definition of the core "downtown" area..

UD-3l. Encourage a sense of place with a consistent theme of street furniture.

Benches, ornamental fences, signage, trellises, news stands and the like should reflect a constant theme.



Policy UD-4
Guide the Development of Commercial Strips.

Several commercial strip developments within Waterford are relatively small and auto-oriented "mini-malls". With the expansion of retail developments elsewhere, some will experience difficulty in attracting and keeping tenants. As uses begin to change along the City's arterials there may be opportunities for infill development incorporating a broader mix of uses.

Implementing Actions:

UD-4a. Support beautification of Waterford's commercial strip development along Highway 132.

Commercial strip development will be limited in the future. However, the viability and physical condition of existing strip development continues to be a concern. In planning for the long-range future, it is important that provisions be made to improve the overall appearance of the streets and the commercial projects which they support. These strips, especially those along Highway 132, become the most visible and memorable part of our City. Guidance is needed to realize incremental change and improvement over time. Potential treatments could include additional landscaping and street trees, adding or widening sidewalks, building the sidewalks in key locations providing pedestrian-scale lighting, and orienting buildings to the street.

UD-4b. Encourage infill and adaptive reuse of transitioning commercial developments.

Many commercial projects in cities experience a transition as a result of changing lifestyles, competing projects and developments, purchasing patterns, the distribution of merchandise, and innovations in transportation and communication. As these changes occur, opportunities for new uses within existing buildings (i.e. adaptive reuse) are created. The typical mini-mall development is oriented to the street with parking in front. Future opportunities may be to reorient development and provide for new uses which can more fully contribute to the vitality, attractiveness and overall viability of the area. Infill development should result in a more positive orientation to the street, with the emphasis on punctuating important intersections, with taller buildings and wider sidewalks and screening parking areas generally from view of the street.

Policy UD-5
Guide the Development of Large-Scale Commercial & Industrial Projects.

Commercial and industrial projects have increased in size and scale over time, with buildings in some projects exceeding several hundred thousand square feet. In Waterford, more than one million square feet of commercial space has been added to the City's inventory over the past six or seven years, much of which is located on sites greater than 20 acres in size. These large-scale, single-use projects present some special challenges to design. The following policies are aimed at creating commercial and industrial projects that relate more positively to the surrounding context, are of a scale and character that is attractive and accessible to pedestrians and bicyclists as well as motorists, and which

allow for intensification and diversification to occur over time.

Implementing Actions:

UD-5a. Encourage site and building design to respond to the context and potential linkages to surrounding areas.

A sensitive integration of large-scale projects should be encouraged by master planning larger districts; designing for pedestrian, bike and transit access directly from streets and surrounding areas; carefully addressing issues of scale and massing; respecting view corridors and vistas; integrating community and cultural uses; and achieving higher standards for environmental quality through innovative storm drainage and planting design.

UD-5b. Encourage consideration of pedestrian and bicycle access in new commercial and industrial projects.

New commercial and industrial projects should not be designed exclusively for the convenience of motorists, but rather, approaches that consider the needs of pedestrians and bicyclists, as well as those arriving by transit, should be a part of each project. While this may not be considered important today, by building in flexibility future opportunities will not be foreclosed.

UD-5c. Encourage a human scale in the design of large-scale projects.

The perceived overall size of large projects should be mitigated to the extent possible through, for example, sensitive massing, appropriate scaling of building facades, articulation and organization of buildings, sensitivity in the use of color and materials, and the use of landscape screening.

UD-5d. Encourage the use of high quality materials and finishes in buildings.

Discourage the use of metal buildings unless they utilize wood, stucco, masonry concrete or stucco on all surfaces with public exposure.

UD-5e. Encourage innovative site design and treatment of surface parking areas.

Surface parking areas should be organized and treated in such a fashion so as to avoid the appearance of a "sea of asphalt." Landscaping should meet or exceed, if possible, a 50 percent shading requirement, with large trees planted throughout the parking area as well as along the street and sidewalks. The use of porous paving and the integration of drainage features should be encouraged for reasons of environmental quality and to improve the visual appearance of parking areas, which are often more intrusive than the buildings they are intended to serve.

UD-5f. Encourage infill and intensification over time.

Infill and intensification of existing projects should be encouraged to achieve a greater mix and intensity of uses. Site planning for large commercial projects should anticipate the potential for future structured and shared parking as well as convenient and effective transit service that would facilitate intensification and help to create focal points of activity.

UD-5g. Encourage simple design in consideration of future adaptation to new uses.

Commercial and industrial uses are rapidly undergoing change. It is important that investments into new facilities consider potential future adaptations to new uses to the extent feasible.

UD-5h. Incorporate design features that foster a sense of security.

Implement *Crime Prevention Through Environmental Design* (CPTED) standards as an

element in the project design review process to be applied to subdivision and site plan review, building, and improvement planning. (See Urban Design Section 7.9)

Policy UD-6
Guide the Development of New Residential Neighborhoods.

New residential neighborhoods will be formed as Waterford continues to grow and expand over the next twenty to thirty years. These neighborhoods should be designed so that they build on the positive qualities of existing Waterford neighborhoods and districts with strong physical and visual linkages to surrounding areas. To do so, special care needs to be taken in the design of:

- Streets and entries
- Development patterns
- Development increment or scale (blocks, neighborhoods, districts)
- Mixing of activities and densities
- Small-Lot Housing
- Buildings

Implementing Actions:

UD-6a. Create new neighborhoods that have a human scale and are oriented to the pedestrian.

Neighborhoods with a pedestrian scale are those where the length of blocks is not too long (e.g. not greater than 400 feet), streets are not excessively wide, houses front onto the streets with gracious transitions from indoor to outdoor spaces, and pedestrians can walk protected from traffic and the sun in summer months by a continuous canopy of trees.

UD-6b. Establish clear and distinctive neighborhood edges, organized around larger streets and natural features such as streams or creeks.

As with the City as a whole, it is important to give definition to individual neighborhoods by establishing clear and distinct edges and clustering neighborhoods within larger districts organized around schools, parks, and other community facilities.

UD-6c. Mark major entries to neighborhoods, but discourage the use of high walls and gated entries which isolate areas from one another and create an unfriendly appearance.

Major entries to neighborhoods should be recognized through the use of monuments, gateways, and other such elements incorporated within the broader streetscape. However, these should appear to be welcoming in nature and not convey the image of an exclusive district, set apart and isolated from other parts of town.

UD-6d. Establish a central focus within each neighborhood.

The mixed-use neighborhood core is an important element in providing an activity center to each neighborhood; they should be located in a geographically central position, combining activities that are both publicly oriented and commercial in nature.

UD-6e. Encourage a fine-grained and integrated pattern of streets that provides continuity, focus, diversity, and a human scale.

The grid pattern is characteristic of older areas of Waterford and works well as a basic

pattern, providing continuity and clarity of structure. Diversity and complexity can be added to this basic fabric with the introduction of diagonal, axial and curvilinear patterns to emphasize special places and focal points.

UD-6f. Encourage the continuity of streets between neighborhoods.

To increase the accessibility and connectedness of neighborhoods, and to support pedestrian as well as vehicular movement, block lengths should be limited (e.g., to 400 feet) and four-way intersections encouraged.

UD-6g. Orient neighborhoods and individual residential and commercial buildings positively to the street, not away from it.

Innovative approaches to the need for privacy and noise protection are needed, without resorting to the conventional solution of high walls. For instance, along major arterials broad setbacks and alleys or frontage roads should be considered instead of high walls to provide protected residential areas that are open and accessible to all.

UD-6h. Establish a hierarchy of streets, open spaces, and community buildings that can be used to help provide structure and orientation to the neighborhoods and districts.

A differentiated hierarchy of elements (parks, open spaces, waterways, streets) should be carefully conceived as a part of neighborhood design.

UD-6i. Design streets with a priority on neighborhood structure and pedestrian scale.

To create more attractive and meaningful street environments, the following should be encouraged:

- Pavement widths (curb-to-curb) to the minimum necessary.
- Continuous and consistent street tree planting adjacent to the curb.
- Continuous, unbroken curb lengths.
- Minimized use of “rolled-curbs” except in places where vehicular access is to be encouraged or permitted.

In addition, alley-way may be considered as part of a comprehensively designed pattern of streets.

UD-6j. Integrate special features as landmarks to heighten a sense of orientation within new residential neighborhoods.

Waterford has an abundance of unique natural features surrounding and within the City, such as waterways, remnant orchards, heritage trees, and terrain features (bluffs). These should be incorporated in a positive fashion with development to heighten an understanding and appreciation of the landscape and to help establish a sense of place.

UD-6k. Encourage tree planting and consider adopting a heritage tree preservation and maintenance program.

Landscaping is one of the most visible elements of residential neighborhoods, adding to their amenity and perceived value. While trees and understory vegetation would vary depending upon the site and soil conditions, planting programs should be encouraged.

UD-6l. As part of the planned development process, encourage the design of buildings that are oriented to the pedestrian and create positive transitions to the street.

Porches, stoops, windows facing the street, landscaping, and slight grade transitions within the yard space help to create positive transitions between indoor and outdoor,

public and private spaces. Garages should not dominate the street space, nor the front elevation of residential buildings.

UD-6m. Establish higher standards for small-lot design in projects approved through the planned development process.

Residential lots of 5,000 square feet or less have become increasingly commonplace in California, in part as a result of higher land costs and the need to create more affordable housing. However, in general, smaller lots have a greater need to address design issues, especially related to garage location and treatment and the provision of open space. With reduced lot size, there is an increased need for community open space.

UD-6n. Encourage creativity and high quality in the design of residential buildings in projects approved through the planned development process.

To be successful, neighborhoods need to be designed to age gracefully. Durable building materials and high standards of construction should be incorporated, not only for longevity, but also to reduce the overall maintenance costs for residents.

UD-6o. Encourage the use of distinctive architectural features in projects approved through the planned development process.

Windows, doors, chimneys, and other such elements provide articulation to building facades and reveal internal organization.

UD-6p. Discourage the repetitive feel of new development while providing for design continuity in projects approved through the planned development process.

Diversity in the color, massing, and scale of residential buildings is desirable to avoid the feeling of a monotonous tract development. At the same time, some level of continuity is needed to better define the public realm related to landscape treatment, building orientation, front yard spaces, and the use of fences and articulated entries.

UD-6q. Encourage some diversity in parcel and house sizes, but with careful transitions between densities in projects approved through the planned development process.

Where parcels change dramatically in size, special care should be taken to provide for privacy and to maintain some visual continuity along the street.

UD-6r. Ensure that multiple-family residential development is designed with a street and pedestrian orientation.

Multiple-family dwellings should be oriented to the street and linked to surrounding neighborhoods, with usable and meaningful open spaces for residents.

UD-6s. Design for greater resident surveillance and visibility of public and semi-public places.

This can be achieved by: placing windows so that they view onto yards, corridors, entrances, streets, and other public and semi-public places; providing for landscaping that does not obscure visibility to public areas; providing for well-lighted streets, entrances and house numbers and, in multi-family development, lighted and windowed stairwells where possible. Porches, stoops, and other elements that provide a place to comfortably linger will also help to provide “eyes on the street,” helping to maintain a sense of security within neighborhoods.

Policy UD-7
Guide Development of Mixed-Use Neighborhood Core Areas.

Neighborhoods should be developed around a central place that is publicly oriented and conducive to social gathering and meeting. The cores are conceived of as mixed-use centers that provide service and amenity at the neighborhood and district level, and may consist of community facilities such as parks and schools, higher density residential development, or small-scale retail uses. Within these areas, emphasis should be placed on achieving a fine-grain mix of uses, incorporating open space and recreational facilities for amenity, and creating appropriate transitions between uses and densities.

Implementing Actions:

UD-7a. Locate mixed-use neighborhood cores centrally within neighborhoods

A neighborhood "core" serves the immediate residential area and is closely tied to the framework of neighborhood parks, playgrounds and community facilities that support the structure of a neighborhood. The location of these neighborhood centers is important so that they can serve all parts of the neighborhood within an easy walking distance and reinforce pedestrian and bicycle routes.

UD-7b. Where appropriate and feasible, focus the neighborhood cores around neighborhood parks and open spaces.

The neighborhood core uses should be designed so that they are organized around publicly-oriented uses and open spaces to increase their accessibility and sense of focus.

UD-7c. Provide for the development of publicly-oriented activities within the mixed-use neighborhood cores

A variety of public and private uses, as well community facilities, such as child care services, meeting halls, post offices, medical support, and recreational facilities, should be encouraged to locate in the mixed-use cores to broaden their role and function and to attract a greater number of people who can use them to shop for daily needs as well as to socialize, recreate, meet and gather.

UD-7d. Ensure that the scale and character of development does not overwhelm the surrounding neighborhood.

These neighborhood centers should be designed for a higher density than their surroundings and provide for an innovative mix of uses, but with a fine-grained pedestrian scale and positively integrated within the surrounding neighborhood.

UD-7e. Encourage the location of parking areas in a manner that does not detract from the pedestrian environment.

Parking areas must be carefully planned and configured within the neighborhood cores to balance a vital pedestrian environment with automobile convenience. Parking areas should be:

- Broken up into smaller increments by landscaping and connected to sidewalks through clear pedestrian connections;
- Located away from pedestrian activity areas and focal uses (i.e., parks and open space);
- Sized to take advantage of shared parking opportunities;

- Landscaped to achieve a 50 percent shading at tree maturity; and
- Buffered from adjacent uses through the use of low walls and hedges.

UD-7f. Establish build-to lines and require buildings to front on the primary street(s).
This would promote a stronger pedestrian orientation to the street and provide opportunities for more public active uses to occur within sidewalk areas.
UD-7g. Promote set-back areas for commercial buildings where outdoor uses can be conducted.**
Such uses may include community promotions and special events, outdoor dining, outdoor bazaars, and sales of new goods and handcrafted items.
UD-7h. Encourage the development of seasonal or temporal events which attract a concentration of activities in selected areas of the City.
Produce or specialty markets, neighborhood fairs, and seasonal celebrations have grown in popularity throughout the country, and they may provide a way of further enlivening the mixed-use neighborhood core. These should be carefully planned to enhance, not take away from, future retail activities in the mixed-use cores.

Policy UD-8
Promote Urban Landmark Public Art.

Landmarks and public art are important elements that can be used to provide focus and structure within the City and, at the same time, give greater meaning to the urban experience. The following policies place emphasis on utilizing landmarks and public art to heighten the sense of the City, its visible structure, and cultural legacy.

Implementing Actions:
UD-8a. Identify locations for new landmarks at key places within the City fabric.
These key places may include City entrances, along open space corridors, where street grids meet, or within the park system. Landmarks should be located within public spaces and associated with community uses (including places of worship), and designed as focal points in the structure of the City.
UD-8b. Encourage the development of cultural and arts facilities in the downtown.
There are several historic buildings that are presently within the City downtown area that might be identified for potential reuse as cultural, arts, and theatrical facilities.
UD-8c. Encourage the development of cultural and art facilities within neighborhoods.
The role of the mixed-use neighborhood cores can be broadened and made more meaningful through the careful sitting and design of cultural, arts, and community facilities.
UD-8d. Identify key places for a broad range of public art.
Public art should generally be placed in areas that are public in nature and where consideration is given to their proper viewing and experience. Such places may include public parks, river greenways, schools and educational facilities, City Hall, and civic or community facilities.

Policy UD-9
Utilize Neo-Traditional Design Concepts in Neighborhood Revitalization Programs.

Neo-Traditional development policies and principles result in improved neighborhood environments, reduced traffic congestion, and better and more cost effective community service delivery systems. Although existing neighborhoods throughout Waterford contain some of the elements of the Neo-Traditional design, some service and infrastructure improvements could enhance these neighborhoods. Through the use of the modified zoning and development codes, existing neighborhoods could be revitalized utilizing Neo-Traditional design policies, programs and standards.

Implementing Actions:

UD-9a. ***Evaluate public transit alternatives and service levels within existing neighborhoods.***

Based on existing population and service centers, locate optimum public transportation service routes, park and ride facilities, transit stops, etc. Through the Specific Plan or other appropriate planning technique, develop a program for developing necessary public transit support facilities within existing neighborhoods throughout Waterford.

UD-9b. ***Identify needed neighborhood level public and quasi-public service facilities within existing neighborhoods.***

Develop a plan and program for the development of public and quasi-public facilities which should be located in the vicinity of existing or planned Core Commercial service centers.

UD-9c. ***Apply Neo-Traditional design policies to Waterford's older neighborhoods with ally access.***

Develop a plan and program for the improvement of the City's older neighborhoods with alley-ways, and implement development standards that facilitate the application of Neo-Traditional design applications within these neighborhoods.

Policy UD-10
Maintain and Enhance the Unique Community Appearance of Waterford.

By virtue of its location, set apart from other urban areas by several miles of open farmland, orchards and pasture land, the community of Waterford occupies a unique character as a compact urban settlement.

Implementing Actions:

UD-10a. Encourage joint City and County cooperation in establishing land use and development standards along all major gateways to the City.

Highway 132 and the Waterford-Oakdale Highway are important entry points into the Waterford urban area. Scattered and unsightly development along these entry points detracts from the overall positive appearance of the City. To a large extent, these entry corridors are subject to development rules and regulations administered by Stanislaus

County. Working in cooperation with the County, the City shall propose development standards for these City entrances and outline a strategy for implementation.

UD-10b. Discourage scattered development patterns along major entrances to the City, such as along Highway 132 and the Waterford-Oakdale Highway.

Support County efforts to limit non-agricultural uses along these corridors.

UD-10c. Discourage the visual monotony along major streets created by designs which use uninterrupted walls or fences with little or no landscaping.

Where it is necessary to develop fences or walls as visual screens or sound barriers, encourage the use of earth berms and landscape techniques to minimize visual monotony. Fences and walls shall be landscaped and adequate measures shall be imposed on construction permits to ensure that long-term landscape maintenance is implemented.

UD-10d. Encourage the development of methods to require acceptable levels of landscaping for new development and for landscaping maintenance in highly visible areas of the community.

Landscape designs shall incorporate water conservation and low maintenance features.

UD-10e. Develop a program for under-grounding utility lines.

Working closely with MID and other utility companies, the City shall increase its efforts to place existing overhead electrical and communication lines underground.

UD-10f. Require architecturally suitable means of screening utility equipment and garbage containers.

Site plan review procedures shall consider screening of utility equipment, garbage collection/recycling stations, and other necessary appurtenant features of urban development.

UD-10g. Develop specific corridor plans for designated major streets to improve or maintain the appearance of the corridor through special design, landscaping, and land use controls.

Gateway improvement plans for the Highway 132 and the Waterford-Oakdale Highway should be developed to define entry corridors of the City.

UD-10h. Strict attention should be given to the transition area between residential uses and commercial uses by requiring special landscape treatments and land use controls to lessen the impacts between different land uses.

Landscaping buffers, rather than fences and walls, should be the primary means of minimizing nuisance conflicts between commercial and residential areas. Special care should be taken to ensure that pedestrian access is maintained between residential, commercial, and employment centers.

UD-10i. High-rise residential, multi-family, and senior citizen housing projects are encouraged in and around the City's downtown core.

High-rise multi-family development is not permitted in other areas of the City, but could play an important role in increasing activity and business opportunities in the downtown area.

7.9 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

7.9.1 Introduction/Background

Since the 1970's, the name Crime *Prevention Through Environmental Design* (CPTED) has been attributed to the concept that is based on the belief that:

- the proper design and effective use of the built environment can lead to a reduction in the fear and incidence of crime as well as an improvement in the quality of life
- its success and popularity can be measured, in part, by its global acceptance and world-wide institutionalization.

7.9.2 The Need for CPTED in the Urban Design Process

The need for CPTED in the urban design process can be found in the following two statements:

- Crime and loss prevention are inherent to human functions and activities, not just something that police or security people do.
- What we do right or wrong with our human and physical resources produces a lasting legacy.

7.9.3 The Value of CPTED

The value of CPTED is twofold. First, it recognizes that the physical environment can be manipulated to produce behavioral effects that will reduce the fear and incidence of crime while improving quality of life. Then, it provides a conceptual framework, derived from this insight, which serves to develop and ensure a better designed property. It is through the development of this design that crime and loss is kept to a minimum. That is because CPTED believes that crime and loss are by products of human functions that are not working properly.

7.9.4 CPTED and the Planning Process

The City of Waterford recognizes the value of CPTED principles and encourage the integration into the formal development planning and design review processes in a number of important ways.

These include:

- the formal adoption of CPTED principles into the City's Vision 2025 General Plan, and
- the establishment of a policy that adopt CPTED principles into the City's Urban Design goals, policies and standards,

1. CPTED Fundamentals

CPTED involves the design of physical space in the context of the needs of the bona fide users of the space, the normal and expected (or intended) use of the space and the predictable behavior of both bona fide users and offenders. In this regard, the proper function must not only match a space that can support it but the design must assure that the intended activity has the opportunity to function well and support the control of behavior.

Goal:

To create an environment where the design and use can lead to the reduction in the fear and incidence of crime and an improvement in the quality of life.

CPTED Concerns CPTED Objectives

- designs that make it difficult for an intended function to work well.
- designs should ensure that the intended activity has the opportunity to function well and directly support the control of human behavior (design strategy).
- lands and/or spaces that do not support their intended function.
- match intended human functions with spaces that can support them (space assessment).

There are three overlapping CPTED design strategies. They are:

- ***Natural Surveillance*** is a design strategy that is directed at keeping intruders under observation.
- ***Natural Access Control*** is a design strategy that is directed at decreasing crime opportunity. The primary thrust of an access control strategy is to deny access to a crime target and to create a perception of risk in offenders. and,
- ***Territorial Reinforcement*** is an "umbrella" design strategy that realizes that physical design can create or extend a sphere of influence so that users of a property develop a sense of proprietorship over it. Territorial strategies will often embody natural surveillance and natural access control strategies.

