

# 3. COMMUNITY IDENTITY

Benicia is committed to preserving and enhancing its unique geographic and cultural inheritance. It is located at the gate of California's great waterways. The City's heritage and resources are described in *Gateway to the Inland Coast: The Story of the Carquinez Strait* by Andrew Neal Cohen, (1996, California State Lands Commission); *Great Expectations: The Story of Benicia California*, by Richard Dillon (1980, Benicia Heritage Books); and *Benicia: Portrait of an Early California Town*, by Robert Brueggemann (1980, 101 Productions).

## A. HISTORIC RESOURCES

Benicia has a rich and fascinating past: historic buildings, archaeological sites, and the traditions and folkways of the community's diverse residents. These resources—all part of Benicia's cultural heritage—provide continuity with the past, create jobs, improve housing, offer a pleasing visual setting, enhance the quality of life, and have the potential to draw thousands of visitors. Appendix B of the Historical and Archeological Background Report (March 1996) lists Benicia's historic landmarks, resources, and buildings. Figure 3-1 is a diagram of Benicia's historical sites.



## 1. NATIVE AMERICAN PERIOD

The Vallejo-Benicia area was originally settled by the Southern Patwin group of Native Americans. The Southern Patwin inhabited areas west of the Sacramento River and north of the Carquinez Strait. By the beginning of the 20th century, the Southern Patwin were extinct.

The Patwin were a hunting and gathering society that depended mostly on acorns and marine supplies for sustenance. They settled next to water. The nearest Patwin villages definitely located are on the Napa River and near Fairfield, and there are mortar sites at the Benicia State Recreation Area. Although early explorers reported seeing villages on the north shore of the Carquinez Strait and mapped a village at the head of Southampton Bay, it remains unclear if this region was regularly inhabited, how it was utilized, and who used it.

## 2. HISPANIC PERIOD

Between the 1820s and 1840s, the Spanish parceled out the land around Benicia in large land grants to officers and their families. A large Spanish land grant—the Soscol land grant of Rancho Suscol—covered what were to become the future sites of both Vallejo and Benicia. Rancho Suscol was obtained by General Mariano Vallejo in 1844 from Governor Micheltorena.

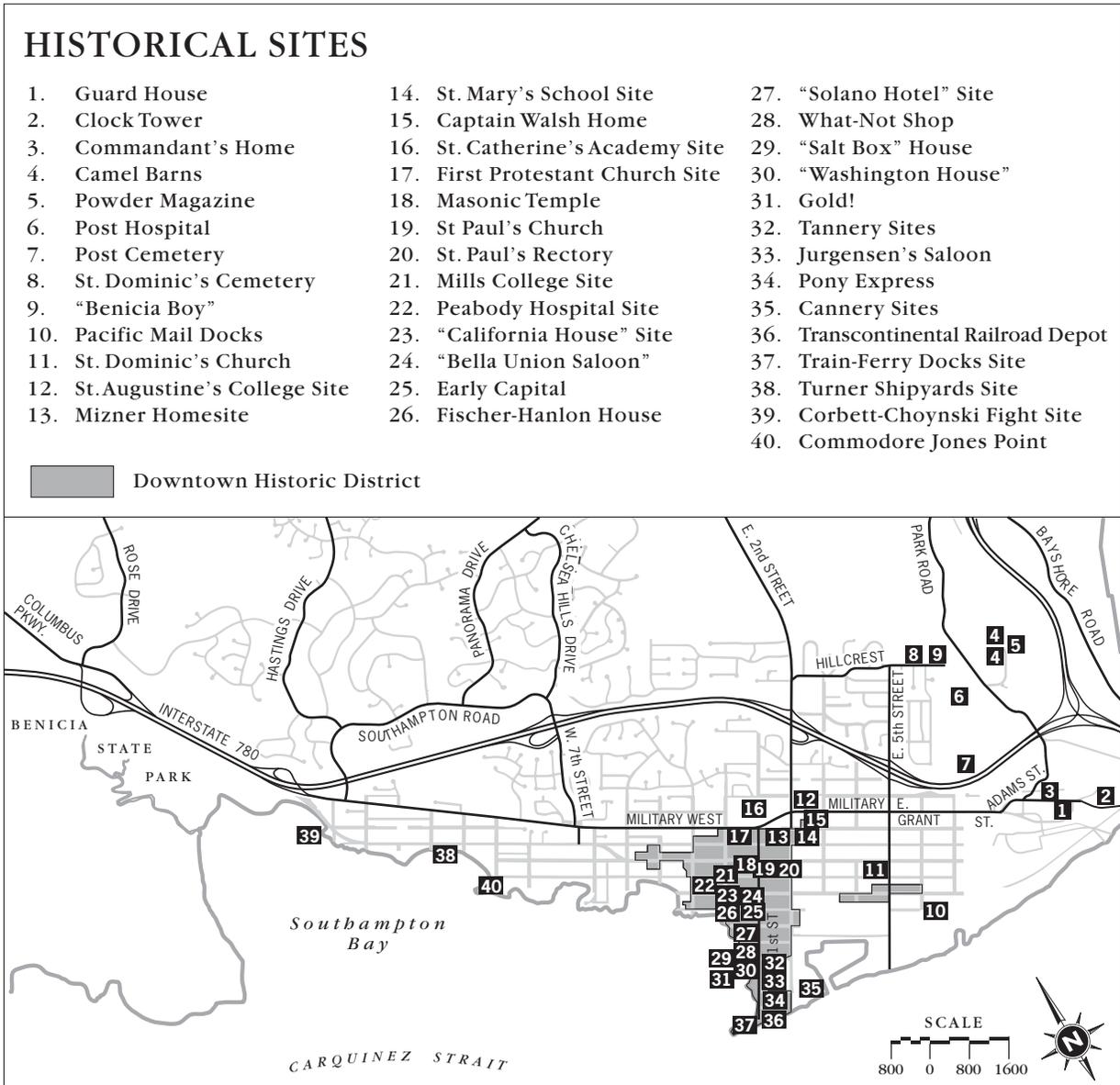
This land ownership pattern lasted until the Mexican-American War, after which California was granted to the United States as part of the Treaty of Guadalupe Hidalgo. California was admitted into the union in 1850.

## 3. AMERICAN PERIOD

In 1846, Robert Baylor Semple, an immigrant from Kentucky, arrested General Mariano Vallejo and persuaded his prisoner to deed him half-interest in a tract of Rancho Suscol. Semple founded Benicia that same year, named in honor of General Vallejo's wife.

The Benicia Arsenal, located on a large tract of land east of the community and overlooking the Strait, was acquired between 1847 and 1849 by the federal government for use as a military reservation. Several army installations preceded the Arsenal, which was named the "Benicia Arsenal" in 1852. It was one of five permanent arsenals in the country and the first on the Pacific Coast.

In 1850, Benicia and Monterey were the first two cities in the State of California to incorporate. Also in 1850, Benicia was named the government seat for Solano County. Soon thereafter, Benicia was established as a port of entry by the United States Congress. On February 4, 1853, the State Legislature voted to move into Benicia's new City Hall and make it the State Capital.



**Figure 3-1. Historic Sites**

Benicia was the State Capital for only a year. In 1854 the Legislature was persuaded to relocate to Sacramento. In 1859, the county seat was moved from Benicia to Fairfield.

Benicia was also home to the earliest of California’s educational institutions. Several schools were established in Benicia in the mid-19th century, including Dominican College and Mills College, though both campuses were relocated by 1900. Benicia was home to the state’s first official Masonic Hall, built in 1850, and the depot and shops of the Pacific Mail Steamship Company—the first large industrial enterprise in California.

In the late 1800s, Benicia was a center for agricultural and mineral production. The first railroad ferry west of the Mississippi River began service in 1879 at the foot of

First Street. By 1880, one-third of all leather produced in California was manufactured at three locations in Benicia, primarily at the foot of First Street.

#### 4. ARCHAEOLOGICAL SITES

One known archaeological resource is an underwater site at the Matthew Turner Shipyard State Park. There lie the remains of the Stamboul, originally designed and built on the east coast to ship ice from New England to India, then converted to a whaling ship. The park is a National Register of Historic Places District.

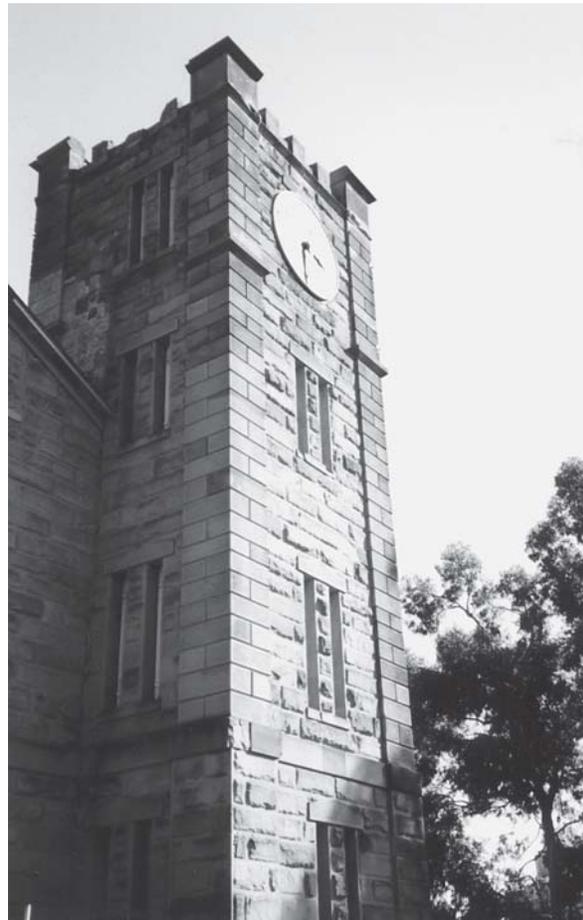
Six other archaeological sites may also exist within Benicia's City Limits. One may be located in the vicinity of Lake Herman Road and the Suisun Bay marsh. The other potential sites are located in the Arsenal and Downtown.

#### 5. HISTORIC BUILDINGS, SITES, AND AREAS

##### WATERFRONT

Much of Benicia's history was influenced by its location along the Carquinez Strait, where the rivers of the Central Valley that flow into San Francisco Bay shaped the transcontinental railway and the international shipping trade. Benicia's waterfront and transportation activity molded its social, commercial, and military history. Primary industries—tanneries, canneries, and shipyards—located along the waterfront.

The waterfront has been the subject of several governmental plans. A Special Area Plan for the Benicia Waterfront was completed in 1977 by the San Francisco Bay Conservation and Development Commission. The Benicia Urban Waterfront Restoration Plan was prepared by the City in 1991 for the California State Coastal Conservancy Urban Waterfront Program. The Plan focused on the 24 acres of Downtown bounded by the





Carquinez Strait to the south and west, F and B Streets to the north, and the marina to the east. It sought a balance between the needs to preserve the history of the area, to preserve open space, to enhance access to the waterfront, and to create new activities and commerce.

#### **ARSENAL**

The Benicia Arsenal was established in 1852 on 345 acres. The buildings were developed to serve the needs of different Army sections that used the land. Residential areas and quarters were scattered throughout the site. Along with 24 frame, brick, and stone structures built between 1854 and 1911, there are many newer buildings constructed during World War II.

The Arsenal was deactivated in 1963 and the Defense Department transferred ownership to the City of Benicia in 1965. The federal government transferred public trust lands within the Arsenal's waterfront to the State. The State granted these lands to Benicia to be managed according to the terms of the grant and consistent with the public trust doctrine, a common law generally immune from legislative change.

At first the City leased land and buildings to Benicia Industries, Inc. Eventually the City transferred title to much of the Arsenal to Benicia Industries to develop the Industrial Park and operate the Port. The City, however, retained ownership of several of the most historically significant structures, including the Commandant's house, the Clocktower building, the Camel Barns, and one of the original powder magazines.

The Arsenal area includes four distinct historic districts included on the National Register of Historic Places, and is also registered as State Historical Landmark No. 176. To preserve these historic resources, the City adopted the Arsenal Historic Conservation Plan in 1993. This plan includes goals, objectives, design guidelines, and criteria to guide development and alterations to existing structures.

Recently remodeled live/work spaces accommodate part of the Benicia arts community. Thus the Arsenal includes a mix of residential, commercial, and industrial uses similar to the historic mix of uses during its long period of military use.



## **DOWNTOWN**

Benicia's Downtown, centered on First Street from the waterfront to Military, is the historic and cultural heart of the City. Settlement in the Downtown area began soon after the town was platted in 1847. Streets were laid out without regard to topography in a rectangular grid that extended into the water. Growth intensified when the State Capitol was briefly located in Benicia from 1853–1854. Through the remainder of the 19th century, development spread north from the waterfront, concentrated along two ridges of land that ran south from the highlands, to the Strait.

Recognizing the importance of Benicia's historic Downtown, the City created an expanded historic district and adopted the Downtown Historic Conservation Plan in 1990 (amended 1992). The Downtown Historic District includes properties along both sides of First Street from Solano Square (Military) to the waterfront, and for several blocks to the east and west of First Street. The district was created not only to preserve historic buildings, but to help maintain and enhance the variety of activities that make up the historic quality of the area.

## **6. HISTORIC PRESERVATION**

Downtown has been recognized by Benicia as a historic district since 1969. However, its boundaries originally encompassed only 150 feet on either side of First Street from A Street to Military. This area represented the historic commercial spine of Downtown, but it omitted much of the surrounding historic residential neighborhood, the development of which was inextricably linked to First Street.

In 1987, the City enacted a provision within its zoning ordinance for a special historic overlay district that could be combined with any underlying zoning district. In 1989, based on extensive surveys and documentation by volunteers, consultants, and historians, the City identified two potential historic districts: one encompasses the Downtown commercial and residential area centered along First Street, and the other falls within the boundaries of the former Benicia Arsenal. In 1990 and 1993, the city prepared and adopted conservation plans for the Downtown and Arsenal historic overlay districts respectively.



**GOAL 3.1: Maintain and enhance Benicia’s historic character.**

**POLICY 3.1.1:** Encourage reuse of historic buildings; if feasible, encourage relocation rather than demolition.

*Program 3.1.A:* Continue to maintain a current inventory of historic and architectural resources in the city.

**POLICY 3.1.2:** Enhance the economic potential of historic and architectural assets.

**POLICY 3.1.3:** Preserve historic trees and landscapes. (Refer to the Arsenal Historic Conservation Plan, November 1993, for guidance on historic trees and landscaping.)

*Program 3.1.B:* Become a Certified Local Government (CLG) by applying to the State Department of Historic Preservation. (See explanation below.)

The CLG program gives local authorities the ability to designate local historic districts, structures, and sites and to have more direct participation in federal and statewide historic preservation programs. CLGs are eligible for special matching grants for projects that further local historic preservation objectives.

Completion of an historic resources inventory and creation of a local Historic Preservation Commission would qualify Benicia as a CLG. Benicia would then be eligible for federal funds that are available only to CLG cities.

*Program 3.1.C:* Define the boundaries necessary to preserve the historical significance of the Camel Barn complex.

*Program 3.1.D:* Continue to work and cooperate with the Benicia Historical Society on historic preservation issues.

**POLICY 3.1.4:** Promote the preservation and enhancement of historic neighborhoods, commercial areas, and governmental districts.

**POLICY 3.1.5:** Permit new development, remodeling and building renovation in historic districts when consistent with the policies of the applicable Historic Conservation Plan.

**POLICY 3.1.6:** Promote restoration of public and privately-owned historic and architecturally significant properties.

Significant City-owned structures in danger of deterioration include the Commanding Officer's Quarters, Powder Magazine, Railroad Depot, and Von Pfister Adobe. Other historic and architecturally significant properties where restoration efforts should be focused are the Arsenal area and the Camel Barn complex and sites.

*Program 3.1.E:* Develop a program for inspections of historic structures.

*Program 3.1.F:* Seek public and private funding for historic preservation and maintenance.

*Program 3.1.G:* Develop a program for property tax incentives.

The City can encourage the rehabilitation of privately owned historic buildings by providing potential buyers with information about California's Mills Act and federal Investment Tax Credits.

*Program 3.1.H:* Consider waiving or reducing building permit fees for qualified work necessary to rehabilitate or restore historic structures.

*Program 3.1.I:* Publicize opportunities and incentives for historic preservation to owners of historic buildings.

*Program 3.1.J:* Continue to assist owners of historic homes in lower-income areas with low interest loans through Community Development Block Grants (CDBG), when available.

*Program 3.1.K:* Establish a Historic Preservation Commission.

*Program 3.1.L:* Adopt and maintain a landmarks ordinance.

*Program 3.1.M:* Inform title companies that properties in Benicia may be affected by historic preservation regulations.

## 7. HISTORIC AND ARCHAEOLOGICAL RESOURCES GOALS, POLICIES, AND PROGRAMS

Goals, policies, and programs in this section deal with protecting archaeological resources; preserving and restoring Benicia’s historic assets; and ensuring that new development and additions are compatible with historic assets.



**GOAL 3.2: Protect archaeological (including underwater) sites and resources.**

**POLICY 3.2.1:** Ensure the protection and preservation of artifacts in known, and as yet unidentified, areas.

*Program 3.2.A:* Work with the California Archaeological Inventory to develop an inventory of existing and potential archaeological sites.

*Program 3.2.B:* Refer development proposals that may adversely affect archaeological sites to the California Archaeological Inventory.

*Program 3.2.C:* Develop City regulations regarding inspections, code enforcement, and regulation of pot hunters.

*Program 3.2.D:* Require that all sites with archaeological resources likely to be disturbed by a proposed project be analyzed by a qualified archaeologist and an appropriate program developed to mitigate any impacts from the project.

## B. CULTURAL RESOURCES



Benicia is a city with history, character, and a good quality of life. This “cultural landscape” is evidenced by the original town plan, the historic buildings, the alleys, and the remnants of piers and shipyards. “Quality of life” is a reflection of how people work, play, travel, and live. Based on the January 1996 community survey, the consensus in Benicia is that the quality of life is worth preserving.

Benicia’s lifestyle is active and diversified around the

community’s many assets: First Street, the parks, an abundance of recreational activities, the Marina, the Library, and the Arsenal. Public and private organizations sponsor activities for every interest area. Many schools, churches, and the Senior Center offer their facilities to support community cultural activities.

Whether formal or informal, all community activities contribute to Benicia’s identity and quality of life. The contribution may be impossible to quantify, but it is necessary to keep in mind, not only for its short-term benefit to the local economy but ultimately, to the community’s long-term sustainability.

### 1. COMMUNITY CULTURAL FACILITIES AND ACTIVITIES

Benicia enjoys a variety of public and privately owned cultural facilities that are managed by the City and other organizations (see Figure 2-7 for a diagram of publicly owned facilities). The civic complex includes the City Hall, the Police Department, a youth center, a senior center, a post office, and a public library. Other City-owned facilities include two houses used by the Boy Scouts and Girl Scouts, the Clocktower, the Commandant’s House, and the Camel Barn complex in the Arsenal. Privately owned recreational and cultural facilities include the Southampton Swim Club and B.D.E.S. Meeting Hall.

Benicia is also home to several historic museums: the former State Capitol Building, the Camel Barn complex, and the Fire Museum.

## 2. CULTURAL GOALS, POLICIES AND PROGRAMS

This section sets goals for community recognition of the existence and value of Benicia’s cultural resources and programs. Special attention is given to the Library, Camel Barn Museum, and community-wide special events.



**GOAL 3.3:**                    **Increase public awareness of cultural resources and activities.**

**POLICY 3.3.1:**                Preserve and enhance cultural organizations, resources and activities.

*Program 3.3.A:*                Utilize the City’s web page and other information sources to advertise cultural activities.

*Program 3.3.B:*                Continue City funding of cultural activities and the Camel Barn museum.

*Program 3.3.C:*                Require periodic reports of the results of City funding.

*Program 3.3.D:*                Investigate the creation of a City-appointed cultural commission.

*Program 3.3.E:*                Develop promotional materials that increase community awareness of the Camel Barn museum.

*Program 3.3.F:*                Expand the museum to include other historic buildings.



**GOAL 3.4**                    **Support the library and the services it provides to the community.**

**POLICY 3.4.1:**                Maintain and expand library services.

*Program 3.4.A:*                Keep the library up-to-date with electronic and other technological developments.

*Program 3.4.B:*                Plan for expanding library services into existing unfinished basement space as needs dictate.

**POLICY 3.4.2:**                New development will be required to underwrite additional library materials.

*Program 3.4.C:*                Maintain an adequate “book fee.” (See Glossary for definition.)



**GOAL 3.5:**                    **Promote events with wide community attraction.**

**POLICY 3.5.1:**                Support community-wide and special events, such as arts in the park, a farmers’ market, and open studios.

**POLICY 3.5.2:**                Plan special events while keeping in mind the need to minimize noise and traffic congestion.

### 3. THE ART COMMUNITY



Benicia's vibrant arts community is one of its prominent assets. The availability of large open spaces in the Arsenal buildings draws accomplished artists and arts-related businesses to the Lower Arsenal.

The history of Benicia's art community dates back to the post Korean War era. Artists exhibited and sold works from the Railroad Depot Gallery and the Tipton Tea Room on First Street.

Since then many diversified activities and events have become an established part of the art community. Among the most notable are:

- the Benicia Old Town Theater Group, which began providing high-quality theatrical productions in 1964;
- establishment of several renowned glass studios;
- establishment of Benicia Community Arts in 1980, which serves as an umbrella arts organization; and
- the Camel Barn Museum, established in 1982.

In 1984, a Mayor's Committee on Culture was appointed to assess Benicia's cultural heritage and resources, evaluate existing programs, and make recommendations for the future of arts and culture in the community. Recommendations included establishing a cultural commission and a center for library and cultural activities; creating a funding structure for cultural pursuits; and inclusion of an arts and culture section in the General Plan.

A direct result of the Mayor's Committee on Culture was the establishment of Arts Benicia in 1988. This organization administers arts-related issues for Benicia, and to coordinate, fund, and publicize arts for public benefit. The group was instrumental in the adoption of the Live/Work Ordinance, which changed zoning to allow artists to live and work in their Arsenal studios.

In 1993, Arts Benicia opened a gallery in converted warehouse space in the Arsenal. The gallery is a nucleus for the evolving Arsenal community.

Of the 1984 Mayor's Committee recommendations, the library and an art gallery have been built and the Art in Public Places Program has been initiated. However, the issues of establishing a cultural commission and a funding structure have yet to be addressed.

#### 4. ART GOALS, POLICIES, AND PROGRAMS

This section sets goals for recognition of the existence and value of Benicia's art community. It calls for supporting and promoting the arts, and installing art in public places.



**GOAL 3.6:**                    **Support and promote the arts as a major element in Benicia's community identity.**

**POLICY 3.6.1:**                Attract and retain art-related businesses.

**POLICY 3.6.2:**                Continue to allow and encourage live/work spaces for artists.

*Program 3.6.A:*                Evaluate where live/work spaces are allowed and what restrictions are placed on them.

*Program 3.6.B:*                Encourage expansion of art retailing on First Street.

**POLICY 3.6.3:**                Enhance public places with art.

*Program 3.6.C:*                Work with developers and builders to incorporate public art into projects, where applicable.

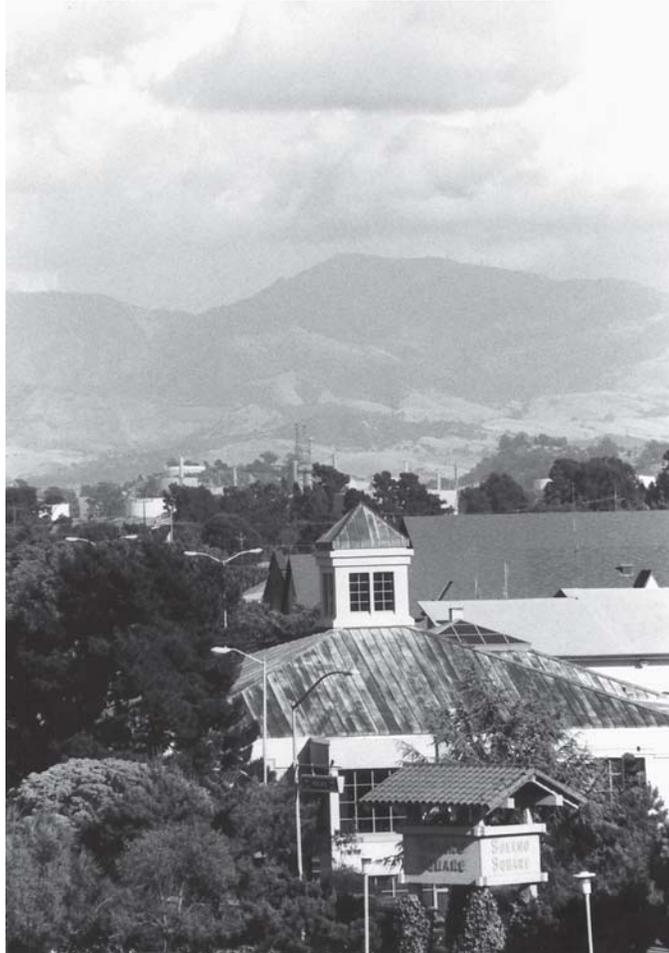


## C. VISUAL CHARACTER

### 1. WHAT IS VISUAL CHARACTER?

This section is concerned with the location, mass, and arrangement of the various components of development. Visual character combines elements of city planning, architecture, and landscape architecture, and attempts to give form, in terms of both beauty and function, to selected urban areas or to whole cities.

This section focuses on how Benicia looks and feels. It attempts to translate an intangible sense of place into tangible policies and programs that will keep Benicia a fine place to live, to work, and to raise a family.



### 2. THE LOOK AND FEEL OF BENICIA

#### NATURAL FEATURES

Benicia is a place of immense natural variety and beauty. The city is connected by salt water to the Golden Gate and the Pacific Ocean. Marshes along the Carquinez Strait cradle a rich variety of life. Rolling hills rise dramatically from the water's edge. The hills and the water inevitably become a component of the human landscape both visually and ecologically. They provide the natural qualities that contemporary development seeks.

#### THE HUMAN LANDSCAPE

The form that settlement in Benicia took over its 150 years is no less dramatic. The grid pattern of streets in the south portion of town reflects a mercantile orientation.

The rectangular blocks and lots were simple to lay out and easily accommodated a variety of uses. The scale reflected a time when commerce was conducted in smaller increments and manufacturing was primarily by hand. The mix of uses reflected the practical needs of daily life and the three miles per hour one could manage on foot. By contrast, the curvilinear and auto-oriented street patterns of Southampton would not have been possible without contemporary engineering capabilities.

Streets, plazas, squares, and formal open spaces such as City Park are the living rooms of the community. They are the places where random personal contacts can reinforce social, political, and commercial relationships.

The City's industrial park is largely separated from most of residential Benicia by intervening hills. Large expanses of paved areas surround buildings of a size and form vastly different from the residential districts. From an urban design perspective, what is most important about this industrial area is that it is relatively homogenous and completely separate from the rest of the community.

The Exxon Refinery is an exception. Because it is built among the hills, as opposed to most of the industrial area, individual structures are visible as one moves along the surrounding roads and from some residential areas and the Downtown. The color of the pipelines reinforces their connection to the refinery even as they move out beyond the complex and across the landscape.

### 3. SCENIC VIEWS, STREETS, AND GATEWAYS

#### **SCENIC VIEWS**

Benicia is rich with views and vistas; views of the water, of the hills, and of the community from within and from external locations define Benicia's community character. Figure 3-2 identifies the more important views and vistas.

In addition, there are a number of framed streetscape views, such as along First Street, that warrant preservation or enhancement. Such streetscape views are more urban, intimate, and enclosing as opposed to grand, sweeping views of the hills, water, and city.

#### **WATERFRONT**

The Carquinez Strait and Benicia's waterfront form the entire southern boundary of the City. The shoreline is a unifying visual element, continuous from bridge to bridge, that can be enjoyed from the many hillside and hilltop vantage points in town. The waterfront provides Benicia with a sense of identity and place, and it recalls the town's history as an early and important riverfront community. The views across the Strait to the undeveloped hills of Contra Costa County offer an invaluable reminder of what California once looked like. Benicia's waterfront is a natural and historic resource, and is an essential element of the community's identity.

