North Vineyard Station
Specific Plan

prepared for:

Sacramento County Planning Department

827 7th Street, Sacramento, California 95814

Adopted Specific Plan Text – November 4, 1998

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NORTH VINEYARD STATION SPECIFIC PLAN

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EXECUTIVE SUMMARY

INTRODUCTION

The North Vineyard Station Specific Plan was initiated by the Sacramento County Board of Supervisors on January 19, 1994. The Plan's objective is to provide for the orderly and systematic development of the planning area through the establishment of a comprehensive planning program that is consistent with the Sacramento County General Plan and to respond to the opportunities and constraints in the local community area.

The North Vineyard Station Specific Plan, which is both a policy and regulatory document, provides a complete framework for development of all land uses described in the Plan area and includes these components and features:

- Written and graphic descriptions of how all land within the Plan area will ultimately be used;
- Written and graphic descriptions of the location, extent, and cost (1996 dollars) of public facilities required to serve ultimate development of the Plan area;
- Written and graphic descriptions of significant manmade and natural features and resources within the Plan area;
- Policies which expand upon those contained in the Sacramento County General Plan;
- An implementation program that describes land use regulation mechanisms, Plan amendment procedures, provision of public infrastructure, and phasing and financing of public infrastructure;
- Architectural and site design guidelines; and
- Development standards in cases where existing Sacramento County Zoning is not sufficient or applicable.

The North Vineyard Station Specific Plan has evolved as a result of a range of public participation from property owners within the Specific Plan area, adjacent property owners, planning advisory council members, County staff, representatives of the environmental community, and service agency representatives.

PROJECT SETTING

The North Vineyard Station Specific Plan area is located in the south central portion of Sacramento County, approximately 13 miles southeast of the central core and five miles north of the community of Elk Grove.

The Plan area is approximately 1,595 acres in size and is bounded on the north by Florin Road, on the south by Gerber Road, and on the east by Vineyard Road. Elder Creek (west side, top of channel) roughly constitutes the west boundary. Bradshaw Road transects the Plan area in a north-south direction.

The Plan area is best characterized as a primarily underdeveloped, semi-rural area containing a scattering of older residences and a few non-residential uses. The small amount of agricultural activity that occurs in the area is generally limited to dry farming. The majority of the site has been subdivided over a period of several years into 147 parcels, most of which are from one-half to 30 acres in size.

Adjacent Land Use

Existing land uses surrounding the Plan area are predominantly agricultural-residential (5-acre or larger lots). However, there are pockets of lower density development (2- to 3-acre lots) in the vicinity. Most of the existing development in the vicinity is located west and southwest of the Plan area.

LAND USE SUMMARY

Specific Plan Overview

The Plan provides for the ultimate development of the entire 1,595-acre area, including 5,732 dwelling units in a wide range of types and densities, retail commercial and business professional uses for the convenience of local residents, parks and open space, schools, and all public facilities necessary to support the ultimate population at adopted service levels. Following are key features of the Plan:

- A primarily residential community that includes a wide range of housing types and densities, all served by necessary public infrastructure.
- Well-defined residential neighborhoods, served by nearby parks and schools.
- A commercial center at the Florin Road/Bradshaw Road intersection that will provide retail commercial shopping and employment opportunities for area residents.
- Parks and other open space dispersed throughout the community to serve both active and passive recreational needs.
- A railroad corridor designated as a future public transit right-of-way.

- A naturalized storm drainage system within Drainage Parkways that is part of a larger, county-wide solution to area-wide flooding.
- A network of pedestrian and bicycle pathways along streets and within dedicated open space.
- A street network that provides safe and efficient travel throughout the Plan area, with multiple connections to existing major streets beyond the Plan area.
- Development standards, land use policies, and design guidelines that will guide development through ultimate buildout of the Plan.

Land Use Summary

Land Use	Fixed Count/2	Net Acres	Gross Acres	Dwelling Units
Residential/Density Range/1				
Single Family SFR/1-3	2 (gross)	--	283.4	567
Single Family SFR/3-5	5 (gross)	--	611.7	3,058
Single Family SFR/4-7	6 (gross)	--	204.6	1,227
Existing Residential	--	--	5.8	13
Medium Density MDR/7-12	10 (net)	18.7	19.4	187
Multi-Family MFR/12-22	18 (net)	37.8	39.7	680
Commercial		29.9	30.5	
Business Professional		7.1	7.9	
Schools		20.0	21.6	
Parks		63.5	68.2	
Golf Course		19.8	20.1	
Parkway		--	2.5	
Drainage Parkway		--	75.5	
Open Space/Storm Water Detention		--	104.7	
Major Streets		--	57.6	
Landscape Corridor		--	23.2	
Public Services		5.3	5.5	
Railroad		--	14.6	
Totals			**1,596.5**	**5,732**

1/ Density is expressed as dwelling units per acre.
2/ Fixed count refers to the density average used to calculate dwelling yields. Medium and Multi-family counts are based on net acreage; all Single Family counts are based on gross acreage.

Residential Land Use

Residential land use is the dominant land use in the Specific Plan. The Plan includes five residential density categories, each of which includes a permitted density range and a fixed count. The Plan provides for the development of 5,732 dwelling units (including 13 existing residences located on Gavern Lane which predate the Plan).

The broad range of densities and dwelling unit types included in the Plan provide for a diversity of housing types and sizes. The Plan emphasizes densities which are conducive to the development of conventional single family homes, including density ranges that are supportive of larger lot subdivisions. The Plan also provides for higher density housing, including small-lot single family dwellings, apartments, and condominiums.

Single Family Residential. The Single Family Residential (SFR) land use category is the predominant land use in the Plan area and includes the following three density ranges: 1 to 3, 3 to 5, and 4 to 7 dwelling units per acre. Applying the fixed count densities to each of the Single Family Residential categories results in a total of 5,052 Single Family Residential dwellings.

Medium Density Residential. The Medium Density Residential (MDR) land use category provides for residential densities ranging from 7 to 12 dwelling units per acre, including zero-lot line residences, half-plexes, various entry-level housing types, condominium and townhouse dwelling units. Using the fixed count density of 10 dwelling units per net acre, the 18.7 acres in this land use category will result in approximately 187 dwelling units.

Multi-family Residential. The Multi-family Residential (MFR) land use category provides for residential densities ranging from 12 to 22 dwelling units per acre and is intended primarily for apartment and condominium developments. Using the fixed count density of 18 dwelling units per net acre, the 37.8 acres devoted to this residential land use will yield approximately 680 dwelling units.

Commercial Land Use

The Plan includes a limited amount of commercial and business/professional development primarily for the convenience of future residents of the Plan and nearby areas. The 37.0 net acres devoted to commercial use are distributed among seven sites, which range in size from one-half to 13.2 net acres. Each commercial site is located on a major street intersection. Included are two Neighborhood Commercial sites, three small Convenience Commercial sites, and two Business/Professional sites.

Open Space

The Plan includes 202.5 acres of dedicated open space dispersed throughout the Plan area, including 75.5 acres of Drainage Parkway, 104.7 acres of Stormwater/Water Quality Detention/Natural Open Space, 2.5 acres of Parkway, and 19.8 acres of Golf. An important feature of the Specific Plan is that open space areas will be visible from public streets. Along the drainage parkways, a combination of front-on streets, open-ended cul-de-sacs, and short stretches of back-up lots will be employed to eliminate long stretches of fenced-off areas. This design improves the ability to provide law enforcement and fire fighting services in the open spaces. Visibility of the open spaces by adjacent neighbors is

also increased by this design, further improving safety aspects and reducing maintenance problems within open spaces.

Drainage Parkways. Drainage Parkways are linear open space areas that contain manmade storm drainage channels, wetland areas, and maintenance road/pedestrian paths. The Drainage Parkway is intended to serve the dual purpose of conveying stormwater drainage and providing linear open space for recreational use. A total of 75.5 acres are devoted to Drainage Parkway. Bicycle/pedestrian trail systems are planned throughout the Drainage Parkways.

Stormwater Detention/Water Quality. Stormwater Detention Basins are included in the Plan area for the primary purpose of intercepting and detaining peak stormwater flows conveyed within the Drainage Parkway channels. Water Quality Basins are intended to intercept water-borne pollutants before these materials can be conveyed beyond the Plan area. Located throughout the Plan area adjacent to Drainage Parkways, Detention Basins and Water Quality Basins also constitute an open space component. The Plan includes five on-site Stormwater Detention/Water Quality Basins ranging from 3.7 to 21.4 acres in size. A total of 63.7 acres are devoted to this use.

Parkways. Parkways are utilized in the Plan as a means of providing linear open space connections between parks and other uses. The Plan uses Parkways (2.5 acres) in two locations.