The conceptual thrust of the CPTED program is towards the exploitation of "natural" forms of surveillance and access control. The term "natural" when referring to natural surveillance and access control, refers to deriving surveillance and access control as a result of the routine use and enjoyment of the property.

Examples of "natural" forms of surveillance include the strategic use and placement of park benches, windows and lobbies. Examples of "natural" forms of access control include the strategic use of distance (e.g. lawns, flooring) and/or topographical features (e.g. creeks, sidewalks) to direct activity or create a buffer between potentially conflicting activities.

Mechanical Forms of Surveillance & Access Control Other forms of surveillance and access control often used by designers include mechanical forms such as lighting, fencing or gating. Territorial Reinforcement Territorial reinforcement is an expression of proprietorship.

For example, a clean, well lit attractive store will present behavioral and environmental cues that tells the "normal user" that they are safe and only accepted behaviors will be tolerated. The same cues have an adverse effect on "abnormal users".

The design of space and the way people are behaving will give the impression that the abnormal user will be observed, stopped or apprehended. Territorial reinforcement, together with natural surveillance and access control, promotes more responsiveness by users in protecting their territory.

Principle:

To develop a design that functions well and supports the intended human behavior.

Natural Surveillance
Issues Objectives
Does the design allow us to observe?
(a) Design space to facilitate observation by
increasing "visual permeability" i.e. the ability to see what is ahead and around. Measure the need for privacy and/or limited sightlines against the need for personal safety.

Is this level responsive to the needs for observation?
(b) Place vulnerable activities, such as cash handling/child care and others, in places that can be naturally, well-monitored. Develop potential for "eyes on the street" by strategically aligning windows, work stations and other activity generators towards these areas of "vulnerable activity".

Has the need for observation been carried consistently throughout the project?
(c) Take special care to ensure that each phase of the project enhances and complements natural surveillance opportunities created in the design phase. This is particularly critical with respect to the landscaping and lighting phases. Photo 1: These houses have been strategically designed and placed to maximize observation to the entrance of the streets and the neighboring homes.

Natural Access Control
Issues Guidelines
Does the design decrease criminal opportunity by effectively guiding and influencing movement?
(a) Provide for "eyes on the street" through the strategic placement of entrances, windows, etc. Direct normal access to observable areas and prevent access to unobservable areas. Design space to provide people with a sense of direction while giving them some natural indication as to where they are and are not allowed (refer to Definition guidelines – Sec. 3.2)

Will safety be compromised by limiting access?
(b) Provide a limited number of access routes while allowing users some flexibility in movement.
Does the design develop natural access control opportunities without considering their impact on natural surveillance?
(c) Take special care to ensure that natural access control opportunities enhance and complement natural surveillance objectives. Photo 4: Multiple Entrances into this parking lot were replaced by a single, well observed entrance that includes a fence and control gate.

Territorial Reinforcement
Issues Objectives
Does the design act as a catalyst for natural surveillance and access control opportunities?
(a) Enhance the feeling of legitimate ownership by reinforcing existing natural surveillance and natural access control strategies with symbolic or psychological barriers. Accomplish this by demonstrating the transition between public, semi-public and private space so that unwanted intrusion elicits a protective response that offenders will perceive. This is often easily

accomplished with the strategic use of bollards and signs.

Does the design create ambiguous spaces?
(b) Minimize the creation of ambiguous spaces (a space is ambiguous when it lacks any sort of clue as to what it is for, and who it is for). Accomplish this by identifying potential "leftover spaces", for instance the area between the aboveground portion of a building's underground parking lot and its property line. Then take some positive action to develop this space so that users of the property take responsibility for it.

Will the design create heavy or unreasonable maintenance demands?
(c) Design space to allow for its continued use and intended purpose. Create durable environments that limit the need for maintenance especially where it affects natural surveillance and access control.

Space Assessment
The CPTED approach to space assessment provides a simple guide for the layperson to use in determining the appropriateness of how a space is designed and used. This approach is based on three functions or dimensions of human space.

These functions are:

- All human space has some designated purpose.
- All human space has social, cultural, legal or physical definitions that prescribe the desired and acceptable behaviors.
- All human space is designed to support and control the desired behavior.

By emphasizing designation, definition and design, space may be evaluated by asking the following types of questions:

Designation

What is the designated purpose of this space?
What was it originally intended to be used for?

Definition

How is the space defined?
Where are its borders?
Are there social or cultural definitions that affect how that space is used?
Are legal or administrative rules clearly set-out and reinforced in policy?
Are there signs?

Design
What physical design will best support the intended use of space?
What physical design will best provide the means to influence behavior?

Once a basic self-assessment has been conducted, the "Three-d's" can be examined to help guide the decisions about what to do with human space. These guidelines are presented in the accompanying table.

Principle:
To develop a space that supports its intended function.

Designation
Issues Objectives
How well does the space support its intended use?
(a) Assign space according to its ability to support an intended function.

Is there conflict?
(b) Use natural barriers, such as terrain or distance, to physically separate conflicting activities.

Definition
Issues Objectives
Is it clear who owns the space?
(a) Provide clear border definitions of controlled space.

Is there conflict or confusion between the designated purpose of the space and its definition?
(b) Provide clearly marked transitional zones that indicate movement from public to semi-public to private space.

Design
Issues Objectives
Does the physical design match its intended use?
(a) Ensure that physical space is designed in the context of the needs of the bona fide users of the space.

Does the physical design impede or conflict with the productive use of space?
(b) Design and organize space to allow for its effective use and safe critical intensity of people.

Does the physical design impede or conflict with the proper functioning of the intended human activity?
(c) Design space to increase the perception or reality of natural surveillance, natural access control and territoriality.

Does the physical design provide the means for normal users to naturally influence the activities of others?
(d) Identify vulnerable areas, including those with limited natural surveillance, natural access control and territoriality such as parks or parking areas, then reduce their risk by improving the distribution of safe activities near them.

Is there conflict or confusion in the manner in which the physical design is intended to influence human behavior?
(e) Identify vulnerable activities, such as cash handling and child care centers, then reduce their risk by placing them inside areas of strong natural surveillance, natural access control and territoriality.

Notes on Section 3.1 Designation

(a) Assign space according to its ability to support an intended function.

The purpose of this guideline is to match a functions need for natural surveillance, natural access control and territorial reinforcement with a space that can support them.

(b) Use natural barriers, such as terrain or distance, to physically separate conflicting activities.

The purpose of this guideline is reducing fear-producing conflict by effectively separating conflicting activities. Effective barriers to conflicting activities include distance, terrain and activities that can be described as neutral or complementary.

An example of a conflicting activity is a basketball court next to a senior's centre. The sounds and action produced from the court can be disruptive and fear producing to seniors.

Notes on Section 3.2 Definition

(a) Provide clear border definitions of controlled space.

The origin of this guideline can be found in the common law requirement that space be defined to preserve property rights. Its underlying principle is that a "reasonable person" must be able to recognize that he or she is moving from public to private space. Fences, certain types of shrubs or signs are examples of acceptable border definition. Border definition can be physical or symbolic.

(b) Provide clearly marked transitional zones that indicate movement from public to semipublic to private space.

The importance of this guideline is that users of a property must be made to acknowledge movement into a controlled space.

The rational behind this, is that as transitional definition increases, the range of excuses for improper behavior is reduced.

Notes on Section 3.3 Design

(a) Ensure that physical space is designed in the context of the needs of bona fide users of the space.

The purpose of this guideline is to properly match a space's physical design with its intended use. This can best be accomplished by matching the physical design of the space with the physical, social and psychological needs of the space's bona fide users.

(b) Design and organize space to allow for its effective use and a safe critical intensity of people.

It has generally been found that the effective and productive use of space will generate a safe and critical intensity of people that will not only cause "abnormal users" to feel at greater risk, (due to greater risk of surveillance and intervention) but will also result in "normal users" feeling and experiencing reduced risk.

(c) Design space to increase the perception or reality of natural surveillance, natural access control and territoriality.

The purpose of this guideline is to emphasize "user friendly" natural forms of surveillance and access control such as windows, clear lines of sight and spatial definition. The reason for this emphasis is to minimize the constraints on the routine use and enjoyment of the property as is often the case when traditional forms of target hardening are used.

(d) Identify vulnerable areas, including those with limited natural surveillance, natural access control and territoriality such as parks or parking areas, then reduce their risk by improving the distribution of safe activities through them.

This guideline is to be used within reason to strategically distribute "safe" activities through, what would otherwise be "unsafe" areas. The benefits associated with this guideline include increased witness potential and challenging or controlling behavior (e.g. staring). The net impact of these benefits is a greater feeling of safety for "normal" users of the property and a greater sense of risk, scrutiny and intervention amongst most "abnormal" users.

(e) Identify vulnerable activities, such as cash handling or child care centers, then reduce their risk by placing them inside areas of strong natural surveillance, natural access control and territoriality.

The purpose of this guideline is to proactively distribute vulnerable activities in the safest possible places. The positioning of vulnerable activities near windows of occupied space or within tightly controlled areas will help to overcome risk and make the users of these areas feel safer. These photos show a kindergarten play area designed within an unheated interior courtyard of the school. It also serves as a gathering place.

Waterford
Vision 2025
General Plan
Chapter 8 Open Space & Conservation

2025 Open Space & Conservation Vision: A community that values, protects and conserves its valuable open space resources, with recreation lands and facilities that benefit local residents and support and enhance the recreation economic base of the region.

8.1 Introduction & Authority

As set forth in state law, the Open Space/Conservation Element of the *Waterford Vision 2025 General Plan* establishes goals, policies and actions that relate to the preservation of open space and the conservation of resources.

The broad nature of topics required to be addressed in an open space/conservation element results in overlap with other elements of the general plan. The *Waterford Vision 2025 General Plan* has been organized in such a fashion so as to integrate open space and conservation policies into related elements such as the Safety, Transportation and Circulation, Public Facilities, Urban Expansion and the Land Use elements. The Sustainable Development Chapter of this General Plan contains policies and programs that supplement the Conservation Element in areas of air resources, water conservation, energy, etc.

Policies and standards contained in these and other elements of the general plan provide additional direction and policy for open space and conservation.

In an effort to minimize documentation, such as inventory data, setting descriptions, etc., the data contained in the Program Environmental Impact Report for the general plan is to be considered as a supplement to this element.

Government Code section 65302 (d) of California law sets forth the requirements of the general plan open space and conservation element.

The law requires that the general plan include a "*...Conservation Element for the conservation, development and utilization of natural resources including water and its hydraulic force, forests, soil, rivers and other waters, harbors, fisheries, wildlife, mineral and other natural resources*."

The legislative intent of the law, as set forth in Government Code section 65562, is to assure that cities and counties recognize that open space land is a valuable limited resource which must be conserved whenever possible. Additionally, the open space element must accomplish the objectives of a comprehensive open space program along with state and regional open space plans.

Open space is to be preserved for the purpose of conserving natural resources, for managing the production of resources, providing outdoor recreation, and promoting public health and safety. The open space element is required to contain an "action program" which the City intends to pursue in implementing its Open Space Plan.

8.2 Setting

The City of Waterford was originally established along the banks of Tuolumne River on rich alluvial soils. The community's agricultural setting has a pronounced influence on its economy and the lifestyle of its residents. Surrounding farmlands are intensely managed for agriculture and planted with various crops and orchards.

The surface water resources of the region, both natural and man-made, have been the primary factor defining the City's open space. Many of the City's parks are oriented around the regional surface water drainage system. The Modesto Irrigation District (MID) canal system has also become an important open space feature in the area, as has the Modesto Reservoir to the east of the City.

8.2.1 Agriculture

The historic city center of Waterford was established on the alluvial fan and historic flood plain of the Tuolumne River and Dry Creek.

The agricultural soil resources and crop production characteristics of the planning area are inventoried in the Program EIR for the *Waterford Vision 2025 General Plan*. Agricultural is also addressed in the Sustainable Development Chapter of this plan. This chapter supports and complements the conservation goals and objectives.

8.2.2 Recreation

The City of Waterford has a well-developed network of parks and recreation facilities. A general formula used by many parks and recreation experts, as well as by the City of Waterford, is to have five acres of City park land for every thousand residents.

It is important to keep in mind that the adequacy of Waterford's park system should not merely be judged on the ratio of park acreage to total population. Location, facilities and user demand are equally important. Park goals, policies and standards are established in the

Public Facilities & Services Chapter of this plan.

8.2.3 Biological Resources

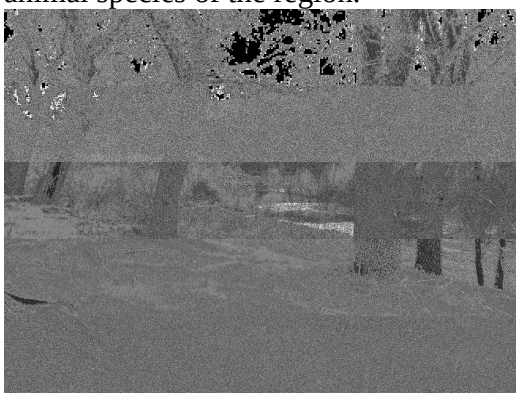
The Waterford planning area contains several important habitats that could contain species of plant and animal life considered "sensitive".

The northern and eastern portions of the planning area, in the region of Dry Creek and the Modesto Reservoir, contain seasonal wetlands and vernal pools in scattered locations. These seasonal wetlands and vernal pools provide potential habitat for several species of wildlife that are listed as threatened and endangered.

Throughout the planning area, the MID canal system also provides important wildlife and open space habitat. Policies regarding the conservation of the area's biological resources are also addressed in the Sustainable Development Chapter of this plan

The ***Waterford Vision 2025 General Plan Program EIR*** contains a list of Special Status plant and animal species that are likely to be found in the City's planning area. In general, the City of Waterford and its surrounding area provides habitat for many species of resident and transient terrestrial wildlife. Many species use the region's varied riparian habitats and oak woodlots. Agricultural fields and orchards provide habitat for many species of wildlife as well.

The City's open space areas have provided an important habitat for the region's native plant and animal species over the years. Policies and programs, such as the City's river and creek channel development setback standards, have been implemented in the City to preserve and protect these natural riparian areas. These programs, in conjunction with the City's park system, have been effective in preserving and protecting many of the native plant and animal species of the region.



8.2.4 Water Resources

The water resources of the Waterford area are derived from two sources: ground water and surface water. Both sources have their origin, in large measure, in runoff from the Sierra mountains to the east. The MID principal water source is the Tuolumne River which originates near Yosemite National Park and flows westerly toward the San Joaquin River in the central valley.

The district's principal storage reservoir is Lake Don Pedro, located in Tuolumne County to the east of the City's planning area.

As noted under ***Biological Resources***, the area surrounding the City of Waterford contains a rich and varied surface water system which includes a natural river, creek and drainage system, the MID irrigation canal system, and Modesto Reservoir to the east of the City's planning area.

The surface water system of the region is vulnerable from discharge containing contaminates. Pollution of the region's surface water system mostly results from direct storm water and irrigation water discharges into the system. The primary impact of this pollution is on wildlife that relies on riparian habitats in the region. Overall, however, as a result of federal and state regulations of surface water discharge, regional surface water resources are relatively free from pollution.

The Waterford region is situated on a large underground aquifer containing ground water. Ground water in the area recharges from deep percolation rainfall and irrigation water, seepage from the rivers, underflow from the Sierra Nevada foothills, and upward flow from the formations that underlie the Mehrten Formations.

Groundwater quality is generally good within the Waterford planning area. Shallow groundwater resources are the most vulnerable to contamination; it is these same shallow ground water sources which many private domestic wells draw from. Municipal or public water supplies are usually drawn from depths reaching 800 feet or more and are much less susceptible to contamination by man's activities.

8.2.5 Mineral Resources

The Tuolumne River channel, as it passes through the City of Waterford, contains mineral resources that require managed production, according to the State Mining and Geology Board. The state legislature adopted the Surface Mining and Reclamation Act (SMARA) in 1975, which designated Mineral Resource Zones (MRZ) for areas possessing minerals of statewide or regional significance.

Mineral Resource Zones are identified in the *Mineral Land Classification of Stanislaus County, California* (1993) Report (Special Report 173). The report designated the "Waterford" area of the Tuolumne River corridor as MRZ 2b $^{sg(C6)}$, which translates into "Mineral Resource Zone" in the "sg" (Class-aggregate-sand and gravel) in the "use" class (C) for concrete. The "6" is a site identification number.

Areas to the east and west of the City, Site 12 (Hickman Pit) and 13 (Waterford Site), are presently active sand and gravel mining operations. Sand and gravel mining in the river corridor, as it passes through Waterford, is limited due to the narrow river channel in this area. It is unlikely that any commercial mining operation could be established in the area of the river due to the environmental impacts on the river.

8.2.6 Cultural Resources

Archaeological sites are defined as locations containing significant levels of resources that identify human activity. Very little archaeological survey work

has been conducted within the City or its surrounding areas. Dry Creek and its drainage system exist in the northern expansion area of the City and the Tuolumne River passes through the developed area of the City. Waterways are a common characteristic of archaeological sites and represent potential for archaeological resources.

The National Register of Historic Places, the California Historical Landmarks List, and the California Inventory of Historic Resources do not contain any sites within the City of Waterford.

8.3 Issues & Intent

Open space is one of the essential elements contributing to the high quality of life in the City of Waterford. It provides a multitude of functions that are beneficial to the community. Open space provides parks and recreation areas, preserves natural resources, provides an avoidance mechanism for development near hazardous areas, and provides buffers between non-compatible uses.

The Waterford urbanized area contains significant open space that includes developed park lands, school yards, and natural resource corridors along MID canals and the Tuolumne River. In the areas of the City designated for future expansion, additional natural resource areas exist on lands containing "wet lands" to the north and east of the City and the "riparian" areas adjacent to Dry Creek.

Lands that are considered "open space" include areas preserved for natural trails and pedestrian walkways, parks, water basins and, agriculture, etc. Additional area will be preserved for open space for recreation, wildlife habitat conservation, or agricultural use through the site development review process, which will identify wetlands habitat.

Significant land outside the Waterford urban growth area boundary is designated for agricultural use. The existence of this prime agricultural land is one of the basic reasons for establishment of the Waterford urban growth area boundary as it is designated on the general plan land use diagram.

The purpose of the Open Space and Conservation Element is:

- To assure the continued availability of open land for the enjoyment of beauty, for recreation, and for preservation of natural resources;
- To guide development in order to make good use of the City's natural, environmental and cultural resources;
- To maintain any valuable resource areas necessary for the continued survival of significant wildlife and vegetation;
- To provide the foundation for a comprehensive open space management system as delineated on the Open Space, Conservation and Recreation Plan;

- To establish the basis for City collaboration with adjacent jurisdictions involving broader open space and environmental resource management, including linkages with adjoining open spaces and trail systems;
- To work toward balancing the interests of preservation of agricultural pursuits and the pastoral lifestyle, coupled with increasing development pressures throughout the Waterford urban area.

The general plan recognizes that the urban form of the City of Waterford will be shaped through the retention of open space and agricultural lands. The land use plan proposes the preservation of open space by concentrating urban development and channeling future development north and northeast of the existing City onto lands with lesser overall agricultural value.

The general plan also takes advantage of the open space opportunities afforded by utility and MID canal rights-of-way, proposing them for use as trails, landscaped environmental corridors, or parks. Tuolumne River and Dry Creek are also used as multi purpose trail ways and/or lineal parks. A trail system connecting recreational centers along the Tuolumne River creates a unique biological buffer between urban development and the sensitive biological resources along the Tuolumne River.
The intent is to maintain and enhance a natural recreational corridor along the City's southern interface with the river. A similar plan will be applied to the Dry Creek corridor as the northern portion of the future expansion area is considered for inclusion into the City's Sphere of Influence.

8.4 Types of Open Space

The following is a brief description of the types of open spaces that are subject to the policies and standards contained in the Public Facilities and Services Chapter. An explanation of permitted and required land uses within the open space category is contained in the General Plan Land Use Element.

Waterford is fortunate to have two types of facilities for active and passive recreation and visual attractiveness, parks and open space. These open space areas integrate a wide variety of open space needs including resource conservation, public health and safety, wildlife protection and recreation.

8.4.1 Parks

The purpose of a park is to provide space and facilities for recreation. Recreation primarily is thought of as active play space, such as tennis courts, baseball fields or jogging trails, and facilities, such as swimming pools, playground equipment, recreation halls or community centers. But parks also include areas for passive recreation such as open lawn areas for picnicking and relaxation.

8.4.2 Open Space

Open space, on the other hand, is generally thought of as an area, small or large, preserved for its natural beauty. Open space areas may be part of a larger park, or may stand alone as cool-looking, refreshing vistas, or may be the agricultural land surrounding the City and the Tuolumne River corridor.

These open space areas are also often part of areas set aside for wildlife conservation, resource protection and other open space needs.