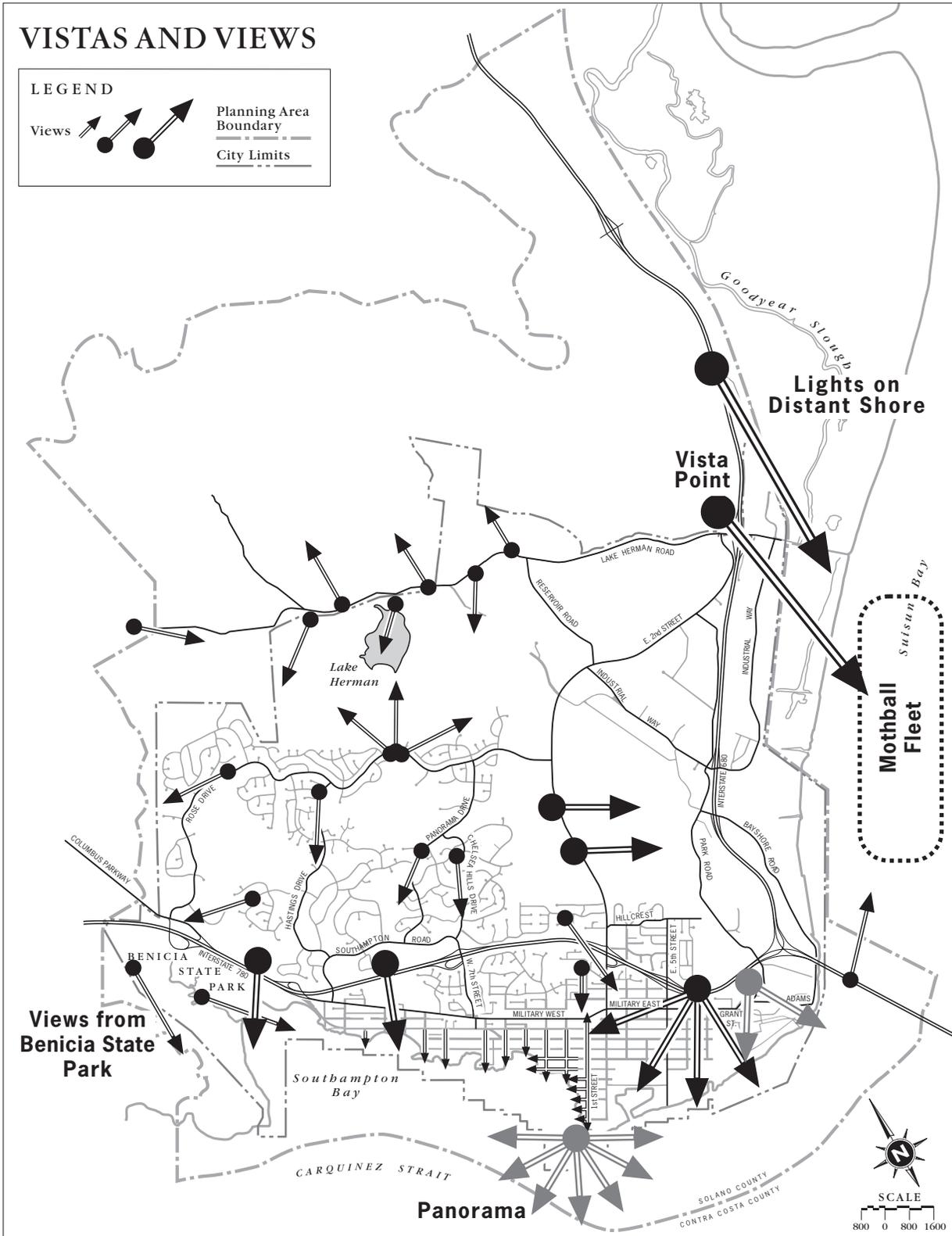


Figure 3-2. Vistas and Views

### SCENIC STREETS AND GATEWAYS

A variety of scenic resources can be viewed from three principal routes:

- I-780 between Glen Cove Road and the Benicia-Martinez Bridge;
- I-680 between Morrow Lane and the Benicia-Martinez Bridge; and
- Lake Herman Road.

Along these scenic routes are four natural gateways to the community. (A diagram of the gateways can be found on Figure 1-3.) The topography and road configuration leading to each gateway tend to block views into the community. After passing through the gateways, various parts of the community are revealed. Undeveloped hillsides and landscaped slopes leading up to the gateways add a rural feeling and help separate Benicia from neighboring communities. The features of each of the scenic roads and their gateways are discussed below.

#### **Interstate Freeway 780 between Glen Cove Road and Pine Lake**

**Gateway.** There is a southern gateway to Benicia where I-780 climbs from the I-680 intersection and crests in the vicinity of the basin of former Pine Lake. A magnificent view over the hilltops of Benicia to the distant Carquinez Bridge opens up as one moves west through this gateway.

The western gateway to Benicia on I-780 is formed by open, low hillsides, freeway landscaping, and the Southampton Marsh in the vicinity of the Columbus Parkway interchange. Views into the community open up as one moves east, past the Boundary Hills.

**Outward Views.** The experience of moving along I-780, where views alternate between broad vistas and close containment, is particularly exciting. Benicia's residential character is established by views along this route; and views to and across the Carquinez Strait to the steep, wooded slopes of northern Contra Costa County impart a rural image.

**Visual Corridor.** The experience of traveling from west to east along I-780 reveals the importance of the Boundary Hills which extend from Dillim Point on the Carquinez Strait to north of Lake Herman Road (refer to Figure 1-2.) The Boundary Hills, formed of a composite of close and distant hilltops and hillsides, visually separate Benicia from Vallejo. They first become apparent along I-780 at the Glen Cove interchange. The Boundary Hills also can be seen from various places along I-780 inside Benicia.

Between the former Pine Lake and East Second Street one can see vacant land and the edges of development. Between East Second Street and Southampton Road (West Seventh), views are generally contained by open, undeveloped hillsides. A notable wooded slope exists at the north side of the highway west of East Second Street. The overall impression of Benicia from the I-780 corridor is one of a relatively low density residential community.

**Interstate Freeway 680 between Morrow Lane and the Benicia-Martinez Bridge**

**Open Space Gateway.** The northern gateway to Benicia occurs on this route where the road passes under the Lake Herman Road overpass and around the point of land marking the interchange. The visual experience is enhanced by the open hillsides to the west which, as the gateway is passed, recede to reveal Benicia's major industrial area.

**Outward Views.** The views along this route establish an initial image of Benicia as a place where a high quality environment for manufacturing and import/export activities is provided. It becomes immediately clear that industrial activities are contained by natural topographic boundaries within the basin formed by the hills below Lake Herman Road on the north, the slopes above East Second Street to the west, the main ridgeline to the south, and Suisun Bay to the east. To the east, the "mothball fleet" can be seen in Suisun Bay.

**Visual Corridor.** When traveling from north to south, this route is marked by steep grassy slopes dotted with oaks and cattle on the west, and the expanse of Suisun Marsh on the east. Once the Benicia City Limits are reached, views briefly open up on both sides of the road; however, the focus is directly on several large storage tanks on the north side of the main ridge. When traveling from south to north, the focus is westward on the rolling hills above and below Lake Herman Road.

A viaduct carries the highway from its high point on the main ridge at the south to the lower grade below. Outward views are generally unobstructed along the viaduct. Between the industrial park interchange (north side of the viaduct) and Lake Herman Road, the visual corridor is contained on the east by the Union Pacific Railroad berm, and on the west by slopes between Park Road and the highway. Industrial Park landscaping has enhanced the corridor along part of this western edge.

**Lake Herman Road**

**Open Space Gateway.** The northwestern gateway to Benicia occurs on this route where the road passes through the Boundary Hills west of Lake Herman. Steep, high ridges rise at both sides along the road, near the 300 foot elevation, suddenly revealing a breathtaking view down and across Lake Herman to the Carquinez Strait beyond. An active quarry is located on the south facing slope of the hill along the north side of the road.

**Visual Corridor.** The Lake Herman Road corridor conveys a rural image for Benicia which is unusual so close to an urban area. The visual experience between the natural portals of the Boundary Hills and Lake Herman is enhanced by unique rocky ridges projecting upward from the grassy slopes south of the road and by riparian vegetation along the creek feeding into Lake Herman. Open hillsides within the City-owned property surrounding Lake Herman form a pleasant backdrop to the lake on the south. Lower, open slopes of the rolling hills north of Lake Herman Road complete the visual experience.

## **PLANNING IN SCENIC CORRIDORS**

### **Preservation**

“Preservation” means maintaining identified sight lines and minimizing visible development on any land that would block public views. Key visual features visible from the identified scenic highways are listed below.

- Carquinez Strait
- Suisun Marsh
- Boundary Hills
- Lower open slopes (along I-780)
- Former Pine Lake basin
- Reservoir Hill
- Arsenal Cemetery
- Significant rocky ridges
- Significant clusters of riparian trees
- Lake Herman
- Rolling hills (adjacent to I-680 north of Lake Herman Road)

## **4. ARCHITECTURAL AND LANDSCAPE FEATURES**

Buildings shape public spaces, and the details of their street faces have much to do with the success and viability of the streets and spaces they border.

In the last 30-40 years, while attention has been given to the visual character of buildings, emphasis has been on convenience for the automobile. An example is the preponderance of garage doors in the newer residential areas.

### **SOUTHAMPTON**

Southampton displays a typical late 20th century streetscape with curvilinear street patterns. Vehicles are parked at curbside much less frequently than occurs Downtown because of the lower density and greater number of available garage spaces and driveways. The building fronts are dominated by garage doors and large lawns.

### **INDUSTRIAL AREAS**

The older industrial areas developed in response to wartime activities. They are characterized by large scale, horizontal, boxy buildings, and roads built for temporary use. The pavement in some areas is random and chaotic, with little consideration for pedestrian safety or comfort. In addition, landscaping and screening of unattractive uses is inadequate, and overhead utilities are unattractive.

## **DOWNTOWN**

### **Landscape Features**

The block of West J Street between First and West Second Street has a splendid stand of vintage palm trees, which were often planted to give importance to major streets in 19th century California towns. This planting continues across First Street and along the East J Street frontage of St. Paul's Church grounds. Palm trees also distinguish the front yards of older residences such as the Riddell-Fish house. Other specimen, or non-native trees occur in older landscaped settings such as the grounds of the former State Capitol and the Fischer-Hanlon house next door.

### **Architectural Features**

Downtown Benicia has three broad categories of buildings: commercial, institutional (including civic and religious structures), and residential. The commercial buildings are clustered along First Street for the most part. Older institutional buildings are found generally on or within a block of First Street, while 20th century examples are more widely dispersed. Residential buildings are represented principally on the east-west streets, although some are located on First Street as well.

The old portion of Benicia is characteristic of 19th century and early 20th century American neighborhoods. The area is dominated by east/west streets that typically have vertical curbs, parallel on-street parking, and parkway planter strips with trees between the sidewalk and curb.

Building fronts are dominated by porches and a vertical massing of windows. Uses are mixed, with some streets having office, retail, and housing on the same block.

Commercial buildings in the 19th and early 20th centuries were often built with offices on the upper floors and additional space for storage. Another common commercial type was more residential in character and had apartments on the upper floor or floors. The strictly commercial buildings typically had a block-like form with raised parapets that concealed the actual roof, which was often pitched. The mixed residential and commercial buildings often revealed pitched or gable roofs. On First Street many residences were converted to commercial use but retained the outward characteristics of a residential building. Although ground floors were often remodeled, one typical 19th and early 20th century shopfront design that can still be found on First Street has recessed entrance doors flanked by polygonal show windows, so that much of the shopfront is glazed.

Institutional, civic, and religious buildings, because of their public nature, were generally larger and more monumental than residential buildings, but frequently similar in character and form. Whether used for government offices, museums, or organizations of a quasi-civic nature such as the I.D.E.S. or the I.O.O.F, they were built in the dominant styles of their period. Although churches, their associated parochial buildings, and their educational institutions also followed stylistic trends to a certain degree, their designs tended to fall within the general styles of Classical or Gothic Revival in the 19th and early 20th centuries.

Residential buildings Downtown exhibit the range of styles mentioned above as well as typical forms or plans. One house type that occurs very frequently Downtown is the pyramidal roofed, single-story cottage with a rectangular or square plan. This basic form was used for several styles including Classic Revival, Italianate, and Stick/Eastlake. Decorative detail, when present, was mainly confined to porches. Some of the cottages which now appear totally devoid of detail may always have been so.

## **ARSENAL DISTRICT**

### **Landscape Features**

The open space, landscape features, and urban design elements recognized as contributing to the Arsenal District include the former Barracks Parade Ground, the Military Cemetery, the rolling hills that form the setting for the Storehouses (Camel Barns), Ammunition Shops, and Magazines on the northern part of the district; and notable trees of great age or size such as the eucalyptus trees near the site of the former Benicia Barracks north of the old Post Hospital building. The specimen trees and ornamental landscaping surrounding the officers' quarters on the ridgetop have special significance, along with the mature street trees which line Jefferson Street and the ornamental specimen trees which mark the Military Cemetery. Additionally, the embankment above Adams and Washington Streets was historically planted with cork oak trees to form the original passage that provided a formal entrance to the Clocktower.

### **Architectural Features**

The Arsenal District has a more limited range of historical building types and architectural styles than does the Downtown, largely because the buildings were constructed by the federal government on a military reservation. However, this controlled situation did not mean that the buildings were not well designed or constructed. In fact, the Arsenal has some of the state's most architecturally distinguished buildings, notably the Storehouse and Ammunition Shop (Camel Barns), Clocktower, Powder Magazine, Shops, and the Officers' Residences.

The two broad categories of historic buildings in the Arsenal Historic District are the military/industrial buildings that comprise most of the district's historic structures and the residential buildings where military personnel were formerly quartered. The latter are concentrated in the middle zone of the district between the Jefferson Street embankment and the freeway. The military/industrial buildings are more scattered, but are principally in the areas south of Adams Street and north of the freeway.

## **VISUAL CHARACTER GOALS, POLICIES, AND PROGRAMS**

This section provides goals, policies, and programs that will maintain and reinforce Benicia's small-town character. In doing so, the goals, policies, and programs focus on preserving natural features and vistas, designating and maintaining scenic roads and highways, identifying and enhancing the gateways to the city, and improving the streetscape.

While this section focuses solely on visual character and community design, there are other sections in the General Plan where related goals, policies and programs appear. The most significant are listed below.

Growth Management	Goal 2.1 Policy 2.1.1 Program 2.1.A
Economic Development	Program 2.6.F Policy 2.11.3 Program 2.12.H Program 2.12.J Program 2.12.K Program 2.12.O
Circulation	Goal 2.14 Policy 2.20.3
Historic Resources	Goal 3.1 Policy 3.1.5



**GOAL 3.7: Maintain and reinforce Benicia’s small-town visual characteristics.**

**POLICY 3.7.1:** Ensure that new development is compatible with the surrounding architectural and neighborhood character.

**POLICY 3.7.2:** Encourage “place-making”—the arrangement of built elements to create indoor or outdoor spaces that are recognizable and suitable for a specific function or functions.

“Place making” and “place definition” are among the most important functions of urban design. “Place” can be manifested in many forms: a street closed off for a neighborhood or regional fair; a cafe on the sidewalk or in a courtyard adjacent to it; a front porch where neighbors gather; or a small intimate patio or porch on the private side of the building where one can take a respite from urban life.

*Program 3.7.A:* Develop design guidelines for public works and private development that encourage place-making.

*Program 3.7.B:* Prepare a citywide urban design plan that addresses landscaping, street trees, landmarks, gateway definitions, vista preservation/enhancement, and protection of shoreline and hillsides.

*Program 3.7.C:* Develop citywide requirements for screening service entrances and equipment.

*Program 3.7.D:* Develop a schedule and financing plan for undergrounding power and telephone lines.



**POLICY 3.7.3:** Encourage consistent street tree planting, other types of landscaping, and neighborhood gardens.

*Program 3.7.E:* Advertise the existence of guidelines for tree preservation, planting, and removal guidelines.

**POLICY 3.7.4:** Where feasible, install and maintain landscape (planter) strips that separate sidewalks from the streets.

*Program 3.7.F:* Establish an adequate minimum width for landscape strips so that plant materials (especially trees) do not damage the sidewalk, curb, or gutter.

*Program 3.7.G:* Modify the City's street improvement standards to accommodate landscape strips.

**POLICY 3.7.5:** Preserve the grid pattern of Benicia streets.

*Program 3.7.H:* Require that land use and circulation plans for property along arterials minimize the need for sound walls.



**GOAL 3.8:** **Preserve First Street as the community focal point of Benicia.**

**POLICY 3.8.1:** Design new and renovated buildings along First Street to accommodate ground level retail commercial.

*Program 3.8.A:* Develop urban design improvements to unify Solano Square with City Park and the Civic Center.

**POLICY 3.8.2:** In the transition areas east and west of First Street, encourage the adaptive re-use, rather than replacement, of existing residential structures.



**GOAL 3.9: Protect and enhance scenic roads and highways.**

**POLICY 3.9.1:** Preserve vistas along I-780 and I-680.

*Program 3.9.A:* Inventory scenic resources along I-780 and I-680.

*Program 3.9.B:* Investigate and apply for State Scenic highway designation of Interstate Highways I-780 and I-680.

*Program 3.9.C:* Develop a sign enforcement program along the freeways.

The State scenic highway law calls for careful coordination in planning, design, construction, and regulation of land use and development on the band of land “generally adjacent” to the freeway. The benefits of the designation to the community are that the State will officially refer to the freeways as scenic highways in its publications; the freeways will be eligible for “special scenic conservation treatment” and will receive special signage; and the law will prevent the placement of Caltrans facilities in the right-of-way without City approval.

**POLICY 3.9.2:** Work with the State to complete and maintain landscaping of I-680 and I-780.

First priority should be planting the various unfinished cut banks facing I-680 and I-780. Planting that blocks views from I-780 to the Carquinez Strait should be avoided. Ground cover and shrubs are appropriate for purposes of erosion control and appearance.

*Program 3.9.D:* Preserve the trees on the northern edge of former Pine Lake.

**POLICY 3.9.3:** Orient individual building/business signage toward city streets, not toward I-780.

**POLICY 3.9.4:** Develop the City’s five identified gateways to provide a sense of entry and exit.

*Program 3.9.E:* Prepare land use and design guidelines to direct the nature and character of development at the city’s five gateways.

**POLICY 3.9.5:** Establish definable neighborhoods in future development and revitalization projects.



**GOAL 3.10: Enhance the streetscape along Military East and West.**



*Program 3.10.A:* Develop a concept and streetscape plan for Military.

**GOAL 3.11: Enhance the East Side.**

**POLICY 3.11.1:** Focus public investment toward undergrounding utilities, completing sidewalks, adding walking paths, park amenities, landscaping, and street trees on the East Side.



**GOAL 3.12: Improve the appearance of the Industrial Park.**

**POLICY 3.12.1:** Encourage additional attractive, quality development in industrial areas.

*Program 3.12.A:* Continue to implement and revise as necessary the Industrial Design Guidelines.

*Program 3.12.B:* Adopt an ordinance establishing minimum standards for outdoor storage and yard maintenance within public view.



**GOAL 3.13: Improve urban design qualities of the waterfront and public access to the shoreline.**

**POLICY 3.13.1:** Enhance waterfront vistas.

*Program 3.13.A:* Incorporate public visual areas in new development.

**POLICY 3.13.2:** Improve pedestrian amenities along waterfront streets and walkways.

**POLICY 3.13.3:** Take advantage of water orientation for recreation and industrial uses.

*Program 3.13.B:* Develop a plan for public and pedestrian access to and along the waterfront and shoreline.

*Program 3.13.C:* Complete the pathway system from Point Benicia along the entire shoreline to the intersection of West Second and G Street.

*Program 3.13.D:* Use privately dedicated walkways to link to the waterfront.

## D. OPEN SPACE AND CONSERVATION OF RESOURCES

State planning law requires cities to plan for “open space for the preservation of natural resources, the managed production of resources, outdoor recreation, and public health and safety.” The General Plan Land Use Diagram (found in the back pocket of this Plan) recognizes three categories of open space to meet these requirements:

1. **Marsh.** Includes identified shoreline wetlands (but excludes freshwater wetlands and riparian corridors).
2. **General.** Includes publicly-owned open space, land dedicated for permanent open space in residential subdivisions, open space for public health and safety (such as hillsides with slopes over 30 percent), open space for managed production of resources (such as mineral resources), and open space for conservation of natural resources (such as the Lake Herman watershed). Refer to Policy 2.1.5 and page 209 – Urban Growth Boundary for further discussion of uses.
3. **Parks.** Includes publicly owned neighborhood, community, and regional parks, as well as public recreation facilities, and allows for more intensive recreational uses. They are discussed in the previous chapter under Parks and Recreation Chapter 2D: Community Services).



## 1. REGIONAL AND SUBREGIONAL OPEN SPACE AND TRAILS

### OPEN SPACE

(A Parks and Open Space diagram is provided in Chapter 2D under Parks and Recreation.)

#### Tri-City and County Open Space

Benicia is part of the Tri-City and County Cooperative Planning Area that encompasses 10,000 acres of open space in unincorporated Solano County between Benicia, Fairfield, and Vallejo. The *Tri-City and County Regional Park and Open Space Preservation Plan* (adopted 1993) is incorporated in the Benicia General Plan as a Special Area Plan. The Tri-City and County Plan reserves the Cooperative Planning Area for continuing agricultural and other open space uses and establishes a framework for regional park planning.

#### Southampton Open Space

The undeveloped open space areas within the Southampton subdivision offer physical separation between houses and visual relief from development. Portions of this open space have trails that are used for hiking, jogging, and walking.

Some parts of the Southampton Open Space are “residual” open space areas that were too steep for development or recreational use. Though many of these open space areas are not connected, there is habitat value to resident wildlife. Corridors could be established to permit wildlife access, and efforts could be made to restore native flora.

#### Benicia-Vallejo Open Space Buffer

The hills and ridges at the western edge of the Planning Area, also known as the “boundary hills,” are designated open space to maintain a permanent visual and physical separation from Vallejo. The boundary hills begin at Dillon Point on Southampton Bay Natural Preserve and extend north, incorporating Lake Herman Road. This area is protected through a 1979 Benicia/Vallejo “Memorandum of Understanding to Preserve the Buffer Zone.” The two cities agreed that the buffer zone should be inviolate, with no urban development.

#### Lake Herman Regional Park

Lake Herman Regional Park is an existing 577-acre lake and open space area located at the northernmost edge of the city. Allowed passive activities in the park include fishing, hiking, and picnicking. Boating is prohibited since the lake is a secondary water supply for the city. A trail system connects Lake Herman with nearby Benicia Community Park.

#### Northern Area

An area between Lake Herman and the Tri-City and County Open Space is currently designated as open space, but is largely privately held and has faced development pressure.

### **Benicia State Park**

Benicia State Recreation Area extends from the shoreline of Southampton Bay along the Planning Area boundary to the west and to Interstate I-780 on the north. It includes the tidal flats of Southampton Bay, as well as some trails and recreation areas.

### **Marsh and Shoreline**

Benicia has important marsh and shoreline open space resources all along Carquinez Strait and Suisun Bay. These resources include Southampton Bay Natural Preserve (formerly Southampton Marsh) in Benicia State Recreation Area, small parks and shoreline access points along the residentially developed areas west of Downtown, the Downtown waterfront and Marina, and marsh areas along the Industrial Park. The biotic values of these areas are described later in this chapter under the Water Environment and Biotic Resources. These areas are also important for the recreation opportunities they provide.



### **REGIONAL AND SUBREGIONAL TRAILS AND PATHS**

Benicia has a comprehensive system of bikeways and paved community trails. Bikeways are classified and identified in Chapter 2C: Circulation and a Bicycle and Multi-use Trails diagram is provided in the same chapter (Figure 2-4).

The Parks, Trails, and Open Space Master Plan (adopted in December 1997) proposes new trails to link the City's parks by foot, bicycle, horseback, and wheelchair. The Master Plan's proposed network of bikeways and trails is extensive and the Parks Master Plan serves as a guiding vision for General Plan bikeway and trail planning. (Refer to the Master Plan for a detailed description of city trails and paths.)

### **Interpretive Trails**

Interpretive Trails are paved and located where there are ecological or historical resources of educational value. Signs provide information about significant features. An interpretive trail is proposed as part of Lake Herman Regional Park.

### Bay and Ridge Trails

The San Francisco Bay Trail is a proposed 400-mile network that will circle San Francisco and San Pablo Bays, passing through all nine Bay Area counties. Benicia is one of the Bay Area cities along the pathway.

Benicia's Waterfront Trail is already signed as a part of the Bay Trail. It begins at the Benicia Marina and follows the commercial district on First Street, winds through the community and forks at Benicia State Recreation Area. The southern fork ends at Southampton Bay Natural Preserve where it connects with a trail to Glen Cove in Vallejo.

The proposed Bay Trail will enter Benicia from the south on the new Benicia-Martinez Bridge. As yet, there is no clear plan as to how bicyclists and pedestrians will connect to the Waterfront Trail from the bridge.

The Bay Area Ridge Trail is a second regional trail that will ultimately circle San Francisco and San Pablo Bays, following the hills and ridges that ring the Bay. In Benicia, this trail follows the same route as the Bay Trail along the Waterfront, and will require the same connection from the Benicia-Martinez Bridge.

### Staging Areas

The Parks Master Plan proposes staging areas to link the City's parks and open spaces. "Staging areas" are gathering points adjacent to major trails and accessible to major roads. Major staging areas are to provide a full range of facilities for the trail user including on-site parking and rest rooms. Minor staging areas are to serve short local trails and are located in neighborhood parks.

## 2. REGIONAL AND SUBREGIONAL OPEN SPACE AND TRAILS GOALS, POLICIES, AND PROGRAMS

The following goals, policies, and programs have a broad reach. They are designed to protect and provide access to open space and the waterfront and provide buffers between urban communities.



**GOAL 3.14: Provide a buffer between Benicia and adjacent communities.**

**POLICY 3.14.1:** Continue to implement the provisions of the Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation and the 1979 Benicia/Vallejo Memorandum of Understanding to Preserve the Buffer (often referred to as the Benicia-Vallejo Open Space Buffer).

The Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation has been adopted by the City and is incorporated in this General Plan by reference.



- GOAL 3.15:** **Provide buffers throughout the community.**
- POLICY 3.15.1:** Preserve and protect, through a variety of methods, a pattern of open space buffers and greenbelts throughout the Planning Area.
- Program 3.15.A:* Identify and evaluate open spaces (by function, location, size, connectivity, and views of open space).
- Program 3.15.B:* Adopt an open space preservation program aimed at acquiring or assisting in acquiring rights to open space within the Planning Area.
- Program 3.15.C:* Utilize existing land trusts.
- POLICY 3.15.2:** Preserve public views of public open space and maintain existing vistas (including the Northern Area vistas) wherever possible.
- Program 3.15.D:* Where applicable, require that new developments include view corridors that allow viewing open space from public roadways and public use areas.
- POLICY 3.15.3:** Avoid creating difficult-to-use residual open space in new development areas.
- Program 3.15.E:* Evaluate each proposed open space area to ensure it is large enough to meet its intended purpose.
- POLICY 3.15.4:** Use open space as a buffer against natural or man-made hazards.
- Program 3.15.F:* Require open space buffers around known hazardous areas, such as the Exxon Refinery and the IT site.
- POLICY 3.15.5:** Encourage the landscaping of existing open spaces, and landscape new open spaces with native plants.
- POLICY 3.15.6:** Restore and maintain natural landscapes in a natural manner.
- Program 3.15.G:* Develop a landscape master plan for open space areas.



- GOAL 3.16:** **Preserve key land forms which separate Benicia physically and visually from adjacent communities.**
- POLICY 3.16.1:** Maintain visual and physical separation from Vallejo and Fairfield.
- Program 3.16.A:* Use the westernmost parcels designated as open space to provide a buffer with Vallejo.

**POLICY 3.16.2:** Work with Vallejo to minimize visible development along the Boundary Hills.

**POLICY 3.16.3:** Allow no additional access roads between Columbus Parkway and Lake Herman Road.



**GOAL 3.17: Link regional and local open spaces.**

**POLICY 3.17.1:** Attempt to link existing regional and local open spaces using trails and open space corridors.

*Program 3.17.A:* Acquire open space corridors that link existing regional and local open spaces, where feasible.

“Acquire” may mean purchase, lease, or easement.

*Program 3.17.B:* Construct trails in open space corridors linking regional and local open spaces.



**GOAL 3.18: Protect agricultural use.**

**POLICY 3.18.1:** Preserve rangeland north of Lake Herman Road.

*Program 3.18.A:* Investigate land trusts and other mechanisms to ensure continuity of agricultural uses in the northern portion of the Planning Area.

### 3. BIOTIC RESOURCES

Biotic resources within the Benicia Planning Area include plant life, wildlife, special status species, and water bodies. Figure 3-3 shows the sensitive biological resources found in Benicia.