Golf Course. The existing 19.8-acre Bradshaw Ranch Golf Course has been incorporated into the Specific Plan as an important privately owned and operated recreation and open space component. Measures will be taken to ensure that the proposed land uses on the perimeter of the golf course are compatible with the course.

Natural Open Space. A total of 29.6 acres of Natural Open Space are provided within portions of the high voltage powerline easements that span the western end of the Plan area. It is the intent of the Plan that these powerline easements will be left in an essentially "as-is" condition and not be developed with any intensive type of land use.

Wetlands. The Plan area contains 51 acres of jurisdictional wetlands. At this time, it is anticipated that the majority of compensation will occur off-site. Off-site mitigation is proposed due to limited on-site opportunities for creation of viable wetlands and the potential for superior sites at off-site locations.

TRANSPORTATION AND AIR QUALITY

The North Vineyard Station Specific Plan provides a comprehensive transportation network designed in accordance with anticipated traffic volumes and travel demands of Plan land uses, as well as the regional system envisioned in the County General Plan. The system will provide for the safe and efficient movement of people and goods within and beyond the Plan area.

Planned Transportation Facilities (On-site)

The Specific Plan Land Use Diagram has been designed to reduce the need for local automobile trips. The highest residential densities are situated adjacent to commercial

areas in order to encourage walking and bicycling for shopping purposes. The schools have been sited centrally for easy access. Many parks have been distributed throughout the Plan area so that there will be recreational opportunities within a short walking distance of most homes.

The on-site circulation system provides direct connections between the major travel destinations (residences, commercial areas, schools, and parks) in order to increase the use of non-automobile methods of travel and to reduce the length of trips when cars must be used. Also included within the Plan is a complete bicycle and pedestrian circulation system.

Thoroughfare and Arterial Streets. Arterial and Thoroughfare streets within the Plan area include upgrades of existing streets - Gerber Road, Florin Road, and Bradshaw Road, as well as extensions of Waterman Road and Vineyard Road into the Plan area. All major roadways in the Plan are designated as urban area roads and have been designed to adhere to level of service (LOS) "E" or better.

Bus, Light Rail Transit, and Pedestrian Facilities. The Plan area has been designed to capitalize upon future transit opportunities. Specifically, higher density residential development, as well as commercial uses, are located at major intersections along transit routes, and the highest intensity land uses are located near the intersection of two major planned thoroughfares (Bradshaw & Florin Roads).

Transit facilities included as part of the Plan are designed to coordinate with and maximize the potential of those transit corridors identified by RT and Sacramento County. Bus stops are proposed at one-quarter mile intervals. A 10-acre Transit Center has been designated in the Plan to ultimately provide parking for carpools and buses and to facilitate the possible future extension of light rail transit into the Plan area.

The 100-foot wide California Central Traction Railroad right-of-way is accommodated within the Plan area design in either its current function or as a future transit corridor.

Park and ride lots are allowed within parking lots of all commercial sites, which are located in close proximity to possible transit facilities.

The Plan includes an extensive pedestrian and bicycle circulation system within the public road rights-of-ways and in open space areas. Pedestrian pathways are provided along all streets. A combination of pathways within the street rights-of-way and in off-street, open space locations will enable non-vehicular travel throughout the Plan area.

Planned Transportation Facilities (Off-site)

The Plan area traffic study analyzed the level of service of off-site roadways under two scenarios: existing conditions, plus build-out of the project; and cumulative conditions (meaning full build-out of the project, plus full build-out of the surrounding areas to the limit allowed by the County General Plan).

Project Impacts. Sacramento County considers Level of Service (LOS) "E" to be the standard for acceptability on urban roadways. The following streets and intersections will be improved to maintain LOS "E":

- Elk Grove-Florin Road from Gerber Road to SR 16.
- Bradshaw Road from Gerber Road to SR 16.
- Florin Road from S. Watt Avenue to the proposed Waterman Road extension.
- Gerber Road from Elk Grove-Florin Road to Bradshaw Road.
- Jackson Road from South Watt Avenue to Bradshaw Road.
- South Watt Avenue/Jackson Road intersection.
- Bradshaw Road/Jackson Road intersection.
- Bradshaw Road/Elder Creek Road intersection.
- Bradshaw Road/Florin Road intersection.
- Elk Grove-Florin Road/Gerber Road intersection.
- Bradshaw Road/Gerber Road intersection.
- South Watt Avenue/Elder Creek Road intersection.
- Elk Grove-Florin Road/Florin Road intersection.

A detailed list of the locations where improvements are proposed and mitigation measures is provided in the Technical Appendix to the Specific Plan.

Cumulative Conditions. Travel demand for General Plan build-out, including project build-out, was estimated using the SACMET regional traffic model. Service levels were analyzed assuming a roadway network as defined in the County General Plan. With planned improvements, all of the study roadways will operate acceptably under "cumulative plus project" conditions, except for the following:

- Bradshaw Road.
- Bradshaw Road/Jackson Road intersection.
- Jackson Road/Excelsior Road intersection.
- Bradshaw Road/Elder Creek Road intersection.
- Elder Creek Road/Excelsior Road intersection.
- Florin Road/Excelsior Road intersection.

Travel Demand Reduction Measures

Travel demand reduction measures are incorporated into various aspects of the Plan in order to reduce vehicle emissions, thereby reducing traffic congestion and improving air quality. The Plan achieves a 15.5 percent reduction in projected air emissions.

PUBLIC FACILITIES AND SERVICES

The Plan includes public facilities and services required to serve Plan area land uses at adopted service levels. Following are agencies responsible for providing public services to the Plan area:

• Law Enforcement	Sacramento County Sheriff's Department
• Fire Protection	American River Fire Protection District
• Solid Waste Disposal	Sacramento County Solid Waste Division
• Parks and Recreation	Southgate Recreation and Parks District
• Schools	Elk Grove Unified School District
• Libraries	Sacramento County Library Department

Schools

At build-out and based upon student generation rates, the Plan area would require two year-round elementary schools, and less than one middle school and one high school. The Elk Grove Unified School District has requested, and the Plan proposes, two elementary (K-6) school sites within the Plan area, each of which is to be located next to a park site. The District will accommodate middle and high school students in existing or new facilities located outside the Plan area.

Law Enforcement

The North Vineyard Specific Plan has been designed in a manner that will reduce the demand for patrol officers. Design elements that address public safety are described throughout the Plan and include, but are not necessarily limited to, streets, open space, landscaping, and lighting.

Fire Protection

Fire protection services to the Plan area will be adequately provided from existing Station 55. No new facility within the Plan area will be needed.

Solid Waste Disposal

On the basis of the projected Plan area residential population only, ultimate development of the Plan area can be expected to result in 44.1 tons of solid waste per day. No solid waste transfer or disposal facilities are proposed within the Plan area.

Library Services

The Library Master Plan makes no provision for a library in the Plan area. However, the 4.9-acre Public Services site could accommodate a library branch. Funds will be collected and designated for library use.

Parks

The Plan includes 71.5 acres of park land dispersed throughout the Plan area. Included are eight Neighborhood Parks and four Mini Parks.

INFRASTRUCTURE MASTER PLANS

The Plan includes public infrastructure required to serve Plan area land uses at adopted service levels.

Water Supply

Annual domestic water demands for the Specific Plan area have been calculated based upon the Zone 40 Master Plan Update and the Zone 40 Expansion Study. Plan area development is ultimately projected to require 5,116 acre-feet of water annually.

Maximum Day, Peak Hour. Maximum day demands are approximately 4.2 mgd for the area west of Bradshaw Road and 3.2 mgd for the area east of Bradshaw Road. Peak-hour demands are approximately 7.51 mgd for the area west of Bradshaw Road and approximately 5.76 mgd for the area east of Bradshaw Road.

Fire Flows. The proposed network of distribution mains can adequately provide required fire flows of 1,000 to 1,500 gallons per minute (gpm) for single family development and 3,000 gpm for multi-family and commercial development.

Water Supply Master Plan. The maximum-day demand for the area west of Bradshaw Road will be served ultimately by surface water supplied through the City's American River Treatment Plant. This water may be a combination of City water and water developed specifically for the county, but treated at the expanded plant. Peak hour flows will be met by use of storage facilities.

Phased development of the Plan area will require an interim conjunctive use groundwater supply in the area west of Bradshaw Road. This groundwater system can ultimately provide an emergency backup supply for the area once adequate surface water is provided to the area.

The maximum-day demand for the area east of Bradshaw Road will be served by a conjunctive use system of both groundwater and surface water. The current and planned Zone 40 Vineyard area systems to the south will connect this area to the rest of the Zone 40 system. Peak-hour demands will be met by storage facilities.

Groundwater in the Plan area will be extracted from the deeper aquifer and may therefor require treatment for potential excess iron and manganese.