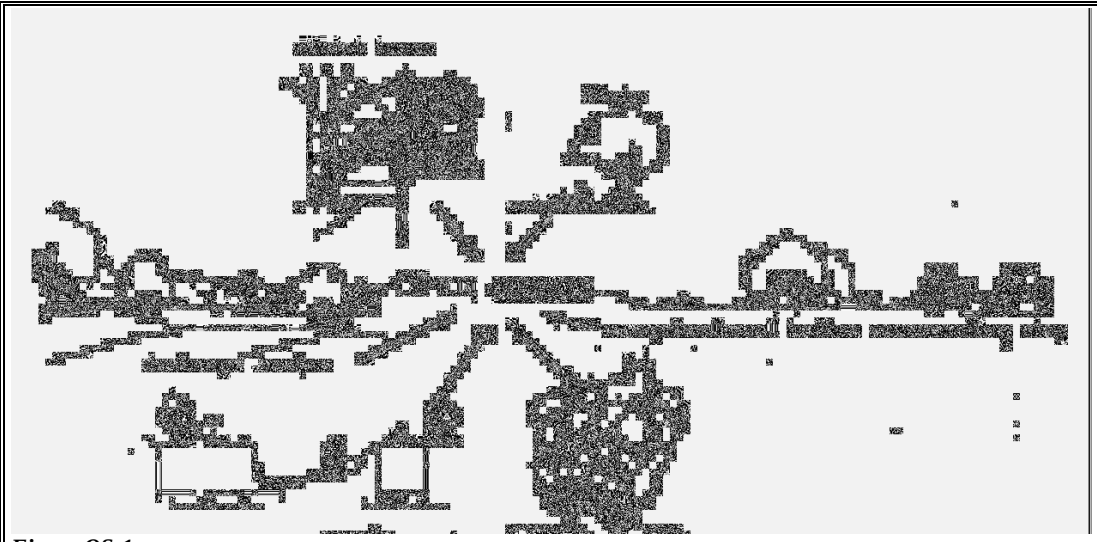


Figure OS-1

Open space generally is not used as often or as intensely as recreation parks, but it is equally important even to people who never actively use them but only pass by or look out on them.

Whether used for active or passive recreation, parks and open space have a decided potential for positive impact on the total community's quality of life by providing variety and breathing spaces within the urban environment.

Certain open space areas are developed around necessary public infrastructure such as ground water recharge areas and storm water drainage detention or retention ponds.

Storm water retention and/or detention basins are primarily used for flood control with a secondary purpose of providing recreation and open space. Basins are often designed as a deep pits containing drainage water. However, City policy has been that they are to be designed as open space or park-like features. This is particularly important in residential areas. Shallow broad depressions with turf, trees and perhaps some recreation equipment in selected locations are preferred design characteristics.

To maximize the use of land consideration is to be given to combining the need for future parks and future drainage basins in the same location, while at the same time providing for the needed and desired open space and recreation activities.

8.4.3 Agriculture

Waterford is located within a valuable agricultural area. Interim agricultural use is also encouraged within designated areas of interest around the City. Agriculture serves the purpose of limiting low-density suburban type development. Low-density development would preclude future urban type densities and uses from being developed

as needed in the future. Thus, agricultural open space use is seen as an intermediate use until the area is needed for urban expansion.

8.4.4 Schools & Parks

School facilities act as a supplement to the park system in Waterford. They provide virtually the same active recreation facilities and opportunities as a typical City park. Passive recreation facilities are usually limited, however, at school recreation sites.

The City and the Waterford School District promote the development and design of combined facilities, incorporating active and passive recreation opportunities. These efforts should continue when new school sites are considered in within the City. In addition, the potential still exists to redevelop existing school sites into more park-like settings.

8.4.5 Other Open Space Features

Waterford is fortunate to have open space features scattered throughout and surrounding the City. Many are valued in and of themselves while others are a portion of larger facilities such as the Grange Hall at the intersection of Bentley and Highway 132.

Emphasis should continue to be placed on locating new park sites in areas where existing open space features exist, such as wetlands, riparian areas, important cultural resource sites, etc. This not only preserves the features but also creates a unique and often mature park at the initial development stage.

Stands of mature trees, Dry Creek, the Tuolumne River, MID irrigation channels, power-line easements, and wildlife habitat areas are all elements which could be incorporated into parks, thereby achieving a joint goal: preservation and enhancement of Waterford's parks and open space.

8.5 Goals, Policies and Actions

One of the overall purposes of the *Waterford Vision 2025 General Plan* is to preserve and enhance the natural and man-made environmental resources of the City. The goals, policies and actions of this Open Space & Conservation Element are designed to achieve this purpose while permitting the long-term growth and development of the city.

The general plan land use diagram identifies areas proposed for open space uses, such as merely open space or for parks/recreation. This land use classification is discussed in the Land Use Element of this plan.

The Open Space & Conservation Element contains policies for open space lands and for conservation of natural and man-made resources within the City's planning Area. This section also contains policies for the development of recreation resources in the community and the use of open space lands for recreation purposes.

In addition to the general plan land use diagram, several figures depict natural resources in the Waterford Planning Area, which function as an inventory of open space lands as required by state law. Additional information on existing natural and man-made resources is in the *Waterford Vision 2025 General Plan Program Environmental Impact Report*.

The goals of this element are grouped into five areas as follows:

Goal Area A: Open Space for the Preservation of Natural Resources;

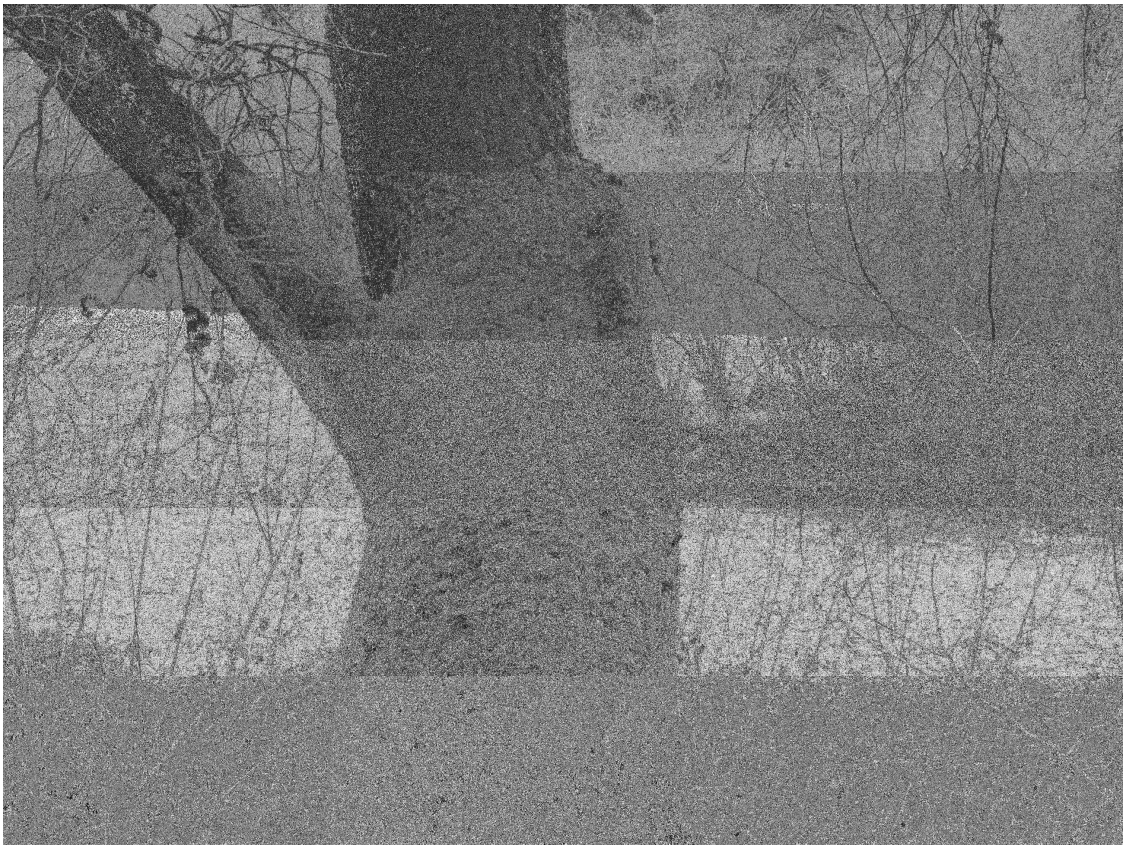
Goal Area B: Open Space for the Managed Production of Resources;

Goal Area C: Open Space for Outdoor Recreation;

Goal Area D: Open Space for Public Health and Safety; and

Goal Area E: Conservation of Resources.

In addition to the goals, policies and actions contained in this element, open space and conservation objectives of this plan are supported by goals, policies and actions contained in other elements of this general plan.



Goal Area A: Open Space for the Preservation of Natural Resources

GOALS

- **OS-Maintain Waterford's Biological Resources**.
- **OS-Maintain a High-Quality, Expanding Urban Forest**
- **OS-Preserve Scenic Corridors and Resources**
- **OS-Improve and Enhance Water Quality**

POLICIES

OS-A-1 Identify and preserve wildlife habitats that support rare, endangered, or threatened species.
OS-A-2 Preserve and enhance Tuolumne River and Dry Creek in their natural state throughout the planning area.
OS-A-3 Promote the protection and enhancement of designated scenic routes.
OS-A-4. Improve and expand the City's urban forest.
OS-A-5. Preserve and enhance water quality.

Policy OS-A-1
Identify and Preserve Wildlife Habitats Which Support Rare, Endangered, or Threatened Species.

The Waterford Planning Area is known to contain potential habitat for some sensitive wildlife species. Much of this potential habitat is located along riparian corridors of the community's natural and man-made surface water system and in vernal pools found in the northeastern part of the City's future growth area. As a matter of law, the City is bound to review development proposals that threaten to impact known sensitive species. As a matter of policy, the City is committed to integrating potential wildlife habitat into the regional park and recreation system to enhance community awareness of the region's wildlife resources and to provide shelter for native plant and animal life of the area.

Implementing Actions:

OS-A-1a Identify, and recognize as significant, wetland habitats which meet the appropriate legal definition of federal and state law.

Wetlands, as defined by statute, have special regulations that must be followed as opposed to other riparian areas or "water" areas of the community. This policy provides for the identification of those lands subject to special federal and state rules and standards and those that are solely subject to local policies and standards. Development applications will be reviewed to determine if potential wetland habitats exist on-site and wetlands delineation may be required in accordance with current U.S. Army Corps of Engineers guidelines.

"Wetlands" containing sensitive plant and/or animal species should be protected according to law. Specific protection policies should include:

a) protect wetland watershed areas.
b) establish minimum setback areas around "wetlands" in accordance with the recommendations of Department of Fish and Game, U.S. Fish and Wildlife Service,

or a qualified wildlife biologist.

The City, in cooperation with the County, may consider establishing a mitigation "banking" program in accordance with state and federal guidelines for vernal pools and other types of wetland habitats. Vernal pool preserves may be incorporated into other types of open space preserves (i.e. parks and trails) that would not be directly impacted by other types of urban development.

OS-A-1b Urban development should occur away from identified sensitive species habitats unless specific provisions to ensure adequate protection and monitoring exist.

When, as a result of specific site studies, it is determined that potential habitats actually contain sensitive or endangered species, development rules, policies and standards should be applied to assure that further degradation of these species does not occur. These policies should emphasize "avoidance" as the most desirable mitigation alternative. In instances where open space areas are established to protect a sensitive wildlife species, that area shall be subject to appropriate management principles as approved by the City upon recommendation of the California Department of Fish & Game, or the U. S. Fish and Wildlife Service, and/or ACOE.

OS-A-1c. Establish development review procedures which minimize impact on sensitive species and their habitat.

Maintain an inventory of potential wetlands, vernal pools, threatened and endangered plant and wildlife species sightings, and wildlife habitat areas, and require detailed biological assessments of these areas, including mitigation plans if necessary, prior to development. To permit contiguous development with sufficient density, it may be necessary to develop some areas containing vernal pools and marshes; on-site mitigation areas for these wetlands should be contiguous with existing wetlands or the open space network of parks and trails.

OS-A-1d Design parks and open space corridors so as to provide linkages between potential habitat areas.

It is important to develop linkages between open space areas to facilitate wildlife movement between designated habitat areas. This can be accomplished by connecting the east west trending urban stream corridors with a north-south corridor provided by power lines and the regional irrigation canal network. Whenever possible, park open space areas should be connected to one or more of these designated open space corridors.

OS-A-1e Manage open space areas to reduce the risk of injuring wildlife species with harmful chemicals, insecticides, herbicides, etc.

Within the City's open space network containing protected wildlife species, specific management practices may be required under federal and/or state regulations. In other open space areas, care should be taken to assure that management practices do not cause an unnecessary threat to area native plant and animal life.

OS-A-1f Design improvements within parks, open space areas and open space corridors to facilitate animal life movement.

Creek road crossings should utilize culvert or bridge designs which provide adequate areas for wildlife to travel along the creek corridor without being forced into a motor

vehicle pathway. Fences and other barriers should be designed to allow passage of native wildlife species throughout the open space area.

Policy OS-A-2
Preserve and Enhance Tuolumne River and Dry Creek in Their Natural State Throughout the Planning Area.

The natural surface water system of the Waterford area provides an important open space element within the City and provides important wildlife habitat. This system is also an integral part of the City's drainage system. The City is committed to a policy of preserving and protecting these important open space resources and assuring their continued viability as open space and drainage corridors.

Implementing Actions:

OS-A-2a Designate natural waterways, canals, woodlands, and other appropriate areas in the City's urban growth area as open space corridors.

Natural waterways, canals, riparian habitat, significant woodlands, and other sensitive environmental features should be conserved as open space amenities, when feasible.

Channelization improvements should be naturalized. Whenever possible, in keeping with City standards and CEQA-required mitigation measures, waterways, riparian habitat, significant woodlands and other environmental features should be incorporated into the design of development.

OS-A-2b Continue to acquire a minimum 100-foot dedication from the centerline (or 50 feet from the normal high water mark, whichever is greater) of Tuolumne River and Dry Creek within the City's urban growth area in order to maintain these open space areas as natural riparian preserves and recreation areas.

Public access should be permitted, while important natural features and sensitive habitats are preserved. Corridor width shall be dictated by site specific circumstances of the creek or river. However, at least the established minimum setback shall be maintained as open space.

OS-A-2c Encourage alternatives to concrete channeling of existing natural drainage courses as part of any flood control project and support more natural flood control methods.

There is an inherent conflict between flood control and drainage needs of the community and the value of natural drainage course as open space and wildlife habitat areas. While meandering streams and vegetation have the best wildlife values, they are least efficient in terms of removing flood waters from the community. Stream-way improvement plans must attempt to strike a compromise between drainage needs and open space needs on a case-by-case basis.

OS-A-2d Recognize Tuolumne River and Dry Creek as important open space resources and promote their protection and enhancement through the use of natural plant materials.

Use of natural or native plant landscape material instead of turf along creek banks whenever possible may result in improvement of the habitat value of the channel and

reduce maintenance costs to the City.

Policy OS-A-3
Promote the Protection and Enhancement of Designated Scenic Routes.

Historically, the City of Waterford has developed along routes and corridors which have come to be part of the City's identity. The City has designated many of these scenic routes for special development review regulation in the past. This practice has served the City well and will be continued into the future.

Implementing Actions:

OS-A-3a Identify and, where appropriate, designate scenic routes within the City's urban growth area.

Use the following criteria to identify scenic routes:

a. The scenic area through which the corridor passes should possess important scenic, historic, or aesthetic value.
b. If possible, the scenic corridor should contain a variety of vegetation or landscape types.
c. Routes of historic significance, which connect places of interest, should be considered even though the route is of marginal scenic value.
d. Routes, which incorporate significant views or vistas, should be considered.

OS-A-3b The Waterford General Plan contains nine designated scenic corridors.

Scenic corridors on the general plan diagram depict the following:

a. Highway 132 within the City limits.
b. Tim Bell Road from the MID Main Canal to its intersection with Hazeldine Road.
c. Oakdale/Waterford Highway from Tuolumne River to Dry Creek.

OS-A-3c Utilize established guidelines for the review of projects proposed within a designated scenic corridor.

Policy OS-A-4
Improve and Expand the City's Urban Forest.

Early in the development of Waterford, trees were planted to provide shelter from wind and summer heat. As a result, the City has a large number of mature trees along its streets, in public places, and in private yards. The City's urban forest provides valuable wildlife habitat and creates an attractive atmosphere for residents and visitors alike. Additionally, the City's trees have substantially reduced summer heat and glare around paved areas thereby helping the City maintain a cooler summer average temperature and reduce energy usage. In continuing this tradition, the City of Waterford has established policies and programs to protect, maintain and expand its urban forests.

Implementing Actions:

OS-A-4a Continue the City's street tree program and explore alternative funding sources for providing long-term maintenance.

The City needs to explore new and innovative ways of maintaining trees in public spaces. This could include establishment of landscape maintenance service areas within new developments and other programs such as an "Adopt-A-Tree" program within the City

where a business or individual would assume the responsibility for the long-term care and maintenance of a significant urban tree or stand of trees.

OS-A-4b Continue to require new development to plant trees along City streets.
Tree planting policies have been established by the City for new development projects. These practices are to be continued.

OS-A-4c Work with local non-profit agencies, service clubs, and other voluntary organizations to plant trees and shrubs in appropriate areas throughout the City.
As part of an overall City beautification effort, local residents and service clubs, along with non-profit groups and businesses, can assist in expanding the City's urban forest programs into areas which are already developed with less than a full complement of tree plantings.

Policy OS-A-5
Preserve and Enhance Water Quality.

Water has become one of the most important resources with respect to determining a region's ability to grow and prosper. California has enacted several major laws which require local communities to address the complicated issue of resources. The City of Waterford has adopted policies addressing the conservation of urban water use and a development strategy to meet future water needs. The final element in the City's comprehensive water strategy is the preservation of our water quality. It should be noted that these policies are directed towards enhancing or implementing the many existing water quality regulations which affect the City and its residents.

Implementing Actions:

OS-A-5a. Utilize storm water retention basins and other "Best Management Practices" to improve the quality of storm water discharged into the region's natural surface water system.
Working in cooperation with the Central Valley Regional Water Quality Control Board, study alternative means of implementing cost effective "Best Management Practices" for the treatment of storm water discharges into the regional surface water system. A program may be developed which integrates the use of storm water retention ponds, groundwater recharge basins, swails, or other techniques which could improve the quality of storm water run-off. Additionally, design guidelines for new development may be prepared as the means of treating storm water prior to its entry into the City's storm water drainage system.

OS-A-5b Monitor known sources of groundwater contamination within the City and its future expansion area.
In cooperation with the State Department of Health Services, the Central Valley Regional Water Quality Control Board, and the Stanislaus County Environmental Health Department the City will maintain an inventory of known sources of groundwater contamination in the City's planning area. When appropriate, the City may implement policies and/or programs which minimize the threat of aggravating existing problems and eliminate potential future problems of ground water contamination. In some instances, the

City may consider extending municipal water service to suburban areas on the City's urban fringe experiencing problems from polluted ground water.

OS-A-5c. Periodically monitor the quality of surface water in the surface water system within the City and implement programs to minimize or eliminate sources of pollution.

The City, in cooperation with the Central Valley Regional Water Quality Control Board, should request periodic monitoring of the surface water system which passes through the community and its planning area. The City should study policies which would result in the improvement of water contamination sources originating within its planning area when contamination exceeds state or federal standards.

OS-A-5d Monitor ground water in areas in and around the City using septic system waste water disposal systems.

In cooperation with the Stanislaus County Environmental Health Department, monitor developed areas within the City's planning area for nitrate concentrations exceeding state standards. Where problem areas are identified, study potential resolutions to the problem including annexation and the extension of City sewer service to the area.

Goal Area OS-B: Open Space for the Managed Production of Resources

GOALS

- **OS-Maintain and improve regional agricultural productivity**

POLICIES

OS-B-1 Protect agricultural areas outside the City's urban growth area from urban impacts.

OS-B-2 Relieve pressures on converting areas containing large concentrations "prime" agricultural soils to urban uses by providing adequate urban development land within the Waterford urban growth area.

Policy OS-B-1
Protect Agricultural Areas Outside the City's Urban Growth Area From Urban Impacts.

Regional agricultural cropland provides an economic base for the City of Waterford and the long-term economic health of the City is directly linked to conserving the productive capacity of the regional farmland. In light if this, the City has established urban expansion policies directing urban growth away from "prime" agricultural soils. To the same degree, policies are needed to protect farmland along the urban interface and to promote open space policies which protect farmland and the farming industry.

Implementing Actions:

OS-B-1a Explore the use of Farmland Trusts, exclusive agricultural zoning, and the transfer of development rights to protect prime agricultural areas.

The City, in cooperation with the County of Stanislaus, can explore various agricultural preservation programs in proximity to the City. The policies should limit present tendencies towards suburbanization of farmlands into large lot rural residential

developments which have a long-term adverse impact on the productive capacity of the region's agricultural production capacity.

OS-B-1b. Establish policies and programs that minimize conflicts between urban and agricultural uses.

Consider adoption of a "right-to-farm" ordinance to inform residents of continued agricultural production and the lawful use of agricultural chemicals, including pesticides and fertilizers, in proximity to urban areas. Also, to assert that no preexisting or future agricultural operation shall be considered a nuisance solely due to a change in adjacent land use or adjoining residential development.

OS-B-1c Minimize conflict between agricultural and urban uses by requiring buffers or using roads or surface waterways to separate these uses.

The City should periodically review its urban boundary policies to assure that adjacent farmlands are adequately buffered from urban uses.

Policy OS-B-2
Relieve Pressures on Converting Areas Containing Large Concentrations of "Prime" Agricultural Soils to Urban Uses by Providing Adequate Urban Development Land Within the Waterford City Urban Growth Area.

Generally, overly restrictive growth and development policies within a city can translate into increased development pressure on rural areas. The City of Waterford is committed to providing adequate and economically competitive development land within its urban growth area to reduce rural development pressures on the valuable agricultural lands outside the City's urban growth area and in the surrounding region.

Implementing Actions:

This important policy is implemented through several programs found in the Land Use, Public Facilities, Urban Expansion, and Transportation & Circulation chapters of the *Waterford Vision 2025 General Plan*. These programs are not duplicated under this policy heading.

Goal Area OS-C: Open Space for Outdoor Recreation

GOALS

- **OS-High Quality Recreational Open Space**
- **OS-Adequate Public Recreation Facilities**
- **OS-Comprehensive Urban Trail and Bike Path System**

POLICIES

OS-C-1 Provide high-quality park and open space facilities to serve the needs of a growing population.