#### PLANT LIFE

Vegetation in the Planning Area is dominated by a cover of non-native grassland and suburban landscape, bordered by important marshlands at Southampton and Suisun Bays. Most of the rolling hills south of the Rose Drive area are developed with urban and suburban uses, interspersed with grassland covered slopes and a few undeveloped ravines. These large expanses of open space could be restored with native grasses, oaks and other flora. The lands east of East Second Street and north of I-780 have been highly disturbed by past military and existing industrial uses. Grasslands cover most of the rangeland to the north of East Second Street and the Lake Herman Road area throughout the northeastern hills. Major creeks, drainages, and the fringe of Lake Herman in the undeveloped Northern Area support freshwater marsh and riparian vegetation, which varies from cattail to willow forest and scrub. Scattered oaks occur in the northeastern hills, primarily on the north and east-facing slopes west

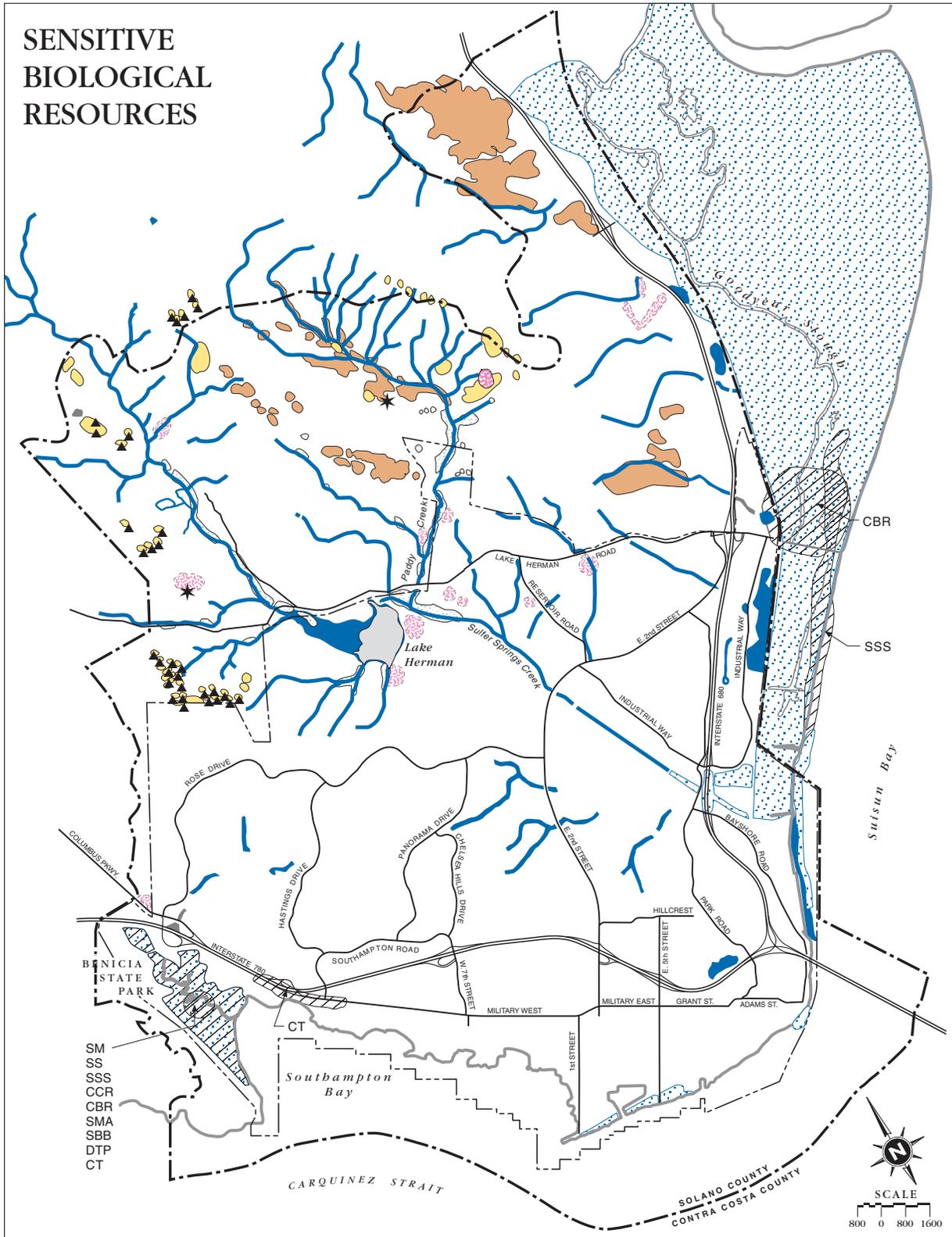


Figure 3-3. Biological Resources

LEGEND		Special Status Species Occurrences	
Planning Area Boundary —————		▲	Callipe Silverspot Butterfly Sighting
City Limits -----		★	Golden Eagle Nest Location
<b>Sensitive Natural Communities/Unique Vegetation</b>		▨	General Occurrence Records in Suitable Habitat - Generalized areas where the indicated species have been recorded as occurring
	Marshland/Northern Coastal Salt Marsh/Coastal Brackish Marsh	SM	Salt Marsh Harvest Mouse
	Coast Live Oak Woodland	SS	Suisun Shrew
	Valley Needlegrass Grassland	SSS	Suisun Song Sparrow
	Riparian(Willow Riparian Forest/Willow Scrub)	CCR	California Clapper Rail
	Golden Violet Population (Callipe Silverspot Host Plant)	CBR	California Black Rail
	Eucalyptus Grove (Raptor Roosting & Nesting Substrate)	SMA	Suisun Marsh Aster
<b>Wetlands/Other Waters</b>		SBB	Soft Bird's-Beak
	Palustrine/Riverine (Streams, Channels, Ponds, Lakes)	DTP	Delta Tule Pea
	Estuarine (Tidal Marshland, Mudflats)	CT	Congdon's Tar Plant (Note: There is a strong likelihood that this area has been mapped by the CNDDDB in an inaccurate location.)

*Legend to Figure 3-3 on previous page*

of I-680. Small areas of northern coastal scrub, freshwater seeps, remnant native grasslands, and stands of eucalyptus also occur in the northern portion of the Planning Area.

The various vegetative communities in the Planning Area are summarized below. With the exception of the description of developed areas and eucalyptus stands, each of the descriptions conforms with the classification system developed by the California Department of Fish and Game (CDFG) (1986).

**Non-native Grassland**

Non-native grasslands occupy most of the Planning Area: introduced grasses and broadleaf weeds (e.g., fennel, artichoke, and star thistle) which quickly recolonize disturbed areas. Intensive grazing, dry land farming, and other disturbance have eliminated most of the historic range lands in the Planning Area.

**Developed Areas**

Ornamental landscaping has been planted throughout developed areas and around rural residences in the northern portion of the Planning Area. Weedy grassland occupies vacant lots and heavily disturbed areas, including much of the industrial area. Most species used in landscaping are non-native ornamentals—a wide variety of trees, shrubs, groundcover, and turf. Blue Gum Eucalyptus has been planted as windbreaks and forms woodlands in several locations.

**Northern Coastal Salt Marsh and Coastal Brackish Marsh**

Marshland natural communities occur along the Carquinez Strait and Suisun Bay where soils are subject to regular inundation by salt and brackish water. Species are segregated by elevation and degree of inundation. Populations of several special-status plants occur in the marshlands. This vegetation is generally absent along the developed shoreline of Carquinez Strait from the State Recreation Area at Southampton Bay

Natural Preserve to just east of the Benicia Bridge, although emergent marshland vegetation occurs near the entrance to the Benicia marina and forms a small stand just east of Tyler Street.

The Southampton Bay Natural Preserve, on the southwestern border of the city, and the Suisun Marsh northeast of the city are protected from encroachment by development. The Suisun Marsh is the largest remaining wetland around the San Francisco Bay and the largest brackish area in the United States. It comprises more than 10 percent of California's total wetland area. Both of these marshes provide wintering habitat for waterfowl on the Pacific Flyway and are vital to fish and wildlife production.

In 1977, the California Legislature passed the Suisun Marsh Preservation Act to preserve and enhance the quality and diversity of marsh habitats, and to assure retention of upland areas adjacent to the Suisun Marsh in uses compatible with its protection. This legislation protects the Marsh by implementing policies and programs set forth in the Suisun Marsh Protection Plan prepared by the San Francisco Bay Conservation and Development Commission. Development in these shoreline areas is prohibited, with the exception of minor fill to protect the shoreline, improve its appearance, or provide public access and recreation. A portion of the Secondary Management Area (SMA) of the Suisun Marsh is within the General Plan Planning Area. The SMA is included in the Suisun Marsh Preservation Act, but has less stringent development restrictions.

In addition to salt water and brackish water marshes, freshwater marshes, typically dominated by narrow-leaf cattail, occur at drainages and the fringe of freshwater bodies, including portions of Lake Herman and several stock ponds. Freshwater marsh species also dominate at numerous freshwater seeps in the Planning Area.

#### **Coastal Live Oak Woodland**

Over 120 acres of oak woodland—dominated by coast live oak—occurs in the northeastern portion of the Planning Area. This includes an extensive stand along the upstream half of Paddy Creek and adjacent slopes, scattered stands along a north-south ridgeline in the Paddy Creek watershed, and large continuous stands on the east and northeast-facing slope along the I-680 corridor north of the Lake Herman Road interchange. The understory is generally poorly developed or composed of non-native grassland.

#### **Willow Riparian Forest and Willow Scrub**

Riparian vegetation occurs along stream courses and the eastern fringe of Lake Herman, with trees and shrubs forming stands of riparian forest and willow scrub. Well-developed riparian corridors, primarily willows, occur along Sulphur Springs and Paddy Creeks. Intensive grazing and trampling by cattle has eliminated understory species and severely limits regeneration of natural forest and scrub.

**Valley Needlegrass Grassland**

Remnant native grasslands are found in the Northern Area, forming valley needlegrass grassland communities which are interspersed with areas dominated by non-native species.

**Northern Coastal Scrub**

A few stands of this natural community are scattered in grassland areas. Most consist of thickets of coyote brush.

**WILDLIFE**

Although native vegetation within the Planning Area has been substantially altered, the marshlands and extensive tracts of undeveloped land contribute to a diverse assemblage of resident and migrant wildlife. Habitat types of particular importance to wildlife include the marshlands and open water Carquinez Strait and Suisun Bay, areas of well-developed riparian forest and scrub, and oak woodlands. In general, each habitat differs in its relative value to specific species, as summarized below.

**Urbanized Habitat**

In general, urbanized areas have low to poor wildlife habitat value. The diversity of urban wildlife depends on the extent and type of landscaping, remaining open space and proximity to natural habitat. Trees and shrubs used for landscaping provide nest sites and cover for wildlife adapted to developed areas. Urban areas provide habitat for several species of native mammals (squirrel, raccoon, and skunk). Urbanization now separates most of the shoreline habitat along the southern and southeastern edge of the city from the undeveloped rolling hills in the Northern Area.

**Tidal and Marshland Habitat**

Carquinez Strait and Suisun Bay are of regional importance to fish and wildlife, providing habitat for aquatic plants and animals, open water habitat for birds, and serving as the major movement corridor between San Pablo Bay and the Delta. Delta waters support game fish, such as largemouth bass, catfish, and sunfish, as well as non-game and forage fish.

The salt and brackish marshlands form the transition between open water and upland habitat. Special-status species known to be associated with marshland in the Planning Area include: salt marsh harvest mouse, Suisun shrew, California clapper rail, California black rail, Suisun song sparrow, and salt marsh yellowthroat. For many of these species, the upper limits of the marshland and the remaining adjacent upland habitat are essential retreats during extreme high tides. Protection of an adequate buffer to preserve sufficient retreat habitat is essential to maintaining the value of the marshlands. Much of this zone has been developed with industrial uses along the southern and eastern edge of Benicia. The importance of this buffer is recognized in the Suisun Marsh Protection Plan through establishment of a “secondary management area” for a portion of the Planning Area.

### **Grassland Habitat**

Native and nonnative grasslands support a variety of mammals, birds, and reptiles, and provide foraging for raptors. Many species use the grassland for only part of their habitat, foraging in the grassland and seeking protection in the limited tree and scrub cover. Grassland habitat in the northern portion of the Planning Area supports the callippe silverspot butterfly, a special-status insect.

### **Freshwater Marsh and Riparian Habitat**

Freshwater aquatic habitats and the associated riparian and marsh vegetation are of high value to wildlife, providing a source of drinking water, protective cover, and movement corridors. Riparian forest and scrub provides nesting and roosting for numerous resident birds, and stopovers for migrant songbirds. The streams, ponds, and Lake Herman provide aquatic habitat for amphibians. Dense riparian growth provides essential cover in the open grasslands for larger mammals, such as striped skunk, raccoon, opossum, and black-tailed deer.

### **Oak Woodland Habitat**

These provide important cover for a greater diversity of wildlife than found in the adjacent grasslands. The abundant seed crops (acorns and madrone, poison oak, and toyon berries) are an important food source for black-tailed deer, woodpeckers, and other wildlife.

### **Rock Outcrops**

Rock outcrops in the grassland and oak woodlands of the Northern Area provide a unique habitat for wildlife. Outcrops occur in the Paddy Creek watershed and the dense woodlands in the northeastern hills. The crest of Sulphur Springs Mountain forms an exposed bluff with cliffs and ledges just west of the Planning Area. These land forms provide perches for raptors and ledges for nests.

### **Eucalyptus Habitat**

Although native to Australia, this naturalized species provides important nesting habitat for raptors and other birds, and cover for larger mammals. Eucalyptus in the open grasslands—where protective cover and perching habitat is scarce—emphasizes the importance of the dense tree stands to birds and larger mammals.

## **SPECIAL STATUS SPECIES AND SENSITIVE NATURAL COMMUNITIES**

Special-status species<sup>1</sup> are plants and animals legally protected under State or federal Endangered Species Acts or other regulations, plus other species considered rare enough by the scientific community and trustee agencies to warrant special consider-

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<sup>1</sup> Special-status species include: officially designated (rare, threatened, or endangered) and candidate species for listing by the CDFG; officially designated (threatened or endangered) and candidate species for listing by the US Fish and Wildlife Service (USFWS); species considered to be rare or endangered under the conditions of Section 15380 of the CEQA Guidelines; and other species considered sensitive or of special concern due to limited distribution or lack of adequate information.

ation. Species with legal protection under the Endangered Species Acts often represent major constraints to development, particularly when they are wide ranging or highly sensitive to habitat disturbance and where proposed development would result in a “take”<sup>2</sup> of these species.

The primary information source on the distribution of special-status species in California is the California Natural Diversity Data Base (CNDDB) inventory, which is maintained by the Natural Heritage Division of CDFG. A record search indicates several plant and animal species with special-status in the Planning Area, mostly in the tidal marshland habitat.

#### 4. BIOTIC RESOURCES GOALS, POLICIES, AND PROGRAMS



**GOAL 3.19: Preserve and enhance habitat for special-status plants and animals.**

**POLICY 3.19.1:** Protect essential habitat of special-status plant and animal species.

*Program 3.19.A:* Require biological assessments in sensitive habitat areas as part of environmental review of proposed development.

*Program 3.19.B:* Require retention of essential habitat for special status species. If infeasible, require adequate mitigation for loss of special status species and/or habitat in compliance with State and federal regulations.



**GOAL 3.20: Protect and enhance native vegetation and habitats.**

**POLICY 3.20.1:** Protect native grasslands, oak woodlands, and riparian habitat.

**POLICY 3.20.2:** Restore native vegetation, such as birch grasses and oaks, wherever possible for open spaces of existing developed areas.

*Program 3.20.A:* Encourage community groups to carry out native plant restoration efforts.

*Program 3.20.B:* Limit the loss of native vegetation or require mitigation, or both.

*Program 3.20.C:* Require native and compatible non-native plant species, especially drought-resistant species, to the extent possible in landscaping new development and public areas.

<sup>2</sup> “Take” as defined by the Federal Endangered Species Act (FESA) means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect” a threatened or endangered species.

**POLICY 3.20.3:** Encourage preservation of existing trees. Especially preserve and protect mature, healthy trees whenever practicable, particularly where such trees are of significant size or are of significant aesthetic value to the immediate vicinity or to the community as a whole.

*Program 3.20.D:* Strive to incorporate existing mature, healthy trees into proposed developments.

**POLICY 3.20.4:** Require protection of movement corridors.

*Program 3.20.E:* Require preservation of open space corridors between Lake Herman, Sulphur Springs Mountain, the Northern Area, the northeast hills, the Benicia State Recreation Area, and the marshlands east of I-680.



**GOAL 3.21: Permanently protect and enhance wetlands so that there is no net loss of wetlands within the Benicia Planning Area.**

**POLICY 3.21.1:** Encourage avoidance and enhancement of sensitive wetlands as part of future development.

*Program 3.21.A:* Continue to require wetland delineation and mitigation as part of environmental review of proposed development.

**POLICY 3.21.2:** Require replacement for wetlands eliminated as a result of development at a higher wetlands value and acreage than the area eliminated.

Replacement ratios are initially determined by State and federal agencies. The City desires to take an aggressive approach in promoting wetland enhancement. If the City desires a higher ratio, a nexus must be established between the loss and the desired replacement ratio.

*Program 3.21.B:* Continue to coordinate with the California Department of Fish and Game, United States Fish and Wildlife Service, and the United States Army Corps of Engineers in reviewing proposed wetland modifications.

**POLICY 3.21.3:** Encourage development of a Suisun Marsh interpretive center near the I-680/Lake Herman Road interchange.

*Program 3.21.C:* Work with responsible agencies to develop the Suisun Marsh interpretive center near Lake Herman Road and I-680.

**POLICY 3.21.4:** Restore and increase marshland areas.

*Program 3.21.D:* Prepare a Local Protection Program (LPP) for the portion of the Suisun Marsh Secondary Management Area within the Benicia General Plan Planning Area.

*Program 3.21.E:* Identify small wetlands and require their protection, restoration, and enhancement as part of open space dedication in proposed development and in citywide open space improvements.



## 5. WATER RESOURCES

### **Carquinez Strait**

Benicia has joined the cities of Vallejo, Martinez, and Hercules, the State Lands Commission, Solano and Contra Costa counties, the East Bay Regional Park District, and the Greater Vallejo Recreation District to protect and enhance the resources of the Carquinez Strait. Funding for this planning project was provided as part of a 1993 State Lands Commission agreement with the Crockett Cogeneration Project. The plan calls for the protection, restoration, and enhancement of resources, balanced with other public trust uses (recreation, public access, commerce, navigation, and shipping) which will contribute to the long-term economic vitality of the Strait.

### **Ravines and Streambeds**

The ravine northeast of Columbus Parkway, the ravines oriented east from the “view hill” in Southamptton, and the streambeds associated with the former Paddy Lake and Lake Herman are important water resources and are protected from development by this Plan. By reducing overland runoff and filtering water-borne pollutants, these naturally occurring watercourses aid in flood prevention and water quality preservation.

### **Marshes**

The Southamptton Bay Natural Preserve (formerly called Southamptton Marsh), on the southwestern border of the City, and the Suisun Marsh northeast of the City are protected from encroachment by development. The Suisun Marsh is the largest remaining wetland around the San Francisco Bay and the largest brackish area in the United States. It comprises more than 10 percent of California’s total wetland area.

Both of these marshes provide wintering habitat for waterfowl on the Pacific Flyway and are vital to fish and wildlife production. They are protected by this Plan.

In 1977, the California Legislature passed the Suisun Marsh Preservation Act to preserve and enhance the quality and diversity of marsh habitats, and to assure retention of upland areas adjacent to the Suisun Marsh in uses compatible with its protection. This legislation protects the Marsh by implementing policies and programs set forth in the Suisun Marsh Protection Plan prepared by the San Francisco Bay Conservation and Development Commission. Development in these shoreline areas is prohibited, with the exception of minor fill to protect the shoreline, improve its appearance, or provide public access and recreation. A portion of the Secondary Management Area (SMA) of the Suisun Marsh is within the General Plan Planning Area. The SMA is included in the Suisun Marsh Preservation Act, but has less stringent development restrictions.

## 6. WATER RESOURCES GOALS, POLICIES, AND PROGRAMS

(Goals, policies, programs for marshes are found in the prior section: Biotic Resources.)



### **GOAL 3.22: Preserve water bodies.**

**POLICY 3.22.1:** Avoid development that will degrade existing lakes and streams.

*Program 3.22.A:* Require that all development in watersheds flowing into lakes and unchannelized streams include features to preserve run-off water quality.

*Program 3.22.B:* Require a minimum setback of 25 feet from the top of bank of streams and ravines. Do not allow development within the setback.



### **GOAL 3.23: Preserve Lake Herman as a municipal water resource.**

**POLICY 3.23.1:** Ensure the biological, chemical, and physical integrity of Lake Herman.

*Program 3.23.A:* Continue to monitor water quality in Lake Herman and at upstream sources of potential pollution.

**POLICY 3.23.2:** Prohibit uses that would adversely affect water quality (such as motorized boats or swimming).



### **GOAL 3.24: Protect watersheds.**

**POLICY 3.24.1:** Identify the Benicia watersheds to preserve.

## 7. MINERAL RESOURCES

Mineral resources consist of surface soils for agricultural uses or domestic gardens and subsurface materials such as mined rock or minerals. State planning law requires the general plan to identify mineral resources and provide for their continued availability. The one mineral resource area in the Planning Area which is required to be protected and preserved for extraction is shown on Figure 3-4.

### SOILS

The Department of Agriculture's Soil Survey of Solano County identifies the predominant soil in the Planning Area as the Dibble and Altamont Series of expansive clay formations. These soils have the greatest limitations for the types of plants which can be grown without special soil treatment and are best suited to open rangeland or recreational purposes if left undeveloped. The amount of rainfall and low permeability of the soils contribute to the limited variety of natural vegetation supported. Past use of the unurbanized land in the Planning Area has been for grazing.

The Northern Area, particularly along Paddy Creek, is comprised of the richer, Rincon Series of clay loams which is capable of more intensive agriculture. These are alluvial soils formed from erosion of the sedimentary rocks of surrounding slopes. According to the Soil Survey, the predominant soil types are suitable for management of small birds such as quail and doves and for impounding water for waterfowl habitat or fish.

### SUBSURFACE RESOURCES

The only regionally significant mineral resource in the Planning Area is a deposit of igneous rock from which aggregate is produced. The aggregate is used in the manufacture of asphaltic concrete, Portland cement concrete, rip-rap, drain rock and road base.

The Sulphur Springs Mountain Deposit was designated by the State of California as a Mineral Resource of Regional Significance pursuant to the Surface Mining and Reclamation Act (SMARA). An active quarry within the deposit exists along Lake Herman Road west of Lake Herman in the boundary hills between Benicia and Vallejo, outside of the Planning Area. Quarrying there has resulted in a cut face, which is visible from the Lake Herman area. To the extent possible given the requirements of the Surface Mining and Reclamation Act (SMARA), City policy discourages further expansion of the visible cut in an eastern direction.

Several abandoned mercury mines exist in the Sulphur Springs Mountain area. These mines have not been in production since the mid 1940s.

## 8. MINERAL RESOURCE GOALS, POLICIES, AND PROGRAMS



**GOAL 3.25:** **Conserve and, where appropriate, develop the mineral resources of regional significance within the Planning Area.**

**POLICY 3.25.1:** Maintain in open space the mineral resource area of regional significance designated on Sulphur Springs Mountain until a mineral resource extraction and reclamation plan that addresses all potentially significant impacts of extraction has been approved by the responsible agencies.



**GOAL 3.26:** **Minimize environmental impacts of mineral production.**

**POLICY 3.26.1:** Minimize exposure of the quarry face from residential areas.

**POLICY 3.26.2:** Allow extraction of mineral resources within the Planning Area but beyond the currently permitted quarry area on Sulphur Springs Mountain, only upon approval by the appropriate agencies.

**POLICY 3.26.3:** Maintain a variable ridgeline and natural landform representative of the scenic character of the Planning Area.

*Program 3.26.A:* Work with adjacent jurisdictions to establish mineral resource management measures.

**POLICY 3.26.4:** Prohibit extraction of mineral resources outside the State-designated mineral resource area, and permit extraction of mineral resources inside the State-designated mineral resource area only if applicable policies, mitigation measures, performance standards, rules, and regulations are met.

**POLICY 3.26.5:** Require mitigations, setbacks, buffers, and screening.

**POLICY 3.26.6:** Require that residential buildings to be constructed within 2,000 feet of the ultimate mineral extraction boundary be analyzed by a qualified engineer to ensure economically feasible measures that minimize the amplification of ground vibration.

## 9. ENERGY CONSERVATION GOALS, POLICIES, AND PROGRAMS

Developing and maintaining urban areas, including the open space within developed areas, utilizes energy in various forms. For development projects, there are “indirect” energy costs involved in the manufacture of building materials, and there are “direct”

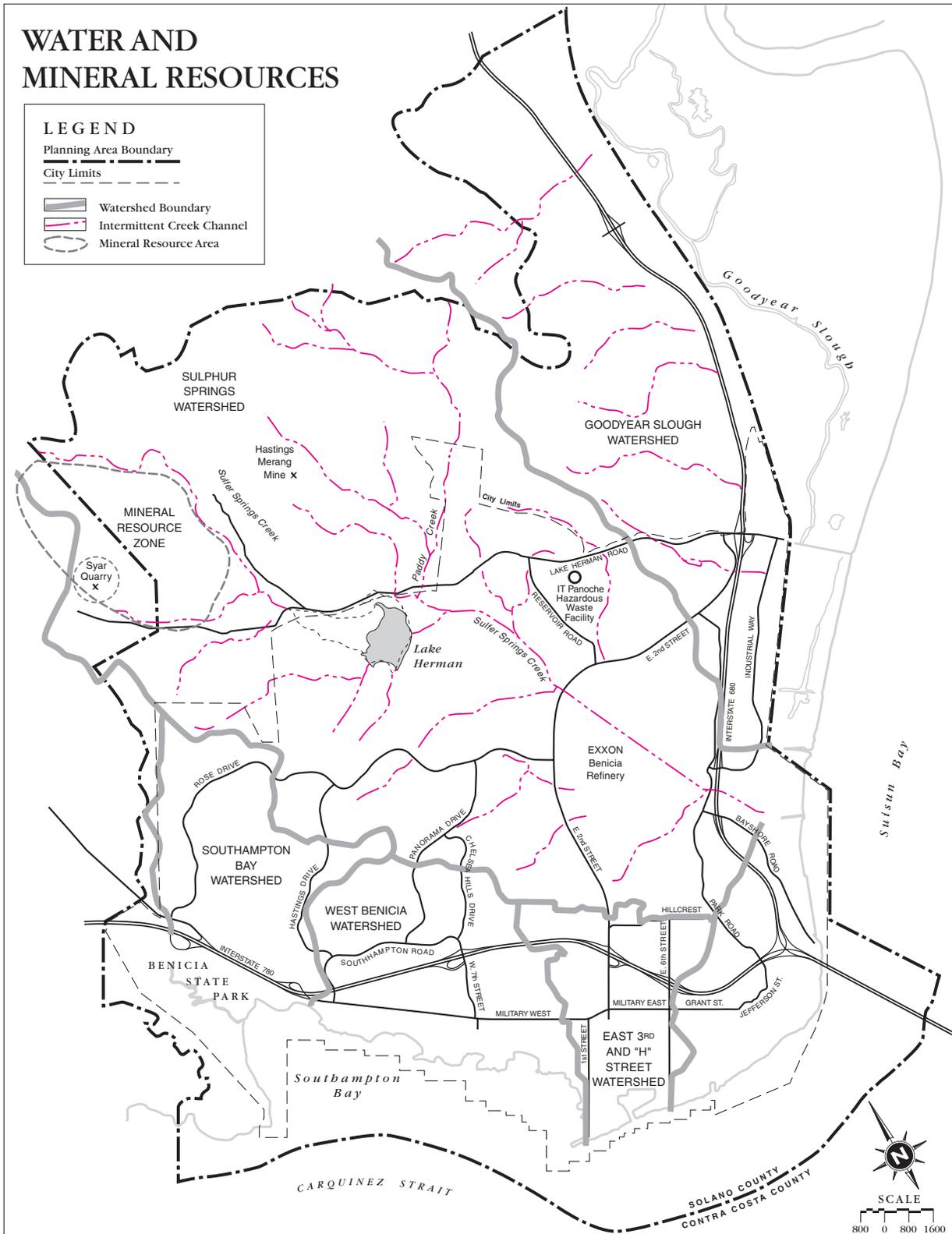


Figure 3-4. Hydrology and Mineral Resources

costs involved in the ongoing operation (heating, lighting, *etc.*) of the project. The State has adopted comprehensive energy conservation standards (“Title 24”) which must be incorporated into all new development projects, including remodelings. Those standards are implemented in Benicia through the building permit review process. The State conducts periodic audits of local building departments to ensure that energy standards are being properly administered.



**GOAL 3.27: Improve energy efficiency.**

**POLICY 3.27.1:** Promote energy conservation in all new development and during rehabilitation of existing homes.

*Program 3.27.A:* Distribute information on weatherization and energy conservation.

*Program 3.27.B:* Implement State energy conservation requirements in new housing.

# 4. COMMUNITY HEALTH AND SAFETY

## A. HEALTHY COMMUNITY

### 1. DIMENSIONS OF OPTIMAL HEALTH

A comprehensive definition of a healthy community is described by the following categories:

**Physical Environment.** This category focuses on a clean environment, fitness, nutrition, safety, and medical care. Specific issues include affordable and safe housing, parks and open space, streets, and sanitation.

**Social Environment.** Friends, families, and communities fall under this category. Specific issues include hunger, food bank utilization, school lunches, homelessness, substance abuse, cost of living, earned wages, percent of the population in poverty, and broader issues of social justice.



**Emotional Health.** Stress management and care during individual emotional crises affect the community's overall emotional health as do community balance (racial, economic, age), resource distribution, and participation in decision-making.

**Intellectual Environment.** Education, career development, and personal achievement fall under this category. Education issues include drop-out rates, graduation rates, continuing education programs, and other educational opportunities. Career development deals with issues such as unemployment rates, job types and availability, commute distance, and economic development.

**Spiritual.** This category deals with sense of purpose, love, hope, and charity.

The comprehensiveness of the above factors requires that broad segments of the community participate in addressing health issues and finding and implementing solutions to improve local health care.

## 2. HEALTHY COMMUNITY GOALS, POLICIES, AND PROGRAMS



**GOAL 4.1:**            **Make community health and safety a high priority for Benicia.**

**POLICY 4.1.1:**        Strive to protect and enhance the safety and health of Benicians when making planning and policy decisions.

**POLICY 4.1.2:**        Promote a wide range of health-related services.

Such services will address the physical environment and social climate.

*Program 4.1.A:*        Develop a citizen input planning process with the Human Services Fund Board to address locally identified community health and health-related concerns.

**POLICY 4.1.3:**        All City departments should attempt to address the underlying causes of health, social, and safety issues.

*Program 4.1.B:*        Promote measurable health goals and work with health-related agencies to monitor their implementation.

For example, work with "California Healthy Cities" on a project to reduce measurably the sale of cigarettes to children.

**POLICY 4.1.4:**        Compile available information pertinent to the health and safety of Benicians.

*Program 4.1.C:*        Require the Human Services Fund Board to report annually to the City Council and public on the health, well-being, and safety of the community, along with recommendations for improvements.