Connections to Existing Systems. The Plan area will obtain water from one or more of the following sources:

- Zone 40 Vineyard System.
- City of Sacramento System.
- Raw Water Groundwater extracted from municipal wells.

Sanitary Sewer

Peak wet weather sewage flows as a result of Plan area development are projected to be 16.92 million gallons per day.

The Sacramento County Regional Sanitation District (SRCSD) plans to construct a 108-inch interceptor sewer pipeline through the western portion of the Plan area along Elder Creek in the near future. This new interceptor will provide relief for the Elk Grove-Florin Road interceptor and will provide additional capacity for future growth in the northeast portion of Sacramento County's Urban Service Area, including the city of Folsom.

The Sewer Master Plan prepared for the Plan area will contribute flow to the proposed Bradshaw/Folsom Interceptor at three points via gravity trunk systems. The Master Plan indicates that the Plan area can be served without need of lift stations.

Storm Drainage

The Plan storm drainage concept for the Plan area was selected based on its ability to satisfy the master plan goals for the watershed and to best meet adopted criteria. The Drainage Master Plan formulated for the Plan area achieves the following:

- Identifies existing drainage facilities and predicted flooding patterns.

- Analyzes alternatives and recommends preferred flood control and conveyance facilities to serve the drainage needs of the lands within the Plan area and to mitigate for potential impacts due to development. (The County WRD requires 100-year flood protection for structures and 10-year protection for roads.)

- Recommends Stormwater Quality Management Facilities consistent with the County's New Development Management Program.

The proposed storm water system was selected based on its ability to satisfy the master plan goals for the watershed and best meets adopted criteria. The proposed design is identified as an improved Naturalized Channel with Point Detention. The proposed Storm Drainage Plan includes four primary components, as follows:

- Channel Improvements
- Flood Control Detention
- Bridge and Culvert Improvements
- Storm Water Quality Improvements

Public Utilities

SMUD has plans to construct a new 69-kv powerline along Bradshaw Road and anticipates the need for a new substation, which is expected to be located on the west side of Bradshaw Road, near Gerber Road. The size and locations of other electrical (including sub-stations), gas, telephone, and cable utilities within the Plan area have not been determined at this time.

CAPITAL IMPROVEMENT PROGRAM AND FINANCING STRATEGY

The major public facilities and infrastructure components required to serve the land uses described in the Specific Plan are summarized in Sections 8.0 and 9.0 of the Plan. Those descriptions are based on detailed technical studies contained in the Appendix.

The following table summarizes the total cost of each of the public facility and infrastructure components required to serve future development of the Specific Plan.

Summary of Public Facility Cost Estimates (1997 Dollars)

Facility Type	Facility Cost
Roadway/2	
Streetwork	$21,782,000
Regional Intersections	$3,354,000
Project-specific Intersections	$1,820,000
On-site Arterial Frontage Improvements	$408,000
Off-site Arterial Frontage Improvements	$641,000
Preparation of PFFP and Technical Studies	$0
Subtotal	**$28,005,000**
Internal Roadway/2	**$1,552,000**
Sanitary Sewer/2	**$4,685,000**
Storm Drainage/2	
Channel-related Items	$4,399,000
Detention Basin Construction	$12,041,000
Trunk Drainage (serving 30 acres of more)	$3,059,000
Subtotal	**$19,499,000**
Water/2	**$26,882,000**
Parks and Recreation	
Drainage Parkway	$372,000
Park Development/3	$6,229,000
Open Space Development	$0
Linear Parkway Development	$42,000
Subtotal	**$6,643,000**
Fire Protection/4	**$1,795,000**
Transit	**$2,000,000**
Library/5	**$930,000**
School/6	**$60,921,000**
Total Facilities Cost Estimate	**$152,912,000**

Notes:
1/ All figures have been rounded to the nearest thousand. Costs do not include off-site facilities that are funded through existing County fee programs or have otherwise been determined to be beyond the responsibility of the North Vineyard Station Specific Plan.
2/ Costs are based on a combination of unit prices used in EGWV PFFP, EEG PFFP, County agency reimbursement schedules, and preliminary engineering estimates.
3/ Cost is based on preliminary estimates provided by the Southgate Recreation and Park District.
4/ Cost is based on preliminary estimates provided by American River Fire District.
5/ Cost is based on information provided by the Sacramento Public Library Master Plan.
6/ Cost is based on information provided by the Elk Grove Unified School District.

IMPLEMENTATION

Plan Review Procedures

The Specific Plan represents the "master plan" for the North Vineyard Station Plan area. Subsequent to adoption of the Specific Plan, individual project applications will be reviewed to determine consistency with the Specific Plan and other regulatory documents.

Development applications will be submitted directly to the Planning Department. The Planning Department will then forward the project application to the Department of Environmental Review and Assessment (DERA) which reviews the application from an environmental perspective.

Development Agreements

Subject to the provisions of this Specific Plan, the property owners and the County may execute Development Agreements in accordance with Government Code and local ordinance. The Development Agreements will set forth the infrastructure improvements, public dedication requirements, landscaping amenities, and other contributions to be made by a property owner in return for guarantees by the County that certain land uses and densities in effect at the time of execution of the agreement will not be modified.

Amendment Procedures

Situations may arise where amendments to the adopted Specific Plan can be considered because of changing circumstances beyond the control of the Specific Plan. Typically, amendments to a Specific Plan will be requested by property owners. There may also be circumstances where the County may wish to request an amendment to the Plan.

Amendments are categorized as either minor or major. This determination is to be made by the Planning Director or his/her designee. Minor amendments can be reviewed and acted upon by the Planning Director with no Planning Commission or Board review, unless appealed by the applicant.

Applications for major amendments to the adopted Specific Plan shall conform to the requirements set forth in the Specific Plan Ordinance and Procedures and Preparation Guide, Chapter 21.14 of the Sacramento County Code.

Enforcement

The Specific Plan includes a considerable number of development regulations and environmental mitigation measures. County staff may ensure completion or correction of development requirements through specified actions in accordance with an established code enforcement program.

Mitigation Monitoring

The California Environmental Quality Act requires all state and local agencies to establish reporting and monitoring programs for projects approved by a public agency

whenever approval involves adoption of either a mitigated negative declaration or specified environmental findings related to environmental impact reports. For Sacramento County, the appropriate department for establishing and maintaining this program is the Department of Environmental Review and Assessment.

The Mitigation Monitoring and Reporting Program (MMRP) is intended to satisfy the requirements of CEQA as they relate to the final Environmental Impact Report for the North Vineyard Station Specific Plan and is intended to be used by County staff and the project developers in ensuring compliance with adopted mitigation measures during project implementation.

SECTION 1.0
INTRODUCTION

This section describes the legal basis for Specific Plans, as contained in California statutes, the purpose and scope of the North Vineyard Specific Plan, and the relationship of the Plan to Sacramento County procedures and policies, particularly the General Plan. This section also describes the processes that led to development of the Plan.

1.1 SPECIFIC PLAN AUTHORITY

Specific Plans are authorized and described in California Government Code Section 65450 et seq. As set forth in the Government Code, Specific Plans are required to contain the following information:

(a) A Specific Plan shall include a text and a diagram or diagrams which specify all of the following in detail:

(1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan;

(2) The proposed distribution, location and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land use described by the plan;

(3) Standards and criteria by which development will proceed, and standards for the conservation, development and utilization of natural resources, where applicable; and

(4) A program of implementation measures, including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2) and (3);

(b) The Specific Plan shall include a statement of the relationship of the Specific Plan to the General Plan.

1.2 COMPLIANCE WITH SACRAMENTO COUNTY CODE

In March 1993, the County of Sacramento adopted Ordinance SCC-0908, which amended the Sacramento County Code to include provisions guiding the preparation of Specific Plans. As stated in Section 21.14.030 of the Ordinance, its purpose "is to provide an application tool for use in implementing the County's General Plan on an area-specific basis. A Specific Plan prepared in accordance with the requirements set forth herein is intended to serve as a policy and/or regulatory document, with policy direction and project development concepts consistent with the County's General Plan, and the

development standards and zoning included to address the unique situations within the Specific Plan area to provide regulatory controls."

The County Specific Plan Ordinance and its accompanying Specific Plan Procedures and Preparation Guide specify all aspects of Specific Plan preparation in the County, including fees, initiation procedures, the preparation process, form and content, and consideration by the Policy Planning Commission and Board of Supervisors, among other topics.

The North Vineyard Station Specific Plan is consistent with Chapter 21.14 of the Sacramento County Code and contains all Specific Plan components required by California Government Code.