OS-C-2 Maintain and expand the City's Bikeway and Trail System.

Policy C-1
Provide High-Quality Park and Open Space Facilities to Serve the Needs of a Growing Population.

The City of Waterford has benefited from the foresight of early leaders in the City's development with respect to parks and open space. The City's growth has areas incorporate its natural open space resources along the Tuolumne River, Dry Creek and other lesser drainage courses into an overall open space network which has become a major source of civic pride. The City is committed to continuing this high standard of park and open space development in the expansion areas to the north and south of the existing City.

Implementing Actions:

OS-C-1a Continue efforts to acquire new park sites within future growth areas in advance of development to meet the recreation open space needs of an expanding population.

Overall, a total of 5 acres of parkland should be provided per 1,000 residents in the City, of which 1.5 acres should be in community parks and 3.5 acres should be in various forms of neighborhood parks, including "greens," school parks, and other neighborhood parks. "Greenway" trails should provide bicycle and pedestrian access throughout the City and its growth areas.

OS-C-1b Consider density bonuses for development proposals which offer extra park land dedications where needed.

Density bonuses on new development should be linked to park land needs for the area and exclude areas which must be set aside as wildlife preserves or left undeveloped for other environmental concerns. Land dedication for planned trails and bikeways are appropriate, but areas used for drainage facilities to serve a development would not be considered for park land except those areas to be improved for park and open space use by the developer.

OS-C-1c Continue to encourage joint use agreements between the City and local school districts to combine park and school facilities when feasible.

This policy supports and complements other joint use facility policies of the Public Facilities Chapter of this general plan. A 5 to 10 acre neighborhood park should be associated with each elementary and junior high school. These schools and school parks should be centrally located, placed at the edge of a Village or neighborhood center, and along greenways, when possible.

OS-C-1e Use the City's Park Dedication Ordinance to develop the City's park system.

When feasible, use the following criteria to locate parks:

a. No household should have to walk more than approximately one-half to three-quarters of a mile to a park site.
b. Parks should be located adjacent to schools as much as feasible.
c. Provide visual, pedestrian and vehicular access to all parks by requiring them to front on public streets on as many sides as possible and not be surrounded by

privately owned property. Adequate parking facilities should be provided where needed.

d. Neighborhood park sites should front on at least one side on a collector street, with the remaining sides on local streets. Community or regional parks may front on arterials.
e. Park sites should be located so as to incorporate naturally occurring open space features, such as significant stands of trees, riparian and wildlife habitat, scenic vistas, and creeks and drainage canals.
f. Park sites should be located adjacent to bikeway facilities.
g. Park sites should be located near higher-density residential areas as much as possible.
h. Parks should have access to nearby subdivisions and greenways by means of cul-de-sacs, access easements, etc.

OS-C 1-2f Design and develop parks which are compatible with adjacent land uses through the establishment of a park planning process that is responsive to community and neighborhood input.

Existing parks should be evaluated periodically by the Recreation and Parks Commission to ensure that they are meeting the needs of the neighborhoods in which they are located, and programs for expansion/ relocation/reconfiguration should be established when needed.

OS-C-1g Develop a priority system for acquiring parks and open space based on neighborhood input, growth trends, need, and funding sources.

The specific planning process for south Waterford, coupled with the need to update the Parks and Open Space Master Plan provides the City with the opportunity to prioritize park and open space needs within the fiscally constrained setting which exists and is likely to exist into the foreseeable future. These planning processes will permit residents of the City to focus on the subject of park and open space needs for the future in light of new opportunities and developments which have occurred in recent years.

Policy OS-C-2
Maintain and Expand the City's Bikeway and Trail System.

Waterford's bikeway and urban trail system is an important element of the character of Waterford. The system's use of the natural open space resources of the community has benefited the public and helped to preserve important open space lands in addition to providing recreation and alternative transportation to residents. Bikeways and urban trails are an important element of the greenway system and provide linkages between other elements of the park system, public transportation, residential, and commercial areas throughout the City. The City is committed to building upon this system and expanding it into the future growth areas.

Implementing Actions:

OS-C-2a Utilize the urban stream system in the planning and design of bikeways and trail.

It is the City's policy to acquire a minimum 100-foot dedication from the centerline (or 50 feet from the normal high-water level, whichever is greater) of Tuolumne River and

Dry Creek within the urban growth area in order to maintain these open space areas as natural riparian preserves and recreation areas. Development of bikeways and trails in these open space areas can enhance the open space value of the urban stream system provided that the trails do not unnecessarily interfere with other open space goals and policies.

OS-C-2b Make use of natural surface water system areas, utility line easements, abandoned rights-of-way, and canal easements for bikeway purposes.

These areas are generally set aside as open space areas and their use for bikeway and trail systems would enhance the public value of open space in addition to providing an important amenity to neighborhood residents.

OS-C-2c Provide links between parks, schools, and open space areas via the bikeway system.

The bikeway system can also be part of a greenway.

OS-C-2d Provide a link between the City and County bikeway systems by establishing a connector between the City of Waterford and the Modesto Reservoir.

This bikeway link between the City, its future growth areas, and the Modesto Reservoir recreation area can be developed along the MID canal system. Plans may be integrated with future development of the beltway system and linear open space plans along natural drainage courses and other irrigation canals.

OS-C-2e Develop an off-street bikeway and trail system in urban growth areas of Waterford.

As part of the planning process for the Waterford urban growth areas, an inventory of potential off-street routes should be taken and reviewed by City officials. This system should link existing and planned future park areas and provide links to other open space and school areas as well as being integrated into the rest of the City's bikeway system.

OS-C-2f Expand the existing bikeway system to all new growth areas as development occurs.

As part of the development review process, bikeway dedications should be required, when appropriate, as a condition of permit approval.

OS-C-2g Explore the possibility of providing unpaved trails for equestrian and mountain bike use as part of the overall trail system.

These types of trail systems may be appropriate along the fringe of the City where lower density rural residential development permits the keeping of horses and other livestock on large lots.

OS-C-2h Bike path designs should reflect security and other needs of the surrounding community.

When locating bike paths and trails, the design should be sensitive to the need for privacy and security of neighboring residents. If feasible, bikeways should be designed with multiple access points from surrounding neighborhoods and so that there is sufficient visibility from public roadways to facilitate surveillance by residents and police patrols.

Goal Area OS-D: Open Space for Public Health and Safety

GOALS

- **OS-Safe Environment For Waterford's Citizens.**

POLICIES

OS-D-1 Preserve open space areas which are necessary to maintaining public health and safety.

Policy D-1
Preserve Open Space Areas Which Are Necessary to Maintaining Public Health and Safety.

Areas within the City that may represent a substantial risk to public health and safety have historically been designated for open space uses, which may permit limited public or private use but generally reduce potential exposure of the public to potential health hazards. The City is committed to continuing to protect public health, where practical, by limiting the potential for public exposure through the sound application of open space practices and policies.

Implementing Actions:

OS-D-1a Utilize areas under high-voltage power transmission lines as open space. These areas could be used as greenways and open space areas which would provide scenic buffers from potential health hazards in addition to providing visual (and noise) buffers to surrounding areas. These areas could also be developed with storm water retention basins, groundwater recharge basins or used as part of the municipal water or other utility systems where the risk of public exposure to health hazards could be minimized.

OS-D-1b Continue enforcement of the City's weed abatement program to ensure undeveloped areas do not become fire hazards.

Weed abatement programs are an important management concept in open space areas to minimize the risk of fire. In all cases, open space areas are best used with planned plantings of native trees, brush and other plants in a park type setting. When possible, unused plots of land may be appropriately used for community garden uses for neighboring residents. This use would be most appropriate in areas where there is a large number of multi-family dwellings and few public parks or other open space areas available.

Goal Area OS-E: Conservation of Resources

GOALS

- **OS-Conserve Water Resources**
- **OS-Preserve and Protect Soil Resources**

POLICIES

OS-E-1 Promote water conservation throughout the planning area.
OS-E-2 Protect soil resources from the erosive forces of wind and water.

Policy OS-E-1
Promote Water Conservation Throughout the Planning Area.

Water is a finite resource in the Central San Joaquin Valley and is an essential ingredient to the region's continued agricultural production capacity as well as a vital element in the continued growth of the Waterford Metropolitan Area. The City, in conjunction with the Modesto Irrigation District, has studied the long-term needs for water and concluded that water conservation must be part of any successful long-term water development strategy. For this reason, the City is committed to continue its water conservation efforts and expand on those efforts where necessary.

Implementing Actions:

OS-E-1a Develop and enforce water conservation policies and standards.
The City should consider adoption of a water conservation ordinance.

OS-E-1b Develop a Water Efficient Landscaping and Irrigation Ordinance.
Promote the conservation of water and the preservation of water quality by requiring drought tolerant plant material in landscaping and the retention of existing natural vegetation on new development projects.

OS-E-1c Provide leadership in conserving urban water resources.
City buildings and facilities should be equipped with water saving devices whenever practical. Municipal parks and playgrounds should employ water conservation techniques such as mulching, drip irrigation and other appropriate technologies.

OS-E-1d Encourage public water conservation efforts.
Through established public information systems in the community, the City should promote water conservation by providing information on water savings from low-flow fixtures and the value of insulating hot water lines in water re-circulating systems. Other conservation techniques can be addressed, such as the use of non-potable water for landscape irrigation purposes (water re-use, MID water, etc.).

Policy OS-E-2
Protect Soil Resources From the Erosive Forces of Wind and Water.

Waterford is situated on some of the finest soil resources found in the Central San Joaquin Valley. Some of these soils are of a silty-loam texture and highly vulnerable to erosion from wind and water. Wind erosion contributes to the region's PM10 air quality problems, as discussed elsewhere in this general plan, and water erosion can contribute to sedimentation of the region's surface water drainage system. In all cases, however, the loss of soil through erosive forces of nature degrade the productive capacity of the land and contributes to regional environmental problems.

Implementing Actions:

OS-E-2a Reduce soil erosion potential of new development.

During the development review process for projects which involve grading and excavation, apply permit conditions which reduce or prevent erosion, siltation and contamination of storm water during construction. Techniques such as mulching of exposed surfaces, restricting major excavation projects during peak storm periods or watering exposed surfaces during summer dry periods can be successfully employed to reduce construction-caused erosion.

OS-E-2b Encourage the planting of trees as windbreaks in agricultural areas of the community.

Historically, trees have been successfully used as wind-breaks in the region. Stands of wind-break trees can be established as part of an open space corridor along roadways and bike paths or at appropriate locations on the urban interface with agricultural land.

OS-E-2c Maintain adequate vegetation along the banks of urban streams and storm water drainage channels.

The erosive force of storm water can cause damage to stream channel banks that have to be cleared of their vegetative cover. Where it is necessary to remove natural vegetation along stream channels to improve storm water flows, "rip-rap" (rocks, concrete, etc.) should be applied to reduce erosion and sedimentation hazards.

8.6 Issues for Future Study

There are several major issues which will require future study and evaluation. The issue areas that have been identified below may be expanded from time to time as new information becomes available or new open space resource problems are identified.

8.6.1 Greenbelts & Urban Limit Lines

Suburban development on the agricultural lands surrounding the city are of critical concern. This type of development not only depletes the limited supply of "prime" agricultural soils in the area, but it causes impacts on the City's infrastructure.

The City's general plan land use element designates an urban limit along the western side of the City. Future growth pressure along this area will require close coordination between the County of Stanislaus and the City of Waterford if the City's program is to be effective in guiding growth away from this area.

8.6.2 Park & Open Space Resources

Acquisition, development, maintenance and operation resources for the City's park and open space system must compete with many other vital City services. Historically, the system's expansion and development has been driven largely by new development.

Growth and development has resulted in a well-developed park and open space system in the newer sections of the community. However, in the older portions of the city, resources have been scarce.

Long term maintenance and operation resources are extremely vulnerable to the limited City budget resources. A long term strategy needs to be developed to assure continued development and adequate maintenance of the system in future years.

Potential future park sites have been designated on the land use diagram. The sites are given a "general" designation to identify areas of potential future needs. Specific site locations, however, will require more specific planning and may be included in the City's Parks and Recreation Master Plan.

8.7 Implementation

Numerous open space and conservation & recreation implementation measures have been detailed in the goals, policies and actions section of this chapter. Primarily, implementation is through the various open space designations contained in the land use diagram for this general plan.

By means of establishing development standards for lands designated as "Open Space", the objectives of this chapter can be obtained. Through policies and standards for identifying new open space areas through the development review process, provisions have been made for the preservation of open space resource lands which may be needed at some future point in time.

Waterford
Vision 2025
General Plan
Chapter 9 Sustainable Development

2025 Sustainable Growth & Development Vision: A community that recognizes the value of its environmental setting and promotes planning and development practices that assure the long-term livability of the community with respect to air, water, energy and other critical environmental resources.

9.1 BACKGROUND & SETTING

9.1.1 Introduction & Intent

This chapter of the *Waterford Vision 2025 General Plan* addresses the environmental, natural and cultural resources of the City and proposes policies to minimize adverse effects resulting from growth and development.

The intent of this chapter is two-fold. The primary purpose is to promote *sustainable growth* in the City of Waterford. In the context of the *Waterford Vision 2025 General Plan*, "*sustainable*" means meeting the needs of the present without compromising the ability of future generations to meet their needs.

In practical terms, *sustainable growth* in the City of Waterford means accommodating growth and development without unnecessarily:

- Consuming our valuable and limited agricultural soils,
- Contaminating or over-taxing our water supplies,
- Destroying or diminishing the value of important wildlife habitat,
- Reducing our air quality to a point where our quality of life is threatened,
- Consuming limited non-renewable energy resources, or
- Destroying our cultural and historic resources.

As more people move to the City of Waterford the more planning and development policy needs to assure the sustainable use of our environment.

A second purpose of this chapter is closely related to concerns over *sustainable growth*. This chapter is intended to minimize duplication and overlap of the environmental regulatory system in the City.

Numerous federal, state and regional agencies have recognized the need to protect soil, water, wildlife, air, energy, and cultural resources. These agencies have adopted rules, regulations and standards which are routinely applied through the City's development review processes.

This complex multi-agency regulatory system can create unnecessary time delays in processing development permits. Sometimes agencies propose regulations which are in conflict with other agency regulations. As an example, State wildlife conservation efforts often conflict with local flood control agency efforts to remove brush from clogged streams and water-courses.

The lack of adequate locally derived environmental and resource protection standards pose problems for San Joaquin Valley cities like Waterford. When local standards are not in place, federal and state agencies attempt to fill the void with standards that are general in nature and development project driven. These standards frequently do not fit the circumstances of an individual project. and often varies between similar projects.

As a result, local jurisdictions face the prospect of having to impose project conditions which lack consistency and may have little long-term beneficial impact. This typically results in inconsistent standards being proposed at the federal, state or regional level. This lack of consistency creates confusion for both community investors and the public at-large.

In a similar manner, lack of local environmental policy, based on good scientific information, can create confusion during public review processes. Lack of clear local environmental policy can result in public debate being focused on technical information rather than broad policy issues and implications of development. This also leads to situations where scientific data is misinterpreted.

As a net result, lack of clear local environmental policy which is based in good scientific data can have a negative overall effect on a community. The credibility of both government permit agencies and legitimate environmental organizations can be diminished through environ-mentally driven permit processes which appear arbitrary and ineffective.

This Chapter addresses important environmental and resource issues not addressed in other chapters of this Plan. A consistent and uniform environmental policy approach is proposed. Addition-ally, broader environmental questions are framed in such a manner so as to lead logical and consistent future environ-mental standards. As a result, the City's goal of promoting *sustainable development* and reducing environmental regulatory conflict can be achieved.

9.2 Issues

To accommodate future growth in the City of Waterford, while maintaining the characteristics of the City which make it both a *healthy* and a *special* place to live, several concerns must be addressed. The following "Goal" areas establish the City's policy with respect to maintaining a "sustainable" community

9.2.1 Water Resources

Long-term growth and development in Waterford depends on adequate clean water resources. Sustained development can be accommodated through the implementation of goals and actions contained in the Open Space and Public Facilities Chapters of this plan. These goals and actions address the need to

preserve and protect water quality while planning for the future water needs of the City and surrounding agricultural lands.

9.2.2 Wildlife Resources

Man's settlement of the San Joaquin Valley has had a profound impact on the wildlife resources of this region over the past 100 years. Today, it is recognized that the health of our natural plant and animal communities is a barometer of the overall health of our environment.

It is also recognized that modern healthy human communities can co-exist beside healthy wildlife communities with the sound application of open space policy and technology. The Open Space Chapter of this general plan contains goals and actions which are directed to the preservation, protection, and enhancement of the important wildlife habitat resources found in the Waterford urban area.

9.2.3 Air Resources

Poor air quality has become a negative symbol of modern urban development. Our quality of life is often measured by the quality of the air in our urban places. Poor air quality is related to a number of factors. Air quality policies in this plan address this complex environmental issue through goals, policies and actions contained in the Urban Expansion, Urban Design, and Transportation & Cir-culation chapters of this Plan. This chapter contains several specific air quality goals, policies and actions which support the overall City effort to restore the region's clean air.

9.2.4 Cultural Resources

Historic and cultural resources are important elements in the appearance and atmosphere of Waterford. The Waterford City Vision 2025 General Plan contains numerous references to the linkages between the past, present and expected future. This chapter contains specific goals and actions intended to guide future city-wide historic preservation efforts.

9.2.5 Energy Resources

Energy use is closely related to issues relating to air quality. The burning of fossil fuels as an energy source has been one of the most significant contributors to our deteriorating air quality. Long term growth is highly dependent upon how we use energy today and how we plan future energy use.

This chapter contains specific goals and policies which address issues of energy conservation and encourage use of sustainable energy resources. It should be noted, however, that, like air quality, energy use and conservation is a complex matter. It has a close relationship to topics such as urban design, land use, traffic and circulation, and conservation. Many goals, policies and actions contained in other chapters of this plan also have an indirect impact on energy use and conservation.

9.2.6 Agriculture & Soil Resources

Conversion of "prime" agricultural soils to non-agricultural uses can result in an irreversible loss in the agricultural production capacity of the region. Goals and actions contained in the Urban Expansion and Open Space chapters of this plan focus on the issue of agricultural soil loss. These additional

policies attempt to balance the urban growth needs of the region with the need to minimize urban encroachment onto "prime" agricultural soils.

9.4 Goals, Policies and Actions

As previously noted, sustainable development goals, policies and actions are, by necessity, integrated into the entire *Waterford Vision 2025 General Plan*. The following section of this chapter specifically addresses goals and actions exclusively relating to air quality, cultural resources, and energy.

Goal Area SD-1: Air Quality

GOALS

- **SD-Clean Air, Free of Toxic Substances and Odor.**
- **SD-Clean Air with Minimal Particulate Content.**
- **SD-Effective and Efficient Transportation Infrastructure.**
- **SD-Coordinated and Cooperative Inter-Governmental Air Quality Program.**

POLICIES

SD-1.1 Accurately determine and fairly mitigate the local and regional air quality impacts of projects proposed in the City of Waterford.

SD-1.2 Coordinate local air quality programs with regional programs and those of neighboring jurisdictions.

SD-1.3 Integrate land use planning, transportation planning, and air quality planning for the most efficient use of public resources and a more livable environment.

SD-1.4 Educate the public on the impact of individual transportation, lifestyle, and land use decisions on air quality.

SD-1.5 Provide public facilities and operations which can serve as a model for the private sector in implementation of air quality programs**.**

SD-1.6 Reduce emissions of PM_{10} and other particulates with local control potential.

Policy SD-A-1
Accurately Determine and Fairly Mitigate the Local and Regional Air Quality Impacts of Projects Proposed in the City of Waterford.

The environmental assessment process required under the California Environmental Quality Act (CEQA) is by far the most important tool for local government to communicate with other agencies and the public on the air quality impacts of development within a community. CEQA, however, has only limited applicability with respect to development review and approval. The law focuses on "discretionary" projects, as opposed to "administrative" development proposals. As a result, large scale developments, which typically require "discretionary" permits are often subjected to CEQA mitigation that is not normally required. Consistent application of CEQA can make a difference in project level air quality impacts. Uniform air quality standards, however, can make a significant difference on regional cumulative air quality impacts. For this policy, the City of Waterford will pursue the following:

Implementing Actions:

SD-1.1a Develop uniform standards for mitigating air quality impacts resulting from development.

The City will work closely with the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) to develop uniform standards for determining "thresholds of significance" for air quality impacts for use in the City's CEQA review process. The City will also identify cost effective and uniform mitigation standards and will apply these standards to all development in a consistent and uniform manner.

SD-1.1b Ensure that significant air quality impacts identified during CEQA review are consistently and fairly mitigated.

The City will work closely with the SJVUAPCD, builders, and other interested parties to develop uniform and appropriate mitigation measures in the City. City policies and provisions will attempt to eliminate mitigation policies and practices which discourage large-scale comprehensively planned projects.

SD-1.1c All air quality mitigation measures should be feasible, implementable, and cost effective.

City planning efforts focus on development standards which discourage growth patterns that unnecessarily have an adverse impact on air quality. Further mitigation of air quality impacts, at the project specific level, should focus on the unique circumstances of the project and the site with respect to air quality impacts. Project specific mitigation measures will be developed to assure that they can be implemented in a manner that achieves the desired effect and so that the benefits in improved air quality are justified in light of private and public expenditure.

SD-1.1d Work with the SJVUAPCD to identify regional cumulative transportation and air quality impacts.

The City shall work with the SJVUAPCD and other local governments in the region to perform uniform air emissions modeling on the cumulative land use changes in the region. The City will participate in regional planning efforts that will fairly assess the air quality impacts of various local governmental growth policies. It is expected that this effort would lead to regional growth and development strategies (developed, administered, and implemented at the local government level) that will substantially reduce the adverse impacts of new growth and development on regional air quality.