**POLICY 4.1.5:**        Clarify City role in providing health services.

*Program 4.1.D:* Inventory health needs, identify holes in the network, and focus on those issues not being addressed.

*Program 4.1.E:* Delegate a formal group (e.g., Human Services Fund Board) to be responsible for community health promotion, and require the group to coordinate with a broad range of community representatives.

*Program 4.1.F:* Expand the role of the City staff person liaison to the Human Services Fund Board, as needed to support additional tasks assigned to the Board.



**GOAL 4.2: Improve access to medical, mental health, and social services for all Benicians, including the elderly and low-income.**

**POLICY 4.2.1:** Fully utilize and coordinate available resources and efforts through the City’s Human Services Fund Board and other governmental and non-governmental agencies.

*Program 4.2.A:* Work with existing health care providers, neighboring cities, and the county, State and federal governments.

*Program 4.2.B:* Provide and maintain affordable transportation services to and from health facilities (in and out of town), especially for the elderly and disabled.



**GOAL 4.3: Attract additional health services to Benicia.**

**POLICY 4.3.1:** Promote preventive health care in line with the Child and Adult Preventive Care Guidelines published by the US Public Health Service (1994).

The guidelines recommend tests, examinations, immunizations, and other preventive measures for all ages.

*Program 4.3.A:* Support the development of a “Center for Human Services”.

**POLICY 4.3.2:** Evaluate the need for and feasibility of new medical facilities in Benicia including a branch of the County Health and Social Services Department.

*Program 4.3.B:* Promote prenatal care, health care for children, teen activities, education and counseling, and intergenerational activities.

*Program 4.3.C:* Investigate the feasibility of utilizing existing City buildings to deliver health-related services, and expand the scope of the buildings’ uses in conjunction with established neighborhood groups.

**POLICY 4.3.3:** Promote establishment of demonstration gardens at schools, churches, fire stations, and other sites.

*Program 4.3.D:* Consider utilizing vacant City property for gardening of fruits and vegetables.



**GOAL 4.4:** **Reduce the incidence of substance abuse and strive for a drug-free community.**

**POLICY 4.4.1:** Support the development of the education of all age groups in the prevention of substance abuse.

*Program 4.4.A:* Include law enforcement, the School District, and proprietors of nicotine, alcohol, and prescription drugs in planning and operating substance abuse prevention programs.

*Program 4.4.B:* Identify at-risk populations and work to develop programs and services to address their needs.

**POLICY 4.4.2:** Promote safe driving by youth.



**GOAL 4.5:** **Establish after-school programs and other constructive activities for youth.**

*Program 4.5.A:* Work with the School District on appropriate after-school youth activities.



**GOAL 4.6:** **Prevent and reduce crime in the community.**

**POLICY 4.6.1:** Encourage building designs that help to reduce crime.

*Program 4.6.A:* Review the design of new and rehabilitated buildings for ways to increase resident safety.

**POLICY 4.6.2:** Develop a corrective action plan to deal with high crime areas.

*Program 4.6.B:* Strengthen and expand neighborhood watch programs. Include businesses.

*Program 4.6.C:* Promote the education of citizens on how not to be a victim.

**POLICY 4.6.3:** Maintain an adequate officer-to population ratio in all areas, as approved by the City Council.

## B. HAZARDS TO THE COMMUNITY

### 1. GEOLOGIC

Within Benicia, the most significant geologic hazards are those associated with landslides, debris flows, and ground shaking during earthquakes. Other significant geologic hazards include the potential for settlement of structures constructed on filled bay land, expansive soils, cut and fill slopes, and flooding. These and other possible hazards are discussed below. A list of geological web site internet addresses is provided in Appendix H.

#### SEISMIC HAZARDS

##### Earthquakes

Benicia lies within a seismically active region. The principal faults in the area are capable of generating large earthquakes that could produce strong to violent ground shaking in Benicia.

In the event of an earthquake, seismic risk to a structure will depend on the characteristics of the earthquake, the distance to the earthquake epicenter, the subsurface conditions underlying the structure and its immediate vicinity, and the characteristics of the structure. It is impossible to predict precisely when, where, or exactly what kind and amount of movement will occur on local faults. However, the intensity of ground shaking can be amplified by local geologic conditions. Areas most susceptible to a significant amplification of ground shaking are underlain by soft sediments such as Bay Mud. In several areas along the Benicia waterfront, fill and buildings have been placed over Bay Mud. These areas are likely to experience substantially stronger ground shaking than areas underlain by bedrock. Figure 4-1 shows ground shaking amplification in the Planning Area.

##### Unreinforced Masonry Buildings

Most susceptible to earthquake damage are older structures (those constructed before 1950) and unreinforced masonry buildings (URMS). Structural damage occurs in older wood frame structures as a result of poorly designed foundations or a lack of structural bonding between the foundation and the building. The risk of structural damage can often be significantly reduced by securely attaching the structure to the foundation. Shear walls and other structural reinforcements are useful in improving resistance to earthquakes.

URMS—buildings constructed with brick, cinder block, or stone without steel reinforcement—were common in California in the early part of the 20th century. URMS are prone to collapse during large earthquakes, but can often be brought up to acceptable earthquake design standards by adding structural reinforcement.

The risk associated with URMS is addressed in Benicia's Seismic Hazards Identification Program (Chapter 15.60, Benicia Municipal Code). The program requires that the City

notify owners and tenants of URMS of the hazards. The notification by the City was completed in 1990.

### **Liquefaction**

Liquefaction occurs in granular materials as a result of ground shaking, and is often followed by sudden local settling or slope failure. The potential for liquefaction is considered to be highest in areas underlain by saturated, unconsolidated, granular sediments. Within Benicia, the areas most at risk from liquefaction are along the Bay margin and in the flat-lying valley bottoms, in areas underlain by Bay Mud or Alluvium. Figure 4-2 shows areas with potential liquefaction hazard.

Although liquefaction often causes severe damage to structures, structural collapse is uncommon. The risk to public safety from liquefaction, therefore, is relatively low. Structures can be protected from liquefaction through the use of special foundations.

### **Earthquake-related Ground Failure**

Various forms of ground failure occur during or immediately following an earthquake, as a result of ground shaking. The nature and severity of these effects are determined by the magnitude and duration of shaking and the local geologic and groundwater conditions. Earthquake-related ground failures include lateral spreading, lurch cracking, and landsliding.

### **Fault Rupture**

The Green Valley fault is the only active fault known in the Planning Area. Fault rupture is likely to occur along the Green Valley fault as a result of an earthquake there. The risk of fault rupture elsewhere in the Planning Area is very low.

## **SLOPE STABILITY HAZARDS**

### **Landslides**

Landslides are significant geologic hazards in the Planning Area. Since the 1906 earthquake, damage from landslides has far exceeded that from earthquakes. Landslides are relatively rare in the developed portions of Benicia, but are numerous in the hilly, undeveloped areas. A map of the landslides in the Planning Area is shown on the Landslide Map, Plate 2 of the Public Safety Background Report, February 28, 1996. Another reference is the Department of Mines and Geology Open File Report 86-17 "Landslide Hazards in the Benicia Valley Area." Figure 4-2 shows areas with potential landslide hazard.

Landslides can cause extensive damage to buildings, roadways, or other facilities located on the landslide, and often result in large property losses. Because landslides are slow moving, people are rarely injured or killed. Landslides often result from poorly placed or poorly drained fill.

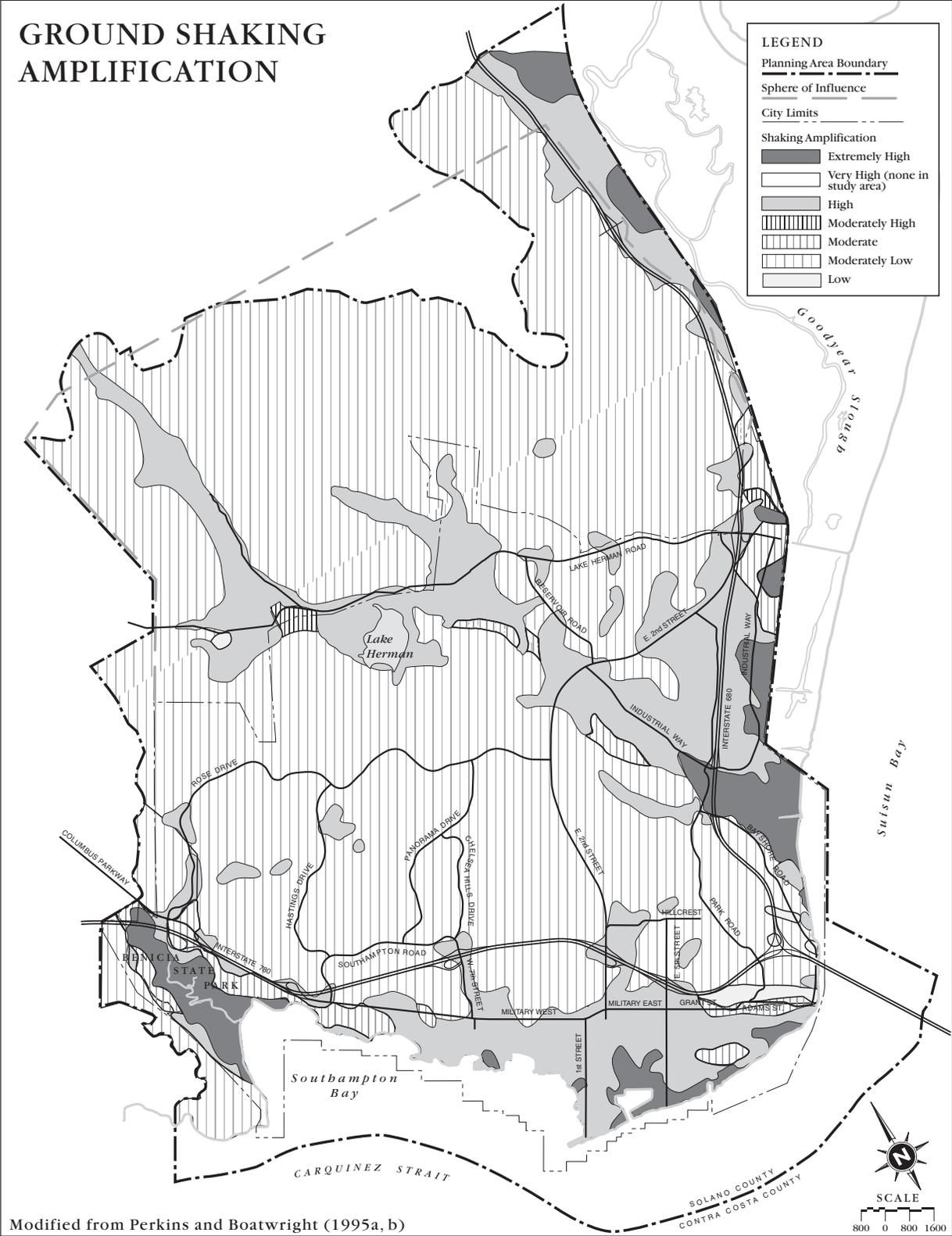


Figure 4-1. Ground Shaking Amplification

### **Debris Flows**

Debris flows are fast moving, highly fluid landslides. Debris flows originate where hillside swales filled with unstable colluvium on steep slopes become saturated during a period of very heavy rainfall. Once the colluvium slides a short distance, the soil loses its structure, liquefies, and moves rapidly down the swale or ravine, coming to rest in the near-level valley bottom.

A large number of debris flows were mapped in the Planning Area, mostly in the hilly region northeast of Lake Herman Road.

The risk of loss of property or life as a result of debris flows can be reduced. The most effective strategy is to avoid placing structures or facilities in debris flow paths. Where structures exist within areas at risk of debris flows, measures can be taken to stabilize the debris flow source areas through retaining walls, regrading, or subdrainage, constructing basins to retain debris, or diverting debris away from structures.

## **2. FLOOD HAZARDS**

Flooding that causes damage to lands and property within the Planning Area occurs primarily in response to severe rainstorms coincident with near-saturated soil conditions or high tides, or both. The most recent severe flooding occurred in February 1986 when the area received 7.66 inches of nearly continuous rainfall in nine days.

### **FEMA FLOOD MAPS**

Based on the results of a revised hydrologic study commissioned by the City in 1987, The Federal Emergency Management Agency (FEMA), prepared a revised Flood Insurance Study and Flood Insurance Rate Map (FIRM) in 1989. Flood hazard zones delineated for Benicia and adjacent portions of Solano County within the Planning Area are shown in Figure 4-3.

The figure shows low-lying areas subject to flooding during a 100-year storm: (1) the lower reaches of the Sulphur Springs Creek Watershed downstream of Lake Herman; (2) the lands flanking the Benicia shoreline east of East 3rd Street; and (3) the wetlands associated with Benicia State Park on Southampton Bay. A “100-year storm” means that in any year there is one chance out of 100 for a serious flood to occur.

### **STORMWATER MASTER PLAN/FLOOD CONTROL IMPROVEMENTS**

Since adoption of the 1982 and 1989 Stormwater Master Plans, the City has completed over 40 storm drainage improvement projects (see Appendix A of the Public Safety Background Report, February 28, 1996). These improvements have significantly reduced the spot flooding which formerly occurred in Benicia. Two large stormwater detention basins were constructed as part of the Southampton D-Unit subdivisions which have helped to minimize flooding problems Downtown.

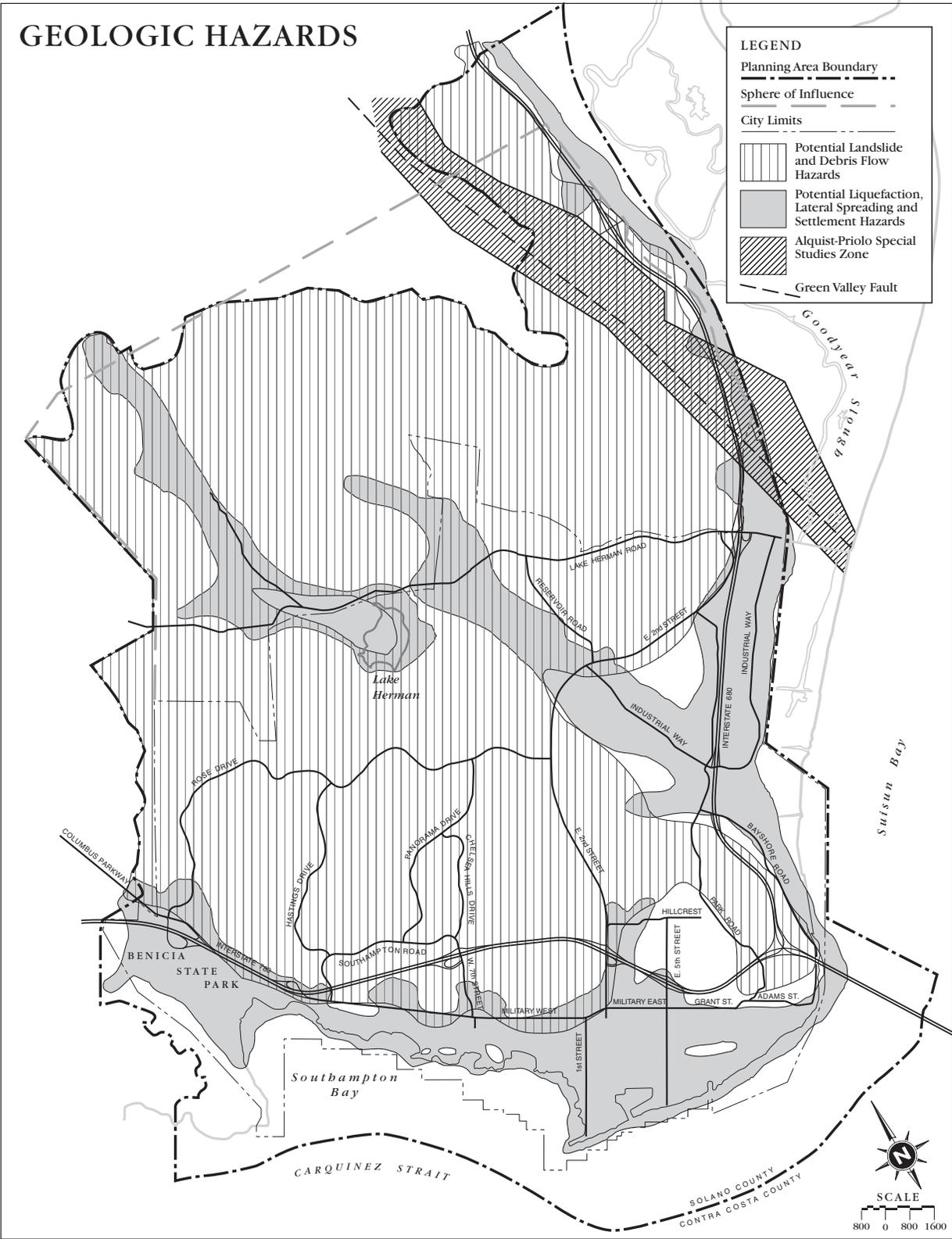


Figure 4-2. Areas with Potential Landslide and Liquefaction Hazards

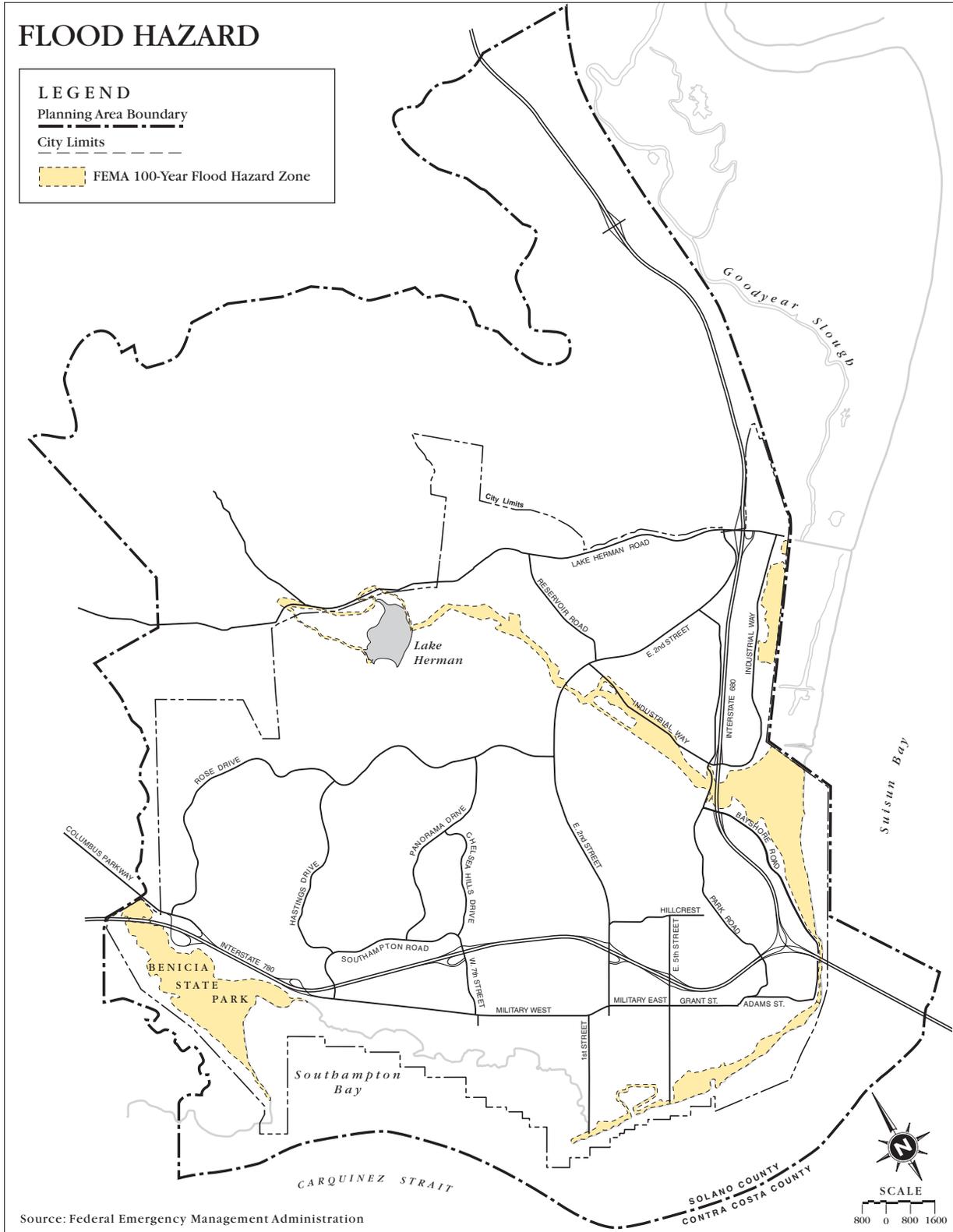


Figure 4-3. Flood Hazards

### SEA LEVEL RISE

BCDC's 1988 study of sea level rise and its impacts on San Francisco Bay predicts a rate of sea level rise of between 0.005 and 0.05 feet per year over the coming tidal epoch. While rising sea level will not be enough to endanger existing developed areas of Benicia, it may mean that flooding could be exacerbated in low lying areas at high tide. The height of wave run-up and related shoreline erosion during storms may also increase. As a result, existing sea walls and levees may have to be raised, and the maintenance and design of shoreline stabilization works will also be affected.

### 3. FIRE HAZARDS

The City's jurisdiction includes extensive open space (primarily grassland). Residential and industrial uses occur in proximity to these open space areas, posing potential fire safety problems. Figure 4-4 shows that most of the Planning Area is a potential fire hazard. To address fire prevention in open space areas, the Fire Department administers a vegetation control program.



### 4. HAZARDOUS MATERIALS AND WASTE

Improper handling of hazardous substances can result in public health hazards through contamination of soils or groundwater or through airborne releases in vapors, fumes, or dust. Particularly susceptible populations that may be exposed, such as children, pregnant or lactating women, people with immune deficiencies, and seniors are called "sensitive receptors". The presence or proximity of hazardous substances could pose restrictions on the types of land use that would be appropriate for future development. Even if handled correctly and in accordance with applicable regulations, hazardous substances could present a potential health risk to the surrounding population if released during an accident or an emergency.

#### HAZARDOUS SITES

Regulatory agencies involved in sites that have been investigated may have decided—based on federal and State regulatory guidelines—to allow residual contamination to be left in place or to take other remedial actions. This is because hazardous waste that is below the ground at an undeveloped or existing residential or commercial site can pose a health threat if the contaminated soil is disturbed by construction, landscaping, or similar activities.

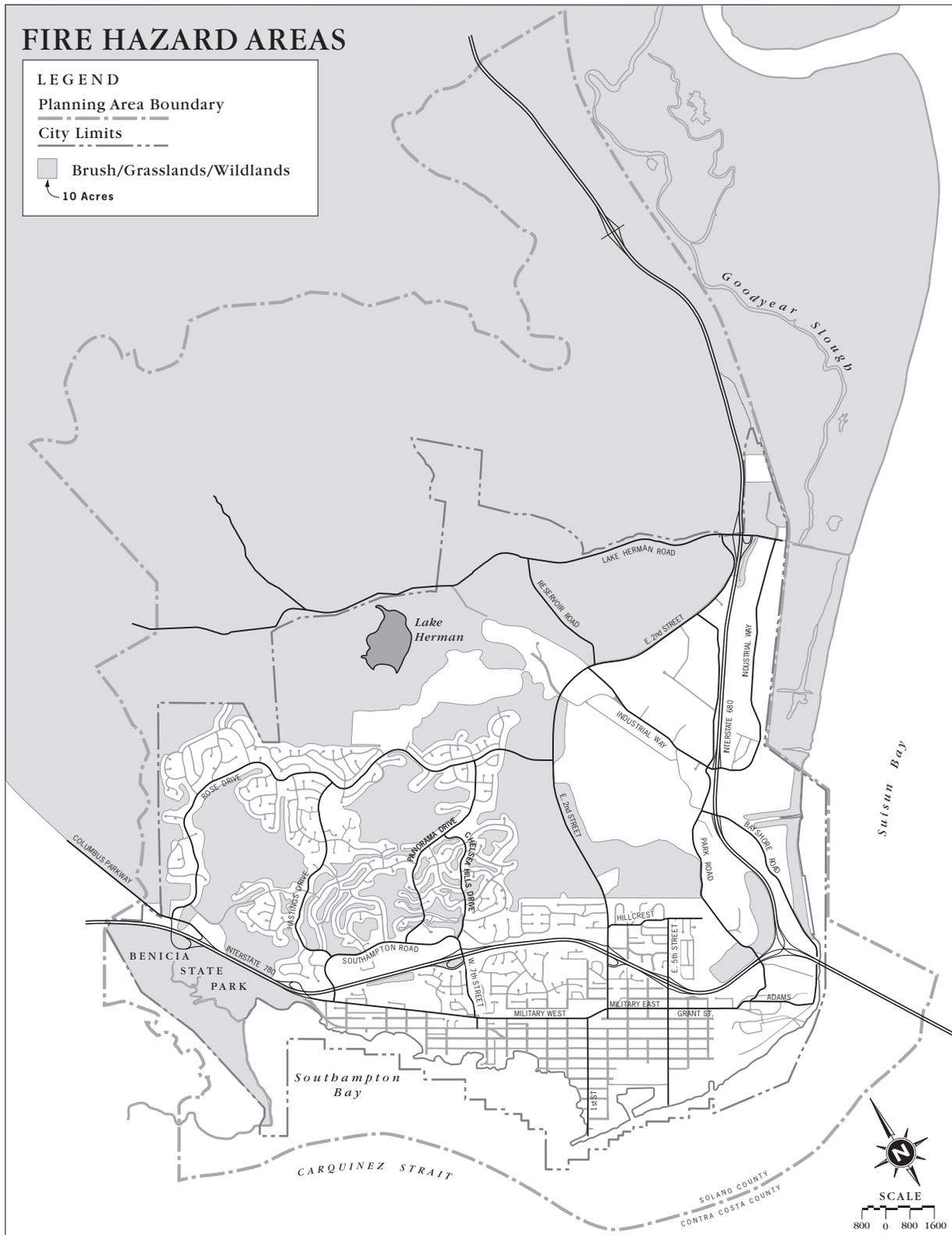


Figure 4-4. Fire Hazards

General locations of identified known or suspected hazardous substances and waste sites in Benicia are shown in Appendix G. There are 57 identified hazardous waste sites in the Planning Area. With four exceptions—the IT Panoche Hazardous Waste Disposal Facility (Site 1), the Braito Landfill (Site 2), the landfill at the Benicia State Park site (Site 54), and the leaking underground storage tank at 510 West J Street (Site 36)—all of the sites are located within Downtown or in industrial areas of Benicia.

#### **HAZARDOUS MATERIAL AND WASTE HANDLERS**

Hazardous substances are commonly used and handled within Benicia under a wide variety of permitted activities and land uses. The potential for contamination at a site which handles hazardous substances depends on the type of business, types and quantities of hazardous substances, handling and management practices, control and spill containment systems, adequacy of accident prevention and safety programs, training programs and emergency response plans, and adjacent land uses. When handled properly and when used in compliance with permitting and other regulatory requirements, hazardous substances do not necessarily pose a human health concern or a threat to the environment. Nevertheless, the nature of hazardous materials implies an inherent risk to human health and the environment.

Benicia has a wide range of industries. Toxic hazards from any industry typically include hazards to employees relating to chemical use during the manufacturing processes, or inadvertent or accidental spillage during transport and handling, which could also potentially release toxic chemicals to the soil or groundwater. Other toxic hazards include inadvertent releases of airborne substances, including toxic gases, fumes, or dust, which could expose workers or the community to health hazards. In addition to toxic hazards, public health and safety concerns relate to the potential for fire and explosive hazards and transportation-related accidents.

#### **TOXIC AIR CONTAMINANT SOURCES**

As of April 1996, there were 38 inventoried sources of known Toxic Air Contaminants (TACs) in Benicia. They ranged from small dry cleaning operations to major refineries. The names and addresses of TAC sources in Benicia as well as a listing of the BAAQMD TAC inventory for sources within Benicia can be found in Table 8 and Appendix D of the Public Safety Background Report.

#### **HAZARDOUS BUILDING MATERIALS**

Some building materials commonly used in older buildings could present a public health risk if disturbed during an accident or during demolition of an existing building. These materials include asbestos, electrical equipment such as transformers and fluorescent light ballasts that contain polychlorinated biphenyls (PCBs), fluorescent lights containing mercury vapors, and lead based paints. If they are in a deteriorated condition, asbestos and lead based paint present a health risk to building occupants. If removed during demolition, these materials require special disposal procedures.

## 5. UTILITY HAZARDS

Utility networks provide water, energy, and information. These networks are widely distributed geographically, so access to all components of a network in an emergency may be difficult. The sections below discuss the transmission networks in place within the Planning Area and evaluate expected performance in emergencies. Figure 4-5 shows the location of these transmission lines and critical facilities in the Planning Area.

### ELECTRIC POWER

Pacific Gas & Electric Company (PG&E) supplies electric power to the Planning Area. A 230 kilovolt transmission line enters the Planning Area from the west, roughly paralleling Lake Herman Road, and terminates at the Bahia substation near East Second Street and Industrial Way. This substation provides power to most of Benicia. A 115 kilovolt transmission line roughly parallels the western edge of the Planning Area. A substation located near Glen Cove, outside the Planning Area, provides power to a portion of western Benicia.