1.3 COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT

An environmental impact report (EIR) has been prepared for this Plan. This Plan is intended to function together with the implementation program for mitigation measures (or mitigation monitoring program) proposed in the EIR. Mitigation measures contained in the EIR will be incorporated into the Plan as performance standards. Subsequent development approvals within the Plan area will be subject to the performance standards of the Specific Plan and all mitigation measures adopted in the certified EIR for this Plan.

In accordance with California Government Code Section 65457, subsequent residential development proposals within the Plan area, if consistent with this Plan and the mitigation measures in the EIR prepared for this Plan, will be within the scope of the adopted EIR. In some instances, further environmental analyses may be required if a project within the Specific Plan deviates from the EIR project description to the extent that new, significant environmental impacts are identified. This issue is addressed in Section 9.0 of this Plan.

1.4 PURPOSE AND SCOPE OF THE SPECIFIC PLAN

This Plan is intended to improve the efficiency of the development planning and review process by providing a direct and comprehensive correlation between ultimate land use and public facilities and services necessary for support of that development. In a similar manner, the environmental review process for subsequent tentative subdivision map applications may be simplified and streamlined as a result of the overall evaluation of cumulative impacts resulting from development of the entire Plan area.

The North Vineyard Station Specific Plan was initiated by the Sacramento County Board of Supervisors on January 19, 1994. The Plan's objective is to provide for the orderly and systematic development of the planning area through the establishment of a comprehensive planning program that is consistent with the Sacramento County General Plan and to respond to the opportunities and constraints in the local community area.

The Specific Plan provides a complete framework for development of all land uses described in the Plan area and includes these components and features:

- Written and graphic descriptions of how all land within the Plan area will ultimately be used;

- Written and graphic descriptions of the location, extent, and cost (1996 dollars) of public facilities required to serve ultimate development of the Plan area;
- Written and graphic descriptions of significant manmade and natural features and resources within the Plan area;
- Policies which expand upon those contained in the Sacramento County General Plan;
- An implementation program that describes land use regulation mechanisms, Plan amendment procedures, provision of public infrastructure, and phasing and financing of public infrastructure;
- Architectural and site design guidelines; and
- Development standards in cases where existing Sacramento County Zoning is not sufficient or applicable.

This Specific Plan is a policy and regulatory document. As a policy document, this Plan amplifies the broader goals and policies contained in the Sacramento County General Plan through the establishment of policies for the Plan area. As a regulatory document, the Plan specifies land use designations for all property within the Plan area. The Plan also includes development standards and guidelines intended to guide the character of development. Subsequent to the adoption of this Plan, zoning provisions of the Sacramento County Zoning Code will be modified, creating zoning standards applicable solely to the Plan area, while incorporating certain existing zoning standards by reference.

1.5 PLANNING BACKGROUND

The North Vineyard Station Specific Plan has evolved as a result of a range of public participation from property owners within the Specific Plan area, adjacent property owners, planning advisory council members, County staff, representatives of the environmental community, and service agency representatives. The following outlines the planning background which led to preparation of the Specific Plan.

1.5.1 Specific Plan Initiation

On April 19, 1993, the North Vineyard Station Property Owners Group filed a petition with the Sacramento County Planning Department to initiate the North Vineyard Station Specific Plan process. On January 19, 1994, the Sacramento County Board of Supervisors approved the initiation request (Resolution No. 94-0062). Board approval of the North Vineyard Station Specific Plan process provides for a comprehensive master planning effort, rather than consideration of individual planning applications on a project-by-project basis.

In November 1994, the Board of Supervisors adopted the North Vineyard Station Specific Plan Guidance Package. The Guidance Package is a project management tool intended to provide the framework for a collaborative effort between Sacramento County staff, the North Vineyard Station property owners, and the consulting team in preparation of the Specific Plan. The Guidance Package outlined expectations and responsibilities for the Specific Plan process and included a work program, budget, and schedule. The

Guidance Package included a listing of planning issues and opportunities pertaining to the preparation of the North Vineyard Station Specific Plan. Planning issues and opportunities included:

- Coordination with the ongoing planning effort associated with the reuse of Mather Field, and the determination of appropriate land use designations for those areas that may be impacted by future airport-related activities;
- The designation of appropriate land uses in proximity of the powerline corridor which traverses the site;
- The designation of appropriate land uses along the Central California Traction Railroad Corridor is recognition of its potential as a public transportation right-of-way;
- Preparation of a strategy for the short-term and long-term use of the Central California Traction Corridor; addressing: land use designations, development standards and design guidelines and transportation strategies;
- Provision of an adequate domestic water supply; adequate sewage capacity and other public services to the site;
- Coordination with the Master Drainage Plans being prepared by the Water Resources Division;
- Provide land use design and other technological methods aimed at addressing circulation impacts and mitigating air quality impacts;
- Delineation of on-site wetland areas and the development of a mitigation plan acceptable to the County and appropriate resource agencies;
- Establishment of an appropriate land use interface between proposed urban development and surrounding land uses, including the agricultural-residential neighborhood located along Hedge Avenue;
- Satisfactorily address land use compatibility issues with land use within the vicinity and adjacent to the project boundary;
- Phasing and timing of development within the plan area; and
- A responsibly prepared financing component with costs that are equitably and fairly distributed.

Also in November 1994, the Board adopted the Funding Agreement and Reimbursement Agreement for the Specific Plan.

1.5.2 Citizens Advisory Committee (CAC)

In December 1994, eleven citizens were appointed by the Board of Supervisors to the North Vineyard Station Specific Plan Citizens Advisory Committee (CAC). The CAC included property owners within the Specific Plan area, surrounding property owners and representatives from the Vineyard Community Planning Advisory Council, Environmental Council of Sacramento, and the North Vineyard Station Property Owners Group.

The CAC's objective was to discuss opportunities and constraints inherent in the planning area, identify issues, and guide the development of the Plan's primary elements. Another CAC objective was to work with County Planning staff and property owners to formulate guiding principles for the Specific Plan. Five CAC meetings were conducted over a course of four months.

1.5.3 Identification of Planning Principles

Working with Planning staff, the CAC studied the existing physical conditions of the Plan Area and discussed the relationship of the Plan area to surrounding development and to the County General Plan. The CAC considered the comprehensive planning efforts for County infrastructure (water, sewer, drainage, transportation, bikeway) and service master plans for Elk Grove Unified School District and Southgate Recreation and Park District. While reviewing existing conditions and the planning context of the Specific Plan, the CAC identified the following guiding principles to assist them in developing a land use plan:

- Plan, develop and maintain a comprehensive, balanced, integrated, safe and efficient transportation system to ensure mobility for all residents.
- Promote efficient traffic patterns and effective levels of transit service, which connects the project area to surrounding neighborhoods and provide access to larger market areas throughout the County while minimizing congestion on residential streets.
- Prepare a Comprehensive Drainage Master Plan to mitigate the threat of flooding within the project area.
- Provide and maintain an adequate level of public services to the project area, including water, sewer, parks, schools, police, fire and library services.
- Promote the location of desirable land uses to minimize land use compatibility conflicts.
- Locate desirable future land uses to maximize the opportunity to create an overall pattern of planned orderly development containing a system of land use adequately and sufficiently served by a balanced system of transportation and community services and facilities.
- The project area should have a center focus that combines commercial, civic, cultural and recreational uses.
- As many activities as possible should be located within easy walking distance of transit stops or within the core area.
- All planning should be in the form of complete and integrated communities containing housing, shops, work places, parks and civic facilities essential to the daily life of the residents.
- Provide a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within the area.
- Encourage a housing production mix the sizes, types and price range of units and allow for innovative housing construction technologies to provide amenities requested by area residents, including large garages and larger homes.
- Provide a well defined edge, such as agricultural green belts or wetlands corridors, and avoid urban encroachment to such areas.
- Allow for agricultural residential use as a buffer between urban areas and agricultural or constrained areas such as floodplain and wetland resource area.
- The area should contain an ample supply of specialized open space in the form of squares, greens, and parks whose frequent use is encouraged through placement and design.
- Provide opportunities for open space, recreation and visual relief by planning for parks, trails and parkways. Establish a loop trail that encircles the area and promote open space and recreation use of the area's creeks and sloughs.
- Whenever possible, the natural terrain, drainage and vegetation of the area should be utilized in conjunction with parks, greenbelt, and open space.
- Counter increasing crime/perception of crime through design improvements and crime prevention activities to increase the safety of residents, business employees and customers and to maintain and promote neighborhood patronage.
- Incorporate crime prevention techniques in the urban design of all new developing areas within the community. Development plans shall address crime prevention measures including increased visibility and interaction between uses.

- Encourage the concentration of employment and activity centers, particularly in relation and proximity with higher density residential areas, in order to facilitate shorter travel distances and the use of non-auto modes of travel.