SD-1.1e Reduce the air quality impacts of development projects that may be insignificant by themselves, but cumulatively significant.

Small residential and commercial projects usually do not cause significant air quality impacts, but when a number of small unrelated projects are developed in an area they produce a cumulative impact. These potential impacts have been addressed in the development of the Waterford general plan land use diagram. Individual projects which are consistent with these general plan policies should be subject to limited air quality analysis which focuses on neighborhood level impacts. Other projects will need to be evaluated within the context of the net cumulative effect on regional air quality. These principles of review shall also be applied to development proposed outside of the City's Urban Growth Area which are subject to City review and comment.

SD-1.1f Encourage innovative measures to reduce air quality impacts.

Innovative measures can be identified during a pre-application consultation process and

during city staff/applicant consultation over CEQA mitigation approaches.

Policy SD-1.2
Coordinate Local Air Quality Programs With Regional Programs and Those of Neighboring Jurisdictions.

Effective coordination and cooperation between local agencies in the implementation of government air quality programs is critical. Air quality problems transcend local agency boundaries and management of these problems requires various units of government to search for comprehensive solutions to the problem. Local governments working together for a common interest can multiply the resources available to accomplish air quality goals. To this end, the City of Waterford will pursue the following:

Implementing Actions:

SD-1.2a Work with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.

The City can create an environment that allows and encourages staff members to keep up with activities in neighboring jurisdictions and regional agencies. This may be accomplished by sending representatives to appropriate meetings, by contacting counterparts in other agencies when developing programs, and most important, by active participation in regional program planning.

The Planning Department, as required by law, maintains internal procedures to ensure that all affected jurisdictions and agencies are notified of development proposals. When another agency notifies the City of a pending project, air quality related issues, such as the following, should be examined:

1) Congestion on City streets from increased traffic caused by the project;
2) Effects on the viability of transit and pedestrian-oriented developments in your area (i.e., approval of a low density development on the same transit corridor as your transit-oriented development could reduce the ability of the transit provider to provide reasonable headways);
3) Failure of the other jurisdiction to require the construction of a segment of a bikeway planned in the regional bikeway plan;
4) Proposed circulation amendments that may restrict traffic flow to or from the City or that produce urban sprawl.

SD-1.2b Consult with the SJVUAPCD during CEQA review for discretionary projects.

Ensure that the SJVUAPCD is on the distribution list for all CEQA documents. Conduct a pre-application air quality review to identify issues or problems that might require redesigning of or major alterations to the project.

SD-1.2c Coordinate with other jurisdictions and other regional agencies in the San Joaquin Valley to establish consistent and uniform implementation measures (trip reduction ordinances, indirect source programs, etc.).

The City will work with the Stanislaus County Council of Governments on programs implementing transportation control measures and will work with the County and neighboring cities to ensure programs are complementary. The City will maintain its

involvement in the rule development process and provide representation on air quality steering and advisory committees.

Policy SD-1.3
Integrate Land Use, Transportation, and Air Quality Planning for the Most Efficient Use of Public Resources and A More Livable Environment.

In the past, transportation planning emphasized the construction of new roadway capacity to reduce congestion and to meet the needs of planned development. Air quality legislation now mandates all transportation plans to consider air quality. This new emphasis requires our land use and transportation plans to create patterns of development and transportation infrastructure that reduce the need for new capacity and improve air quality.

Implementing Actions:

SD-1.3a The City of Waterford will consider air quality when planning the land uses and transportation systems to accommodate the expected growth in this community.

Develop coordinated land use and transportation plans to meet federal, state, and local air quality requirements. Ensure that land uses proposed in general plan updates and general plan amendments are supported by a multi-modal (auto, transit, bicycling, pedestrian, etc.) transportation system, and that the land uses themselves support the development of the transportation system.

SD-1.3b Transportation improvements should be consistent with the air quality goals and policies of the general plan.

Analyze project submittals for consistency. Examples of inconsistent projects are a road widening project that does not consider transit, bicycling, and pedestrian needs along the route or an intersection signalization project that does not involve the installation of signal actuators that can be activated by bicyclists or pedestrians.

SD-1.3c The City of Waterford will consult with transit providers to determine project impacts on long range transit plans and ensure that impacts are mitigated.

Work with transit providers to develop long range transit plans based on land use plans supportive of future transit service. Consult with transit providers during the CEQA process to determine the impacts of development projects on the transit system.

SD-1.3d Encourage the construction of low income housing developments that use transit-oriented and pedestrian-oriented design principles.

The New Urbanist or Neo-Traditional land use and design policies of this general plan encourage the provision of sufficient density to make public transit feasible in new growth areas. The City, in cooperation with other public agencies, may explore the use of special funding sources which could assist in financing necessary infrastructure which would enhance residential development and maintain affordability for low and moderate income households.

SD-1.3e The City of Waterford will work with Caltrans and StanCOG, the Regional Transportation Planning Agency, to minimize the air quality, and mobility impacts of large-scale transportation projects on existing neighborhoods.

Provide safe pedestrian and bicycle connections between neighborhoods and shopping areas when they become separated by new rail or freeway projects

(Notes: The Urban Design goals and policies contain specific standards for land use which incorporate the Urban Villages design concepts for developing land uses which support development and operations of public transportation systems and other alternative modes of transportation.)

Policy SD-1.4
To Educate the Public on the Impact of Individual Transportation, Lifestyle, and Land Use Decisions on Air Quality.

Without the understanding and support of the general public, local air quality programs cannot be expected to achieve the desired results. Programs to educate the public on air quality issues are a vital component of a successful air quality program

Implementing Actions:

SD-1.4a Work to improve the public's understanding of the land use, transportation, and air quality link.

The City should support the SJVUAPCD efforts to educate developers and the public on the benefits of pedestrian and transit-friendly development and should participate in local programs that can reduce vehicle trips and miles traveled.

SD-1.4b The City of Waterford supports SJVUAPCD efforts to encourage formation of local groups that provide air quality education programs.

The City supports the SJVUAPCD efforts in forming a community-wide public/private air quality organization to promote air quality education programs. To this end, the City will work with the SJVUAPCD, Farm Bureau, the University of California Extension Studies, and farm organizations on educational programs.

Policy SD-1.5
Provide Public Facilities and Operations that can Serve as a Model for the Private Sector in Implementation of Air Quality Programs.

City and county governments are often the largest employers in a jurisdiction and operate large vehicle fleets. While it is recognized that the City of Waterford has very limited resources to play any meaningful role in supporting private sector energy conservation efforts, the City can pursue policies and programs which may have private sector applicability. In this respect, the City may take a leadership role in implementing employer-based trip reduction programs and fleet operator programs to reduce the City's emissions, demonstrate cost effective energy management techniques, and save public money. Options available to the City of Waterford and other larger employers include:

Implementing Actions:

SD-1.5a Study implementing innovative employer-based trip reduction programs

for their employees.

Ensure that employment contracts negotiated with employee unions are flexible and allow workers to participate in programs that reduce commute trips.

SD-1.5b Fleet vehicle operators should evaluate alternatives which include replacing or converting conventional fuel vehicles with clean fuel vehicles.

Budget for clean fuel vehicles in long range capital expenditure plans.

SD-1.5c Support the use of teleconferencing in lieu of employee travel to conferences and meetings when feasible.

Work with the telephone company and interested public agencies to develop a multi-user teleconferencing center. Use commercial teleconferencing facilities if they are cost competitive with respect to considering travel costs and employee time savings. This program can be linked to the development of the Downtown Campus program of the City.

SD-1.5d Make use of telecommuting programs as part of their trip reduction strategies.

Identify positions where telecommuting is feasible. Consider a pilot program with employee volunteers for the most promising positions.

SD-1.5e Encourage the development of state of the art communication infrastructure linked to the rest of the world.

Support changes to the state Uniform Building Code to require new homes and businesses to be wired with fiber-optic cables or to require wiring conduits with easy access and adequate capacity to allow for efficient retrofitting. Encourage the development of video-teleconferencing facilities and telecommuting centers. The City should study formation of public/private partnerships with major employers employing large numbers of long distance commuters. Telecommuting centers are generally compatible with mixed-use, pedestrian-oriented, and transit-oriented neighborhood commercial areas.

Policy SD-1.6
To Reduce Emissions of PM_{10} and Other Particulates With Local Control Potential.

The levels of PM_{10} (particulate matter less than 10 microns in diameter) exceed state and federal health based standards. The San Joaquin Valley is classified as a serious non-attainment area for PM_{10} under the federal criteria. Because of this classification, the Air District is subject to a series of federal mandates aimed at achieving federal ambient air quality standards. Control efforts for sources under the jurisdiction of cities and counties can significantly reduce these emissions.

Implementing Actions:

SD-1.6a The City of Waterford will work with the SJVUAPCD to reduce, to the maximum extent feasible, particulate emissions from construction, grading, excavation, and demolition.

The City should include PM_{10} control measures as conditions of approval for subdivision maps, site plans, and grading permits. This will assist in implementing the district's PM_{10} regulation.

The City should inform developers of the requirements of the district's PM_{10} regulation when they apply for a grading permit.

Use strategies to minimize soil disturbances including:

- Minimize vegetation removal required for fire prevention to the extent compatible with public safety considerations. Utilize alternatives to disking, such as mowing, to the extent feasible. Where vegetation removal is required for aesthetic or property maintenance purposes encourage or require alternatives to disking.
- Condition grading permits to require that graded areas be stabilized from the completion of grading to commencement of construction.

SD-1.6b The City of Waterford shall reduce PM_{10} emissions from City maintained roads to the maximum extent feasible.

Continue the City's street cleaning program aimed at removing heavy silt loadings from roadways which result from sources such as storm water runoff and construction sites.

Goal Area 2: Cultural Resources

GOALS

- **SD-A Diverse And Rich Historic and Cultural Resource Environment**
- **SD-A Long-Term Community Historic Preservation/Improvement Program**

POLICIES

SD-2.1 Identify and preserve the City's archaeological resources.

SD-2.2. Identify and preserve the City's historic and cultural resources.

SD-2.3 Develop and promote financial incentive programs for historic preservation efforts.

Policy SD-2.1
Identify and Preserve the City's Archaeological Resources.

It is thought that the San Joaquin Valley was inhabited in the late Pleistocene and early Holocene period, dating from perhaps as early as 12,000 years before the present (B.P.). Prior to Euro-American arrival, the San Joaquin Valley was occupied by Yokut Indian populations. The Yokuts settlement system was characterized by principal villages on terraced areas adjacent to watercourses. Knowledge of these early inhabitants is limited. It is likely that the streams and the Tuolumne River corridor traversing the Waterford Planning Area served as settlements for Yokuts and it is a state policy to preserve and protect the archaeological resources of the region

Implementing Actions:

SD-2.1a Utilize the inventory of known archaeological sites maintained by the Central California Information Center for the review of development proposals.

The Archaeological Inventory shall be used to identify areas within the Waterford Planning Area subject to preservation practices. For large-scale development projects proposed in close proximity to a natural water course, or in an area which exhibits

potential for containing cultural resource material, preliminary cultural resource inventories should be conducted by a qualified archaeologist. Information from these site investigations shall be provided to the Central California Information Center for recordation.

SD-2.1b Utilize standard practices for preserving archaeological materials that are unearthed during construction, as prescribed by the State Office of Historic Preservation.

Cultural resource discoveries are subject to the rules and regulations in state law. The City should work closely with the building trades industry to facilitate compliance with these laws and to assist, where necessary, in minimizing the adverse impacts of the implementation of these laws on the City's construction industry.

SD-2.1c If appropriate, consider reconstruction of archaeological sites in City parks, on school grounds, in open space areas, or other suitable locations where they can serve an educational purpose.

In order to increase the public's awareness of the cultural heritage of Waterford, the City should support the efforts of Native American groups and individuals to develop cultural displays and exhibits in local public places.

Policy SD-2.2
Identify and Preserve the City's Historic and Cultural Resources.

The City of Waterford contains some fine examples of its early settlement. Historic buildings, tree plantings, and other improvements serve to give the City a special character which is unique in the San Joaquin Valley. The City of Waterford is dedicated to preserving, protecting, and enhancing its historic and cultural resources.

Implementing Actions:

SD-2.2a Expand City cultural and historic information resources.

Work to establish and maintain an inventory of cultural, historic, and architecturally significant resources within the City and the planning area by expanding and improving the existing inventory of the downtown area. Consider a program or support other programs which designate historic landmarks and architecturally significant structures in the City.

SD-2.2b Support community groups and individuals working to preserve, protect, and enhance the City's historic and cultural resources.

In accordance with the City's Historic Preservation Ordinance (MMC 17.54) which outlines procedures and criteria for historic designation, continue to support Historic Preservation Commission activities. Support, as feasible, both private and public efforts to preserve and rehabilitate historic structures in the City, including the need to protect a site from intrusion of surrounding land uses which are un-complementary or incompatible.

SD-2.2c Review and revise, as necessary, the City's development/construction regulations to facilitate the preservation of historic structures.

Investigate and consider the possibility of using historic overlay zones in conjunction with the Historic Preservation Ordinance to control the use of or modification to significant historic areas in the community.

SD-2.2d Support, as feasible, efforts to promote the preservation of historically or architecturally significant structures in the City.

Support the preservation of the downtown's historically and architecturally significant structures. Encourage the design of new developments to be consistent with the design, character, and building bulk of the existing downtown. Encourage and support efforts to preserve historic structures in the Courthouse Square area.

Policy SD-2.3
Develop and Promote Financial Incentive Programs for Historic Preservation Efforts.

Historic and cultural resources can be a financial liability to private citizens. In many instances, it is more economical to demolish and build new structures than to rehabilitate historic structures. The economics of maintaining and improving historic properties has resulted in many building and structures being lost or allowed to deteriorate to such a degree that preservation is impractical. The City will assist in the identification of financial resources that can be used by individuals and groups in the City to preserve, enhance and protect the historic and cultural resources of the City.

Implementing Actions:

SD-B-3a Work to identify financial resources which can be used for historic preservation efforts in Waterford.

Utilize, where possible, Redevelopment Commercial Rehabilitation Loan Program funds to help finance restoration of historic buildings and structures in Waterford. Identify other sources of historic preservation funds, such as Community Development Block Grants, Office of Historic Preservation Grant Funds, etc., to be used to finance historic renovation/restoration projects.

SD-2.3b Provide access to information on financial resources available to property owners to assist in historic preservation/restoration efforts.

Refer interested property owners to the State Office of Historic Preservation for information regarding tax advantages of national registry of historic properties, special building code standards applicable to historic buildings and structures, and loan and grant programs available to finance historic preservation/renovation.

Goal Area 3: Energy Resources

GOALS

- **SD-Sustainable Energy Resource Use in the City of Waterford.**
- **SD- Application of "Green" or High Performance Building Technology**

POLICIES

SD-3.1 Promote the Use of Solar Energy Technology**.**

SD-3.2 Encourage the use of energy conservation features and low-emission equipment for all new residential and commercial development.

Policy SD-3.1
Promote the Use of Solar Energy Technology.

Waterford is located in an area that can benefit from the use of solar energy technology to lower household heating costs.

Implementing Actions:

SD-3.1a Encourage the use of solar energy in design and management of all new construction in the City.

The City should work with members of the building and utility industries in identifying public policies and regulations which inhibit the construction of energy efficient development. The City should prepare guidelines and standards which can be used by members of the construction industry in the design of new building and development projects.

SD-3.1b Require all new subdivisions to maximize, to the extent feasible, proper orientation of lots with regard to solar utilization.

Proper solar orientation of lots often results in inefficient or poor circulation system designs. Good subdivision design attempts to maximize the benefits of lot orientation for solar access while maintaining the optimum circulation system design. The City planning staff should develop a library of subdivision design concepts that have proven effective in furthering energy conservation goals in other similarly situated communities as the City of Waterford. This information should be made available to real estate developers and home builders.

SD-3.1c Encourage developers and builders to properly design all structures on each building lot in the City to take fullest advantage of solar use in heating and cooling.

The City planning staff should develop a library of building design concepts that have proven effective in furthering building energy conservation goals in other similarly situated communities. This information should be made available to real estate developers and home builders.

SD-3.1d Encourage developers and builders to maximize "passive" solar design, such as large south-facing windows for winter heat gains and overhangs and shading for summer heat protection.

The City should collect and make available to builders and homeowners design solutions to passive solar construction problems and support the local building industry's efforts to comply with state regulations on energy conservation design standards.

SD-3.1e Pursue further investigation of potential benefits utilizing building code revision, narrower streets, solar access rights, and other energy-saving

techniques.

The City should continue to monitor policy developments at the state level and in other San Joaquin Valley communities to determine the most efficient and effective design policies that might be applied to new development in the City. Where appropriate, staff should recommend changes in policies and standards where it can be demonstrated that such changes will appreciably reduce energy consumption.

Policy SD-3.2
To Encourage the Use of Energy Conservation Features and Low-Emission Equipment for All New Residential and Commercial Development.

Natural gas burning appliances used for space heating, water heating, and cooking are a sizable source of NO_x emissions. Consumption of electricity causes pollutant emissions when the power plant is fueled by fossil fuels. Local efforts to reduce energy consumption can save consumers money and improve air quality. The City of Waterford will pursue the following:

Implementing Actions:

SD-3.2a Work with the local energy providers on voluntary incentive-based programs to encourage the use of energy efficient designs and equipment.

- Encourage the incorporation of energy conservation features in the design of all new construction and the installation of conservation devices in existing developments.
- Encourage energy audits of existing structures, identifying levels of existing energy use and potential conservation measures.
- Encourage the use of passive design concepts that make use of the natural climate to increase energy efficiency.
- Encourage new development not to preclude the use or development of solar energy systems by uses and/or placement of buildings on adjacent properties.
- Incorporate the most energy-efficient design consistent with a reasonable rate of return and the recognition of the environmental benefits of energy conservation for all local government facilities and equipment.
- Perform an energy audit of existing public buildings and retrofit where cost-effective.
- Develop an energy management system for public buildings.

SD-3.2b *Cooperate with the local building industry, utilities, and the SJVUAPCD to promote enhanced energy conservation standards for new construction.*

Work with the California Energy Commission (CEC) and local utilities to identify areas of the existing state standards that can be enhanced most cost-effectively.

SD-3.4c *Encourage new residential, commercial, and industrial development to reduce*

air quality impacts from area sources and from energy consumption.

- Support the use of weatherization programs for existing residential units and businesses.
- Encourage the installation of supplemental solar water heaters for new residential units.
- Support future SJVUAPCD incentives and regulations to reduce emissions from swimming pool heaters.
- Encourage the use of solar water and pool heaters, and energy efficient lighting.
- Encourage developers to orient housing units and landscape building sites to maximize solar heating and cooling.
- Encourage the installation of energy efficient fireplaces and wood stoves in lieu of normal open hearth fireplaces.
- Establish standards for the provision of natural gas lines or electrical outlets to backyards to encourage the use of natural gas or electric barbecues, and electric gardening equipment.
- Support the use of electric vehicles, such as golf carts, where appropriate. Provide electric recharge facilities for electric vehicles.

Goal Area 4: Agricultural Resources

GOALS

- **SD-A Sustainable Agricultural Economy**
- **SD-Preserved High Value Farmland**

POLICIES

SD-3.1 Preserve the City's Prime agricultural soil resources.

Policy SD-4.1
Preserve the City's Prime Agricultural Soil Resources.

Agriculture and the agricultural economy of the region are the underpinning of a sound economic base of the City of Waterford. Central to the maintenance of that economic base is the preservation of the most productive agricultural soils in the region. The City of Waterford will pursue the following:

Implementing Action:

SD -4.1a. Direct development away from large tracts of "Prime" agricultural soils. The City of Waterford is surrounded by high quality farmland, much of which is designated as "Prime" farmland. At the same time, the City serves as a urban center to the surrounding agricultural region providing housing, goods, and services. Urban expansion should be directed away from significant concentrations of Prime soils or tracts of Prime soils that are in large productive ranch holdings whenever possible. At the same time, the City should balance the need to maintain a compact urban form with the need to encroach into productive farmland on "Prime" soils. Priority consideration should be given to guiding development within the City's Sphere of Influence in such a manner as to minimize impacts on Prime soils along the City's urban fringe.

SD-4.1b. Limit development and development related impacts on agricultural lands along the City's urban fringe.
Less intense development (i.e. large lot single-family housing) should be directed toward the eastern, northern, and western fringes of the City, except where more intense development can be served by major transportation corridors or buffered with open space, parkland, or other types of buffers.

Goal Area 5: Sustainable Design

GOALS

- **SD-Sustainable "Green" Buildings City of Waterford.**
- **SD- Application of "Green" or High Performance Building Technology**

POLICIES

SD-5.1. Use of Sustainable or "Green" Building Principals in Site Design and Layout.
SD-5.2. Use of Sustainable or "Green" Building Principals to promote Water Conservation.
SD-5.3. Use of Sustainable or "Green" Building Principals to promote Energy Conservation.
SD-5.4. Use of Sustainable or "Green" Building Principals to promote Interior Building Environmental Quality.
SD-5.5. Use of Sustainable or "Green" Building Principals to Assure Use of Efficient Building Materials Use.
SD-5.6. Use of Sustainable or "Green" Building Principals to Minimize Waste Generation.

Policy SD-5.1
Use of Sustainable or "Green" Building Principals in Site Design and Layout.

From the very outset, building development affects and transforms the land. On a macro level it contributes to deforestation, destruction of wetlands, sprawl, and other environmental problems. The sprawl of cities also affects the environment adversely. Further, when development is spread out at a low density it requires more infrastructure - sewer pipes, power lines, water mains, roads and so on. In addition, the thousands of energy burning vehicles driving out to these areas contribute to environmental damage.