Failure of electrical power systems during or after an emergency may result from a temporary imbalance within the system or damage to its components. The systems have a high degree of redundancy, allowing for restoration of power before complete repairs are made. The most vulnerable component appears to be high voltage transmission substations. Steel lattice high voltage transmission towers generally perform well in response to ground shaking. However, tower failure may occur as a result of ground displacement of the tower foundations from earthquake-induced landsliding or liquefaction. Towers and lines could also be damaged in a fire.

### NATURAL GAS

PG&E also supplies natural gas to the Planning Area. A major transmission pipeline traverses the northwestern corner of the Planning Area, with a pipeline branching off and paralleling Lake Herman Road, terminating in the vicinity of Industrial Way.

Another pipeline enters the Planning Area from the west via I-780, continues along Military West Street to terminate at First Street, with short branches on K Street to West Thirteenth Street, and West Seventh Street to Southampton Road. Smaller diameter distribution lines run throughout the developed portion of the Planning Area.

Disruption to natural gas service may result from severe ground shaking and permanent ground deformation in areas of unconsolidated sediments and fill. Although some damage to transmission lines may result from landslides or liquefaction, the majority of the damage is expected within the distribution system. Areas along the Bay margin, underlain by Bay mud, alluvium, and old fill, are particularly susceptible to damage.



### **WATER SUPPLY**

The water treatment plant located near Lake Herman Road produces drinking water for areas within the City limits. Water is supplied to the treatment plant through the Cordelia Transmission Main that runs along I-680 from Cordelia to Lake Herman Road, and from there to the treatment plant.

Disruption to the water supply may result from damage to pipelines, water treatment plants, storage tanks, reservoirs, or the distribution network. Damage to supply and distribution pipelines typically results from earthquake-related ground deformation such as landsliding, lurching, or liquefaction. Damage to storage tanks and reservoirs may result from severe ground shaking, resulting in deformation of the tank or connections, and possible loss of the contents. Damage to reservoirs may result from permanent ground deformation within or adjacent to the dam or shoreline. An adequate water supply needs to be available through normal means for firefighting. Water treatment plants have generally performed well in past disasters.

### **WASTE WATER**

Damage to waste water collection and treatment systems may result from damage to the collection network and treatment facilities. The risks that face the waste water collection system also apply to the underground natural gas and potable water networks. In general, damage to pipes is related to the amount of permanent ground deformation.

The Benicia Waste Water Treatment Plant is located within an area of alluvium near the waterfront, and ground shaking during a large, local earthquake may result in some damage. The collection network may suffer damage in areas subject to soft sediment deformation, such as parts of Downtown and along the waterfront, or areas subject to landsliding or fill settlement, such as in the hilly areas.

## **6. AIR QUALITY/CONTAMINATION**

### **Air Quality in Benicia**

Benicia is within the Bay Area Air Quality Management District (BAAQMD). The District operates a network of monitoring sites throughout the Bay Area. The BAAQMD maintains a site in Benicia to monitor sulfur dioxide. From 1990 to 1994, the Benicia monitoring site did not record any violations of the State or federal standards for sulfur dioxide.

The closest multi-pollutant monitoring site is in Vallejo. From 1990 to 1994, the State and federal standards for carbon monoxide, nitrogen dioxide, and sulfur dioxide were met every day at the Vallejo monitoring site. The federal standard for ozone was also met, although the more stringent State standard for ozone was exceeded from one to three days per year.

Because of the relatively strong winds and the movement of air between the Bay Area and the Central Valley through the Carquinez Strait, Benicia does not experience air pollution problems as severe as those found in other more confined parts of the Bay Area.

Air quality forecasts are expected to continue to improve through 2000. The longest forecasts available, however, do not demonstrate attainment of all state and federal air quality standards.

**Standards**

Both the US Environmental Protection Agency (EPA) and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards establish levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The federal and State ambient standards were developed independently with differing purposes and methods, although both processes attempt to avoid health-related effects. In general, the California state standards are more stringent.

Another group of substances known as Toxic Air Contaminants (TACS), are injurious in small quantities and are regulated despite the absence of criteria documents. No safe ambient levels have been established for TACS. The identification, regulation and monitoring of TACS is relatively recent compared to that for criteria pollutants.

## C. RESPONSES TO HAZARDS

### 1. COMMUNITY RIGHT-TO-KNOW

California first adopted its “Community Right-to-know” program in 1985 to oversee the handling of hazardous materials by local regulatory agencies; a succession of State statutes amended the program in 1986 and 1989. In 1986, Congress enacted the *Superfund Amendments and Reauthorization Act, Title III: The Emergency Planning and Community Right-to-Know Act* (EPCRA). Together, these statutes establish requirements relating to emergency responses to hazardous materials releases or threatened releases, and to avoidance of accidents involving certain hazardous materials. The basic requirements of Community Right-to-know include:

- Immediate reporting of releases of hazardous materials.
- Submission and update of a Hazardous Materials Business Plan and inventory as required by the local administering agency.
- Notification to the local administering agency of the handling of specified quantities of hazardous material and submission of a Risk Management Prevention Program on request.
- Annual submission by manufacturing facilities of a Toxic Chemical Release Report (Form R) if threshold amounts of certain toxic chemicals are made, processed, or used.
- Requirements for hazardous materials storage imposed by local administering agencies and Cal-OSHA standards.

### 2. EMERGENCY RESPONSE PLANS AND PROCEDURES

Recent disasters in California have tested communities’ emergency preparedness. The 1989 Loma Prieta Earthquake, the 1991 Oakland Hills Fire, the 1993 chemical release at a Richmond refinery, and the 1994 Northridge earthquake all demonstrated the need for preparedness in government operations, transportation and evacuation routes, utility lifelines, and emergency alert and notification.

#### **EMERGENCY OPERATIONS PLAN**

The City of Benicia maintains an Emergency Operations Plan (EOP) adopted by the City Council in 1989. It is a “multi-hazard” plan that identifies procedures for various types of emergencies. It is intended to ensure that City government can continue to function in the event of a disaster. The EOP provides guidance for the community’s response to extraordinary situations and disasters. It provides an overview of operational concepts, identifies components of the City Emergency Management Organization, and describes the overall responsibilities of federal, State, County and City officials in an emergency. The plan is periodically updated, and drills evaluating the effectiveness of the plan are conducted from time to time. The EOP designates the City

Manager as the Director of Emergency Services, responsible for overall emergency management in the City. The Fire Chief is designated as the Assistant Director of Emergency Services, responsible for maintaining the Plan and for the operation of the City Emergency Operations Center (EOC).

#### **EVACUATION ROUTES**

In an emergency, the major arterials identified in Chapter 2C, Circulation, would serve as the principal routes for evacuating people to undeveloped areas north of the City. These arterials would also serve as the principal routes for moving emergency equipment and supplies. Of particular importance are those routes which parallel I-780 in the event the freeway overpasses collapse or are blocked. Evacuation routes relating to site-specific plans are contained in Appendix H of the EOP.

### **3. PUBLIC SAFETY SERVICES**

#### **CRIME**

Benicia has a relatively low crime rate. Benicia's crime rate appears to have generally held steady since the mid-1980s, although there have been annual fluctuations.

#### **POLICE SERVICES**

The City of Benicia Police Department provides police services to City residents. In addition to its responsibilities within the City Limits, the Department provides first response service to areas within the City's Sphere of Influence. The Department shares responsibility for policing the Benicia Industrial Park with private guards employed by individual industries in the park. The Department operates out of a single station in the civic complex.

#### **FIRE SERVICES**

##### **City Fire Protection Standards**

Each fire jurisdiction has independent authority to adopt and administer its own fire code (Health & Safety Code §13869). Most do so by adopting all or portions of the Uniform Fire Code (UFC), with additions or deletions appropriate to the jurisdiction.

The City's Fire Department has adopted the standards defined in the latest edition of the California Uniform Fire Code, with a few local amendments to these standards.

##### **Fire Department Services**

The Benicia Fire Department provides fire suppression, fire prevention, basic and advanced life support (ALS) medical services, technical rescue services, disaster preparedness, and weed abatement services for all areas within the City Limits and some nearby areas outside the city. The Department has two fire stations, with a total of two engines and one rescue squad staffed 24 hours per day. Future growth may require additional fire stations.

The City maintains mutual aid agreements with several agencies. An interagency agreement encompasses mutual responses with all other fire departments in Solano County. The City also has a contract with the State Office of Emergency Services (OES); the City has agreed to staff a State-owned engine at Station Two in exchange for an OES commitment to respond as needed. In addition to these contracts, the City has specific agreements for special hazards with the Cordelia Fire Protection District, the Contra Costa Fire Protection District for emergency responses on the Benicia - Martinez Bridge, and the Napa County Hazardous Materials Team.

In addition to fire protection services, the Fire Department responds to certain emergency incidents such as rail accidents, spills of hazardous materials, or similar accidents. The Benicia Fire Department and Exxon have joint responsibility for fire protection at the Exxon refinery. Primary fire protection at the refinery is provided by the refinery fire brigade, which is composed of firefighters and trained Emergency Medical Technicians (EMTs). All technicians and operating team supervisors at the refinery are trained in industrial fire fighting.

In order to ensure an effective response to hazardous materials incidents, industrial businesses using hazardous materials are required to prepare a business plan which identifies hazardous materials used in the operation of the business and the means for addressing potentially hazardous situations. In addition to detailed descriptions of materials used on a business site, the business plan must contain a description of how and where the hazardous materials are handled, sufficient for fire, safety, health and other appropriate agencies to prepare for emergency response (Health & Safety Code §25501[e]). These plans are discussed in Chapter 5 of the Public Safety Background Report.

#### 4. MEDICAL SERVICES

There are no hospitals located in the city. Residents most commonly use Sutter Solano Medical Center and Kaiser Permanente, both in Vallejo. Nearby hospitals include Kaiser-Martinez, Mt. Diablo Hospital, and Contra Costa Regional Medical Center in Contra Costa County. Benicia does have a number of medical offices and clinics within the City limits.

#### 5. COMMUNITY HAZARDS GOALS, POLICIES, AND PROGRAMS



**GOAL 4.7:**                    **Ensure that existing and future neighborhoods are safe from risks to public health that could result from exposure to hazardous materials.**

**POLICY 4.7.1:**                Actively recruit industries and businesses that sustain environmental quality and have sound, responsible environmental practices and policies, such as “best available control technol-

ogy” (BACT), source reduction, reduced use of hazardous materials in production, and reduced waste.

**POLICY 4.7.2:** Establish a “Community Right-to-know” program to promote general public understanding of Benicia’s toxics problems as they affect current and future generations.

The Federal Environmental Protection Agency, under the Emergency Planning Community Right to Know Act (EPCRA) and the Superfund Amendments Reauthorization Act (SARA) Title 3, 1986, mandated the right of the public to information which would affect emergency response and preparedness for “credible worst case scenarios” from potential industrial hazards. (Superfund Amendments Reauthorization Act, Title 3: The Emergency Planning and Community Right-to-Know Act, enacted by Congress in 1986).

*Program 4.7.A:* Using documents that are already publicly available, make available in the Library a list of all known contaminated sites in Benicia, their chemical contents and conditions, and how contamination occurred.

*Program 4.7.B:* Provide readers with easy directions on how to access information about contaminated sites in Benicia.

*Program 4.7.C:* Consider establishing an ad hoc environmental task force to collect and disseminate information on environmentally sensitive sites in Benicia.

The task force would help to gather information on community toxic problems to inform and safeguard public health and safety.

*Program 4.7.D:* Identify, inventory, and then update sources of hazards in Benicia.

*Program 4.7.E:* Assess and evaluate Benicia’s preparedness to respond to hazard emergencies.

This program should be a part of the “Community Right-to-know” program and conform with the Emergency Planning Community Right-to-know Act (EPCRA).

**POLICY 4.7.3:** Protect existing and future development from contaminated sites, hazardous landfill waste and debris, chemical spills, and other hazards including unexploded ordnance and explosive waste.

Information on unexploded ordnance on Arsenal properties can be found in the Army Archives Search Report for the Benicia Arsenal and other federal documents.

*Program 4.7.F:* Work with state and federal agencies to require that unauthorized hazardous substances be removed from neighborhoods or that other appropriate measures are taken to ensure that

such substances do not present health risks to the neighborhood.

**POLICY 4.7.4:** Promote enforcement of regulatory requirements over the entire term of monitoring of identified hazardous sites within the City Limits, especially sites located in residential neighborhoods and near school playing fields and parks.

**POLICY 4.7.5:** Require that all sites known or suspected to have unexploded ordnance and/or a toxic history be tested and remediated before any development can occur.

**POLICY 4.7.6:** Prohibit residential development on any land formerly operated as landfill or dump, including land formerly owned or used by the military for military wastes, until the waste and contamination is removed with proper agency oversight, or remediated as required by the appropriate regulatory agencies.

**POLICY 4.7.7** Where environmental testing has been required by State regulatory agencies but is not yet completed withhold City approvals for site grading and other construction activities until a site evaluation is available that provides a reasonable basis for determining that it is safe to commence such activities.



**GOAL 4.8: Protect sensitive receptors from hazards.**

*Program 4.8.A:* Identify sensitive receptors in the community and develop methods of protection.

*Program 4.8.B:* Establish guidelines to separate sensitive receptors from those who carry, use, process, store or generate hazardous material, including ordnance.

**POLICY 4.8.1:** Evaluate potential hazards and environmental risks to sensitive receptors before approving development.



**GOAL 4.9: Ensure clean air for Benicia residents.**

**POLICY 4.9.1:** Establish whether a significant air pollution problem exists in Benicia and the City's role in resolving it.

*Program 4.9.A:* Prepare a review of existing air quality information and data sources, the quality and extent of this data, and existing regulatory requirements.

*Program 4.9.B:* Consult with the staff of the BAAQMD and prepare recommendations for actions that the City will take to reduce identified air quality problems toward meeting ambient air quality standards.



**GOAL 4.10: Support improved regional air quality.**

**POLICY 4.10.1:** Support implementation of Bay Area Clean Air Plan.

The Bay Area Clean Air Plan provides a strategy for attaining all the air quality standards in the nine-county Bay Area Air Quality Management District. Benicia would demonstrate consistency with the Bay Area Clean Air Plan by implementing Transportation Control Measures (TCMs) including expanding employer assistance programs, improving bicycle access and facilities, improving arterial traffic management, establishing transit use incentives, and adopting a local clean air plan, policies, and programs.

*Program 4.10.A:* Coordinate air quality planning efforts with other local, regional, and State agencies.

*Program 4.10.B:* Require that projects with identified significant air quality impacts include all feasible mitigation measures needed to reduce impacts to less than significant levels.

**POLICY 4.10.2:** Encourage designs and land use strategies that reduce automobile use and promote mixed use, jobs/housing balance, telecommuting, bicycle, and pedestrian facilities, and transit.



**GOAL 4.11: Minimize harm from geologic hazards.**

*Program 4.11.A:* Require geotechnical engineering reports to address site stability and building foundation integrity for projects involving substantial grading.

*Program 4.11.B:* Develop guidelines for site-specific geologic and geotechnical reports.

*Program 4.11.C:* Require peer review of geotechnical engineering reports if it is determined that City staff does not have the technical expertise to review such reports.

*Program 4.11.D:* Prepare a planning-level geologic hazards map of the Planning Area as needed.

*Program 4.11.E:* Update the geologic hazards map as new information becomes available.

*Program 4.11.F:* Develop a Planning Area data base of geologic information for use when making planning decisions and as a resource for the community.

*Program 4.11.G:* Continue and expand the Unreinforced Masonry building program (URM).

*Program 4.11.H:* Consider financial assistance for retrofitting of unreinforced masonry buildings.

**POLICY 4.11.1:** Promote public awareness of earthquake-related hazards and safety that includes training the populace to provide stop-gap emergency services following earthquakes.

*Program 4.11.I:* Consider implementing a citizen earthquake response system based on the San Francisco model.

The San Francisco model involves hands-on training and practice by all citizens on how to respond during an earthquake. Funding may come from private contributions.



**GOAL 4.12: Accommodate runoff from existing and future development.**

Flooding problems exist along Sulphur Springs Creek in the Industrial Park. Future upstream development in the Paddy Creek watershed could exacerbate existing flooding. There are many localized flooding problems within the City south of I-780. A new citywide storm drain master plan is needed, and funding will have to be identified before improvements can be implemented.

**POLICY 4.12.1:** Regulate runoff from new development so that post-development site peak flow rates are no greater than pre-development levels.

**POLICY 4.12.2:** Upgrade existing drainage facilities as necessary to correct localized drainage problems.

**POLICY 4.12.3:** Ensure that new development pays its fair share cost of drainage system improvements.

*Program 4.12.A:* Prepare a new citywide storm drain master plan.

*Program 4.12.B:* Adopt a combination of drainage improvement fees and other mechanisms to fund drainage improvements.

*Program 4.12.C:* Accelerate implementation of the existing Storm Drain Master Plan.

**POLICY 4.12.4:** Where practicable, discourage the use of storm drain systems, and promote stormwater management strategies which maximize opportunities for absorption of rainfall, overland conveyance of runoff, non-reservoir surface storage, and other measures that reduce development-induced impacts on peak flow rates.



**GOAL 4.13: Prevent property damage caused by flooding.**

**POLICY 4.13.1:** Continue to implement the floodplain management policy currently followed by the City.

*Program 4.13.A:* Require all potential developers in the Sulphur Springs Creek

floodplain to provide flood hazard mitigation measures that ensure the subject properties are not at risk of flooding during the FEMA-designated 100-year base flood.

**POLICY 4.13.2:** Promote non-structural solutions to flood problems, where feasible.

*Program 4.13.B:* Where appropriate, promote the use of stormwater retention basins rather than standard engineering modifications to natural channels.

*Program 4.13.C:* Encourage use of meandering drainage channels in all new developments and wherever channels are replaced.



**GOAL 4.14: Prevent ground and surface water contamination.**

*Program 4.14.A:* Inform businesses and the public of current technology and standards for preventing ground and surface water contamination, and regulations governing hazardous material use, storage, and disposal, plus agency reporting requirements.

*Program 4.14.B:* Continue to communicate with State, regional, and local agencies and legislatures to relay information on Benicia's current and potential water quality contamination concerns, particularly regarding hazardous waste sites, existing and closed landfills, new and existing waste-generating industries and commercial operations, and City waste disposal and water/sewage treatment facilities.

**POLICY 4.14.1:** Implement non-point source pollution strategies.

*Program 4.14.C:* Provide information to the public on provisions of the City's Stormwater Pollution Prevention Plan (SWPPP) program and preparation of SWPPPs for all construction projects of five acres or more. Implement Best Management Practices (BMPS) for stormwater runoff and erosion controls for all development.

*Program 4.14.D:* Conduct an outreach program to industry and residents on how to reduce storm water-related pollution.



**GOAL 4.15: Reduce fire hazards.**

**POLICY 4.15.1:** Promote the creation and maintenance of natural and artificially constructed firebreaks between development and open space areas through the use of fire resistive landscaping, weed abatement, discing, and other methods.

*Program 4.15.A:* Develop a Fire Hazards Response Plan for the urban wild land interface area.

- Program 4.15.B:* Conduct a fire-hazard outreach program to neighborhood groups, the elderly, and the handicapped.
- Program 4.15.C:* Continue and expand routine fire inspections for businesses for compliance with the Uniform Fire Code and the California Fire Code.
- Program 4.15.D:* Continue the yearly weed abatement program.
- POLICY 4.15.2:** Promote the use of fire-resistant landscaping in public and private developments.



**GOAL 4.16: Require hazardous materials and hazardous waste management handling and disposal procedures that are protective of human health and the environment.**

- POLICY 4.16.1:** Support the Solano County Hazardous Waste Management Plan and its goals, policies, and implementation guidelines for hazardous waste reduction, hazardous waste facility siting, hazardous waste handling and disposal, public education and involvement, and program coordination with regulatory requirements.
- Program 4.16.A:* As part of the permitting process, ensure that the County reviews the design and operating plans for handling and disposal of hazardous wastes for existing and proposed new businesses.
- Program 4.16.B:* Contact the Solano County Environmental Management Department annually to confirm that hazardous waste generators in Benicia have been granted permits for handling hazardous substances in compliance with federal and State laws, that they dispose of their wastes in accordance with applicable laws, and that they have filed Hazardous Materials Management Plans and Risk Management and Prevention Plans.
- Program 4.16.C:* Continue reviewing monitoring records for new and existing hazardous waste storage areas for compliance with federal and State law.
- POLICY 4.16.2:** Continue, promote, and expand the City's Household Hazardous Waste Program.
- Program 4.16.D:* Promote use of Benicia's and Pacheco's "drop-off" facilities.
- POLICY 4.16.3:** Control water runoff that comes from hazardous substance handling or that enters hazardous substance handling areas.

*Program 4.16.E:* Investigate the potential for the collection and testing of industrial area surface runoff prior to discharge to prevent discharge of hazardous substances into the environment.



**GOAL 4.17: Minimize hazardous waste generation.**

**POLICY 4.17.1:** Ensure enforcement of Title 22, §67100 of the California Code of Regulations regarding preparation and implementation of source reduction plans by hazardous waste generators.

*Program 4.17.A:* Contact the Solano County Environmental Management Department each September to confirm that new businesses have filed their source reduction plans, if applicable.

*Program 4.17.B:* Situate all new hazardous material storage and handling areas to minimize the possibility of environmental contamination in the event of an accidental spill.

*Program 4.17.C:* Enclose areas where hazardous liquids are handled to minimize any rain or moisture coming into contact with hazardous substances.



**GOAL 4.18: Ensure the proper and thorough clean-up of hazardous waste sites including the Rose Drive/Braitto landfill area.**

**POLICY 4.18.1:** Monitor and participate in the remedial planning process for major hazardous waste sites within the City and monitor implementation of any selected remedial actions to ensure that human health and the environment are protected over the long term.

*Program 4.18.A:* Continue to work with the California Department of Toxic Substances Control (DTSC) to expedite the proper and thorough clean-up of waste in the Rose Drive area.



**GOAL 4.19: Ensure the best possible closure of IT, considering the long-term health effects upon sensitive receptors in the community.**

*Program 4.19.A:* For the IT site, continue to communicate Benicia's position that the only acceptable closure plan is a groundwater-divide-based alternative (i.e., a closure plan based on removing waste and contamination that lie outside the main site drainage).



**GOAL 4.20:**            **Reduce health and safety hazards associated with hazardous materials users, hazardous waste generators, and hazardous waste disposal sites and toxic air contaminants.**

**POLICY 4.20.1:**        Establish buffer zones between sensitive land uses and those land uses which involve the significant use, storage, or disposal of hazardous materials, hazardous waste, or toxic air contaminants.

*Program 4.20.A:*        Maintain and designate land along East Second Street for non-residential purposes.

*Program 4.20.B:*        Follow siting criteria for Treatment, Storage, and Disposal (TSD) facilities contained in the Solano County Hazardous Waste Management Plan. (22 California Code of Regulations (CCR) §66260-18; State Health and Safety Code §25201.)

*Program 4.20.C:*        Evaluate the potential for requiring risk assessment for any new TSD facility, and if indicated by the risk assessment, require a larger buffer zone that will be protective of human health.

*Program 4.20.D:*        Review building applications for any proposed TSD facilities to ensure that the requirements of the Solano County Hazardous Waste Management Plan are met.

*Program 4.20.E:*        Coordinate with Solano County Environmental Management Department to ensure enforcement of community Right-to-know laws (Chapter 6.95 of the Health and Safety Code, §25500, et seq.).

*Program 4.20.F:*        Enforce the Hazardous Waste Property and Border Zone Property Law (Health and Safety Code, Article 11, §2520 through §25241).



**GOAL 4.21:**            **Reduce significant hazards associated with pipelines, and high voltage transmission lines.**

*Program 4.21.A:*        Continue to implement existing adopted policies governing development near pipelines.

*Program 4.21.B:*        Set back all residential uses, schools, and public buildings at least 150 feet from the edge of 230 kilovolt electric transmission line easements.



**GOAL 4.22:**            **Update and maintain the City's Emergency Response Plan.**

- POLICY 4.22.1:** Provide an early community alert and notification system and safe evacuation plan for emergency incidents.
- Program 4.22.A:* Provide the public with information and training on what to do until help arrives in emergency situations.
- Program 4.22.B:* Develop a siren system to alert and notify the community in an emergency.
- Program 4.22.C:* Request voluntary donations from identified sources of hazards to implement the Emergency Response Plan.
- Program 4.22.D:* Consider a City radio station to inform residents in the event of an emergency.
- POLICY 4.22.2:** Develop at least two exit routes, where feasible, for new developments. One of the exits could be a pedestrian route.
- POLICY 4.22.3:** Provide the public with information on specified emergency evacuation routes.
- Program 4.22.E:* Provide an evacuation route from the Arsenal in addition to Military East.

## D. NOISE

The principal noise generator in Benicia is vehicular traffic. People are most sensitive to noise levels which disturb their comfort at home.

The Noise section describes the existing and projected future noise environments in Benicia so that harmful and annoying sound levels can be avoided or minimized. Major noise sources are identified, estimated noise levels throughout the community are reported, the effects of noise on the community are discussed, and ways to minimize unwanted noise are outlined.

### 1. HUMAN REACTION TO NOISE

Three qualities characterize the subjective effect of noise on the listener: (1) the frequency of the noise, (2) the intensity of the noise, and (3) the time-varying character of the noise.

Researchers have grappled with how to translate objective measurements of sound into directly correlated measures of public reaction to noise. The descriptors of community noise in current use are the results of these efforts and represent simplified, practical measurement tools to gauge community response.

Table 4-1 shows the decibel levels of common noises.

**Table 4-1. Decibel Levels of Common Noises**

20	Soft whisper
40	Quiet office, living room, bedroom—away from traffic.
50	Light traffic at a distance, refrigerator, gentle breeze.
60	Average conversation, air conditioner at 20 feet, sewing machine.
65	Quiet typewriter.
70	Busy traffic, office tabulator, noisy restaurant. (This level may begin to affect hearing if one is constantly exposed.)
75	Vacuum cleaner.
80	Subway, heavy city traffic, ringing alarm clock at two feet, average factory noise. (Dangerous if exposure continues for more than eight hours.)
85	Truck traffic, noisy home appliances (washing machine, blender, food processor), power lawn mower. (Dangerous, even if exposure is less than eight hours.)
95	Noisy factory, shop tools.
100	Elevated train, chain saw, pneumatic drill. (Dangerous, even if exposure is less than two hours.)
120	Rock concert in front of speakers, sandblasting, thunderclap. (Danger is immediate.)
140	Jet airplane at 200 feet, gunshot blast. (Any length of exposure is extremely dangerous.)

The known effects of noise on people include hearing loss (not generally a factor with community noise), communication interference, sleep interference, physiological responses, and annoyance. Although the wide range of individual reactions to noise makes it extremely difficult to measure how noise affects individual health, medical studies suggest a correlation between noise and mental stress.

A *decibel* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities.

#### **COMMUNICATION INTERFERENCE**

Communication interference is one of the primary environmental noise problems, and includes speech interference and interference of activities such as watching television. Normal conversational speech is in the range of 60 to 65 dB, and any noise in this range or louder may interfere with speech.

#### **SLEEP INTERFERENCE**

Sleep interference is a major noise concern. Noise can make it difficult to fall asleep, can create momentary disturbances of natural sleep patterns by causing shifts from deep to lighter stages, and can cause awakening.

Extensive research has been conducted on the effect of noise on sleep disturbance. Recommended values for desired sound levels in residential bedroom space range from 25 to 45 dB with 35 to 40 dB being the norm. The National Association of Noise Control Officials published data on the probability of sleep disturbance with various single event noise levels. Based on experimental sleep data related to noise exposure, a 75 dB interior noise level event will cause noise-induced awakening in 30 percent of all cases.

#### **PHYSIOLOGICAL RESPONSES**

Physiological responses are those measurable effects of noise on people which are realized as changes in pulse rate, blood pressure, *etc.* While such effects can be induced and observed, it is not known to what extent these physiological responses cause harm. Generally, physiological responses are a reaction to a loud, short-term noise such as a rifle shot or a very loud jet overflight.

#### **ANNOYANCE**

Annoyance is the most difficult of all noise responses to describe. Annoyance is a very individual characteristic and can vary widely from person to person. What one person considers tolerable can be quite unbearable to another. The level of annoyance

depends on the characteristics of the noise (*i.e.*, loudness, frequency, time, and duration), and how much activity interference (*e.g.*, speech interference and sleep interference) results from the noise. However, the level of annoyance is also a function of the attitude of the receiver. Personal sensitivity to noise varies widely. It has been estimated that 2 to 10 percent of the population is highly susceptible to noise not of their own making, while approximately 20 percent are unaffected by noise. Attitudes are affected by the relationship between the person and the noise source. (Is it our dog or the neighbor's?) Whether we believe that someone is trying to abate the noise will also affect our level of annoyance.

The following conclusions have been established through extensive study:

1. Except in carefully controlled laboratory experiments, an increase of only one dBA cannot be perceived by humans.
2. Outside of the laboratory, a three dBA increase is considered to be just noticeable.
3. A change of five dBA is required before any noticeable change in community reaction would be expected.
4. A 10 dBA increase is subjectively heard as a doubling of loudness and would most certainly cause community response.

## 2. NOISE IN THE COMMUNITY

### EXISTING NOISE LEVELS

Once noise levels are computed or measured, they can be mapped. Noise levels are mapped as contours. Each contour line indicates an area on the inside of the line which has a higher noise level than the contour's value; the area on the outside of the line has a lower noise level than the contour's value. Because local topography, vegetation, or intervening structures may significantly affect noise exposure at a particular location, the noise contours should not be considered site-specific. Figure 4-6 shows existing noise contours in Benicia.