- Streets, pedestrian paths and bike paths should contribute to a system of fully connected routes to all destinations. Their design should encourage pedestrian and bicycle use by being small and spatially defined by buildings, trees, and lighting.

- Establish development standards that foster compatible design solutions and are aimed at improving how new development projects will fit into the area with the overall intent of defining the area's character.

- Ensure that a Public Infrastructure Plan and Infrastructure Financing Plan is adopted, as a component of the Specific Planning program, prior to the occurrence of any new urban development within the area.

- Public facilities constructed and completed timely with the construction of new residential projects.

- Improve the quality of life of current and future residents of the project area by ensuring that adequate levels of public services are provided.

1.5.4 Development of Preferred Land Use Plan

Using the guiding principles and information regarding land use constraints and opportunities, the CAC assisted in determining the appropriate land use character and density for the Plan area. The CAC determined that lower density residential uses should be used to buffer similar land uses found south of Gerber Road. Lower density land uses were also determined appropriate for the area located to the east of Bradshaw Road due to the many rural residential uses located in that area and due to the large concentration of wetlands.

The CAC determined that medium and higher density residential land uses should be located along the Bradshaw Road corridor and at strategic locations along the Central California Traction Railroad (CCTRR) right-of-way. The intersection of the CCTRR and Gerber Road was identified as the likely location for a transit station, assuming that the CCTRR is used as a light rail corridor or a dedicated bus route. The land uses determined to be appropriate for that intersection included commercial, business and professional, higher density residential and public space. The intersection of the CCTRR and Gerber Road was also seen as the geographic center of the surrounding community. As such, the land uses proposed for that area reflect that character.

When the land use plan was complete, the CAC reviewed it for conformance with guiding principles of the Plan area, consistency with General Plan policy, and compatibility with the community. As its meeting of March 14, 1995, the CAC completed its land use plan, known as the Preferred Land Use Plan.

1.5.5 Development of Land Use Plan Alternatives

The Preferred Plan was presented to the Board of Supervisors at a workshop planning session in July 1995. During that session, the Board directed that three alternative plans be prepared and analyzed during the environmental review and public hearing process. This direction from the Board was in response to concerns from residents along Bar Du Lane (located south of Gerber Road) that the uses in the southern portion of the plan area (near Elder Creek) were too dense and were incompatible with uses adjacent to, and south of, Gerber Road.

Planning staff met with residents of Bar Du Lane, Plan area property owners and members of the North Vineyard Station CAC to identify alternatives to the Preferred Plan. As a result of these discussions, three land use alternatives were developed including two that reduced the overall density of the Plan area. In the third alternative (i.e., Modified Core Alternative), the core area of the Plan was relocated from its position at the Waterman Road/railroad intersection to immediately south of the Florin Road and Bradshaw Road intersection. The Modified Core Alternative was designed so that it could be used in combination with the Preferred Plan or any of the other alternatives. Each of the three alternatives addresses the concerns of Bar Du Lane residents.

All land use plans were presented to the Planning Commission and the Board of Supervisors. Following several public hearings and testimony, the Board of Supervisors endorsed a land use plan that positions the core area at the intersection of Florin Road and Bradshaw Road. In addition, the Board approved a 10 percent holding capacity reduction plan. This text is written in response to the land use plan that was approved by the Board of Supervisors.

1.5.6 Elder Creek and Gerber Creek Drainage Master Plan

In Fall 1995, County staff conducted a community information forum to describe components of the Master Drainage Plan process and answer questions from the public regarding the impact the Plan would have on the current alignment of the creeks. During the workshop, public input was solicited regarding the realignment of the channel for both creeks. Information gathered during the workshop was considered in preparing the draft Master Drainage Plan for Elder and Gerber Creeks.

Technical representatives and Planning staff prepared an Open Space Corridor Plan for those portions of Elder and Gerber creeks which traverse within or along the boundary of the Specific Plan area. The character of the Corridor Plan is based on policy guidance from the County General Plan and in response to physical conditions. An alternative to the proposed Open Space Corridor Plan was also prepared as a result of facilitated discussions held between Planning staff, technical representatives from the County's Water Resources Division and representatives from various environmental groups, including: Environmental Council of Sacramento, Urban Streams Council, and Native Plant Association. The alternative proposes a wider creek corridor: up to 600 feet along Elder and Gerber creeks. The corridor width can be reduced in areas with physical constraints; however, the alternative establishes a minimum open space width of 150 feet on each side of the drainage canal outside of easement and detention basins and between detention basins and roads.

In August and September of 1996, the Master Drainage Plan and the Open Space Corridor Plan (including the environmental community's alternative) were presented to Plan area residents and concerned citizens at four community round table meetings. The purpose of the round table meetings was to ensure that residents understand and had a chance to comment on the purpose and scope of the Master Drainage and Open Space Corridor planning efforts.

1.5.7 Technical Advisory Committee (TAC)

A Technical Advisory Committee (TAC) was established to discuss and resolve issues related to the land use plan, specific plan text, and technical analyses. The TAC consisted of representatives from County departments (Transportation, Water Resources, Planning, DERA, etc.) and public agencies (such as Southgate Recreation and Park District, Elk Grove Unified School District, Sacramento County Sheriff, SMUD, Regional Transit). The TAC has met periodically throughout the Specific Plan process.

1.6 RELATIONSHIP TO THE SACRAMENTO COUNTY GENERAL PLAN

In accordance with Government Code Section 65454, a Specific Plan must be consistent with the adopted General Plan. The North Vineyard Station Specific Plan has been prepared in accordance with adopted goals, policies and diagrams of the Sacramento County General Plan, as adopted December 15, 1993, and is consistent with the General Plan. Pertinent General Plan policies are interspersed throughout the Specific Plan, accompanied by statements describing the degree to which the Specific Plan achieves consistency.

County staff has identified a number of policies from various elements of the County General Plan that are particularly relevant to the preparation and content of Specific Plans. These policiés, listed in Table 1.6, have been included throughout various sections of the Specific Plan, in each instance accompanied by statement that describes the degree to which the Specific Plan has achieved consistency with that policy. General Plan policies are indented and shown in *italic* type for easy identification.

Table 1.6 identifies the General Plan policies that can be found throughout the Specific Plan, a short description of what issue is addressed by the policy, and the page number in the Specific Plan where the policy and its applicability to the Specific Plan are contained.

Table 1.6
General Plan Policy Reference

Policy	Issue	Page	Policy	Issue	Page
Land Use Element			LU-13	Pedestrian-Oriented Design	7-29
LU-4	Land Use Density	4-3	LU-14	Land Use Density	3-10
LU-8	Infrastructure Finance	10-1	LU-18	Development Compatibility	3-10
LU-11	Land Use Balance	3-10	LU-26, 27	Land Use Design	3-10

Policy	Issue	Page
LU-19, 28	Land Use Design	3-11
LU-33	Commercial Land Use Design	5-2
LU-34	Commercial Land Use Design	5-1
LU-60	Sewer/Water Delivery Cap.	9-7, 9-14
Circulation Element		
CI-4	Transit Alternatives	7-27
CI-22, 23	Transit Levels of Service	7-3
Conservation Element		
CO-9	Urban Runoff Control	9-29
CO-10	Urban Runoff Control	9-29
C0-20, 21	Water Supply Mater Plan	9-6
CO-23	Groundwater Quantity/Quality	9-6
CO-63	Vegetation/Wildlife Inventory	6-8
CO-71	Riparian Habitat Restor./Creation	6-9
CO-78	Vernal Pools/Open Space	6-10
CO-83	Vernal Pools Mitigation	6-10
CO-84	Vernal Pools Management	6-10
CO-107	Drainage Channel Design	9-29
CO-108	Drainage Channel Design	9-29
CO-109	Drainage Channel Lowering	9-29
CO-110	Drainage Channel Mod.	9-30
CO-111	Watercourse Design	9-30
CO-119	Urban Stream Corridors	9-30
CO-120	Urban Stream Corridors	6-3
CO-124	Urban Stream Corridors	9-30
CO-126	Urban Stream Corridors	9-30

Policy	Issue	Page
CO-147	Special Status Species	6-10
CO-151	Natural Waterways	9-31
Public Utilities Element		
PF-9	Sewer System Design	9-14
Public Utilities Element		
PF-14	Independent Sewer Systems	9-13
PF-28,29,33	School Facilities Siting	8-3, 8-4
PF-30	School Facilities-Joint Use	8-4
PF-37	School Site Adequacy	8-4
PF-38	School Master Plans/Funding	8-4
PF-58	Law Enforcement Facilities	8-5
PF-60	Crime Reduction Design	8-5
Air Quality Element		
AQ-15	Air Qual.-Emissions Reduction	7-34
AQ-23	Air Quality-Mixed Use Devel.	3-12
AQ-24	Air Quality-Devel. Intensity	3-12
AQ-25	Non-Vehicular Design	7-29
AQ-28	Air Quality-Park and Ride	7-28
Safety Element		
SA-5	Comprehensive Drainage Plan	9-27
SA-12	Runoff Control Measures	9-28
SA-16	100-Year Flood.-Build. Area	9-28
SA-17	Veh. Access-Flood Elev.	9-28
SA-18	Water Course Crossings	7-25
Housing Element		
HE-3	Adequate Housing Supply	4-2
HE-5.1	Housing Afford./Multi-fam. Sites	4-13
HE-6	Multi-Fam. - Trans. Access	4-13

1.7 PLAN AREA PROPERTY OWNERSHIP

The Plan area is comprised of 147 parcels ranging from .06 to 179.8 acres in size, as identified in Figure 1.7 Property Ownership Map. Figure 1.7 also identifies which of the properties are owned or controlled by a Specific Plan participant.