Sustainable *Site* design embodies the following:

- Efficient use of site area with new development.
- Maintain and/or restore the biodiversity of natural systems on development sites.
- Respond to microclimate and natural energy flows.
- Restore, maintain, and/or enhance the natural character of the site.
- Reduce energy use for transportation.

Implementing Actions:

SD-5.1a. **Direct Development to Environmentally Appropriate Areas**
Identify environmental constraints and resources of a site and on adjacent properties.

Locate buildings and improvements in such a manner as to minimize impacts on these resources. Make sure that the size and scale of the planned improvements is appropriate for the site.

SD-5.1b. **Maintain and Enhance the Biodiversity and Ecology of the Site**
Utilize existing environmental resource areas as landscape features. Plan landscape elements in such a manner as to promote on-site wildlife habitat and create area "connectors that divert wildlife away form streets and roadways.

SD-5.1c. Use Native Trees, Shrubs, and Plants
Use native trees, shrubs and plant in landscape area to promote water conservation and add to the diversity of native plant areas within the City.

SD-5.1d. **Use Resource Efficient Modes of Transportation**
Locate parking and vehicle access so as to minimize conflicts with non-vehicular traffic. Place bus shelters and build bus loading and off-loading turn-outs at approved locations along major roadways.

Policy SD-5.2
Use of Sustainable or "Green" Building Principals to promote Water Conservation.

Building construction and operation draw heavily on water from the environment. Most of the earth's water is located in oceans and is too salty for residential, commercial or industrial use. Only about 0.003 percent of earth's water is readily available as fresh water for human use. Building materials manufacturing, construction and operations consumes 16 percent of available fresh water annually. This does not reflect the impact of the building industry on the quality of water. Growth in urban water use is lowering water tables and necessitating large projects that siphon supplies away from agriculture. Sustainable environmental design embodies the following:

- Preserve site watersheds and groundwater aquifers.
- Conserve and reuse storm-water.
- Maintain appropriate level of water quality on the site and in the building(s).
- Reduce potable water consumption.
- Reduce off-site treatment of wastewater.

Implementing Actions:

SD-5.2a. Manage Site Water
Create on-site small scale water features as part of landscape design that can serve as on-site storm water detention and minimize storm-water runoff during peak winter storm periods.

SD-5.2b. Use Gray Water Systems
Design landscape areas to make maximum use of treated wastewater or "purple pipe" systems.

SD-5.2c. Conserve Building Water Consumption
Use low flow water fixtures throughout the building.

Policy SD-5.3
Use of Sustainable or "Green" Building Principals to promote Energy Conservation.

Buildings are energy intensive in their construction and operation. According to the Worldwatch Institute about 40 percent of the world's total energy usage is dedicated to the construction and operation of buildings. Buildings consume energy, from the mine to foundry to construction site. In the United States, construction and material production account for roughly 9 percent of energy use. In contrast, buildings operation accounts for approximately 30 percent of U.S. energy consumption. This energy use has serious impacts on the environment. Buildings account for about one-third of the emissions of heat-trapping carbon dioxide from fossil fuel burning and two-fifths of acid rain-causing sulfur-dioxide and nitrogen oxides. Buildings also contribute to other side effects of energy use, including oil spills, nuclear waste generation, river damming, toxic run-off from coal mines, and mercury emissions from coal burning. Sustainable energy design embodies the following:

- Reduce total energy consumption of buildings.
- Reduce air pollution, global warming, and ozone depletion impacts of energy sources
- Slow depletion of fossil fuel reserves.

Implementing Actions:

SD-5.3a. Building Design and Placement to Reduce Energy Use

The sustainable energy development embody the following strategies:

- Reduce Loads
- Optimize Building Placement and Configuration for Energy Performance
- Optimize Building Envelope Thermal Performance
- Provide Day-lighting Integrated with Electric Lighting Controls

SD-5.3b. Electrical System Design to Reduce Energy Use

Design Efficient Systems

- Provide Efficient Electric Lighting Systems and Controls
- Maximize Mechanical Systems Performance
- Use Efficient Equipment and Appliances
- Use Energy Sources with Low Environmental Impact
- Use Renewable or Other Alternative Energy Sources
- Simulate Total Building Energy Use
- Integrate All Systems and Reduce Total Energy Use

Policy SD-5.4
Use of Sustainable or "Green" Building Principals to promote Interior Building Environmental Quality.

A healthy, productive, and comfortable environment is expected at home and in the workplace. Yet many modern buildings create unhealthy and potentially dangerous interior environments for their occupants. Lighting may be inadequate or incorrect for it's

intended function. Thermal conditions may become extreme, and it's control may be inaccessible to the occupants. Ventilation systems installed to protect air quality often subject occupants to stale air, or harbor and spread unhealthy molds, bacteria, and viruses. The medical, human comfort, performance and productivity costs of unhealthy interior environments may run into the tens of billions of dollars each year. Research also shows that buildings with daylight, fresh air, and occupant control are consistently rated as more comfortable and contribute to occupants' performance and productivity. In a typical U.S. office, salaries are so high that if productivity rises just 2 percent, it is worth more to a company then entirely eliminating utility bills. Sustainable interior design embodies the following:

- Provide an environment for occupants that is physiologically and psychologically healthy.
- Minimize production and transmission of air pollution.
- Provide the full range of supportive sensory conditions (olfactory, thermal, vibro-acoustic, tactual, and visual) for occupants.
- Provide needed operational control of systems to occupants.
- Produce environments that enhance human comfort, well-being, performance, and productivity.

Implementing Actions:

SD-5.4a. Design Indoor Space to Create Better Indoor Air Quality.

Indoor Air Quality

- Provide a Clean and Healthy Environment
- Control Moisture to Prevent Microbial Contamination
- Provide Ample Ventilation for Pollutant Control and Thermal Comfort

SD-5.4b. Design Indoor Space to Improve Human Comfort.

Human Comfort

- Provide Appropriate Thermal Conditions
- Provide Effective Lighting
- Provide Appropriate Building Acoustical and Vibration Conditions
- Provide Views, View-space, and Connection to Natural Environment

Policy SD-5.5
Use of Sustainable or "Green" Building Principals to Assure Use of Efficient Building Materials Use.

Building design and construction use significant quantities of natural resources and materials. The manufacturing process of new materials is water and energy intensive and contributes to environmental degradation and pollution. Harvesting, extraction, mining, and processing new materials pollute the air and rivers and threaten ecosystems and wildlife habitat. Consumption of other raw materials and natural resources continue to accelerate. Sustainable materials use in design embodies the following:

- Minimize consumption and depletion of material resources.

- Minimize the life-cycle impact of materials on the environment
- Minimize the impact of materials on indoor environmental quality

Implementing Action:

SD-5.5a. Use Design Materials that Minimize Resource Consumption and Reduce Environmental Harm.

Construction materials strategies should examine:

- Use Materials with Low Environmental Impact During Their Life Cycle
- Use Salvaged and Remanufactured Materials where possible
- Use Recycled Content Products and Materials
- Use Materials from Renewable Sources
- Use Locally Manufactured Materials
- Use Low VOC-emitting Materials
- Use Durable Materials

Policy SD-5.6
Use of Sustainable or "Green" Building Principals to Minimize Waste Generation.

Waste is generated throughout the life of a building. Brick, metals, wood, cardboard, and other waste is generated and land-filled during building demolition, renovation, and construction. Construction and demolition waste represents 1/4 to 1/3 of all waste land-filled in the U.S. Land-filling construction and demolition waste, instead of recycling it, is a loss of material resources. During building operations, waste such as paper, aluminum cans, and glass is also generated; it too is a burden on our landfills and a loss of our natural resources. Sustainable design embodies minimizing waste generation through the following:

- Minimize use of non-renewable resources.
- Minimize waste generated from construction, renovation and demolition of buildings
- Minimize waste generated during building occupancy.
- Encourage better management of waste.

Implementing Actions:

SD-5.6a. Waste Reduction Strategies Should be Incorporated into a Buildings Design Specifications.

Waste reduction strategies should include:

- Reuse Existing Buildings
- Design for Less Material Use
- Design Building for Adaptability
- Design Building for Disassembly
- Salvage and Recycle Demolition Waste
- Recycle Construction Waste
- Reduce and Recycle Packaging Waste
- Reduce and Recycle Waste from Building Users
- Reduce and Properly Dispose of Hazardous Waste

Waterford
Vision 2025 General Plan
Chapter 10 Housing-Summary

2025 Housing Vision: A community that values its diversity and provides for the varied housing needs of its residents.

10.1 BACKGROUND & SETTING

10.1.1 Introduction & Intent

The following documentation summarizes the contents of the City of Waterford's Housing Element. The actual Housing Element is a separately bound document due to its need to be maintained and updated in a manner that is substantially different than the balance of the general plan.

The Housing Element is one of seven general plan elements mandated by the State of California. The element is designed to coordinate residential development and renewal efforts in ways that are consistent with the overall economic and social values of the city.

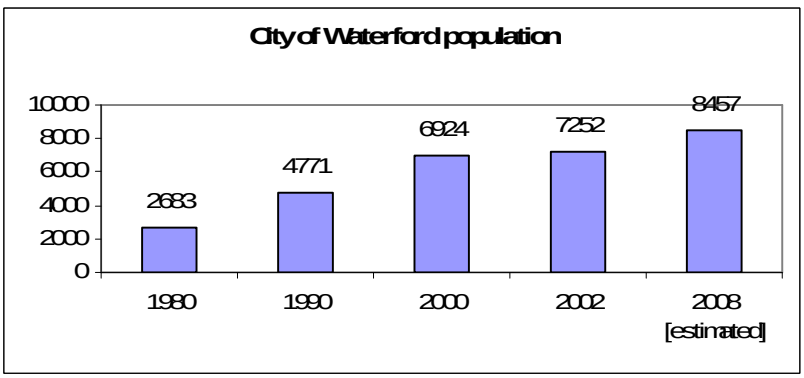
These efforts work toward achievement of the state goal of accommodating the housing needs of Californians in different economic levels. The character of the City is, to a large extent, dependent upon the variety of its housing units, their location, and their maintenance.

The Housing Element must show that the City can accommodate its fair share of regional housing needs as allocated by the Stanislaus County Council of Governments and the California Department of Housing and Community Development.

Waterford's fair share for the 2001-2008 planning period is shown below:

Table 10.1
CITY OF WATERFORD
NEW CONSTRUCTION NEED BY INCOME GROUP 2001 – 2008*

Income Group	No. Units
Very-Low	152
Low	118
Moderate	145
Above-Moderate	277
TOTAL	692



In 1990 Waterford's population was 4,771; in 2000 it was 6,924, an increase of 45%. Its population is projected to be 8,457 by 2008. In 1990 Waterford was approximately 1.4 square miles.

Table 10.2
Waterford's Housing Fact Summary

	1980	1990	2000	2008
Population	2,683	4,771	6,924	8,457
Households	939	1,432	1,990	2,402
Owner occupied	679	958	1,369	1,662
Renter occupied	260	474	621	740
Average Household size			3.47	3.29
Average family size			3.71	
Labor force			2,991	

Table 10.3
CITY OF WATERFORD
NEW CONSTRUCTION NEED BY INCOME GROUP 2001 – 2008*

Income Group	
Very-Low	152
Low	118
Moderate	145
Above-Moderate	277
TOTAL	692

*See pages 54-55 of the Waterford General Plan Housing Element for a discussion of these numbers *set-asides and the award of state and federal funding to either the City or eligible provider*.

The 2004-2009 City of Waterford Housing Element Update is an in-depth document that details the City's housing needs, along with listing goals, objectives, and policies that serve as guidelines towards achieving these needs. This Housing Element is the result of a collaborative effort between the City, its residents, its business owners, and social service organizations.

The City's Housing Element Update has as its core commitment the providing of a decent home and pleasant living environment for every individual and family. The City will strive to achieve this commitment by various actions and programs that are outlined in this document. However, due to factors beyond the City's control, such as the state of the economy, commuting patterns, the jobs-housing imbalance prevalent in the region, and the market demand for housing, the City is very likely to confront obstacles to fulfilling its commitment.

10.8 HOUSING GOALS, POLICIES & ACTIONS

Goal Area: Housing

GOALS

- **H-1 To develop through public and private channels sufficient new housing to ensure the availability of affordable housing for all households in Waterford.**
- **H-2. To manage housing and community development in a manner which will promote the long-term integrity and value of each new housing unit and the environment in which it is located.**
- **H-3. To provide for a choice of housing locations for all residents.**
- **H-4. To maintain and improve the quality of the existing housing stock and the neighborhoods in which it is located.**
- **H-5. To promote equal access to safe and decent housing for all economic groups.**
- **H-6. To promote energy conservation activities in all residential neighborhoods**

POLICIES

H-1-a. Advocate and support proposed federal and state actions which will create a positive, stable climate for housing production.

H-1-b. Wherever appropriate, facilitate the use of federal or state programs which can assist in development of new housing consistent with identified City-wide housing needs and adopted local plans and programs.

H-1-c. Support efforts which serve to coordinate and improve the ability of the housing delivery system to effectively respond to local housing needs.

H-1-d. Accommodate and encourage development of a full range of housing types within the City..

H-1-e. Maintain a sufficient inventory of developable land to accommodate timely development of needed new housing supplies.

H-1-f. Encourage and participate in efforts designed to achieve economies and efficiencies which will facilitate the production of quality, affordable housing.

H-1-g. Promote balanced, orderly growth to minimize unnecessary developmental costs that add to the cost of housing.

H-2-a. Provide that new housing be constructed in accordance with design standards that will ensure the safety and integrity of each housing unit.

H-2-b. Encourage application of community design standards which will provide for the development of safe, attractive, and functional housing developments.

H-2-c. Manage new residential development within the context of a planning framework designed to minimize adverse impacts on the area's natural resource base and overall living environment.

H-3-a. Review and update Waterford's General Plan on an annual basis to ensure that growth trends are accommodated.

H-3-b. Encourage the development of various types of housing opportunities in all residential areas.

H-3-c. Establish density bonus procedures that encourage the provision of affordable housing.

H-4-a. Monitor the quality of the housing stock to maintain a current inventory of all

substandard housing units.

H-4-b. Provide for the removal of all unsafe, substandard dwellings which cannot be economically repaired.
H-4-c. Encourage development of sound new housing on vacant land within existing neighborhoods which have the necessary service infrastructure.
H-4-d. Support and encourage all public and private efforts to rehabilitate and improve the existing housing stock.
H-4-e. Promote public awareness of the need for housing and neighborhood conservation.
H-4-f. Support actions which foster and maintain high levels of owner-occupancy, particularly in those neighborhoods in which housing quality is declining.
H-4-g. Promote development of public policies and regulations which provide incentives for proper maintenance of owner-occupied and rental housing.
H-4-h. Manage development of land within and adjacent to existing neighborhoods to avoid potentially adverse impacts on the living environment.
H-4-i. Encourage proper maintenance of essential public services and facilities in residential developments..
H-4-j. Encourage available public and private housing rehabilitation assistance programs where such action is needed to insure preservation of the living environment.
H-4-k. Facilitate maximum utilization of federal and state programs which can assist lower-income homeowners to properly maintain their dwelling units.
H-5-a. Encourage enforcement of fair housing laws throughout the City.
H-5-b. Support programs which increase employment and economic opportunities.
H-5-c. Encourage development of a range of housing for all income levels in proximity to existing and planned employment centers.
H-5-d. Encourage full utilization of federal and state housing assistance programs which can enable those persons with unmet housing needs to obtain decent housing at prices they can afford.
H-5-e. Support development of housing plans and programs, including new government subsidized housing, which maximizes housing choice for minorities and lower-income households commensurate with need.
H-5-f. Wherever possible, implement adopted land development and resource management policies without imposing regulations that have the effect of excluding housing for lower-income groups.
H-6-a. Advocate and support proposed federal and state actions to promote energy conservation.
H-6-b. Promote public awareness of the need for energy conservation.
H-6-c. Promote development of public policies and regulations that achieve a high level of energy conservation in all new and rehabilitated housing units.
H-6-d. Encourage maximum utilization of federal and state programs which assist homeowners in providing energy conservation measures.

Waterford
Vision 2025
General Plan
Chapter 11 Noise

2025 Noise Vision: *A community that takes pride in its quiet rural setting and promotes urban design principles that reduce noise levels within the urban limits of the City while providing areas where necessary noise generation from industrial or other uses can be allowed to provide for necessary economic growth in the City and region.*

11.1 Purpose & Scope

The main purpose of the Noise Element is to identify noisy areas and to provide measures for protecting residents from the harmful effects of excessive noise. The Noise Element is based on an analysis of current and projected noise levels for streets and highways, railroads, and airports. Existing noise-sensitive land uses such as hospitals, rest homes, schools, and long-term medical care facilities are identified, and a set of City policies are established to deal with excessive noise.

11.1.1 Scope of the Noise Element

The Noise Element provides a systematic approach to: (1) the measurement and modeling of noise; (2) the establishment of noise standards; (3) the control of major noise sources; (4) community planning for the regulation of noise; and, (5) the achievement of land use compatibility through the adoption of specific policies with respect to noise.

Projected noise contours for all major sources of noise in the City of Waterford have been mapped (Figure 11.1). These noise contours are used as a guide for establishing land use patterns in the Land Use Element that minimizes the exposure of community residents to excessive noise. The Noise Element also includes policies and implementation measures that address existing and any foreseeable noise problems.

11.1.2 Noise Sources & Noise Abatement Techniques

Cars and trucks, aircraft, and trains are the most pervasive outdoor residential noise sources. Several approaches can be taken to lower the impact of noise from all the previously-mentioned sources. Barriers can be used to provide some attenuation. The amount of noise reduction depends upon the material and design of the barrier. Solid structures provide the most attenuation; vegetation will abate noise to a small degree, but psychologically can provide a more relaxed environment. An intervening row of buildings will decrease the amount of noise reaching more distant property.

Figure 11.1

2025 Highway Noise Contours

Reducing Vehicular Noise

At the source, vehicular noise can be lowered through enforcement of noise level regulations, and if federal or state legislation provided the proper incentives, quieter vehicles can be produced. Reducing traffic speed can also reduce noise output.

Measures that eliminate stop-and-go traffic help to reduce noise levels. To a certain extent, grade separations will do this, although increased acceleration of trucks will minimize the benefits. Wider rights-of-way and increased setbacks can reduce the possible impact on adjacent land uses. Recessing or elevating the roadway also reduces noise levels on adjacent property.

Use of rubberized asphalt can reduce traffic noise, in some applications, by up to 85 percent. It uses a blend of rubber from waste tires and concrete to form a unique surface with durability, marking, creaking resistance and sound-deadening attributes superior to regular asphalt paving.

11.1.3 Definitions

Sound:

Sound is a mechanical form of radiant energy which is transmitted in waves through the air (or other medium) and received as vibrations on the ear drum. Sound waves are measured in terms of frequency or number of cycles per second, and in terms of amplitude or decibels.

Frequency (Cycles per Second)

Frequency or pitch is influential in determining the pleasantness of a sound. The human ear can perceive frequencies as low as 15 cycles per second (or Hertz, abbreviated Hz) which would be a very low rumble, and as high as 20,000 cycles per second, a very high screech. The piano ranges from a low of 28 Hz to a high of 4,186 Hz. High frequencies are more irritating to the human ear and can make a low volume noise seem noisier.

Amplitude

Decibels, the unit of measurement for amplitude, make up a logarithmic scale. Instead of increasing arithmetically, as in cycles per second, decibels increase exponentially as is characteristic with the Richter Scale used in measuring the force of an earthquake. There are several adaptations of the decibel unit of measurement that take into account the way humans react to sound. These adaptations are listed below.

Decibel (A Scale)-dB(a)

The decibel is the unit used for describing the amplitude of sound. The decibel scale is relative to the human ear, with 0 decibels being the threshold of hearing. Because the human ear's perception of sound varies with the frequency, a modified decibel scale (A Scale) has been developed which incorporates the human's greater sensitivity to high frequency sound and lower sensitivity to low frequency sound.

L_{10}

In measuring a sound that is recurring, but not maintaining a constant level, it is necessary to get a sound reading that takes into account the inconsistency of sound. L_{10} measurements indicate a sound level that is being exceeded 10 percent of the time.

When two decibel values differ by:	*Add the following amount to the higher figure:*
0 - 1 dB	3 dB
2 - 3 dB	2 dB
4 - 9 dB	1 dB
10 or more dB	0 dB

Day-Night Average Sound Levels (LdN)

This method of measuring sound levels incorporates the noise from the individual events and weights them according to time of day of the event. The 24-hour day is divided into two time periods: (1) Day, 7:00 a.m. to 10:00 p.m.; and, (2) Night, 10:00 p.m. to 7:00 a.m. In order to more accurately reflect the annoyance level of day and night time events, they are weighted by a multiplier of one (1) for day and ten (10) for night. Unlike the L_{10} method, LdN does not measure the actual noise of, for example, passing trains, but rather the average noise over a period of 24 hours. LdN or CNEL are the two descriptors to be used in noise elements for local compliance with the state noise insulation standards.

CNEL

Community Noise Equivalent Level (CNEL) is similar to LdN, but with an additional adjustment for the evening hours to account for conversation, relaxation, TV viewing, etc. Along with the 10 dBA penalty for the 10:00 p.m. to 7:00 a.m. hours, 5 dBA is added to the 6:00 p.m. to 10:00 p.m. hours.

Decibel Addition

Decibels progress at a logarithmic rate. As a result, when two sounds of 90 dBA are produced together, the combined dBA reading will be 93 dBA and not 180 dBA. The following chart can be used to determine the sound level of the combined sounds:

The human ear, however, perceives a doubling (or halving) of loudness for every change of 10 dBA.

11.3 MAJOR SOURCES OF NOISE IN THE CITY OF WATERFORD

The major source of noise in the City of Waterford are cars and trucks, along Highway 132; other sources of noise are home appliances, tools, and construction equipment.