These noise contours were formulated based on a community noise survey conducted in October and November 1995. The results indicated that typical exterior noise levels in noise sensitive areas (*i.e.*, nursing homes, churches, theaters, residential uses, parks, libraries, and schools) are in the range of 51 dB to 63 dB L<sub>dn</sub>. Traffic on local roadways and I-680 and I-780, industrial activities, and neighborhood activities are the contributing factors for background noise levels in the majority of the study area. Table 4-2 is a summary of the survey.

### PROJECTED NOISE LEVELS

Traffic on I-680 and I-780 is expected to increase through the year 2015. The hourly traffic flow and mix of trucks and private automobiles during a typical 24-hour period is not expected to change. No major increase in railroad operation is expected to occur in the near future. Figure 4-7 indicates future noise contours.

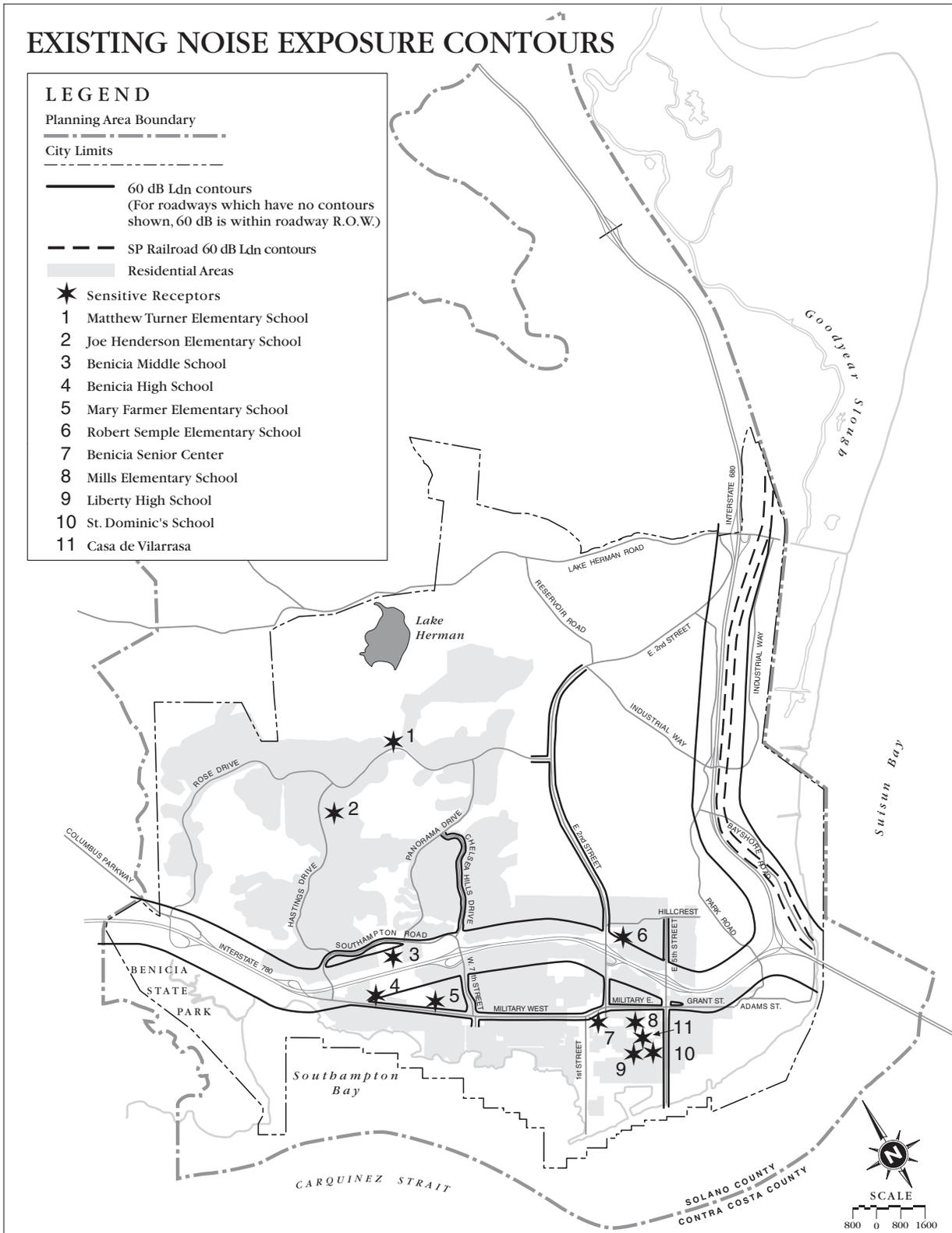


Figure 4-6. Existing Noise Contours

**Table 4-2. Summary of Measured Exterior Noise Levels and Estimated Day-Night Average Levels ( $L_{dn}$ ) in Areas Containing Noise-Sensitive Land Uses**

Site	Location	Time/Period	Sound Level, dB				Estimated $L_{dn}$
			$L_{eq}$	$L_{50}$	$L_{90}$	$L_{max}$	
1*	329 Columbia Circle	—	—	—	—	—	54.2
2*	507 Bristol Court	—	—	—	—	—	54.0
3*	803 Elaine	—	—	—	—	—	50.8
4*	1781 Lindo Street	—	—	—	—	—	63.2
5	Corner of Reservoir Road and Lake Herman Road	Ld(1)	51.5	39	32	66.0	53.1
		Ld(2)	55.5	48	37	70.5	
		Ln	41.0	35	30	60.0	
6	Benicia Community Park	Ld(1)	46.0	45	40	57.0	52.0
		Ld(2)	46.0	44	40	62.5	
		Ln	45.5	37	32	60.0	
7	Southampton Park	Ld(1)	56.5	53	46	72.0	56.0
		Ld(2)	53.5	47	39	68.5	
		Ln	47.0	40	36	59.0	
8	Turnbull Park	Ld(1)	48.5	45	43	63.0	52.2
		Ld(2)	53.5	48	44	70.5	
		Ln	43.0	39	37	57.5	
9	City Park (Second St. & West K Street)	Ld(1)	57.0	57	55	64.9	60.7
		Ld(2)	57.6	56	53	67.2	
		Ln	53.5	51	48	65.0	
10	Bridgeview Park	Ld(1)	51.9	45	41	67.8	51.6
		Ld(2)	49.8	45	43	60.7	
		Ln	42.8	40	38	58.0	
11	Benicia Middle School Athletic Fields/ Bay View Villas	Ld(1)	54.5	54	52	61.6	58.0
		Ld(2)	53.1	53	50	58.2	
		Ln	51.0	49	47	56.0	
12	Matthew Turner Shipyards Park	Ld(1)	58.4	58	54	63.1	56.8
		Ld(2)	53.1	51	48	63.1	
		Ln	47.3	45	42	58.0	

\* Continuous Monitoring Site

Ld = Measured noise level during daytime hours (7:00 am - 10:00 pm)

Ln = Measured noise level during nighttime hours (10:00 pm - 7:00 am)

$L_{eq}$  = The average noise level during a given time period

$L_{50,90}$  = The average noise level experienced 50 and 90 percent of a given time period

$L_{max}$  = The maximum sound level recorded during a noise event

$L_{dn}$  = The average noise level during a 24-hour day after 10 decibels has been added to the levels between 10 pm and 7 am.

# FUTURE NOISE EXPOSURE CONTOURS

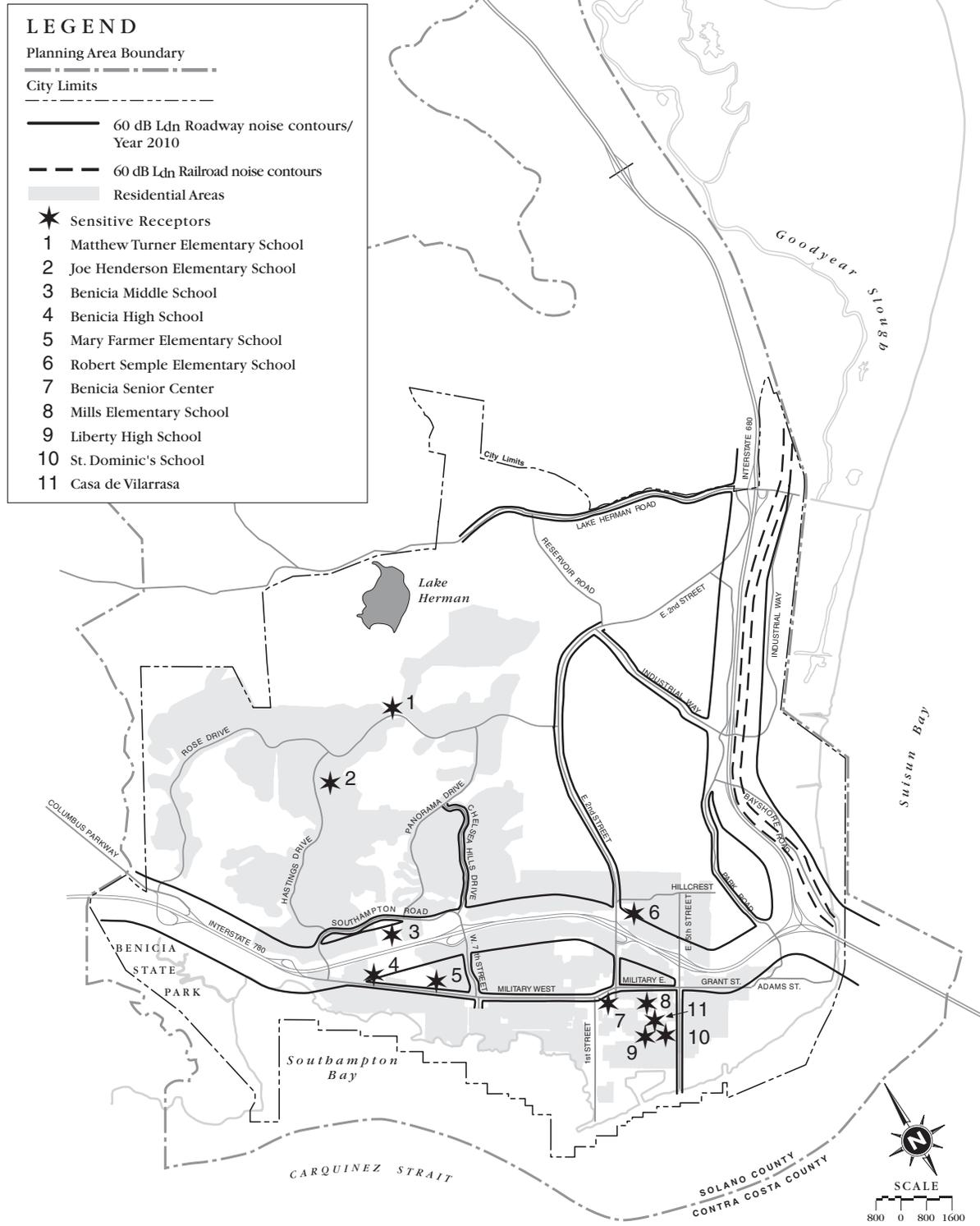


Figure 4-7. Future Noise Contours

### 3. PERFORMANCE STANDARDS FOR NOISE SENSITIVE USES

#### TRANSPORTATION NOISE SOURCES

Table 4-3 provides specific standards for determining the compatibility of proposed noise-sensitive land uses with transportation noise sources (refer to glossary for definition). Where noise-sensitive projects are proposed within areas which exceed the standards contained in Table 4-3, it is necessary to prepare a report that (a) performs an analysis of noise impacts, and (b) recommends mitigation measures to reduce noise levels on the site to comply with the standards in Table 4-3. This table is only to be used with proposed projects; the City’s noise ordinance governs noise associated with existing uses.

**Table 4-3. Maximum Allowable Noise Exposure for New Noise-Sensitive Uses From Transportation Noise Sources**

Land Use	Outdoor Activity Areas <sup>1</sup>	Interior Spaces	
	$L_{dn}/cnel, dB$	$L_{dn}/dB$	$L_{eq}, dB^2$
Residential	60 <sup>3</sup>	45	—
Transient Lodging	65 <sup>4</sup>	45	
Hospitals, Nursing Homes	60 <sup>3</sup>	45	—
Theaters, Auditoriums, Music Halls	—	—	35
Churches, Meeting Halls	60 <sup>3</sup>	—	40
Office Buildings, Commercial Uses, Industrial, Manufacturing, Utilities <sup>5</sup>	—	—	45
Schools, Libraries, Museums	60 <sup>3</sup>	—	45
Playgrounds, Neighborhood Parks	65	—	—

<sup>1</sup> Where the location of outdoor activity areas is unknown; or does not exist, the exterior noise level standard will be applied to the property line of the receiving land use. Refer to glossary for definition of outdoor activity area.

<sup>2</sup> As determined for a typical worst-case hour during periods of use.

<sup>3</sup> Where it is not possible to reduce noise in outdoor activity areas to 60 dB  $L_{dn}/CNEL$  or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB  $L_{dn}/CNEL$  may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table. If these noise levels cannot be complied with this will constitute a significant environmental impact.

<sup>4</sup> In the case of hotel/motel facilities or other transient lodging; with no proposed outdoor activity areas such as pool areas, only the interior noise level criterion will apply.

<sup>5</sup> Standards would only apply to areas requiring good speech intelligibility such as offices, conference rooms, etc.

#### **STATIONARY NOISE SOURCES**

Table 4-4 provides specific performance standards for determining the compatibility of proposed noise-sensitive land uses with stationary noise sources. The performance standards are for new noise-sensitive developments which may be affected by an existing stationary noise source. The performance standards also apply to new developments that include a stationary noise source which may affect an existing noise-sensitive development.

The intent of these performance standards is both to prevent new noise sources from encroaching on existing noise-sensitive developments and to prevent new noise-sensitive developments from encroaching on existing uses.

Noise sources evaluated relative to the performance standards in Table 4-4 should be considered with respect to their standard daily or weekly operating conditions. Noise sources may produce unusual noise levels due to temporary equipment malfunction, or unusual atmospheric conditions. Noise levels associated with these infrequent conditions are exempt from the performance standards contained in Table 4-4. In addition, the performance standards are not to be applied to safety signals or warning devices. In the event an acoustical study is required of an applicant, refer to Appendix I: "Requirements for an Acoustical Analysis."

**Table 4-4. Noise Level Performance Standards for Noise-Sensitive Land Uses Which May Be Affected by Stationary Noise Sources**

Land Use	Exterior Hourly $L_{eq}$ , dB		Interior Hourly $L_{eq}$ , dB	
	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.	Daytime 7 a.m. to 10 p.m.	Nighttime 10 p.m. to 7 a.m.
Residential	55	50	40	35
Transient Lodging	55	50	40	35
Hospitals	—	—	40	35
Nursing Homes	55	50	40	35
Theaters, Auditoriums	—	—	35	35
Churches	55	50	40	40
Schools	55	50	45	45
Libraries	55	50	45	45

Stationary noise sources include industrial operations, outdoor recreation facilities, HVAC units, loading docks, etc.

The above standards may be adjusted upwards to allow for an increase in the existing ambient hourly  $L_{eq}$  caused by a proposed project. An increase of less than 3dB is permitted, even if the standards in Table 4-4 are exceeded; an increase of 3dB or greater constitutes a significant environmental impact, unless the increase does not cause the standards in Table 4-4 to be exceeded.

The noise level standards contained above shall be applied to a typical hour of operation. When a peak hour of operation is expected to occur consistently during daily or weekly operations, the standards shall also be applied to those operations.

Each of the noise standards specified above shall be lowered by five dB for tonal noises (humming, high-pitched tones, speech music, or recurring impulsive noises). This lowering of the standard does not apply to residential units established in conjunction with industrial or commercial caretaker dwellings. (See Glossary for definition of tonal noise).

The City may choose to apply the noise level performance standards at designated outdoor activity areas, in lieu of the property line.

The above standards do not apply to safety signals or warning devices.

For noise sources that occur on an infrequent basis and are considered to be safety equipment (such as flaring or pressure relief valves), a maximum noise level of 75 dB is acceptable, as measured from the receiver's property line. Noise levels which are projected to exceed this maximum are considered a significant environmental impact.

Where outdoor activity areas do not exist and/or are not expected to be affected, the City may choose to only apply the interior noise level criteria. For example, in the case of single family residences which do not have second story patios or outdoor activity areas, the City may choose to only apply an interior noise level standard at the second story interior spaces.

#### 4. COMMUNITY NOISE GOALS, POLICIES, AND PROGRAMS



**GOAL 4.23: Reduce or eliminate the effects of excessive noise.**

**POLICY 4.23.1:** Evaluate the compatibility of proposed projects with respect to existing and future transportation noise levels by utilizing Tables 4-3 and 4-4.

*Program 4.23.A:* Investigate and implement techniques to reduce traffic noise.

**POLICY 4.23.2:** Use noise dampening building standards, site design, landscaping, and setbacks instead of sound walls, wherever possible.

**POLICY 4.23.3:** Use available techniques such as building insulation, berms, building design and orientation, buffer yards, and staggered operating hours to minimize noise at the source.

**POLICY 4.23.4:** Control development of noise-sensitive land uses in areas exposed to existing or projected noise which exceed the levels specified in Tables 4-3 and 4-4 unless the project includes specific, effective mitigation measures to reduce interior and exterior noise levels to those specified in Tables 4-3 and 4-4.

*Program 4.23.B:* Investigate conditioning construction of live/work units with a requirement to record a “notice of special restrictions” which would acknowledge the noisy nature of existing adjacent industrial uses.

**POLICY 4.23.5:** Accommodate roadway improvement projects for build-out of the General Plan by recognizing that existing noise-sensitive uses may be exposed to increased noise levels from roadway repairs, increased traffic, and increased travel speeds. When it is not practical to reduce traffic noise levels to those in Table 4-4, the following criteria will be used as a test of significance for the environmental review of roadway improvement projects:

(a) Where existing noise levels are less than 60 dB  $L_{dn}$  at the outdoor activity area of a noise-sensitive use, a 5 dB  $L_{dn}$  increase in noise levels due to a roadway improvement project will be considered significant;

(b) Where existing noise levels range between 60 and 65 dB  $L_{dn}$  at the outdoor activity area of a noise-sensitive use, a 3 dB  $L_{dn}$  increase in noise levels due to a roadway improvement project will be considered significant; and

(c) Where existing noise levels are greater than 65 dB  $L_{dn}$  at the outdoor activity area of a noise-sensitive use, a 1.5 dB  $L_{dn}$

increase in noise levels due to a roadway improvement project will be considered significant.

*Program 4.23.C:* If needed, revise the City's noise ordinance and consider incorporating the noise level performance standards in Table 4-4.

**POLICY 4.23.6:** Attempt to reduce noise in areas already highly impacted by excessive noise.

*Program 4.23.D:* Identify sources of noise in the community (such as flight patterns, construction noise, traffic, railroads, industrial, and amplified sound). Develop measures to reduce excessive noise to acceptable levels.

# GLOSSARY

## ABBREVIATIONS

<b>ABAG</b>	Association of Bay Area Governments	<b>CEQA</b>	California Environmental Quality Act
<b>ADA</b>	Americans with Disabilities Act	<b>CIP</b>	Capital Improvements Program
<b>ADT</b>	Average daily trips made by vehicles or persons in a 24-hour period	<b>CLG</b>	Certified Local Government
<b>AFDC</b>	Aid for Families with Dependent Children (federal program)	<b>CMP</b>	Congestion Management Program
<b>BAAQMD</b>	Bay Area Air Quality Management District	<b>CNEL</b>	Community Noise Equivalent Level
<b>BACT</b>	Best available control technology	<b>COG</b>	Council of Governments
<b>BART</b>	Bay Area Rapid Transit	<b>dB</b>	Decibel
<b>BCDC</b>	Bay Area Conservation and Development Commission	<b>DEIR</b>	Draft Environmental Impact Report
<b>BIP</b>	Benicia Industrial Park	<b>DRC</b>	Design Review Commission
<b>BMR</b>	Below-market-rate dwelling unit	<b>DTSC</b>	Department of Toxic Substances Control
<b>BMP</b>	Best Management Practices	<b>EIR</b>	Environmental Impact Report (State)
<b>BUSD</b>	Benicia Unified School District	<b>EOC</b>	Emergency Operations Center
<b>CA</b>	California	<b>EOP</b>	Emergency Operations Plan
<b>CBD</b>	Central Business District	<b>EPCRA</b>	Emergency Planning and Community Right-to-Know Act
<b>CCR</b>	California Code of Regulations	<b>FAR</b>	Floor Area Ratio
<b>CDBG</b>	Community Development Block Grant	<b>FEMA</b>	Federal Emergency Management Agency

<b>GPOC</b>	General Plan Oversight Committee	<b>PG&amp;E</b>	Pacific Gas & Electric
<b>GPPS</b>	Goals, Policies, and Programs	<b>PD</b>	Planned Development
<b>HCD</b>	Housing and Community Development Department of the State of California.	<b>R &amp; D</b>	Research and Development
<b>HETF</b>	Housing Element Task Force	<b>RMPP</b>	Risk Management Prevention Program
<b>HUD</b>	U S Department of Housing and Urban Development	<b>RWQCB</b>	Regional Water Quality Control Board
<b>HHWP</b>	Hazardous Household Waste Program	<b>§</b>	Section
<b>IGPS</b>	Issues, Goals, and Policies	<b>SMARA</b>	Surface Mining and Reclamation Act
<b>I.O.O.F.</b>	International Order of Odd Fellows	<b>SOI</b>	Sphere of Influence
<b>IT</b>	International Technology Corporation	<b>TAC</b>	Toxic Air Contaminants
<b>LAFCO</b>	Local Agency Formation Commission	<b>TSD</b>	Treatment, Storage, and Disposal (facility)
<b>LOS</b>	Level of Service	<b>TSM</b>	Transportation Systems Management
<b>MTC</b>	Metropolitan Transportation Commission	<b>UBC</b>	Uniform Building Code
<b>OES</b>	Office of Emergency Services	<b>UFC</b>	Uniform Fire Code
<b>OSHA</b>	Occupational Health and Safety Administration	<b>UGB</b>	Urban Growth Boundary
<b>PCB</b>	Polychlorinated Biphenyl	<b>UPRR</b>	Union Pacific Railroad
		<b>URM</b>	Unreinforced Masonry Building
		<b>WWTP</b>	Waste Water Treatment Plant

## GLOSSARY

**Access/Egress** • The ability to enter a site from a roadway and exit a site onto a roadway by motorized vehicle.

**Acres, Gross** • The area of a lot or site including easements and right-of-way to be dedicated, but excluding existing public rights-of-way.

**Acres, Net** • The portion of a site that can actually be built upon. The following generally are not included in the net acreage of a site: public or private road rights-of-way, public open space, water bodies and flood ways.

**Adverse Impact** • A negative consequence for the physical, social, or economic environment resulting from an action or project.

**Affordability Requirements** • Provisions established by a public agency to require that a specific percentage of housing units in a project or development remain affordable to very low- and low- income households for a specified period.

**Affordable Housing** • Housing capable of being purchased or rented by a household with very low, low, or moderate income, based on a household's ability to make monthly payments necessary to obtain housing. Housing units for moderate income must sell or rent for a monthly cost not greater than 30 percent of area median income.

**Agency** • The governmental entity, department, office, or administrative unit responsible for carrying out regulations.

**Agricultural Preserve** • Land designated for agriculture or conservation. (See "Williamson Act.")

**Agriculture** • Use of land for the production of food and fiber, including the growing of crops and/or the grazing of animals on natural prime or improved pasture land.

**Air Pollution** • Concentrations of substances found in the atmosphere that exceed naturally occurring quantities and are undesirable or harmful in some way.

**Alley** • A narrow service way, either public or private, that provides a permanently reserved but secondary means of public access not intended for general traffic circulation. Alleys typically are located along rear property lines.

**Alquist-Priolo Act, Earthquake Fault Zone** • A state designated seismic hazard zone along traces of potentially and recently active faults, in which specialized geologic investigations must be prepared prior to approval of certain types of new development.

**Alluvium** • Sediment deposited by flowing water, as in a riverbed, flood plain, or delta.

**Ambient** • Surrounding on all sides; used to describe measurements of existing conditions with respect to traffic, noise, air and other environments.

**Analysis** • The examination of a subject, particularly its component parts and their interrelationships.

**Annex, *v.*** • To incorporate a land area into an existing district or municipality, with a resulting change in the boundaries of the annexing jurisdiction.

**Apartment** • (1) One or more rooms of a building used as a place to live, in a building containing at least one other

unit used for the same purpose. (2) A separate suite, not owner occupied, that includes kitchen facilities and is designed for and rented as the home, residence, or sleeping place of one or more persons living as a single housekeeping unit.

**Appropriate** • An act, condition, or state that is considered suitable.

**Archaeological** • Relating to the material remains of past human life, culture, or activities.

**Architectural Control; Architectural Review** • Regulations and procedures requiring the exterior design of structures to be suitable, harmonious, and in keeping with the general appearance, historic character, and/or style of surrounding areas. A process used to exercise control over the design of buildings and their settings. (See “Design Review.”)

**Area; Area Median Income** • As used in State of California housing law with respect to income eligibility limits established by the US Department of Housing and Urban Development (HUD), “area” means metropolitan area or non-metropolitan county. In non-metropolitan areas, the “area median income” is the higher of the county median family income or the statewide non-metropolitan median family income.

**Area of Interest** • That area having a direct physical and social influence on a city’s planning area but not appropriate for annexation.

**Arterial** • Streets that link residential, commercial, and industrial districts with the highway system. They serve primarily through-travel as opposed to providing direct access to adjacent land uses.

**Arterial (Major)** • A roadway which connects freeways to minor arterials and collector streets. Major arterials generally provide four to six lanes.

**Arterial (Minor)** • A roadway which connects major arterials to collectors and local streets. Minor arterials generally provide two to four travel lanes.

**Assisted Housing** • Generally multi-family rental housing, but sometimes single-family ownership units, whose construction, financing, sales prices, or rents have been subsidized by federal, state, or local housing programs including, but not limited to Federal Section 8 (new construction, substantial rehabilitation, and loan management set-asides), Federal Sections 213, 236, and 202, Federal Section 221(d)(3) (below-market interest rate program), Federal Section 101 (rent supplement assistance), CDBG, FmHA Section 515, multi-family mortgage revenue bond programs, local redevelopment and in lieu fee programs, and units developed pursuant to local inclusionary housing and density bonus programs. By January 1, 1992, all California Housing Elements are required to address the preservation or replacement of assisted housing that is eligible to change to market rate housing by 2002.

**Attainment** • Compliance with State and federal ambient air quality standards within an air basin.

**Base Flood** • In any given year, a 100-year flood that has a one percent likelihood of occurring, and is recognized as a standard for acceptable risk.

**Below-market-rate (BMR)** • (1) Any housing unit specifically priced to be sold or rented to low- or moderate-income households for an amount less

than the fair-market value of the unit. Both the State of California and the US Department of Housing and Urban Development set standards for determining which households qualify as “low income” or “moderate income.” (2) The financing of housing at less than prevailing interest rates.

**Best Management Practices** • A policy, program, practice, rule, regulation, or ordinance for which sufficient data are available to indicate that identified objectives can be met; that the practice is technically and economically reasonable and not environmentally or socially unacceptable; and that the practice is not otherwise unreasonable for most of the stated industry organizations to carry out.

**Bicycle Path (Class I facility)** • A paved route not on a street or roadway and expressly reserved for bicycles traversing an otherwise unpaved area. Bicycle paths may parallel roads but typically are separated from them by landscaping.

**Bicycle Lane (Class II facility)** • A corridor expressly reserved for bicycles, existing on a street or roadway in addition to any lanes for use by motorized vehicles.

**Bicycle Route (Class III facility)** • A facility shared with motorists and identified only by signs, a bicycle route has no pavement markings or lane stripes.

**Bikeways** • A term that encompasses bicycle lanes, bicycle paths, and bicycle routes.

**Book Fee** • A charge the City makes in association with the granting of building permits to provide money for City Library acquisition of books.

**Buffer Zone** • An area of land separating two distinct land uses that acts to soften or mitigate the effects of one land use on the other.

**Building** • Any structure used or intended for supporting or sheltering any use or occupancy.

**Building Height** • The vertical dimension measured from the finished grade at all points on the site to a warped plane an equal height above all points on the site.

**Buildout; Build-out** • Development of land to its full potential or theoretical capacity as permitted under current or proposed planning or zoning designations. (See “Carrying Capacity (3).”)

**Business Park** • (See “Industrial Park.”)

**Business Services** • A subcategory of commercial land use that permits establishments primarily engaged in rendering services to other business establishments on a fee or contract basis, such as advertising and mailing; building maintenance; personnel and employment services; management and consulting services; protective services; equipment rental and leasing; photo finishing; copying and printing; travel; office supply; and similar services.

**CALFED** • A joint State and federal program to develop a long-term solution to Bay-Delta water resources and endangered species issues.

**California Environmental Quality Act (CEQA)** • A State law requiring State and local agencies to regulate activities with consideration for environmental protection. If a proposed activity has the potential for a significant adverse environmental impact, an Environmental

Impact Report (EIR) must be prepared and certified as to its adequacy before taking action on the proposed project. General Plans require the preparation of a “program EIR.”

**California Housing Finance Agency (CHFA)** • A State agency, established by the Housing and Home Finance Act of 1975, which is authorized to sell revenue bonds and generate funds for the development, rehabilitation, and conservation of low-and moderate-income housing.