Specific Plan participants, also referred to as project proponents or petitioners, have provided the financial backing required to formulate the Plan. Many of the technical studies referenced in Section 2.4 address only Specific Plan participants' properties in detail; other properties are addressed in a more generalized manner.

A tabular listing of parcels within the Plan area is contained in the Appendix.

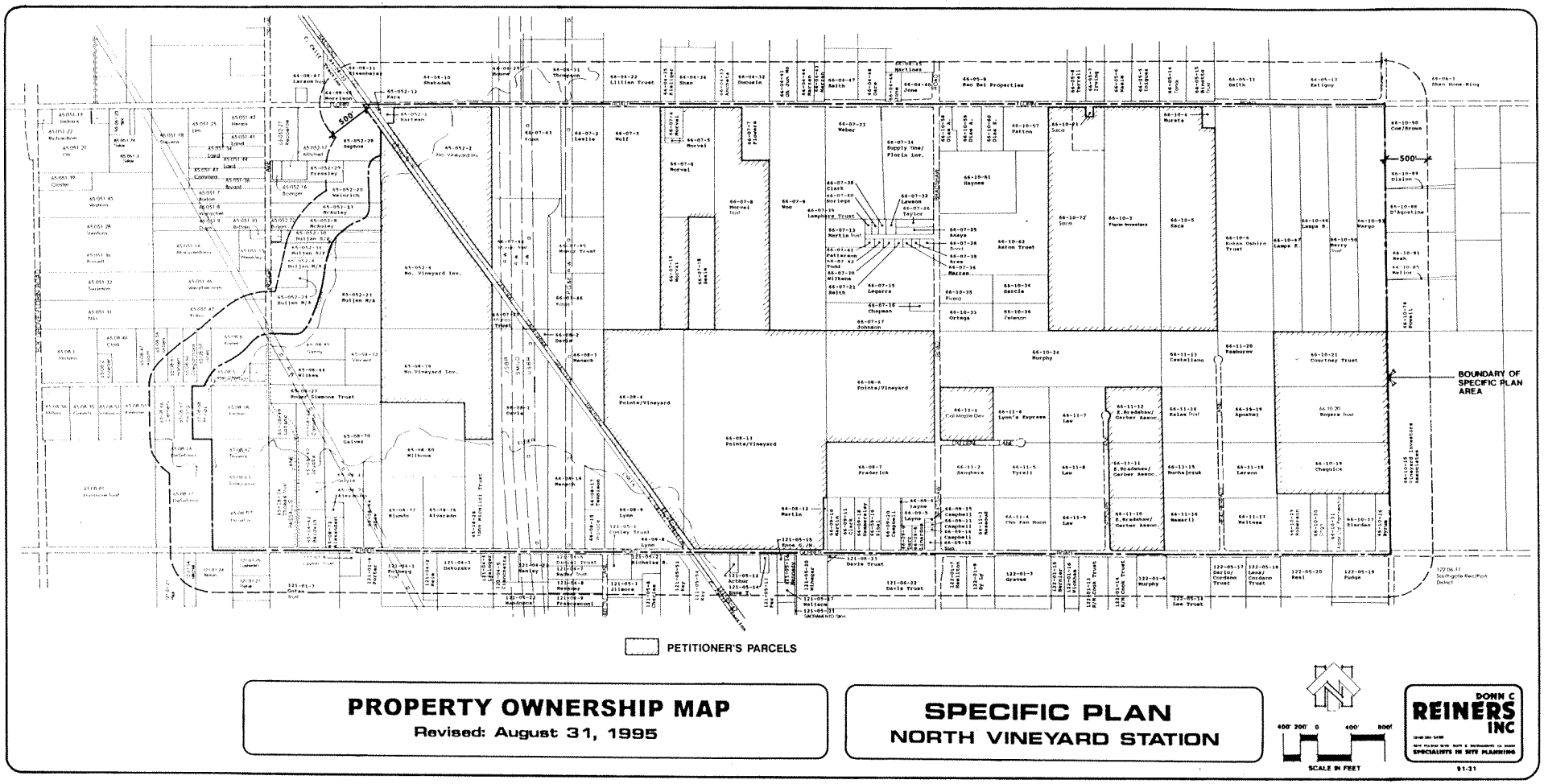


Figure 1.7
Property Ownership Map

SECTION 2.0
PROJECT SETTING

This section identifies the location of the Plan area and provides an overview of the character of the Plan area.

2.1 REGIONAL AND LOCAL SETTING

The North Vineyard Station Specific Plan area is located in the south central portion of Sacramento County, approximately 13 miles southeast of the central core and 5 miles north of the community of Elk Grove (see Figure 2.1.A).

The Plan area is approximately 1,595 acres in size and is bounded on the north by Florin Road, on the south by Gerber Road, and on the east by Vineyard Road. Elder Creek (west side, top of channel) roughly constitutes the west boundary. Bradshaw Road transects the Plan area in a north-south direction (see Figure 2.1.B).