11.3.1 Vehicular Noise

State Highway Noise Contours

There is one state highway within the study area (Route 132). The highest vehicular noise levels are associated with this highway. Current noise levels range from 55 LdN to 70 LdN at 346_feet and 43 feet, respectively, from the center of the highway, and in the future these distances are projected to increase to approximately 585 feet for 55 LdN and 180 feet for 70 Ldn.

Noise Contours and Methods of Measurement for Major Local Streets

LdN noise contours have been computed for Yosemite Boulevard and the Oakdale-Waterford Road, which are expected to continue to be the major arterial streets. LdN noise contours were also computed for Eucalyptus, Reinway, Western, Bentley, Tim Bell, Star, El Pomar, Bonnie Brea and the future Rorabaugh, which collectively constitute the complete arterial and collector street system. Figure 11.1 presented earlier

illustrated projected noise contour lines for these major local streets. The Average Daily Traffic (ADT) volumes used as the basis for these noise contours can be found in Chapter 5 *Transportation & Circulation* (Table 5.2).

11.3.4 Other Sources of Noise

As noted previously, other sources of noise include home appliances, tools, construction equipment, and others. The discussion on home appliances is limited since the City is not able to control noise input in the home. They are mentioned in order to give a better understanding of the nature of noise.

Construction equipment is better controlled, although its transient nature makes it appear to be less severe and intrusive. Because construction noises are temporary, there has not been a concerted effort to reduce noise levels of the equipment involved. As the City expands, and as the older areas are renewed and rehabilitated, the noise from construction will become more noticeable.

11.3.5 Noise Sensitive Land Uses

Existing land uses within the City of Waterford that are sensitive to intrusive noise can include hospitals, convalescent facilities, parks, residential areas, schools, and libraries. Some variability in standards for noise sensitivity may apply to different densities of residential development, and single-family uses are frequently considered the most sensitive.

There is a range of land uses that are relatively insensitive to noise such as commercial, retail, industrial, salvage yards, transit terminals, and others.

Residential areas in Waterford are located along almost every arterial, and therefore experience significant motor vehicle-generated noise levels. Many of the newer residential subdivisions provide adequate sound barriers and may not be impacted by arterial noise. If a residence has direct vehicular access from the roadway, or if the housing tract was not built with protective noise barriers, exterior noise exposure levels in excess of 65 LdN in these areas would be considered excessive.

Guidelines for Land Use Compatibility

The State Office of Noise Control has developed a noise/land use compatibility matrix for noise standards for different land use categories. Depending on the environment of a particular community, these basic guidelines may be tailored to reflect the existing noise and land use characteristics of that particular community.

Truck Routes

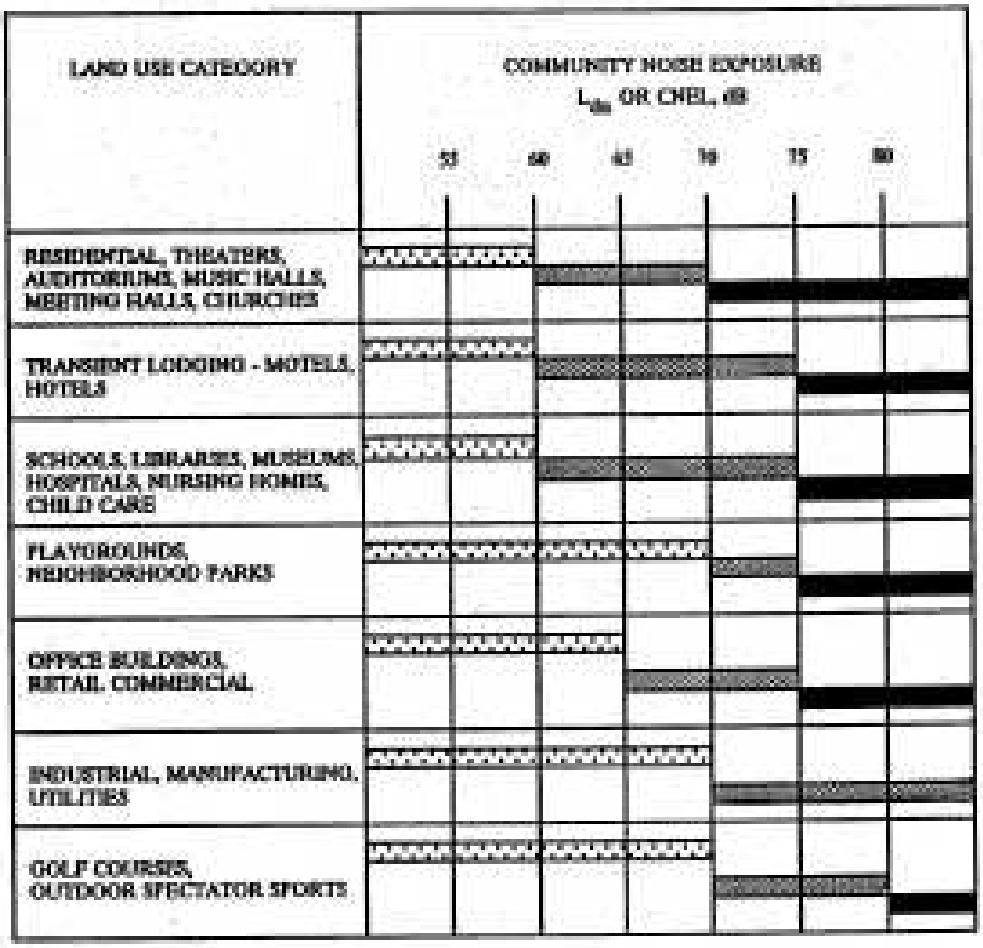
Truck routes have been identified within the City to direct large trucks onto roadways designed for that purpose. Truck routes direct trucks through the City to a designation outside Waterford. These roadways are not designed for delivery trucks which need to reach specific destinations within the City.

Traffic noise generation is highly sensitive to the number of trucks as a percentage of the total vehicles using the roadway on a daily basis. By designating truck routes where it will be less disruptive for sensitive land uses, the City is avoiding noise conflicts with adjacent land uses.

Figure 11.3
Common Indoor and Outdoor Noise Levels

Common Outdoor Noise Levels	Noise Level (dBA)	Common Indoor Noise Levels
	110----	Rock Band
Jet Flyover at 1000 ft		
	100----	Inside Subway Train (New York)
Gas Lawn Mower at 3 ft		
	90----	
Diesel Truck at 50 ft		Food Blender at 3 ft
Noisy Urban Daytime	80----	Garbage Disposal at 3 ft
		Shouting at 3 ft
Gas Lawn Mower at 100 ft	70----	Vacuum Cleaner at 10 ft
Commercial Area		Normal Speech at 3 ft
Heavy Traffic at 300 ft	60----	
		Large Business Office
Quiet Urban Daytime	50----	Dishwasher in Next Room
Quiet Urban Nighttime	40----	Small Theatre, Large Conference
Quiet Suburban Nighttime		Room (Background)
	30----	Library
Quiet Rural Nighttime		Bedroom at Night
	20----	Concert Hall (Background)
		Broadcast and Recording Studio
	10----	
		Threshold of Hearing
	0----	

Figure 11.4
Feasibility of Developments With Respect to Noise



INTERPRETATION

FEASIBLE
Specified land use is satisfactory. No noise mitigation measures are required.

PROBABLY FEASIBLE
Use should be permitted only after careful study and inclusion of protective measures as needed to satisfy the policies of the Noise Element.

USUALLY NOT FEASIBLE
Development is usually not feasible in accordance with the goals of the Noise Element.

Figure 11.5
Allowable Noise Standards Measured in Ldn (dBA)

Land Use Category	Maximum Exterior		Maximum Interior*
	Acceptable	Conditionally Acceptable	
Residential	60	70	45
Live/Work	65	75	50
Hotel/Motel	65	75	50
Office	67	77	55
Other Commercial	70	80	60
Industrial/Agriculture	70	80	60
Schools, Libraries, Theaters, Churches, Nursing Homes	60	70	45
Parks and Playfields	65	70	NA
Golf Courses, Riding Stables, Cemeteries	70	75	NA

**It is preferred that the interior noise standard be attained with open windows. However, where the interior noise standard is attainable only with closed windows and doors, mechanical ventilation shall be required.*

Figure 11.6
Noise Standards for Stationary Noise Sources

Duration	Maximum Allowable Noise	
	Day (7:00 a.m. to 10:00 p.m.)	**Night (10:00 p.m. to 7:00 a.m.)**
Hourly L_{eq} in dB [1,2]	50	45
Maximum Level in dB [1,2]	70	65
Maximum Impulsive Noise in dB [1,3]	65	60

1. *As determined at the property line of the receiver. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property-line noise mitigation measures.*
2. *Sound level measurements shall be made with slow meter response.*
3. *Sound level measurements shall be made with fast meter response.*

The City of Waterford's truck routes are typically designated along busy streets of mainly commercial areas or along streets with little development. Truck routes are designated by action of the City Council and are modified from time to time in accordance with need and traffic conditions.

Proposed land uses next to these designated truck routes where development has not occurred will need to be compatible with the noise generated along these streets.

Barrier/Noise Reduction Concepts for Noise Attenuation

In general, three basic techniques provide noise attenuation:

(1) the use of barriers or berms;

(2) site design; and,

(3) acoustical construction. Acoustical construction is recommended when barriers or site design cannot provide all the attenuation necessary.

Basically, acoustical construction reduces the interior noise level of a building, but would not reduce exterior noise levels. In some cases, a quiet exterior environment is as important as the interior environment; therefore, special attention should be given to the type of project that is being reviewed to determine the type(s) of attenuation needed.

The least desirable method of noise attenuation is a noise barrier or wall. Improper design can result in an increase in noise deflection thereby making the roadway undesirable to pedestrians and other forms of non-motorized transportation.

Diffracted path, transmitted path, and *reflected path* are the redistribution of the sound energy when a barrier is introduced between the source of the noise and the receiver. If no barrier exists between the noise source and adjoining areas, the sound will travel in a direct path from the source, diminishing only with distance. But, if a barrier is introduced, some attenuation is possible at shorter distances.

The amount of sound that "passes through" a barrier (barrier transmission) depends upon the barrier material weight and stiffness, and the holes or openings in the barrier. In the case of the latter ones, any openings or holes may seriously degrade the noise reduction since the sound pressure increases upon striking the barrier wall, and this results in an amplification of the transmitted sound. Materials that provide good sound absorption are concrete, masonry, brick, and granite, among others.

Sound energy is also reflected by a barrier wall. When there is only one wall used as a sound barrier for a specific receiver, the reflected energy would not affect the receiver and the purpose of attenuating noise is accomplished, even though some noise will be diffracted or transmitted and might reach the receiver. But, when a double noise barrier is involved, additional sound energy can reach the receiver by a reflection from the opposite wall. If the walls are made of materials which have a good sound absorption rate, the contribution of each reflection will be decreased by an amount that depends upon the absorptive

characteristics of the barrier. So this, in turn will usually recover all of the lost noise reduction.

Barrier diffraction (and attenuation) is the amount of sound waves that can reach a receiver by bending over the top of the barrier. Once the sound is diffracted behind a barrier, it creates a "shadow zone." Any receiver located in this area or zone will experience some sound attenuation; the amount of attenuation will depend on the magnitude of the diffraction angle. As the angle increases, the barrier attenuation also increases. The diffraction angle will increase if the barrier height increases, or if the source or the receiver is placed closer to the barrier.

11.2 NOISE GOALS, POLICIES AND ACTIONS

Goal Area N-1: Noise

GOALS

- **A Quiet Environment.**
- **Sensitive Land Use Protected From Excessive Noise.**

POLICIES

N-1.1 Reduce surface vehicle noise.

N-1.2 Reduce equipment noise levels.

N-1.3 Reduce noise levels at the receiver where noise reduction at the source is not possible.

N-1.4 Coordinate planning efforts so that noise-sensitive land uses are not located near major noise sources.

N-1.5 Mitigate all significant noise impacts as a condition of project approval for sensitive land uses.

Policy N-1.1
Reduce Surface Vehicle Noise.

The major source of noise in the community of Waterford is from vehicular traffic.

Implementing Actions:

1.1.a Continue to discourage truck traffic and through traffic in residential areas in Waterford.

Through a system of designated truck routes, the City has established where truck traffic may pass through the City. Additionally, parking of large trucks and truck/trailer combinations needs to be restricted in and around residential neighborhoods.

1.1.b Evaluate the need to prepare and adopt a noise ordinance for the City of Waterford.

At present, the City does not have a noise ordinance that establishes noise nuisance levels and levels of compatibility.

1.1.c Evaluate the need to prepare and adopt an off-road vehicle ordinance for the City of Waterford.

A major source of noise within and around the City of Waterford is from the use of off-

road vehicles along the City's trails and MID canal banks. At present, the City does not have an ordinance that establishes noise nuisance levels and levels of compatibility.

1.1.d Initiate a program of using rubberized asphalt concrete the City of Waterford on residential collectors and arterials that exceed a potential of 1200 ADT in forecasted future traffic levels.

Traffic noise increases with type of traffic, traffic speed and traffic volume. A major source of this noise is from tire contact on roadways. Use of rubberized asphalt concrete can reduce this noise source by up to 85%.

1.1.e Special project specific noise studies shall be conducted for development projects that are likely to contribute to existing noise sources or create a new noise source as determined by the City.

The noise contours of ***Figure 11.1*** represent generalized traffic noise contours along City roadways as might be expected under traffic volumes forecasted in 2025. These contours can be modified as the result of good planning and design techniques. Primary to good design is the preparation of a noise analysis of existing (before project) and potential build-out noise conditions along roadways and/or at the location of sensitive noise receptors.

Policy N-1.2
Reduce Equipment Noise Levels.

Perhaps the second most significant source of noise within the City is from the use of equipment including normal household yard equipment such as leaf blowers, lawn mowers and construction/maintenance equipment. Other sources of equipment noise results from construction activities associated with new development and public improvement (roadway) construction activities.

Implementing Action:

1.2.a Limit operating hours for noisy construction equipment used in the City of Waterford.

As a condition of approval on a construction permit, the City can establish the operating hours of construction equipment.

1.2.b Review City functions (e.g. construction, refuse collection, street sweeping, tree trimming) to assure that noise generated by equipment has been reduced to the lowest practicable level.

The City can review its operations and maintenance activities to minimize noise impacts in noise sensitive areas.

1.2.c Include maximum noise level permitted for City equipment purchases and construction contracts.

The City can review equipment specifications to assure that equipment meets City standards for noise emissions.

1.2.d Evaluate the need to prepare and adopt a yard equipment noise ordinance for the City of Waterford.

At present, the City does not have a yard equipment noise nuisance ordinance that establishes noise nuisance levels and operating hours.

Policy N-1.3
Reduce Noise Levels at the Receiver where Noise Reduction at the Source is Not Possible.

Noise standards for noise sensitive uses will follow standards established by the City.

Implementing Actions:

1.3.a Require new residential projects to meet acceptable noise level standards as follows:

-A maximum of 45 dB for interior noise level for residential projects.

-A maximum of 60 dB for exterior noise level, especially when outdoor activities are important components of a project.

-A maximum of 65 dB when all the best available noise-reduction techniques have been exhausted without achieving 60 dB, and the strict application of such a maximum becomes a hindrance to development needed or that is typical for an area.

-A maximum of 70 dB for rail noise when 45 dB is maintained in bedrooms and the accumulation of the total number of noisy events does not exceed 45 dB for more than 30 minutes during night time hours (11:00 p.m. to 7:00 a.m.) and does not exceed an accumulated 60 minutes during any 24-hour period.

These standards will be applied where new development is proposed.

1.3.b Use the "normally acceptable" noise levels as established in the "Noise and Land Use Compatibility Guidelines" (Figure 11.6) for the review of non-residential land uses.

Policy N-1.4
Coordinate Planning Efforts so that Noise-Sensitive Land Uses are not Located Near Major Noise Sources.

Noise sensitive land uses such as libraries, hospitals, extended care units, schools etc., should not be permitted within areas subject to high noise levels.

Implementing Actions:

1.4.a Use the general plan master noise contours map in the review and approval process for development proposals, as well as for evaluating circulation, land use, and open space plans to minimize noise impacts on noise-sensitive areas.

1.4.b Revise and re-designate land uses in the Land Use Element areas that are in conflict with the noise level generated in the vicinity.

1.4.c Require noise barriers and/or increased setbacks between heavy circulation corridors and noise-sensitive land uses.

1.5.d Require field noise measurements when new development may be impacted by high noise levels.

Policy N-1.5
Mitigate All Significant Noise Impacts as a Condition of Project Approval for Sensitive Land Uses.

Implementing Actions:

1.5.a Consider site design techniques as the primary means to minimize noise impacts, such as building placement, increased landscaped setbacks, orientation of noise-tolerant components (i.e. parking, utility areas, maintenance facilities) between the noise source and the receptor, and the use of a combination of noise barriers and landscaped berms, etc.

1.5.b Encourage developers to consider alternative architectural designs as a means of meeting noise reduction requirements, such as use of noise tolerant rooms (kitchen, garages, bathrooms) to shield other noise sensitive rooms or areas (living rooms, bedrooms).

-Locate bedrooms away from major roadways.

-For building facades, use architectural design techniques and materials that will help shield noise.

-Avoid balconies or operable windows facing major travel routes.

11.4.5 Noise Contour Computations

Traffic noise contours are a planning tool that serves as an indicator of potentially noisy locations. The allowable noise standards presented earlier show that some land use types can accept higher noise levels than others (for example residential versus industrial). To identify potentially noisy locations traffic information is evaluated in the Federal Highway Administration (FHWA) Traffic Noise Model (TNM).

The FHWA model is the analytical method currently favored by most state and local agencies for traffic noise prediction. The model is based upon reference energy emission levels for automobiles, medium trucks (2 axles), and heavy trucks (3 or more axles), with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site.

The FHWA model was primarily developed to predict hourly Leq values for free-flowing traffic conditions and is generally considered to accurately calculate such values within +/- 1.5 dB. The model is also capable of producing noise contour maps, the accuracy of which can be varied depending upon the type of analysis being conducted.

The model assumes a clear view of traffic with no shielding at the receiver location. To predict LdN values, it is necessary to determine the hourly distribution of traffic for a typical day and adjust the traffic volume input data to yield an equivalent hourly traffic volume. The model can also use directional ADT information to produce a graphical interpretation of the noise contours directly on a user-defined coordinate system.

Traffic data used in the traffic noise exposure modeling process are summarized in ***Figure 11.1***. Using the FHWA model and the traffic data summarized in ***Appendix 11-A***, the locations of the 60, 65, and 70 dB LdN contours were graphically determined by the TNM.

Appendix 11-A

Waterford Vision 2025 General Plan Noise Analysis

Waterford
Vision 2025
General Plan
Chapter 12 Safety

2025 Safety Vision: A community that promotes and provides a safe and healthy environment for its residents and visitors.

12.0. INTRODUCTION

The main purpose of the Safety Element is to provide policies and implementing actions aimed at reducing injuries, death, property damage, and the economic and social dislocation resulting from natural hazards. The Safety Element is based on an analysis of geologic and other hazards relevant to Waterford and on ways of protecting the community from any unreasonable risk associated with such hazards.

12.1. SCOPE OF THE SAFETY ELEMENT

The Safety Element provides a systematic approach for responding to hazards relevant to the City of Waterford through a set of goals, policies, and actions designed to deal with those hazards. This report recognizes that hazards are an unavoidable aspect of society and that, therefore, some degree of risk is inherent in everyday life.

The Waterford City planning area has no known history or known geographical conditions for surface rupture, tsunamis, or hydro-compaction. All other hazards relevant to Waterford, however, are addressed in more detail in this element.

As provided by state law, the *Waterford Safety Element* is a supplement to the *Stanislaus County General Plan Safety Element* that addresses issues such as seismic and geologic hazards, flood hazards, fire hazards, and hazardous materials on a county-wide basis including the City of Waterford and its future urban expansion area. The *Stanislaus County General Plan Safety Element* is incorporated into the *Waterford Safety Element* by reference in fulfillment of state requirements regarding these issues.

As with the *Stanislaus County Safety Element*, the City of Waterford has adopted an *Emergency Operations Plan*. This Plan accomplishes the following:

- Establishes the emergency management organization required to mitigate any significant emergency or disaster affecting the City of Waterford,
- Identifies the policies, responsibilities and procedures required to protect the health and safety of the City of Waterford, public and private property, and

the environmental effects of natural and technological emergencies and disasters,

- Establishes the operation concepts and procedures associated with initial response operations (field response) to emergencies, the extended response operations (City and County Emergency Operations Center (EOC) activities) and the recovery process.

The *Waterford Emergency Operations Plan* is prepared and maintained in accordance with federal and state law and periodically is reviewed and updated to reflect changes in circumstances with respect to disaster relief, response, and clean-up procedures.

The purpose of the *Emergency Operations Plan* is to provide emergency planning/organization and response. The document deals with emergency management, law enforcement, traffic control, fire, medical, rescue, and radiological material, shelter, with respect to support and resources.

The Construction and Engineering section deals basically with emergency repairs, route recovery, and post-event inspection of facilities; and the Movement section deals with evacuation procedures. The plan is designed to prepare the community for responding to an emergency situation in a highly organized and efficient way so that chaotic situations are avoided.

Like the *Stanislaus County General Plan Safety Element*, the *Waterford Emergency Operations Plan* is adopted by reference as a supplemental document to this Safety Element to meet state requirements with respect to emergency response operations and procedures.

12.2 RELEVANT SAFETY ISSUES

Seismically induced ground shaking, ground failure, dam failure/seiche, flooding, and urban wild-land fires, and hazardous materials are considered the relevant hazards to the City of Waterford. Other hazards such as surface rupture, tsunami, or hydro-compaction are briefly described in the Technical Appendices since the Waterford Planning Area has no geographical conditions nor history for such hazards.