**Caltrans** • California Department of Transportation.

**Capital Improvements Program (CIP)** • A program, administered by a city or county government and reviewed by its planning commission, which schedules permanent improvements, usually for a minimum of five years in the future, to fit the projected fiscal capability of the local jurisdiction. The program generally is reviewed annually, for conformance to and consistency with the general plan.

**Carrying Capacity** • Used in determining the potential of an area to absorb development: (1) The level of land use, human activity, or development for a specific area that can be accommodated permanently without an irreversible change in the quality of air, water, land, or plant and animal habitats. (2) The upper limits of development beyond which the quality of human life, health, welfare, safety, or community character within an area will be impaired. (3) The maximum level of development allowable under current zoning. (See “Buildout.”)

**Census** • The official decennial enumeration of the population conducted by the federal government.

**Channelization** • The straightening and/or deepening of a watercourse for purposes of storm-runoff control or ease of navigation. Channelization often includes lining of stream banks with a retaining material such as concrete.

**Character** • Special physical characteristics of a structure or area that set it apart from its surroundings and contribute to its individuality.

**Circulation Element** • One of the seven State-mandated elements of a local general plan, it contains adopted goals, policies, and implementation programs for the planning and management of existing and proposed thoroughfares, transportation routes, and terminals, as well as local public utilities and facilities, all correlated with the land use element of the general plan.

**Circulation System** • A network of transit, automobile, bicycle and pedestrian rights-of-way that connect origins and destinations.

**City** • City with a capital “C” generally refers to the government or administration of the City of Benicia. City with a lower case “c” may mean any city, or may refer to the geographical area of a city (e.g., the city’s bikeway system.)

**Community Noise Equivalent Level (CNEL)** • The average equivalent sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night before 7:00 a.m. and after 10:00 p.m.

**Collector** • Streets which link arterials and local streets that are generally two lanes in width.

**Commercial** • A land use classification that permits facilities for the buying and selling of commodities and services.

**Commercial Strip** • Commercial development, usually one store deep, that fronts on a major street for a distance of one city block or more. Includes individual buildings on their own lots, with or without on-site parking, and small linear shopping centers with shallow on-site parking in front of the stores.

**Community Center** • A public facility in which educational, therapeutic and/or recreational programs are provided.

**Community Development Block Grant (CDBG)** • A grant program administered by the US Department of Housing and Urban Development (HUD) on a formula basis for entitlement communities, and by the State Department of Housing and Community Development (HCD) for non-entitled jurisdictions. This grant allots money to cities and counties for housing rehabilitation and community development, including public facilities and economic development.

**Community Noise Equivalent Level (CNEL)** • A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dBA applied to the evening (7 PM to 10 PM) and nighttime (10 PM to 7 AM) periods, respectively, to allow for the greater sensitivity to noise during these hours.

**Community Park** • Land with full public access intended to provide recreation opportunities beyond those supplied by neighborhood parks. Community parks are larger in scale than neighborhood parks but smaller than regional parks. They serve people within a three mile radius.

**Community Service Area** • A geographic subarea of a city or county used for the planning and delivery of parks, recreation, and other human services based on an assessment of the service needs of the population in that subarea.

**Compatible** • Capable of existing together without conflict or ill effects.

**Composting** • The treatment of solid organic refuse through aerobic, biologic decomposition.

**Concurrency** • Installation and operation of facilities and services needed to meet the demands of new development simultaneous with the development.

**Condominium** • A structure of two or more units, the interior spaces of which are individually owned; the balance of the property (both land and building) is owned in common by the owners of the individual units. (See "Townhouse.")

**Congestion Management Plan (CMP)** • A mechanism employing growth management techniques, including traffic level of service requirements, standards for public transit, trip reduction programs involving transportation systems management and jobs/ housing balance strategies, and capital improvement programming, for the purpose of controlling and/or reducing the cumulative regional traffic impacts of development. AB 1791, effective August 1, 1990, requires all cities, and counties that include urbanized areas, to adopt by December 1, 1991, and annually update a Congestion Management Plan.

**Conservation** • The management of natural resources to prevent waste, destruction, or degradation. (See "Conservation Element.")

**Conservation Element** • One of the seven State-mandated elements of a local general plan, it contains adopted goals, policies, and implementation programs for the conservation, development, and use of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources.

**Consistency, Consistent With** • Free from significant variation or contradiction. The various diagrams, text, goals, policies, and programs in the general plan must be consistent with each other, not contradictory or preferential. The term “consistent with” is used interchangeably with “conformity with.” The courts have held that the phrase “consistent with” means “agreement with; harmonious with.” Webster defines “conformity with” as meaning harmony, agreement when used with “with.” The term “conformity” means in harmony therewith or agreeable to (§58 Ops. Cal. Atty. Gen. 21, 25 [1975]). California State law also requires that a general plan be internally consistent and also requires consistency between a general plan and implementation measures such as the zoning ordinance.

**County** • County with a capital “C” generally refers to the government or administration of a county. County with a lower case “c” may mean any county, or may refer to the geographical area of a county (e.g., the county’s road system.)

**Criterion** • A standard upon which a judgment or decision may be based. (See “Standards.”)

**Critical Facility** • Facilities housing or serving many people, that are necessary

in the event of an earthquake or flood, such as hospitals, fire, police, and emergency service facilities, utility “lifeline” facilities, such as water, electricity, and gas supply, sewage disposal, and communications and transportation facilities.

**Cul-de-sac** • A short street or alley with only a single means of ingress and egress at one end and with a large turnaround at its other end.

**Cumulative Impact** • As used in CEQA, the total impact resulting from the accumulated impacts of individual projects or programs over time.

**dB** • Decibel; a unit used to express the relative intensity of a sound as it is heard by the human ear.

**dBA** • The “A-weighted” scale for measuring sound in decibels; weighs or reduces the effects of low and high frequencies in order to simulate human hearing. Every increase of 10 dBA doubles the perceived loudness though the noise is actually ten times more intense.

**Density, Residential** • The number of permanent residential dwelling units per acre of land. Densities specified in the General Plan are expressed in units per gross acre of land (excluding water bodies). (See “Acres, Gross.”)

**Density Bonus** • The allocation of development rights that allow a parcel to accommodate additional square footage or additional residential units beyond the maximum for which the parcel is zoned, usually in exchange for the provision or preservation of an amenity at the same site or at another location. Under California law, a housing development that provides 20 percent of its units for lower income households, or ten percent of its

units for very low-income households, or 50 percent of its units for seniors, is entitled to a density bonus. (See “Development Rights, Transfer of.”)

**Density, Control of** • A limitation on the occupancy of land. Density can be controlled through zoning in the following ways: use restrictions, minimum lot-size requirements, floor area ratios, land use-intensity ratios, setback and yard requirements, minimum house-size requirements, ratios comparing number and types of housing units to land area, limits on units per acre, and other means. Allowable density often serves as the major distinction between residential districts.

**Density Transfer** • A way of retaining open space by concentrating densities—usually in compact areas adjacent to existing urbanization and utilities—while leaving unchanged historic, sensitive, or hazardous areas. In some jurisdictions, for example, developers can buy development rights of properties targeted for public open space and transfer the additional density to the base number of units permitted in the zone in which they propose to develop.

**Design Review** • The comprehensive evaluation of a development and its impact on neighboring properties and the community as a whole, from the standpoint of site and landscape design, architecture, materials, colors, lighting, and signs, in accordance with a set of adopted criteria and standards. In Benicia’s Design Review system, projects are reviewed against certain standards and guidelines by the Design Review Commission and the Planning Department. (See “Architectural Control.”)

**Detention Dam/Basin/Pond** •

Dams may be classified according to the broad function they serve, such as storage, diversion, or detention. Detention dams are constructed to retard flood runoff and minimize the effect of sudden floods. Detention dams fall into two main types. In one type, the water is temporarily stored, and released through an outlet structure at a rate that will not exceed the carrying capacity of the channel downstream. Often, the basins are planted with grass and used for open space or recreation in periods of dry weather. The other type, most often called a Retention Pond, allows for water to be held as long as possible and may or may not allow for the controlled release of water. In some cases, the water is allowed to seep into the permeable banks or gravel strata in the foundation. This latter type is sometimes called a Water-Spreading Dam or Dike because its main purpose is to recharge the underground water supply. Detention dams are also constructed to trap sediment. These are often called Debris Dams.

**Developable Land** • Land that is suitable as a location for structures and that can be developed free of hazards to, and without disruption of, or significant impact on, natural resource areas.

**Developer** • An individual who or business that prepares raw land for the construction of buildings or causes to be built physical building space for use primarily by others, and in which the preparation of the land or the creation of the building space is in itself a business and is not incidental to another business or activity.

**Development** • The physical extension and/or construction of urban land uses. Development activities include: subdivision of land; construction or alteration of structures, roads, utilities, and other facilities; installation of septic systems; grading; deposit of refuse, debris, or fill materials; and clearing of natural vegetative cover (with the exception of agricultural activities). Routine repair and maintenance activities are exempted.

**Development Agreement** • A legislatively-approved contract between a jurisdiction and a person having legal or equitable interest in real property within the jurisdiction (California Government Code §5865 *et. seq.*) that “freezes” certain rules, regulations, and policies applicable to development of a property for a specified period of time, usually in exchange for certain concessions by the owner.

**Development Fee** • (See “Impact Fee.”)

**Development Rights** • The right to develop land by a land owner who maintains fee-simple ownership over the land or by a party other than the owner who has obtained the rights to develop. Such rights usually are expressed in terms of density allowed under existing zoning. For example, one development right may equal one unit of housing or may equal a specific number of square feet of gross floor area in one or more specified zone districts. (See “Development Rights, Transfer of [TDR].”)

**Development Rights, Transfer of (TDR)** • Also known as “Transfer of Development Credits,” a program that can relocate potential development from areas where proposed land use or environmental impacts are considered undesirable (the “donor” site) to another

(“receiver”) site chosen on the basis of its ability to accommodate additional units of development beyond that for which it was zoned, with minimal environmental, social, and aesthetic impacts. (See “Development Rights.”)

**Disability** • Physical or mental impairment that substantially limits one or more of the major life activities of an individual, or a record of such impairment, or being regarded as having such an impairment.

**Discourage, *v.*** • To advise or persuade to refrain from.

**Distribution Use** • (See “Warehousing Use.”)

**District** • (1) An area of a city or county that has a unique character identifiable as different from surrounding areas because of distinctive architecture, streets, geographic features, culture, landmarks, activities, or land uses. (2) A portion of the territory of a city or county within which uniform zoning regulations and requirements apply; a zone.

**Diversity** • Differences among otherwise similar elements that give them unique forms and qualities. E.g., housing diversity can be achieved by differences in unit size, tenure, or cost.

**Duplex** • A detached building under single ownership that is designed for occupation as the residence of two families living independently of each other.

**Dwelling Unit** • A room or group of rooms (including sleeping, eating, cooking, and sanitation facilities, but not more than one kitchen), that constitutes an independent housekeeping unit, occupied or intended for occupancy by one household on a long-term basis.

**Easement** • Usually the right to use property owned by another for specific purposes or to gain access to another property. For example, utility companies often have easements on the private property of individuals to be able to install and maintain utility facilities.

**Easement, Conservation** • A tool for acquiring open space with less than full-fee purchase, whereby a public agency buys only certain specific rights from the land owner. These may be positive rights (providing the public with the opportunity to hunt, fish, hike, or ride over the land) or they may be restrictive rights (limiting the uses to which the land owner may devote the land in the future.)

**Ecology** • The interrelationship of living things to one another and their environment; the study of such interrelationships.

**Economic Development Board (EDB)** • The agency charged with identifying, investigating, and promoting economic needs, opportunities, and interests in Benicia.

**Ecosystem** • An interacting system formed by a biotic community and its physical environment.

**Elderly Persons age 62 and older.** (See “Seniors.”)

**Emergency Shelter** • A facility that provides immediate and short-term housing and supplemental services for the homeless. Supplemental services may include food, counseling, and access to other social programs. (See “Homeless” and “Transitional Housing.”)

**Emission Standard** • The maximum amount of pollutant legally permitted to be discharged from a single source, either mobile or stationary.

**Encourage, *v.*** • To stimulate or foster a particular condition through direct or indirect action by the private sector or government agencies.

**Endangered Species** • A species of animal or plant is considered to be endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes.

**Enhance, *v.*** • To improve existing conditions by increasing the quantity or quality of beneficial uses or features.

**Environment** • CEQA defines environment as “the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, mineral, flora, fauna, noise, and objects of historic or aesthetic significance.”

**Environmental Impact Report**

**(EIR)** • A report complying with the California Environmental Quality Act which assesses all the environmental characteristics of an area and determines what effects or impacts will result if the area is altered or disturbed by a proposed action. (See “California Environmental Quality Act.”)

**Environmental Impact Statement**

**(EIS)** • Under the National Environmental Policy Act, a statement on the effect of development proposals and other major actions that significantly affect the environment.

**Erosion** • (1) The loosening and transportation of rock and soil debris by wind, rain, or running water. (2) The gradual wearing away of the upper layers of earth.

**Exaction** • A contribution or payment required as an authorized precondition for receiving a development permit;

usually refers to mandatory dedication (or fee in lieu of dedication) requirements found in many subdivision regulations.

**Fair Market Rent** • The rent, including utility allowances, determined by the United States Department of Housing and Urban Development for purposes of administering the Section 8 Existing Housing Program.

**Family** • (1) Two or more persons related by birth, marriage, or adoption [US Bureau of the Census]. (2) An individual or a group of persons living together who constitute a *bona fide* single-family housekeeping unit in a dwelling unit, not including a fraternity, sorority, club, or other group of persons occupying a hotel, lodging house or institution of any kind [California].

**Farmland** • Refers to eight classifications of land mapped by the US Department of Agriculture Soil Conservation Service. The five agricultural classifications defined below—except Grazing Land—do not include publicly owned lands for which there is an adopted policy preventing agricultural use.

**Grazing Land** • Land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. This classification does not include land previously designated as Prime Farmland, Farmland of Statewide Importance, Unique Farmland, or Farmland of Local Importance, and heavily brushed, timbered, excessively steep, or rocky lands which restrict the access and movement of livestock.

**Fault** • A fracture in the earth's crust forming a boundary between rock masses that have shifted.

**Feasible** • Capable of being accomplished in a successful manner within a reasonable time taking into account economic, environmental, social, and technological factors.

**Finding(s)** • The result(s) of an investigation and the basis upon which decisions are made. Findings are used by government agents and bodies to justify action taken by the entity.

**Fiscal Impact Analysis** • A projection of the direct public costs and revenues resulting from population or employment change to the local jurisdiction(s) in which the change is taking place. Enables local governments to evaluate relative fiscal merits of general plans, specific plans, or projects.

**Fiscal Impact Report (FIR)** • A report projecting the public costs and revenues that will result from a proposed program or development. (See "Fiscal Impact Analysis.")

**Flood, 100-Year** • The magnitude of a flood expected to occur on the average every 100 years, based on historical data. The 100-year flood has a 1/100, or one percent, chance of occurring in any given year.

**Flood Insurance Rate Map (FIRM)** • For each community, the official map on which the Federal Insurance Administration has delineated areas of special flood hazard and the risk premium zones applicable to that community.

**Flood Plain** • The relatively level land area on either side of the banks of a stream regularly subject to flooding. That part of the flood plain subject to a one percent chance of flooding in any given year is designated as an "area of special

flood hazard” by the Federal Insurance Administration.

**Floodway** • The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the “base flood” without cumulatively increasing the water surface elevation more than one foot. No development is allowed in floodways.

**Floor Area Ratio (FAR)** • The gross floor area permitted on a site divided by the total net area of the site, expressed in decimals to one or two places. For example, on a site with 10,000 net sq. ft. of land area, a FAR of 1.0 will allow a maximum of 10,000 gross sq. ft. of building floor area to be built. On the same site, a FAR of 1.5 would allow 15,000 sq. ft. of floor area; an FAR of 2.0 would allow 20,000 sq. ft.; and a FAR of 0.5 would allow only 5,000 sq. ft. Also commonly used in zoning, FARs typically are applied on a parcel-by-parcel basis.

**Freeway** • A high-speed, high-capacity, limited-access transportation facility intended to serve regional and sub-regional travel. At times they are also used for intra-city travel in large cities.

**Gateway** • A point along a roadway entering a city or county at which a motorist gains a sense of having left the environs and of having entered the city or county.

**General Plan** • A compendium of city or county policies regarding long-term development, in the form of maps and accompanying text. The General Plan is a legal document required of each local agency by the State of California Government Code §65300 et seq. and adopted by the City Council or Board of Supervisors. In California, the General Plan has 7

mandatory elements. (See Chapter 1 of this Plan which explains how elements are in the format of this General Plan.)

**Geologic Review** • The analysis of geologic hazards, including all potential seismic hazards, surface ruptures, liquefaction, landsliding, mudsliding, and the potential for erosion and sedimentation.

**Geological** • Pertaining to rock or solid matter.

**Goal** • A general, overall, and ultimate purpose, aim, or end toward which the City or County will direct effort.

**Grasslands** • Land reserved for pasturing or mowing, in which grasses are the predominant vegetation.

**Greenhouse Effect** • The warming of the Earth’s atmosphere due to accumulated carbon dioxide and other gases in the upper atmosphere. These gases absorb energy radiated from the Earth’s surface, “trapping” it in the same manner as glass in a greenhouse traps heat. Potential sea-level rise is a concern.

**Ground Failure** • Ground movement or rupture caused by strong shaking during an earthquake. Includes landslide, lateral spreading, liquefaction, and subsidence.

**Ground Shaking** • Ground movement resulting from the transmission of seismic waves during an earthquake.

**Groundwater** • Water under the earth’s surface, often confined to aquifers capable of supplying wells and springs.

**Growth Management** • (See Appendix A.)

**Guidelines** • General statements of policy direction around which specific details may be later established.

**Habitat** • The physical location or type of environment in which an organism or biological population lives or occurs.

**Handicapped** • A person determined to have a physical impairment or mental disorder expected to be of long or indefinite duration. Many such impairments or disorders are of such a nature that a person's ability to live independently can be improved by appropriate housing conditions.

**Hazardous Material** • Any substance that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term includes, but is not limited to, hazardous substances and hazardous wastes.

**High Occupancy Vehicle (HOV)** • Any vehicle other than a driver-only automobile (e.g., a vanpool, a bus, or two or more persons to a car).

**Highway** • High-speed, high-capacity, limited-access transportation facility serving regional and county-wide travel. Highways may cross at a different grade level.

**Hillsides** • Land that has an average percent of slope equal to or exceeding fifteen percent.

**Historic; Historical** • An historic building or site is one that is noteworthy for its significance in local, state, or national history or culture, its architecture or design, or its works of art, memorabilia, or artifacts.

**Historic Preservation** • The preservation of historically significant structures and neighborhoods until such time as, and in order to facilitate, restoration and

rehabilitation of the building(s) to a former condition.

**Homeless** • Persons and families who lack a fixed, regular, and adequate nighttime residence. Includes those staying in temporary or emergency shelters or who are accommodated with friends or others with the understanding that shelter is being provided as a last resort. California Housing Element law, §65583(c)(1) requires all cities and counties to address the housing needs of the homeless. (See "Emergency Shelter" and "Transitional Housing.")

**Hotel** • A facility in which guest rooms or suites are offered to the general public for lodging with or without meals and for compensation, and where no provision is made for cooking in any individual guest room or suite. (See "Motel.")

**Household** • All those persons-related or unrelated-who occupy a single housing unit. (See "Family.")

**Households, Number of** • The count of all year-round housing units occupied by one or more persons. The concept of *household* is important because the formation of new households generates the demand for housing. Each new household formed creates the need for one additional housing unit or requires that one existing housing unit be shared by two households. Thus, household formation can continue to take place even without an increase in population, thereby increasing the demand for housing.

**Housing, Inclusionary** • Regulations that increase housing choice by providing the opportunity to construct more diverse and economical housing to meet the needs of low- and moderate-income

families. Often such regulations require a minimum percentage of housing for low- and moderate-income households in new housing developments and in conversions of apartments to condominiums.

**Housing and Community Development Department of the State of California (HCD)**

• The State agency that has principal responsibility for assessing, planning for, and assisting communities to meet the needs of low- and moderate-income households.

**Housing Element** • One of the seven State-mandated elements of a local general plan, it assesses the existing and projected housing needs of all economic segments of the community, identifies potential sites adequate to provide the amount and kind of housing needed, and contains adopted goals, policies, and implementation programs for the preservation, improvement, and development of housing. Under State law, Housing Elements must be updated every five years.

**Housing and Urban Development, US Department of (HUD)**

• A cabinet-level department of the federal government that administers housing and community development programs.

**Housing Unit** • The place of permanent or customary abode of a person or family. A housing unit may be a single-family dwelling, a multi-family dwelling, a condominium, a modular home, a mobile home, a cooperative, or any other residential unit considered real property under State law. A housing unit has, at least, cooking facilities, a bathroom, and a place to sleep. It also is a dwelling that cannot be moved without substantial damage or unreasonable cost. (See “Dwelling Unit,” “Family,” and “Household.”)

**Identity** • A consistent quality that makes a city, place, area, or building unique and gives it a distinguishing character.

**Image** • The mental picture or impression of a city or place taken from memory and held in common by members of the community.

**Impact** • The effect of any direct man-made actions or indirect repercussions of man-made actions on existing physical, social, or economic conditions.

**Impact Fee** • A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code §66000, *et seq.*, specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

**Implementation** • Actions, procedures, programs, or techniques that carry out policies.

**Improvement** • The addition of one or more structures or utilities on a parcel of land.

**Incorporation** • Creation of a new city.

**Industrial** • The manufacture, production, and processing of consumer goods. Industrial is often divided into “heavy industrial” uses, such as construction yards, quarrying, and factories; and “light industrial” uses, such as research and development and less intensive warehousing and manufacturing.

**Industrial Park; Business Park** • A planned assemblage of buildings designed for “Workplace Use.”

**Infrastructure** • Public services and facilities, such as sewage-disposal systems, water-supply systems, other utility systems, and roads.

**Integrity** • As used in historic preservation, the degree to which authenticity of a property’s historic identity has been maintained, evidenced by the survival of substantial physical characteristics that existed during the property’s historic period.

**Intensity, Building** • For residential uses, the actual number or the allowable range of dwelling units per net or gross acre. For non-residential uses, the actual or the maximum permitted floor area ratios (FARS).

**Inter-agency** • Indicates cooperation between or among two or more discrete agencies in regard to a specific program.

**Intermittent Stream** • A stream that normally flows for at least thirty (30) days after the last major rain of the season and is dry a large part of the year.

**Issues** • Important unsettled community matters or problems that are identified in a community’s general plan and dealt with by the plan’s goals, objectives, policies, plan proposals, and implementation programs.

**Jobs/Housing Balance; Jobs/Housing Ratio** • The jobs/housing ratio divides the number of jobs in an area by the number of employed residents. A ratio of 1.0 indicates a balance. A ratio greater than 1.0 indicates a net in-commute; less than 1.0 indicates a net out-commute.

**Joint Powers Authority (JPA)** • A legal arrangement that enables two or more units of government to share authority in order to plan and carry out a specific program or set of programs that serves both units.

**Landmark** • (1) A building, site, object, structure, or significant tree, having historical, architectural, social, or cultural significance and marked for preservation by the local, state, or federal government. (2) A visually prominent or outstanding structure or natural feature that functions as a point of orientation or identification.

**Landscaping** • Planting—including trees, shrubs, and ground covers—suitably designed, selected, installed, and maintained as to enhance a site or roadway permanently.

**Landslide** • Downslope movement of soil and/or rock, which typically occurs during an earthquake or following heavy rainfall.

**Land Use** • The occupation or utilization of land or water area for any human activity or any purpose defined in the General Plan.

**Land Use Classification** • A system for classifying and designating the appropriate use of properties.

**Land Use Element** • A required element of the General Plan that uses text and maps to designate the future use or reuse of land within a given jurisdiction’s planning area. The land use element serves as a guide to the structuring of zoning and subdivision controls, urban renewal and capital improvements programs, and to official decisions regarding the distribution and intensity of development and the location of public facilities and open space. (See “Mandatory Element.”)

**Land Use Regulation** • A term encompassing the regulation of land in general and often used to mean those regulations incorporated in the General Plan, as distinct from zoning regulations (which are more specific).

**Lateral Spreading** • Lateral movement of soil, often as a result of liquefaction during an earthquake.

**$L_{dn}$**  • Day-Night Average Sound Level. The A-weighted average sound level for a given area (measured in decibels) during a 24-hour period with a 10 dB weighting applied to night-time sound levels. The  $L_{dn}$  is approximately numerically equal to the CNEL for most environmental settings.

**Lease** • A contractual agreement by which an owner of real property (the lessor) gives the right of possession to another (a lessee) for a specified period of time (term) and for a specified consideration (rent).

**$L_{eq}$**  • Equivalent Sound Level. The sound level containing the same total energy as a time varying signal over a given sample period.  $L_{eq}$  is typically computed over 1, 8, and 24-hour sample periods.  $L_{dn}$  represents the daily level of noise exposure averaged on an annual basis, while  $L_{eq}$  represents the average noise exposure for a shorter time period, typically one hour.

**$L_{max}$**  • The maximum sound level recorded during a noise event.

**$L_n$**  • The sound level exceeded “n” percent of the time during a sample interval.  $L_{10}$  equals the level exceeded 10 percent of the time ( $L_{90}$ ,  $L_{50}$ , etc.)

**Level of Service (LOS) Standard** • A standard used by government agencies to measure the quality or effectiveness of a

municipal service, such as police, fire, or library, or the performance of a facility, such as a street or highway.

**Level of Service (LOS) Traffic** • A scale that measures the amount of traffic that a roadway or intersection can accommodate, based on such factors as maneuverability, driver dissatisfaction, and delay.

LOS A • Indicates a relatively free flow of traffic, with little or no limitation on vehicle movement or speed.

LOS B • Describes a steady flow of traffic, with only slight delays in vehicle movement and speed. All queues clear in a single signal cycle.

LOS C • Denotes a reasonably steady, high-volume flow of traffic, with some limitations on movement and speed, and occasional backups on critical approaches.

LOS D • Designates the level where traffic nears an unstable flow. Intersections still function, but short queues develop and cars may have to wait through one cycle during short peaks.

LOS E • Represents traffic characterized by slow movement and frequent (although momentary) stoppages. This type of congestion is considered severe, but is not uncommon at peak traffic hours, with frequent stopping, long-standing queues, and blocked intersections.

LOS F • Describes unsatisfactory stop-and-go traffic characterized by “traffic jams” and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and “upstream” intersections may be blocked by the long queues.

**Liquefaction** • The transformation of loose, wet soil from a solid to a liquid state, often as a result of ground shaking during an earthquake.

**Live/work Quarters** • Buildings or spaces within buildings that are used jointly for commercial and residential purposes where the residential use of the space is secondary or accessory to the primary use as a place of work.

**Local Agency Formation Commission (LAFCO)** • A five- or seven-member commission within each county that reviews and evaluates all proposals for formation of special districts, incorporation of cities, annexation to special districts or cities, consolidation of districts, and merger of districts with cities. Each county's LAFCO is empowered to approve, disapprove, or conditionally approve such proposals. The LAFCO members generally include two county supervisors, two city council members, and one member representing the general public. Some LAFCOs include two representatives of special districts.

**Local Streets** • (See "Streets, local.")

**Lot** • (See "Site.")

**Low-income Household** • A household with an annual income usually no greater than 80 percent of the area median family income adjusted by household size, as determined by a survey of incomes conducted by a city or a county, or in the absence of such a survey, based on the latest available eligibility limits established by the US Department of Housing and Urban Development (HUD) for the Section 8 housing program. (See "Area.")

**Low-income Housing Tax Credits** • Tax reductions provided by the federal and State governments for investors in housing for low-income households.

**Lower Arsenal** • Land south of I-780, generally between the freeway and the

Port of Benicia (water related industrial lands).

**Maintain, v** • To keep in an existing state. (See "Preserve, v.")

**Mandatory Element** • A component of the General Plan mandated by State law. California State law requires that a General Plan include elements dealing with seven subjects—circulation, conservation, housing, land use, noise, open space, and safety—and specifies to various degrees the information to be incorporated in each element. (See "Land Use Element.")

**Manufactured Housing** • Residential structures that are constructed entirely in the factory, and which since June 15, 1976, have been regulated by the federal Manufactured Home Construction and Safety Standards Act of 1974 under the administration of the US Department of Housing and Urban Development (HUD). (See "Mobile Home.")

**Marsh** • Any area designated as marsh or swamp on the largest scale United States Geologic Survey topographic map most recently published. A marsh usually is an area periodically or permanently covered with shallow water, either fresh or saline.

**Master Plan** • A plan prepared in accordance with Chapter 17.68 of the Benicia Zoning Ordinance to ensure orderly planning for the development of large, unsubdivided areas of the city, consistent with the General Plan.

**May** • That which is permissible.

**Mineral Resource** • Land on which known deposits of commercially viable mineral or aggregate deposits exist. This designation is applied to sites determined

by the State Division of Mines and Geology as being a resource of regional significance, and is intended to help maintain the quarrying operations and protect them from encroachment of incompatible land uses.

**Minimize**, *v.* • To reduce or lessen, but not necessarily to eliminate.

**Mining** • The act or process of extracting resources, such as coal, oil, or minerals, from the earth.

**Mitigate**, *v.* • To ameliorate, alleviate, or avoid to the extent reasonably feasible.

**Mixed-use** • Properties on which various uses, such as office, commercial, institutional, and residential, are combined in a single building or on a single site in an integrated development project with significant functional interrelationships and a coherent physical design. A “single site” may include contiguous properties.