Figure 2.1.A Regional Setting Map

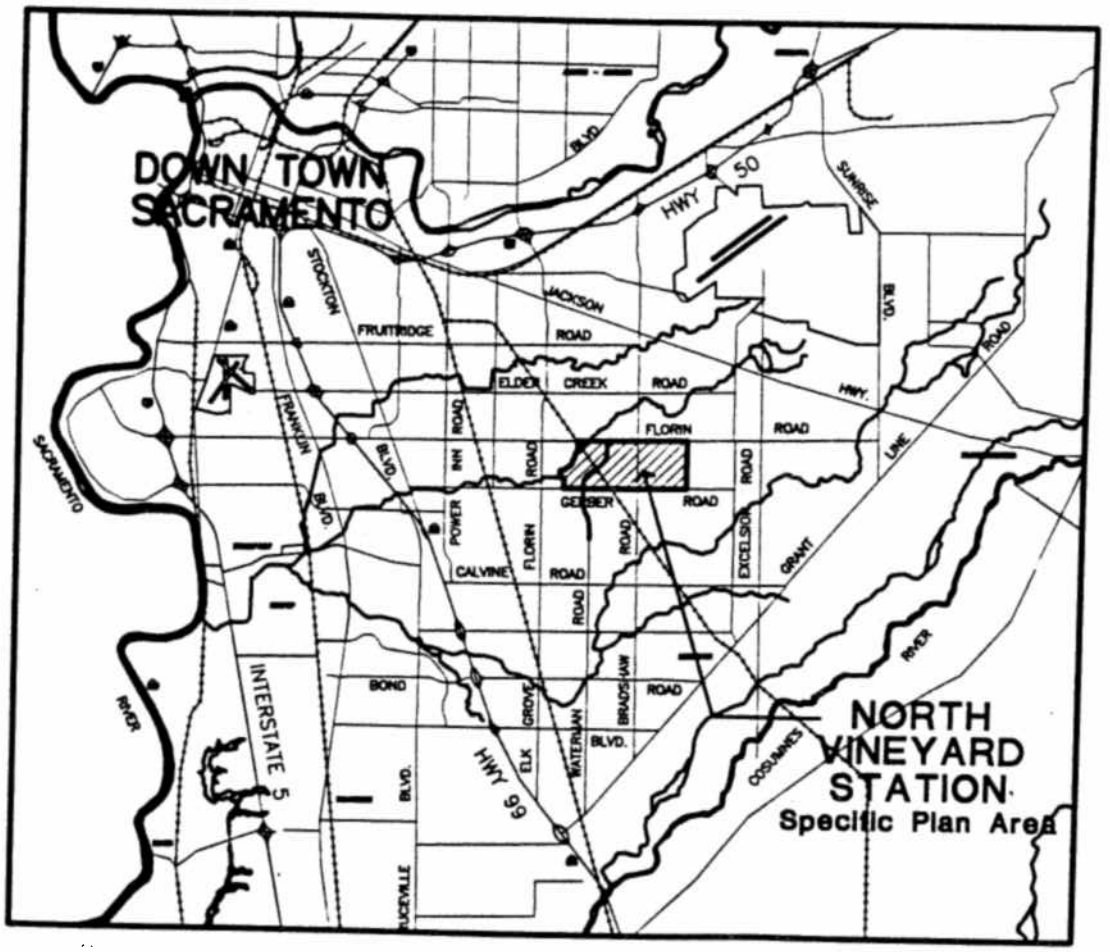
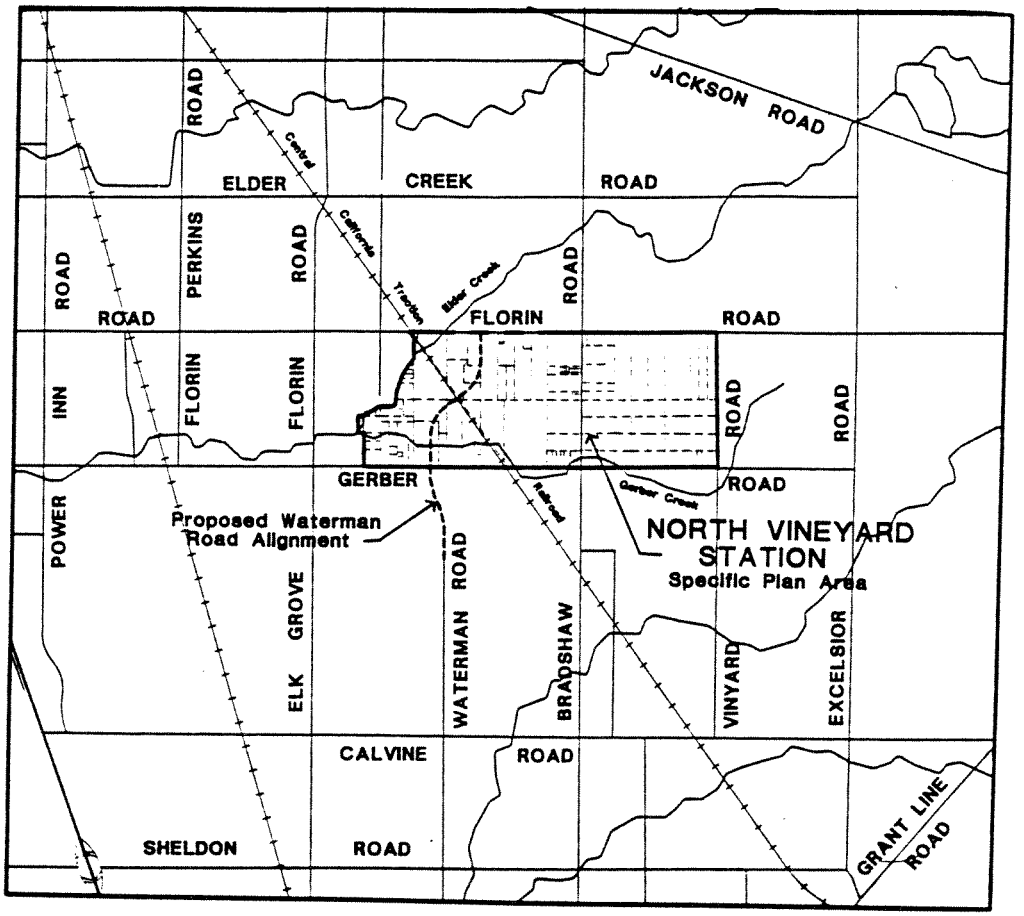


Figure 2.1.B. Community and Project Area



2.2 EXISTING LAND USE

The Plan area is best characterized as a primarily underdeveloped, semi-rural area containing a scattering of older residences and a few non-residential uses. The small amount of agricultural activity that occurs in the area is generally limited to dry farming. The majority of the site has been subdivided over a period of several years into 147 parcels, most of which are from one-half to 30 acres in size.

Following are general descriptions of the existing land uses in the Plan area, many of which are depicted in Figure 2.5 Constraints and Opportunities Composite Map.

Electrical and Natural Gas Utilities

Tower-mounted high voltage power lines within five separate easements traverse the western side of the Plan area, approximately one mile west of Bradshaw Road. Three of the easements are contiguous and are oriented in a north-south direction. These three easements, owned by U.S. Bureau of Reclamation (USBR) and Sacramento Municipal Utility District (SMUD), total 400 feet in width and contain 230-kilovolt (kv) transmission systems. Two of these systems use truss towers operated by the Western Area Power Authority (WAPA) for the USBR. The WAPA easements are 125 feet wide.

The WAPA tower systems straddle a SMUD-owned steel pole system which exists within a 150-foot easement. SMUD's facilities within this easement also include a 69 kv line on wood poles.

Pacific Gas and Electric Company (PG&E) operates a 230-kv truss tower system in a 75-foot easement located approximately 400 feet east of, and roughly parallel with, the WAPA/SMUD corridor. Also, PG&E has another 230-kv truss tower transmission line in a 75-foot wide easement running diagonally through the western-most portion of the Plan area.

The easements granted for these transmission line corridors include restrictions in land use character (e.g., new buildings are not allowed, and the height of landscaping is restricted). However, the easements may be used for a variety of land uses, including parking lots, low-height vegetation, and certain recreational uses.

Petroleum Pipeline

A high pressure, 10-inch petroleum transmission pipeline, which belongs to Santa Fe Pacific Pipeline Partners L.P., is located within the Bradshaw Road right-of-way.

Railroad

The Central California Traction Railroad occupies a 100-foot wide right-of-way that traverses the Plan area diagonally in a northwest-southeast direction. Currently, the tracks within the right-of-way are used by trains twice daily. There are two at-grade crossings - one at Florin Road and one at Gerber Road.

Residential Uses

Numerous residences and agricultural out buildings are located within the Plan area, principally along Florin, Gerber, and Bradshaw roads. Most of the homes are thirty years or older in age. The principal exception is the small cluster of newer custom homes located on Heather Place Lane. Many of the older homes include small-scale dry farming or home occupations. The small neighborhood of homes on Gavern Lane are on roughly 6,000-square foot lots.

Commercial Uses

The Bradshaw Golf Center occupies a 20-acre parcel on the west side of Bradshaw Road, one-third mile south of Florin Road. A convenience store/gas station/bar is located on the northwest corner of Bradshaw and Gerber roads. A feed store and an equestrian center are located on Bradshaw Road, and a small nursery is in operation on Gerber Road, near Passallis Lane.

Existing land uses are depicted in Figure 2.5 Constraints and Opportunities Composite Map.

2.3 ADJACENT LAND USE

Existing land uses surrounding the Plan area are predominantly agricultural-residential (5-acre or larger lots). However, there are pockets of lower density development (2- to 3-acre lots) in the vicinity. Most of the existing development in the vicinity is located west and southwest of the Plan area.

There are three existing residential areas on the perimeter of the Plan area. Immediately west of the Plan area boundary are McCoy Avenue and Hedge Avenue. Development along McCoy Avenue consists of older homes on 2- to 10-acre parcels. Dwellings on these properties are often accompanied by minor agricultural uses. Development along Hedge Avenue is similar to that on McCoy Avenue. The Bar Du Lane neighborhood is located south of Gerber Road and west of the railroad. Bar Du Lane includes well-maintained single family dwellings on 2- to 3-acre parcels.

The largest suburban development in the area is Churchill Downs, which is located west of Bradshaw Road and approximately one-half mile south of Gerber Road. The residential density in this newer development is generally 5 to 6 dwelling units per acre, comparable to much of the proposed development in the North Vineyard Station Specific Plan.

Land to the east is primarily undeveloped and is designated Agricultural-Residential (1-10 ac/du). The undeveloped land to the north of the eastern half of the Plan area is designated General Agriculture (20 acre). Land north of the western half is designated Natural Reserve (and contains the Elder Creek recreation area) and Agricultural-Urban Reserve combined with Aggregate Resource Area. Land north of the Plan area has been used primarily for grazing.

Adjacent land use is depicted in Figure 2.3.