12.2.1 Seismically Induced Ground Shaking

Seismic safety has traditionally been looked at as an individual/family responsibility; however, because we are spending increasing amounts of time in public areas and because of our increased reliance on public services, our personal safety in an earthquake may depend in large part on what our City, employer, or local merchant has done to prepare.

Earthquake activity can include severe ground settling, dam failure, and landslides, but most people equate earthquakes with the movement of the earth along a fault or fracture zone. Waterford is vulnerable to possible earthquake damage from earthquake epicenters in other portions of the state, earthquakes on “nearby” faults, and earthquakes on what are now undiscovered faults within the Central Valley.

Historically, Waterford has received several jolts a year from earthquakes in surrounding parts of the state. Typically, it has been the larger earthquakes from these areas that cause damage. Because earthquakes run in "cycles of frequency and intensity" where a period of long inactivity is followed by several medium and large quakes which end in a "big one," it is theorized that Waterford, along with the rest of California, may experience rising earthquake risks. A more detailed discussion of these risks, historic seismic activity, and intensity of ground shaking can be found in the Technical Data Appendix of the *Stanislaus County General Plan Safety Element* (Chapter 5).

The amount of damage to structures from an earthquake is determined by several factors: (1) Distance from the earthquake epicenter; (2) nature of the ground; (3) type of construction; and (4) the duration of the shaking.

The Distance From the Epicenter

Waterford is vulnerable to shaking from a number of faults that run through the mountains to our east and west. These have shaken Waterford in the past. Of most notoriety is the San Andreas Fault. There are, however, four active faults closer to Waterford than the San Andreas.

The Nature of The Ground

Earthquake shockwaves are "carried" by the relatively loose, wet soils that exist in and around Waterford. For this reason, Waterford is somewhat more likely to experience heavy shaking from surrounding parts of the state than some of its neighbors. Areas of Waterford with high water tables and loose soils are likely to experience more damage than their counterparts in other areas of the City because of the shockwave- carrying ability of the ground and liquefaction. Ground failure along the Tuolumne River bluff areas may result from a substantial earthquake. Next to damage from ground shaking, liquefaction is the most serious earthquake hazard.

The Type of Construction Used

Typically, buildings designed and constructed since the mid-1970's and according to modern codes, have generally performed very well during earthquakes. However, the following construction types have garnered some concern within the seismologist community regarding their safety in earthquakes:

a. Concrete-Frame Structures Built Before 1976
   Although Waterford has relatively few buildings of this type, the cost of strengthening the necessary connect-ions is a relatively inexpensive procedure, while potential benefit is great. These buildings generally house commercial activities and their collapse could cause severe economic loss and possibly result in harm to visitors to the downtown commercial district.

It has also been determined that an earthquake of 5.0 magnitude or greater on any of the surrounding faults could definitely damage numerous downtown buildings and subject the general public to potential life-threatening concerns.

b. Un-braced Parapets and Architectural Trim

Although a particular building may be structurally sound enough to withstand a particular earthquake, its architectural trim may prove hazardous if not adequately braced or secured.

12.2.2 Ground Failure

Ground failure can be a significant concern under seismic conditions. The shaking of an earthquake may cause relatively loose soil to compact, creating depressions which may cause a myriad of pipeline, septic system, well, and foundation problems. If the loose soil happens to be saturated with water, the water could be squeezed to the surface where it interacts with the top layers to produce a weak gelatin-like substance of dirt and water. This mixture lends no supporting capability to the buildings that stand on it and is known as liquefaction. Likewise, seismic activity may be the impetus for landslides in those areas with unstable slopes where retaining barriers are destroyed in the ground shaking, or where liquefaction occurs on what would otherwise be stable slopes.

Differential settlement, resulting in the compaction of loose, less cohesive soils, may be caused by earthquakes and could occur in parts of Waterford. The most likely areas are those in which the groundwater surface is deep (otherwise liquefaction would be more likely), the soils are loose to medium-dense, and the soil profile includes strata of loose and uniformly graded sand. The potential for ground subsidence due to earthquake motion is largely dependent on the magnitude, duration, and frequency of the earthquake waves.

Although no liquefaction hazard areas have been identified to date in the planning area, the future potential of liquefaction is recognized because unconsolidated sediments and a high water table do coincide in many areas of the region.

The California Office of Emergency Services has indicated that those areas at the time of an earthquake with the combination of fine-grain, sandy soils, and perched or a water table at a depth of 25 feet or less, may experience liquefaction providing that the shaking is of a magnitude and duration that would collapse the ground and the water is able to percolate to the upper soil levels. A deep, thick, unbroken hardpan may prohibit the necessary percolation, and thus prevent liquefaction from occurring where other conditions are present.

Seismic activity, however, is not the only cause of ground failure. Subsidence, land and mud slides, and hydro-compaction all have non-seismic causes.

Unlike tectonic or seismically stimulated subsidence which occurs suddenly, most of the various cases of subsidence happen slowly over a long period of time. The west side of the San Joaquin Valley has been recognized as the world’s largest area of subsidence due to groundwater withdrawal.

Approximately 423 square miles have settled more than one foot since the 1950’s. No known subsidence has occurred in the Waterford planning area or has accompanied our groundwater withdrawal as yet.

A landslide is the downhill movement of masses of earth material under the force of gravity. Movement may be very rapid, or so slow that a change of position can be noted only over a period of weeks or years. The size of a landslide can range from several square feet to several square miles.

Landslides generally occur on slopes of 15 percent or greater. The planning area's topography, particularly along the Tuolumne River and Dry Creek, exhibit steep slopes that are extremely vulnerable to landslides. These slopes are considered sufficient to produce other than sliding associated with seismic activity.

12.2.3 Dam Failure/Seiche

Dam failures can result from a number of natural or man-made causes such as earthquakes, erosion, improper siting, rapidly rising flood waters, and structural/design flaws.

There are three general types of dams: earth and rockfill, concrete arch or hydraulic fill, and concrete gravity. Each of these types of dams has different failure characteristics. Waterford is presently in the inundation area of the Lake Don Pedro Dam. This dam is earthen-fill which makes it more flexible and, therefore, more earthquake resistant. However, these types of dams are more likely to fail if over-topped.

An earthen dam will fail gradually due to erosion of the breach created during the over-topping; the flood wave will build gradually to peak and then decline until the reservoir is empty. A dam failure can cause loss of life, damage to property, and other ensuing hazards, as well as displacement of residents, the loss or partial loss of critical mass care facilities, and the destruction of bridges (evacuation routes) in the inundation path.

The effects of a possible dam failure on Waterford, and the ability of the local community to respond, seem to vary greatly by which dam would fail. Lake Don Pedro's inundation area covers a relatively large portion of the City's planning area along the Tuolumne River corridor, an area that contains Highway 132, a major east-west transportation corridor through the region. The area is developed with a mixture of residential, commercial, and industrial uses as well.

The inundation area of the Don Pedro Dam is depicted in the *Stanislaus County Safety Element.*

12.2.4 Flooding

Flooding continues to be the most widespread weather-related safety hazard in the United States, and accounts for greater average annual property losses than any other single hazard. Flooding can be especially troublesome in the Central Valley because it is a natural event. The valley is a drainage basin for thousands of acres of Sierra and Diablo foothill and mountain land, and the

frequent dry spells lead people to think that flooding cannot occur where they live. In 1861. 1938, 1950, 1955, and 1969, in Stanislaus County experienced significant flooding.

According to the Flood Insurance Rate maps (F.I.R.M.) for the area, only a few narrow bands of land along the Tuolumne River corridor are identified as flood-prone areas which were required to be recognized by the Federal Flood Disaster Protection Act. These maps are the source of more detailed flood information for the planning area, and are periodically updated to reflect new information.

Changes in land use from agriculture to urban have profound effects on runoff and erosion of the land surface. Urbanization is commonly accompanied by paved and other impervious surfaces, and the construction of storm sewers which collect runoff and usually discharge it directly into stream channels. Impervious surfaces and storm drains increase the frequency of floods and the size of flood peaks. The volume of runoff from new urban areas is far greater than under pre-existing conditions. Most floods in Waterford are produced by extended periods of rainfall during the winter months.

12.2.5 Urban Fires & Wildland Fires

The continued growth of Waterford as a whole, the increased use of hazardous materials, geographic constraints such as creeks, the condition of older buildings in downtown Waterford, and the extensive use of shake shingle roofs create a wide spectrum of fire safety concerns. When planning for urban fire protection, fire risk factors and their mitigation, as well as hazard response factors must be considered.

Risk Factors and Mitigations

Urban fire risks include personal safety practices, construction materials and methods, built-in fire protection systems, site planning, and overall land use.

Construction Materials, Methods and Site Planning

The Uniform Building Code (UBC) and the Uniform Fire Code (UFC) work together as companion documents to regulate building construction and related items such as the care of vacant lots and the storage of flammable liquids.

Generally speaking, the UBC regulates new construction and the UFC covers the maintenance of the construction. The City and the Stanislaus Consolidated Fire District’s inspection programs primarily target the high and medium hazard occupancies. To the same degree, these two public agencies provide effective fire prevention activities for low hazard land uses and conduct year-round hazard removal programs (primarily weed abatement).

Vacant Lots

Vacant lots that are overgrown with weeds or allow the buildup of refuse are a fire hazard, especially during the hot, dry summer season. The City of Waterford currently has a weed control program which requires weed abatement during the year. The City also abates abandoned vehicles, and regularly conducts a “Spring Clean-up” that allows people to have bulky refuse disposed of without charge.

Naturally, the use of built-in protection such as fire resistant materials and automatic sprinklers in all structures above that required by the Uniform Building and Fire codes significantly reduces the risk of urban fires and may reduce the City's reliance upon fire suppression crews.

Land Use

Waterford has a variety of land use types. Many of these require tailored fire protection considerations. These land uses are included as follows:

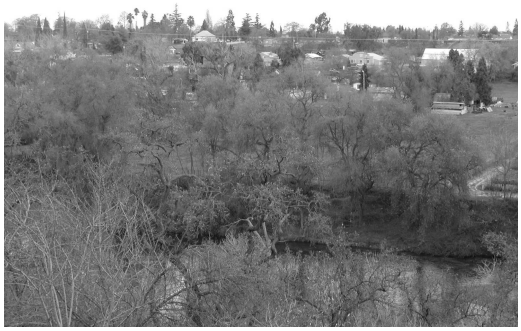
High-Hazard Occupancies
(schools, hospitals, nursing homes, and other high life hazard or large fire potential occupancies)

Medium-Hazard Occupancies
(apartments, offices, mercantile and industrial occupancies)

Low-Hazard Occupancies
(one-, two-, or three-family dwellings and scattered small businesses)

Rural Operations
(scattered dwellings, outbuildings, vacant lots)

Each of these land use types requires somewhat different fire suppression resources (e.g., emergency medical services, hazardous materials response, and heavy rescue).



Wild Land Fires

Wild land fire hazards exist in varying degrees over large areas of Stanislaus County, mostly outside urban areas in the foothills and areas used for livestock grazing. Wild land fire hazards exist to the east of Waterford.

The valley's long, dry summers and extensive vegetation makes for a fire season that extends from late spring to early fall. Irrigated agricultural land, which typically exists in the areas surrounding Waterford, are less susceptible to wild land fires than grazing areas.

Hazard Response--Wildland Fires

The City's response to fighting wild land fires is much the same as the response to urban fires. Typically, the Fire Department will dispatch one truck to such fires and evaluate whether there is a need for additional apparatus, especially if there is a threat to nearby structures. The Fire Department is also in the process of redesigning their fire apparatus (adding larger water tanks, adding four-wheel drive, etc.) in order to better combat grassland fires, where water supply can be limited and off-road response may be necessary. Most wild land fires outside the City limits are

responded to by Stanislaus County or the California Department of Forestry and Fire Protection (CDF) although the City Fire Department is often called upon to provide mutual aid when needed.

In order to prevent wild land fires before they start, the City's weed abatement program requires that vegetation on vacant lots be plowed under or mowed down if it is not irrigated agricultural land. The Police, Fire, and Inspection Services Departments combine to make sure that abandoned vehicles or buildings (potential fire hazards) are removed.

12.2.6 Hazardous Materials & Waste

California's economic well-being and quality of life depend in many ways on the production and use of manufactured goods. However, manufacturing often requires large volumes of chemicals and generates hazardous waste. Hazardous waste ranges from familiar substances, such as solvents and waste oil, to sophisticated compounds such as polychlorinated biphenyls and dioxins. Millions of tons of hazardous waste is generated in California each year.

California law requires that each county develop a hazardous waste management plan and requires all cities to either adopt the County plan by reference in their general plans or adopt their own plan. The Stanislaus County Board of Supervisors and Waterford City Council have adopted the *Stanislaus County Hazardous Waste Management Plan*.

The plan addresses waste reduction and onsite treatment, the siting of off-site hazardous waste facilities, public and industry education, transportation of hazardous wastes, cleanup of contaminated sites, and emergency response procedures. The plan also recommends a series of goals, policies, and implementation actions to deal with hazardous waste throughout the County.

The Stanislaus County Environmental Health Division, which oversees the enforcement of the plan, maintains an up-to-date list of known hazardous waste sites within the County. In 2004, there were 2 known hazardous waste sites within the City of Waterford. These sites were associated with existing or abandoned liquid petroleum storage facilities.

Cleanup of sites that exceed state standards for contamination by toxic materials is required prior to development or reuse of the site. The cleanup process is monitored by the State Department of Health Services.

12.3 SAFETY GOALS, POLICIES, AND IMPLEMENTING ACTIONS

Goal Area 1: Disaster Preparedness

GOALS

- **General Disaster Preparedness.**

POLICIES

S-1.1 Develop and maintain emergency preparedness procedures for the City.

Policy S-1.1
Develop and maintain emergency preparedness procedures for the City.

Implementing Actions:

1.1.a Maintain the City's Emergency Operations Plan in accordance with state & federal rules and regulations.

1.1.b Review all new annexation areas with respect to consistency with the City's Emergency Operations Plan and require the annexed territory to compensate the City for the cost of updating the plan if required prior of City annexation approval.

Goal Area 2: Seismic Safety

GOALS

- **Reasonable Safety for City Residents from the Hazards of Earthquake and Other Geologic Activity.**

POLICIES

S-2.1 Reduce the potential danger from earthquake and seismic-related activity from existing buildings where necessary.

S-2.2 Encourage the improvement of all public facilities and infrastructure such as natural gas, fuel, sewer, water, and electrical lines and equipment with up-to-date seismic safety features.

S-2.3 Restrict urban development in all areas with potential ground failure characteristics.

Policy S-2.1
Reduce the Potential Danger from Earthquake and Seismic-Rrelated Activity from Existing Buildings Where Necessary.

Implementing Actions:

2.1.a Evaluate the need for and the cost of setting up an enforcement program for eliminating any unreasonable risk associated with seismically unsafe buildings through reinforcement or removal where necessary.

2.1.b Study the possibility of obtaining State Historic Preservation, Community Development Block Grant, Redevelopment, or other available money to assist with repairs of unsafe buildings.

2.1.c Pursue uniform infrastructure, building, and land use requirements and policies regarding disaster avoidance within the City's urban boundaries.

2.1.d Review all possible new additions to the City's building and fire codes based on up-

to-date technology.

2.1.g Continue to implement state law requiring seismic retrofitting of existing buildings when there is a change of use, additions, or remodeling that affects non-reinforced masonry portions of the structure.

Policy S-2.2
Encourage the Improvement of All Public Facilities and Infrastructure, Such as Natural Gas, Fuel, Sewer, Water, Electrical Lines and Equipment with Up-To-Date Seismic Safety Features.

Implementing Actions:

2.2.a Work with Caltrans and the County of Stanislaus to review and, where possible, increase the earthquake stability of grade-separated transportation structures, such as highway bridges, within the City's planning area.

2.2.b Require adequate storage facilities to insure an adequate supply of water in the event of seismic activity. An evaluation of the seismic safety of the water system should be completed as part of any update of the City's Water Master Plan.

Policy S-2.3
Restrict Urban Development in All Areas with Potential Ground Failure Characteristics.

Implementing Actions:

2.3.a Investigate the feasibility of performing an inventory of areas with generally unstable ground within the City's Urban Expansion area and work with the County to restrict or prohibit their development.

Goal Area 3: Flooding

GOALS

- **A City Free From Other Than Street Flooding.**

POLICIES

S-3.1 Endeavor to maintain the existing City and the Urban Growth Area out of the 100-year floodplain.

S-3.2 Maintain essential City services in the event of flooding or dam failure.

Policy S-3.1
Endeavor to Maintain the Existing City, and the Urban Growth Area Out of the 100-Year Floodplain.

Implementing Actions:

3.1.a Review all development proposals to assure compliance with flood prone area regulations and limit annexation of such areas, except open space areas, from being considered for annexation to the City.

Policy S-3.2
Maintain Essential City Services in the Event of Flooding or Dam Failure.

Implementing Actions:

3.2.a Continue to build all pump stations (both sewer and water) entryways at one (1) foot above the 100-year flood elevation, where practical, and consider additional standards to address flooding due to dam failure.

3.2.b Continue the "flood-proofing" of high-value or important City infrastructure, such as lift stations and signal control functions.

Goal Area 4: Fire Protection

GOALS

- **Fire and Hazardous Material Safety for the Residents of the City and For Those Working in Fire Suppression.**

POLICIES

S-4.1 In cooperation with the Consolidated Fire Protection District, promote the concept of fire protection master planning with fire safety goals, missions, and supporting objectives for the community.

S-4.2 Work with the Consolidated Fire Protection District to maintain a reasonable level of accessibility and infrastructure support for fire suppression, disaster, and other emergency services.

Policy S-4.1
In Cooperation with the Consolidated Fire Protection District, Promote the Concept of Fire Protection Master Planning with Fire Safety Goals, Missions, and Supporting Objectives for the Community.

Implementing Actions:

4.1.a Work with the Consolidated Fire Protection District to identify potential additional fire station locations as expansion of the City occurs in order to maintain a response objective of 4 to 6 minutes citywide.

4.1.b Work with the Consolidated Fire Protection District to identify areas within the City that will require specialized manpower and equipment, such as businesses that use hazardous materials, and request that land uses or structures with similar needs be confined to these areas.

Policy S-4.2
Maintain a Reasonable Level of Accessibility and Infrastructure Support for Fire Suppression, Disaster, and Other Emergency Services.

Implementing Actions:

4.2.a Continue to use 8-inch or larger pipe in high-value districts. In residential districts, additional "looping" or completion of water main grids shall continue to be provided where, possible, so that lengths of 6-inch pipe on the long side of the block will not exceed 600 feet.

4.2.b Maintain current standards defined in the Uniform Fire Code and City Standards for the spacing of fire hydrants. In general, these standards call for 500-foot spacing in residential areas and 300-foot spacing in commercial and industrial areas.

4.2.c Continue to provide fire prevention and disaster preparedness information through the schools, public interest groups, and other facilities and people.

4.2.d Expand the inspection program to include the following recommendations by the Insurance Services Office of California:

a. Perform fire prevention inspections of all buildings other than dwellings once a year, except hazardous occupancies which should be inspected twice a year.

b. Establish a program of adequate re-inspection of electrical wiring and equipment.

4.2.e Expand the present nuisance abatement program to include a height limit on weeds during the dry season (mid-April through mid-November) in both vacant and developed lots, abandoned vehicles, and vacant buildings.

Goal Area 5: Crime

GOALS

- **Reduced Criminal Activity and An Increased Feeling of Safety and Security in the Community.**

POLICIES

S-5.1 Provide superior community-based police services.

S-5.2 Provide services and personnel necessary to maintain community order and public safety.

Policy S-5.1
Provide Superior Community-Based Police Services.

Implementing Actions:

5.1.a Continue programs, such as "Neighborhood Watch" which increase residents' involvement in, and ownership of, police operations.

5.1.b Continue to direct services and outreach programs towards youths in the community**.**

5.1.c Locate future police facilities to enhance the "community policing" concept through the expansion of existing or the addition of new police service districts as the City

grows.

Policy S-5.2
Provide Services and Personnel Necessary to Maintain Community Order and Public Safety.

Implementing Actions:

5.2.a Maintain a police force sufficiently staffed and deployed to ensure quick response times to emergency calls.

5.2.b Require that crime prevention to be designed into new buildings and subdivisions (CPTED.

5.2.c Identify changes to current laws and ordinances or create new ones to help carry out crime prevention strategies.

Goal Area 6: Hazardous Materials

GOALS

- **Hazardous Materials Safety for City Residents.**

POLICIES

S-6.1 Prevent injuries and environmental contamination due to the uncontrolled release of hazardous materials.

S-6.2 Ensure that hazardous materials are cleaned up before a property is developed or redeveloped.

Policy S-6.1
Prevent Injuries and Environmental Contamination Due to the Uncontrolled Release of Hazardous Materials.

Implementing Actions:

6.1.a Support Stanislaus County in carrying out and enforcing the Stanislaus County Hazardous Waste Management Plan.

6.1.b Continue to update and enforce local ordinances regulating the permitted use and storage of hazardous gases, liquids, and solids.

6.1.c Continue to make sure underground storage tanks containing hazardous materials are properly installed, used, and removed.

6.1.d Provide continuing training for hazardous materials enforcement and response personnel.

Policy S-67.2
Ensure that Hazardous Materials are Cleaned Up Before a Property is Developed or Redeveloped.

Implementing Actions:

6.2.a Request an assessment of the past use of hazardous materials and soils analysis on proposed development sites.

6.2.b Continue to work with the State Department of Health Services and Stanislaus County in developing cleanup programs for known hazardous waste sites within the Waterford planning area.