**Mobile Home** • A structure, transportable in one or more sections, built on a permanent chassis and designed for use as a single-family dwelling unit and which (1) has a minimum of 400 square feet of living space; (2) has a minimum width in excess of 102 inches; (3) is connected to all available permanent utilities; and (4) is tied down (a) to a permanent foundation on a lot either owned or leased by the homeowner or (b) is set on piers, with wheels removed and skirted, in a mobile home park. (See “Manufactured Housing.”)

**Moderate-income Household** • A household with an annual income between the lower income eligibility limits and 120 percent of the area median family income adjusted by household size, usually as established by the US

Department of Housing and Urban Development (HUD) for the Section 8 housing program. (See “Area” and “Low-income Household.”)

**Motel** • (1) A hotel for motorists. (2) A facility in which guest rooms or suites are offered to the general public for lodging with or without meals and for compensation, and where guest parking is provided in proximity to guest rooms. Quite often, provision is made for cooking in individual guest rooms or suites. (See “Hotel.”)

**Multiple Family Building** • A detached building designed and used exclusively as a dwelling by three or more families occupying separate suites.

**Municipal Services** • Services traditionally provided by local government, including water and sewer, roads, parks, schools, and police and fire protection.

**Must** • That which is mandatory.

**National Environmental Policy Act (NEPA)** • An act passed in 1974 establishing federal legislation for national environmental policy, a council on environmental quality, and the requirements for environmental impact statements.

**National Flood Insurance**

**Program** • A federal program that authorizes the sale of federally subsidized flood insurance in communities where such flood insurance is not available privately.

**National Register of Historic**

**Places** • The official list, established by the National Historic Preservation Act, of sites, districts, buildings, structures, and objects significant in the nation’s history or whose artistic or architectural value is unique.

**Natural State** • The condition existing prior to development..

**Necessary** • Essential or required.

**Need** • A condition requiring supply or relief. The City or County may act upon findings of need within or on behalf of the community.

**Neighborhood** • A planning area commonly identified as such in a community's planning documents, and by the individuals residing and working within the neighborhood. Documentation may include a map prepared for planning purposes, on which the names and boundaries of the neighborhood are shown.

**Neighborhood Park** • City- or county-owned land intended to serve the recreation needs of people living or working within one-half mile radius of the park.

**Neighborhood Unit** • According to one widely-accepted concept of planning, the neighborhood unit should be the basic building block of the city. It is based on the elementary school, with other community facilities located at its center and arterial streets at its perimeter. The distance from the school to the perimeter should be a comfortable walking distance for a school-age child; there would be no through traffic uses. Limited industrial or commercial would occur on the perimeter where arterials intersect. This was the model for American suburban development after World War II.

**Neotraditional Development** • An approach to land use planning and urban design that promotes the building of neighborhoods with a mix of uses and housing types, architectural variety, a

central public gathering place, interconnecting streets and alleys, and edges defined by greenbelts or boulevards. The basic goal is integration of the activities of potential residents with work, shopping, recreation, and transit all within walking distance.

**Noise** • Any sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing, or is otherwise annoying. Noise, simply, is "unwanted sound."

**Noise Attenuation** • Reduction of the level of a noise source using a substance, material, or surface, such as earth berms and/or solid concrete walls.

**Noise Contour** • A line connecting points of equal noise level as measured on the same scale. Noise levels greater than the 60 L<sub>dn</sub> contour (measured in dBA) require noise attenuation in residential development.

**Noise Element** • One of the seven State-mandated elements of a local general plan, it assesses noise levels of highways and freeways, local arterials, railroads, airports, local industrial plants, and other ground stationary sources, and adopts goals, policies, and implementation programs to reduce the community's exposure to noise.

**Noise Sensitive Land Use** • Hospitals, nursing homes, schools, churches, residential uses, libraries, theaters, auditoriums, and transient lodging.

**Non-conforming Use** • A use that was valid when brought into existence, but by subsequent regulation becomes no longer conforming. "Non-conforming use" is a generic term and includes (1) non-conforming structures (by virtue of size,

type of construction, location on land, or proximity to other structures), (2) non-conforming use of a conforming building, (3) non-conforming use of a non-conforming building, and (4) non-conforming use of land. Thus, any use lawfully existing on any piece of property that is inconsistent with a new or amended General Plan, and that in turn is a violation of a zoning ordinance amendment subsequently adopted in conformance with the General Plan, will be a non-conforming use.

**Non-urban Land Use** • Land use that is not urban. (See “Urban” and “Urban Land Use.”)

**Northern Area** • Everything north of the Urban Growth Boundary which is within the Benicia Planning Area.

**Notice (of Hearing)** • A legal document announcing the opportunity for the public to present their views to an official representative or board of a public agency concerning an official action pending before the agency.

**Objective** • A specific statement of desired future condition toward which the City or County will expend effort in the context of striving to achieve a broader goal. An objective should be achievable and, where possible, should be measurable and time-specific. The State Government Code (§65302) requires that general plans spell out the “objectives,” principles, standards, and proposals of the general plan. “The addition of 100 units of affordable housing by 1995” is an example of an objective.

**Office Use** • The use of land by general business offices, medical and professional offices, administrative or headquarters offices for large wholesaling or manufacturing operations, and research and development.

**Open Space Element** • One of the seven State-mandated elements of a local general plan, it contains an inventory of privately and publicly owned open-space lands, and adopted goals, policies, and implementation programs for the preservation, protection, and management of open space lands.

**Open Space Land** • Any parcel or area of land or water that is essentially unimproved and devoted to an open space use for the purposes of (1) the preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety. Refer to Policy 2.1.5 and page 209 – Urban Growth Boundary for further discussion of uses.

**Ordinance** • A law or regulation set forth and adopted by a governmental authority, usually a city or county.

**Outdoor Activity Area** • An area primarily utilized for the congregation of people; examples include patios of residences, pool areas, central recreation areas, and outdoor instructional areas of schools.

**Outdoor Recreation Area** • A privately or publicly owned or operated use providing facilities for outdoor recreation activities.

**Para-transit** • Refers to transportation services that operate vehicles, such as buses, jitneys, taxis, and vans for senior citizens, and/or mobility-impaired.

**Parcel** • A lot, or contiguous group of lots, in single ownership or under single control, usually considered a unit for purposes of development.

**Park Land, Parkland** • Land that is publicly owned or controlled for the purpose of providing parks, recreation, or open space for public use.

**Parks** • Open space lands whose primary purpose is recreation. (See “Open Space Land,” “Community Park,” and “Neighborhood Park.”)

**Peak Hour/Peak Period** • For any given roadway, a daily period during which traffic volume is highest, usually occurring in the morning and evening commute periods. Where “F” Levels of Service are encountered, the “peak hour” may stretch into a “peak period” of several hours’ duration.

**Performance Standards** • Regulations that permit uses based on a particular set of standards of operation rather than on particular type of use. Performance standards provide specific criteria limiting noise, air pollution, emissions, odors, vibration, dust, dirt, glare, heat, fire hazards, wastes, traffic impacts, and visual impact of a use.

**Personal Services** • Services of a personal convenience nature, as opposed to products that are sold to individual consumers, as contrasted with companies. Personal services include barber and beauty shops, shoe and luggage repair, fortune tellers, photographers, laundry and cleaning services and pick-up stations, copying, repair and fitting of clothes, and similar services.

**Planned Community** • A large-scale development whose essential features are a definable boundary; a consistent, but not necessarily uniform, character; overall control during the development process by a single development entity; private ownership of recreation amenities; and enforcement of covenants, conditions, and restrictions by a master community association.

**Planned Development (PD)** • A description of a proposed unified development, consisting at a minimum of a map and adopted ordinance setting forth the regulations governing, and the location and phasing of all proposed uses and improvements to be included in the development.

**Planning Area** • The area directly addressed by the general plan. A city’s planning area typically encompasses the city limits and potentially annexable land within its sphere of influence.

**Planning Commission** • A seven member body created by the City of Benicia in compliance with California law (§65100). This law requires the assignment of the planning functions of a city or county to a planning department, planning commission, hearing officers, and/or the legislative body itself, as deemed appropriate by the legislative body.

**Policy** • A specific statement of principle or of guiding actions that implies clear commitment but is not mandatory. A general direction that a governmental agency sets to follow, in order to meet its goals and objectives before undertaking an action program. (See “Program.”)

**Pollutant** • Any introduced gas, liquid, or solid that makes a resource unfit for its normal or usual purpose.

**Pollution** • The presence of matter or energy whose nature, location, or quantity produces undesired environmental effects.

**Pollution, Non-Point** • Sources for pollution that are less definable and usually cover broad areas of land, such as agricultural land with fertilizers that are carried from the land by runoff, or automobiles.

**Poverty Level** • As used by the US Census, families and unrelated individuals are classified as being above or below the poverty level based on a poverty index that provides a range of income cutoffs or “poverty thresholds” varying by size of family, number of children, and age of householder. The income cutoffs are updated each year to reflect the change in the Consumer Price Index.

**Preservation** • As used in historic preservation, the process of sustaining the form and extent of a structure essentially as it exists. Preservation aims at halting further deterioration and providing structural stability but does not contemplate significant rebuilding. (See “Historic Preservation.”)

**Preserve, *n.*** • An area in which beneficial uses in their present condition are protected; for example, a nature preserve or an agricultural preserve. (See “Agricultural Preserve” and “Protect.”)

**Preserve, *v.*** • To keep safe from destruction or decay; to maintain or keep intact. (See “Maintain.”)

**Principle** • An assumption, fundamental rule, or doctrine that will guide general plan policies, proposals, standards, and implementation measures. The State Government Code (§65302) requires that general plans spell out the objectives, “principles,” standards, and proposals of the general plan. “Adjacent land uses should be compatible with one another” is an example of a principle.

**Private Road/Private Street** • Privately owned (and usually privately maintained) motor vehicle access that is not dedicated as a public street. Typically the owner posts a sign indicating that the street is private property and limits traffic

in some fashion. For density calculation purposes, some jurisdictions exclude private roads when establishing the total acreage of the site; however, aisles within and driveways serving private parking lots are not considered private roads.

**Professional Offices** • A use providing professional or consulting services in the fields of law, medicine, architecture, design, engineering, accounting, and similar professions, but not including financial institutions or real estate or insurance offices.

**Program** • An action, activity, or strategy carried out in response to adopted policy to achieve a specific goal or objective. Policies and programs establish the “who,” “how” and “when” for carrying out the “what” and “where” of goals and objectives.

**Protect, *v.*** • To maintain and preserve beneficial uses in their present condition as nearly as possible. (See “Enhance.”)

#### **Public and Quasi-public**

**Facilities** • Institutional, academic, governmental and community service uses, either owned publicly or operated by non-profit organizations, including private hospitals and cemeteries.

**Public Services** • (See “Municipal Services.”)

**Pure Tone** • Any sound which can be judged as audible as a single pitch or a set of single pitches by the Noise Control Officer. For the purposes of this ordinance, a pure tone shall exist if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by 5 dB for center frequencies of 500 Hz and above and by 8 dB for

center frequencies between 160 and 400 Hz and by 15 dB for center frequencies less than or equal to 125 Hz.

**Ranchette** • A single dwelling unit occupied by a non-farming household on a parcel of 2.5 to 20 acres that has been subdivided from agricultural land.

**Rare or Endangered Species** • A species of animal or plant listed in: §670.2 or §670.5, Title 14, California Administrative Code; or Title 50, Code of Federal Regulations, §17.11 or §17.2, pursuant to the Federal Endangered Species Act designating species as rare, threatened, or endangered.

**Reclamation** • The reuse of resources, usually those present in solid wastes or sewage.

**Recognize, *v.*** • To officially (or by official action) identify or perceive a given situation.

**Recreation, Passive** • Type of recreation or activity that does not require the use of organized play areas.

**Recycle, *v.*** • The process of extraction and reuse of materials from waste products.

**Redevelop, *v.*** • To demolish existing buildings; or to increase the overall floor area existing on a property; or both; irrespective of whether a change occurs in land use.

**Regional** • Pertaining to activities or economies at a scale greater than that of a single jurisdiction, and affecting a broad geographic area.

**Regional Park** • A 250–1,000 acre park that focuses on activities and natural features not included in most other types of parks and often based on a specific scenic or recreational opportunity.

**Regulation** • A rule or order prescribed for managing government.

**Rehabilitation** • The repair, preservation, and/or improvement of substandard housing.

**Remodeling** • As used in historic preservation, making over or rebuilding all or part of an historic structure in a way that does not necessarily preserve its historical, architectural, and cultural features and character.

**Research and Development (R&D) Use** • A use engaged in study, testing, design, analysis, and experimental development of products, processes, or services.

**Residential** • Land designated in the City or County General Plan and zoning ordinance for buildings consisting only of dwelling units. May be improved, vacant, or unimproved. (See “Dwelling Unit.”)

**Residential, Multiple Family** • Usually three or more dwelling units on a single site, which may be in the same or separate buildings.

**Residential, Single-Family** • A single dwelling unit on a building site.

**Restore, *v.*** • To renew, rebuild, or reconstruct to a former state.

**Restrict, *v.*** • To check, bound, or decrease the range, scope, or incidence of a particular condition.

**Retention Basin/Retention Pond** • (See “Detention Basin/Detention Pond.”)

**Retrofit, *v.*** • To add materials and/or devices to an existing building or system to improve its operation, safety, or efficiency. Buildings have been retrofitted to use solar energy and to strengthen their ability to withstand earthquakes, for example.

**Rezoning** • An amendment to the map and/or text of a zoning ordinance to effect a change in the nature, density, or intensity of uses allowed in a zoning district and/or on a designated parcel or land area.

**Rideshare** • A travel mode other than driving alone, such as buses, rail transit, carpools, and vanpools.

**Ridgeline** • A line connecting the highest points along a ridge and separating drainage basins or small-scale drainage systems from one another.

**Right-of-way** • A strip of land occupied or intended to be occupied by certain transportation and public use facilities, such as roadways, railroads, and utility lines.

**Riparian Lands** • Riparian lands are comprised of the vegetative and wildlife areas adjacent to perennial and intermittent streams. Riparian areas are delineated by the existence of plant species normally found near freshwater.

**Risk** • The danger or degree of hazard or potential loss.

**Runoff** • That portion of rain or snow that does not percolate into the ground and is discharged into streams instead.

**Safety Element** • One of the seven State-mandated elements of a local general plan, it contains adopted goals, policies, and implementation programs for the protection of the community from any unreasonable risks associated with seismic and geologic hazards, flooding, and wildland and urban fires. Many safety elements also incorporate a review of police needs, objectives, facilities, and services.

**Scenic Highway Corridor** • The area outside a highway right-of-way that is generally visible to persons traveling on the highway.

**Scenic Highway/Scenic Route** • A highway, road, drive, or street that, in addition to its transportation function, provides opportunities for the enjoyment of natural and man-made scenic resources and access or direct views to areas or scenes of exceptional beauty or historic or cultural interest. The aesthetic values of scenic routes often are protected and enhanced by regulations governing the development of property or the placement of outdoor advertising. Until the mid-1980s, general plans in California were required to include a Scenic Highways element.

**Second Unit** • A Self-contained living unit, either attached to or detached from, and in addition to, the primary residential unit on a single lot. Sometimes called “Granny Flat”.

#### **Section 8 Rental Assistance**

**Program** • A federal (HUD) rent-subsidy program that is one of the main sources of federal housing assistance for low-income households. The program operates by providing “housing assistance payments” to owners, developers, and public housing agencies to make up the difference between the “Fair Market Rent” of a unit (set by HUD) and the household’s contribution toward the rent, which is calculated at 30 percent of the household’s adjusted gross monthly income (GMI). “Section 8” includes programs for new construction, existing housing, and substantial or moderate housing rehabilitation.

**Seismic** • Caused by or subject to earthquakes or earth vibrations.

**SEL (or SENEL)** • Sound Exposure Level or Single Event Noise Exposure Level. The level of noise accumulated during a single noise event, such as an aircraft overflight, with reference to a duration of one second. More specifically, it is the time-integrated A-weighted squared sound pressure level for a stated time interval or event, based on a reference pressure of 20 micropascals and a reference duration of one second.

**Seniors** • Persons age 62 and older. (See “Elderly.”)

**Sensitive Receptors** • Uses that are greatly affected by noise. These include schools, nursing homes, and childcare facilities.

**Setback** • The horizontal distance between the property line and any structure.

**Shall** • That which is obligatory; an unequivocal direction.

**Shopping Center** • A group of commercial establishments, planned, developed, owned, or managed as a unit, with common off-street parking provided on the site.

**Should** • Signifies a directive to be honored if at all possible; a less rigid directive than “shall,” to be honored in the absence of compelling or contravening considerations.

**Sign** • Any representation (written or pictorial) used to convey information, or to identify, announce, or otherwise direct attention to a business, profession, commodity, service, or entertainment, and placed on, suspended from, or in any way attached to, any structure, vehicle, or

feature of the natural or manmade landscape.

**Significance** • As used in historic preservation, a term ascribed to buildings, sites, objects, or districts that possess exceptional value or quality for illustrating or interpreting the cultural heritage of the community when evaluated in relation to other properties and property types within a specific historic theme, period, and geographical setting. A principal test of significance for historic property is “integrity.”

**Single-family Dwelling, Attached** • A dwelling unit occupied or intended for occupancy by only one household that is structurally connected with at least one other such dwelling unit. (See “Townhouse.”)

**Single-family Dwelling, Detached** • A dwelling unit occupied or intended for occupancy by only one household that is structurally independent from any other such dwelling unit or structure intended for residential or other use. (See “Family.”)

**Site** • A parcel of land used or intended for one use or a group of uses and having access to a public or an approved private street. A lot. (See “Lot.”)

**Slope** • Land gradient described as the vertical rise divided by the horizontal run, and expressed in percent.

**Soil** • The unconsolidated material on the immediate surface of the earth created by natural forces that serves as natural medium for growing land plants.

**Solid Waste** • Any unwanted or discarded material that is not a liquid or gas. Includes organic wastes, paper products, metals, glass, plastics, cloth, brick, rock, soil, leather, rubber, yard wastes, and wood, but does not include sewage and

hazardous materials. Organic wastes and paper products comprise about 75 percent of typical urban solid waste.

**Specific Plan** • A legal tool authorized by Article 8 of the Government Code (§65450 *et seq.*) for the systematic implementation of the general plan for a defined portion of a community's planning area. A specific plan must specify in detail the land uses, public and private facilities needed to support the land uses, phasing of development, standards for the conservation, development, and use of natural resources, and a program of implementation measures, including financing measures.

**Sphere of Influence (soi)** • The probable physical boundaries and service area of a local agency, as determined by the Local Agency Formation Commission (LAFCO) of the County.

**Standards** • (1) A rule or measure establishing a level of quality or quantity that must be complied with or satisfied. The State Government Code (§65302) requires that general plans spell out the objectives, principles, "standards," and proposals of the general plan. Examples of standards might include the number of acres of park land per 1,000 population that the community will attempt to acquire and improve, or the "traffic Level of Service" (LOS) that the plan hopes to attain. (2) Requirements in a zoning ordinance that govern building and development as distinguished from use restrictions—for example, site-design regulations such as lot area, height limit, frontage, landscaping, and floor area ratio.

**Storm Runoff** • Surplus surface water generated by rainfall that does not seep into the earth but flows overland to flowing or stagnant bodies of water.

**Streets, Local** • Streets that primarily provide access to properties. They also have a secondary role as locations for utilities, locations for easements, open space for light and air, and firebreaks between buildings. Through-traffic from one part of the community to another is not intended to be carried on local streets.

**Streets, Major** • The transportation network that includes a hierarchy of freeways, arterials, and collectors to service through traffic.

**Structure** • Anything constructed or erected that requires location on the ground (excluding swimming pools, fences, and walls used as fences, access drives, and walks).

**Subdivision** • The division of a tract of land into defined lots, either improved or unimproved, which can be separately conveyed by sale or lease, and which can be altered or developed. "Subdivision" includes a condominium project as defined in §1350 of the California Civil Code and a community apartment project as defined in §11004 of the Business and Professions Code.

**Subsidize** • To assist by payment of a sum of money or by the granting of terms or favors that reduce the need for monetary expenditures. Housing subsidies may take the forms of mortgage interest deductions or tax credits from federal and/or state income taxes, sale or lease at less than market value of land to be used for the construction of housing, payments to supplement a minimum affordable rent, and the like.

**Substandard Housing/Units** • Residential dwellings that, because of their physical condition, do not provide safe and sanitary housing.

**Substantial** • Considerable in importance, value, degree, or amount.

**Sustainability** • Community use of natural resources in a way that does not jeopardize the ability of future generations to live and prosper.

**Sustainable Development** • Development that maintains or enhances economic opportunity and community well-being while protecting and restoring the natural environment upon which people and economies depend. Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. (*Source: Minnesota State Legislature.*)

**Telecommuting** • An arrangement in which a worker is at home or in a location other than the primary place of work, and communicates with the workplace and conducts work via wireless or telephone lines, using modems, fax machines, or other electronic devices in conjunction with computers.

**Topography** • Configuration of a surface, including its relief and the position of natural and man-made features.

**Tourism** • The business of providing services for persons traveling for pleasure, tourism contributes to the vitality of the community by providing revenue to local business. Tourism can be measured through changes in the transient occupancy tax, or restaurant sales.

**Townhouse; Townhome** • A one-family dwelling in a row of at least three such units in which each unit has its own front and rear access to the outside, no unit is located over another unit, and each unit is separated from any other unit by one or more common and fire-

resistant walls. Townhouses usually have separate utilities; however, in some condominium situations, common areas are serviced by utilities purchased by a homeowners association on behalf of all townhouse members of the association. (See “Condominium.”)

**Transit** • The conveyance of persons or goods from one place to another by means of a local, public transportation system.

**Transit, Public** • A system of regularly-scheduled buses and/or trains available to the public on a fee-per-ride basis. Also called “Mass Transit.”

**Transitional Housing** • Shelter provided to the homeless for an extended period, often as long as 18 months, and generally integrated with other social services and counseling programs to assist in the transition to self-sufficiency through the acquisition of a stable income and permanent housing. (See “Homeless” and “Emergency Shelter.”)

**Transportation Demand Management (TDM)** • A strategy for reducing demand on the road system by reducing the number of vehicles using the roadways and/or increasing the number of persons per vehicle. TDM attempts to reduce the number of persons who drive alone on the roadway during the commute period and to increase the number in carpools, vanpools, buses and trains, walking, and biking. TDM can be an element of Transportation Systems Management (TSM). (See “Transportation Systems Management.”)

**Transportation Noise Sources** • Noise from traffic on public roadways, railroad line operations, and aircraft in flight.

**(Non-) Transportation Noise**

**Sources** • Noise from industrial operations, outdoor recreation facilities, HVAC units, loading docks, *etc.*

**Transportation Systems Management**

**(TSM)** • A comprehensive strategy developed to address the problems caused by additional development, increasing trips, and a shortfall in transportation capacity. Transportation Systems Management focuses on more efficiently utilizing existing highway and transit systems rather than expanding them. TSM measures are characterized by their low cost and quick implementation time frame, such as computerized traffic signals, metered freeway ramps, and one-way streets.

**Trees, Street** • Trees strategically planted—usually in parkway strips, medians, or along streets—to enhance the visual quality of a street.

**Trip** • A one-way journey that proceeds from an origin to a destination via a single mode of transportation; the smallest unit of movement considered in transportation studies. Each trip has one “production end,” (or origin—often from home, but not always), and one “attraction end,” (destination).

**Truck Route** • A path of circulation required for all vehicles exceeding set weight or axle limits, a truck route follows major arterials through commercial or industrial areas and avoids sensitive areas.

**Underutilized Parcel/Land** • A parcel or piece of land that is not developed to its full zoning potential.

**Undevelopable** • Specific areas where topographic, geologic, and/or surficial soil conditions indicate a significant danger to

future occupants and a liability to the City or County are designated as “undevelopable” by the City or County.

**Undue** • Improper, or more than necessary.

**Uniform Building Code (UBC)** • A national, standard building code that sets forth minimum standards for construction.

**Urban** • Of, relating to, characteristic of, or constituting a city. Urban areas are generally characterized by moderate and higher density residential development (*i.e.*, three or more dwelling units per acre), commercial development, and industrial development, and the availability of public services required for that development, specifically central water and sewer, an extensive road network, public transit, and other such services (*e.g.*, safety and emergency response). Development not providing such services may be “non-urban” or “rural.” (See “Urban Land Use.”)

**Urban Design** • The attempt to give form, in terms of both beauty and function, to selected urban areas or to whole cities. Urban design is concerned with the location, mass, and design of various urban components and combines elements of urban planning, architecture, and landscape architecture.

**Urban Growth Boundary** • A line shown on the General Plan Land Use Diagram in order to separate the City’s urban area from its surrounding greenbelt of open lands. The UGB is intended to discourage urban sprawl, promote efficiency in providing government services in the City and region, preserve open space and agricultural lands, preserve scenic views, protect land

for watershed management, protect natural resources, and provide for passive recreation. No urban development is allowed beyond the UGB. “Urban development” shall mean development requiring one or more basic municipal services including, but not limited to, water service, sewer, improved storm drain facilities, fire hydrants and other physical public facilities and services.

**Urban Land Use** • Residential, commercial, or industrial land use in areas where urban services are available.

**Urban Open Space** • The absence of buildings or development, usually in well-defined volumes, within an urban environment.

**Urban Service Area** • (1) An area in which urban services will be provided and outside of which such services will not be extended. (2) Developed, undeveloped, or agricultural land, either incorporated or unincorporated, within the sphere of influence of a city, which is served or will be served during the first five years of an adopted capital improvement program by urban facilities, utilities, and services. The boundary around an urban service area is called the “urban service area boundary” and is to be developed in cooperation with a city and adopted by a Local Agency Formation Commission (LAFCO). (*California Government Code §56080.*)

**Urban Services** • Utilities (such as water, gas, electricity, and sewer) and public services (such as police, fire, schools, parks, and recreation) provided to an urbanized or urbanizing area.

**Urban Sprawl** • Haphazard growth or outward extension of a city resulting

from uncontrolled or poorly managed development.

**Use** • The purpose for which a lot or structure is or may be leased, occupied, maintained, arranged, designed, intended, constructed, erected, moved, altered, and/or enlarged in accordance with the City’s Zoning Ordinance and General Plan land use designations.

**Use Permit** • The discretionary and conditional review of an activity or function or operation on a site or in a building or facility.

**Utility Corridors** • Rights-of-way or easements for utility lines on either publicly or privately owned property. (See “Right-of-way” or “Easement.”)

**Vacant** • Lands or buildings that are not actively used for any purpose.

**Variance** • A departure from any provision of the zoning requirements for a specific parcel, except use, without changing the zoning ordinance or the underlying zoning of the parcel. A variance usually is granted only upon demonstration of hardship based on the peculiarity of the property in relation to other properties in the same zone district.

**Very Low-income Household** • A household with an annual income usually no greater than 50 percent of the area median family income adjusted by household size, as determined by a survey of incomes conducted by a city or a county, or in the absence of such a survey, based on the latest available eligibility limits established by the US Department of Housing and Urban Development (HUD) for the Section 8 housing program. (See “Area.”)

**View Corridor** • The line of sight-identified as to height, width, and distance-of an observer looking toward an object of significance to the community (e.g., ridgeline, river, historic building, etc.); the route that directs the viewers attention.

**Viewshed** • The area within view from a defined observation point.

**Volume-to-Capacity Ratio** • A measure of the operating capacity of a roadway or intersection, in terms of the number of vehicles passing through, divided by the number of vehicles that theoretically could pass through when the roadway or intersection is operating at its designed capacity. Abbreviated as " $V/C$ ." At a  $V/C$  ratio of 1.0, the roadway or intersection is operating at capacity. If the ratio is less than 1.0, the traffic facility has additional capacity. Although ratios slightly greater than 1.0 are possible, it is more likely that the peak hour will elongate into a "peak period." (See "Peak Hour" and "Level of Service.")

**Warehousing Use** • A use engaged in storage, wholesale, and distribution of manufactured products, supplies, and equipment, excluding bulk storage of materials that are flammable or explosive or that present hazards or conditions commonly recognized as offensive.

**Watershed** • The total area above a given point on a watercourse that contributes water to its flow; the entire region drained by a waterway or watercourse that drains into a lake, or reservoir.

**Wetlands** • Transitional areas between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. Under a "unified" methodology

now used by all federal agencies, wetlands are defined as "those areas meeting certain criteria for hydrology, vegetation, and soils."

**Wildlife** • Animals or plants existing in their natural habitat.

**Will** • That which is expected or may be expected. Expresses intent or purpose. (See "Shall" and "Should.")

**Williamson Act** • Known formally as the *California Land Conservation Act of 1965*, it was designed as an incentive to retain prime agricultural land and open space in agricultural use, thereby slowing its conversion to urban and suburban development. The program entails a ten-year contract between the City or County and an owner of land whereby the land is taxed on the basis of its agricultural use rather than its market value. The land becomes subject to certain enforceable restrictions, and certain conditions need to be met prior to approval of an agreement.

**Woodlands** • Lands covered with woods or trees.

**Zoning** • The division of a city or county by legislative regulations into areas, or zones, that specify allowable uses for real property and size restrictions for buildings within these areas; a program that implements policies of the General Plan.

**Zoning District** • A designated section of a city or county for which prescribed land use requirements and building and development standards are uniform.

**Zoning Ordinance** • Title 17 of the Benicia Municipal Code delineates zoning districts and establishes regulations governing the use, placement, and size of land and buildings.

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