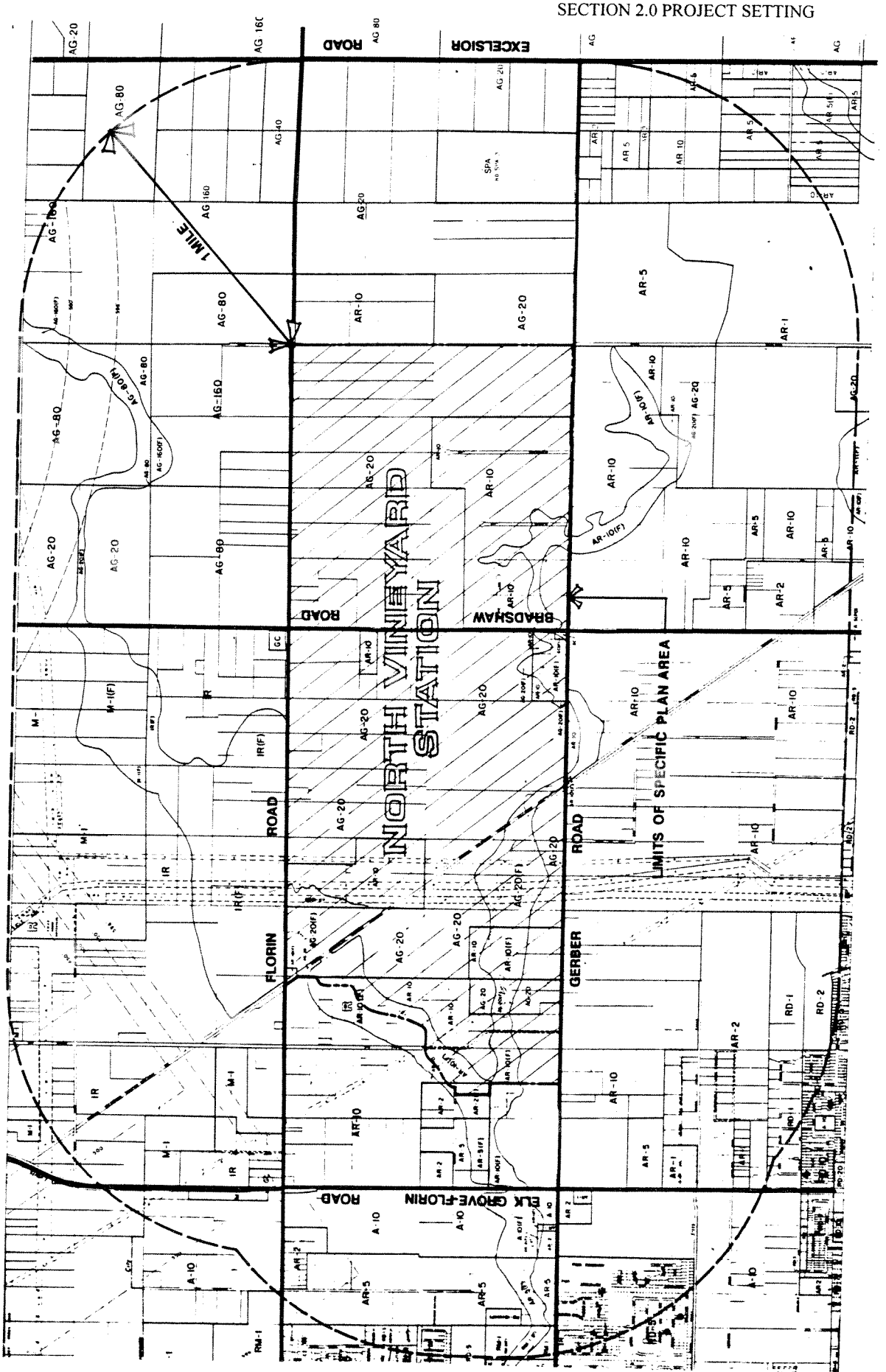


Figure 2.3 Adjacent Land Uses

2.4 EXISTING SITE CONDITIONS

This section describes the natural physical conditions of the Plan area. In most instances, technical studies containing more detailed information are contained in the Appendix. Also, because of limitations on access, the level of detail for properties controlled by Plan participants is more detailed than that of non-participant properties.

Additional information concerning site conditions is contained in the Specific Plan EIR.

2.4.1 Topography

Except for slight undulations in some locations in the eastern portion, east of Bradshaw Road, the Plan area appears visually flat (Refer to Figure 2.5 Constraints and Opportunities Composite Map). The highest elevation on the site is 81 feet above sea level and occurs near the eastern boundary, while the lowest elevation is 42 feet and occurs near the western boundary. There is evidence that the local topography has been changed over the years as a result of agricultural practices and parcelization. This is particularly noticeable in areas where wetlands abruptly end at property lines.

Drainage is directed toward the two creeks on the site - Gerber Creek and Elder Creek - both of which are located in the western portion of the Plan area. The confluence of the two creeks is located near the westernmost point of the Plan area.

2.4.2 Soils

Geologic and Seismic Setting

As described in the *Geotechnical Report*, dated May 31, 1995, by Wallace Kuhl and Associates, a large portion of the Plan area is underlain by the lower member of the Quaternary-aged Riverbank formation and the remainder is underlain by the Tertiary-aged Laguna formation. The Riverbank formation represents dissected alluvial fans and is generally composed of alluvial gravel, sand and silt derived from the western slopes of the Sierra Nevada Range. The Laguna formation represents eroded alluvial fans composed of alluvial gravel, sand and silt also derived from the western slopes of the Sierra Nevada Range.

No active or potentially active faults are known to pass through or near the Plan area, as indicated by published geologic maps, nor is the site located within an Alquist-Priolo Special Studies Zone. Therefore, ground rupture at the site resulting from seismic activity is considered highly unlikely. Similarly, the potential for soil liquefaction is very low, as is the potential for ground lurching, differential settlement, or lateral spreading of the surface during or following seismic events.

Soil Conditions

According to the Soil Survey of Sacramento County, California (SSSCC), approximately 75 percent of the site is covered by soils classified as San Joaquin silt loam with slopes between 0 and 8 percent. Approximately 10 percent of the site is mapped as Red Bluff loam, possessing slopes between 0 and 2 percent. These soils are located in irregularly-shaped areas in the northern and eastern sections of the site. Two areas, covering approximately 10 percent of the site, are classified as Redding loam and Redding gravely

loam, typified by slopes ranging from 0 to 8 percent. These soils are located in the south central portion of the site.

The remainder of the site is covered by four additional soil types. The first soil type is the San Joaquin-Durixeralfs complex, composed of 55 percent San Joaquin soil and 35 percent Durixeralfs soil. This soil type is located in two small areas near the center of the site. The second soil type is the San Joaquin-Galt complex composed of 45 percent San Joaquin soil and 40 percent Galt soil. This soil is located in one irregularly shaped area in the eastern portion of the site. The third soil type, located in the central portion of the site, is the San Joaquin-Xerarents complex with 45 percent San Joaquin soil and 40 percent Xerarents soil. The fourth soil type listed by the SSSCC is Hedge loam between 0 and 2 percent slopes. This soil has been mapped as a small area in the south-central portion of the site.

The SSSCC rates some of the soils with high clay content to possess moderate to high shrink-swell characteristics. The shallow depth to cemented soil strata result in poor permeability properties. These conditions result in the soils having possible limitations with respect to site development. Undisturbed natural soils at shallow depths are capable of supporting anticipated residential and commercial structural loads.

Ground Water

According to the Map of Ground Water Elevations, Spring 1995, for Sacramento County (Water Resources Division), ground water elevations beneath the Plan area are between 75 and 130 feet below ground surface. However, temporary "perched" high ground water conditions may exist shortly after intense rains and during or following the winter months due to the presence of relatively shallow and fairly impermeable cemented soils that underlie the site.

2.4.3 Surface Hydrology

As described in the *Preliminary Draft Drainage Study for the North Vineyard Station Specific Plan*, dated December 1995, by MacKay and Somps, two creeks flow through the Plan area: Elder Creek and Gerber Creek. Elder Creek forms the northwestern boundary of the Plan area and has a watershed of approximately 5,000 acres at its confluence with Gerber Creek at the western boundary of the Plan area. Approximately 500 acres of that shed are within the boundary of the Plan area. (Refer to Figure 2.4.3 Surface Hydrology Map and Figure 2.5 Constraints and Opportunities Composite Map.)

Gerber Creek has a drainage area of approximately 3,100 acres, approximately 960 acres of which are within the Plan area. The creek crosses Gerber Road several times, flowing in and out of the Plan area before draining into Elder Creek at the western boundary of the Plan area.

Some reaches (or segments) of each of these creeks have been modified or relocated along property lines, possibly in connection with agricultural practices. The two creeks are generally shallow and broad. Significant rainfall results in widespread, but generally shallow, flooding. Floodplain depths range from one-half foot to one and one-half feet. This local flooding is attributed to a number of factors, including 1) inadequate channel capacity, 2) inadequate capacity of roadway culverts, and 3) the presence of numerous private roadway/driveway crossings of the channels with inadequate culvert capacities.

An additional flooding factor is the Laguna Creek shed jump, which occurs during high flow events in that creek. In such events, approximately 1,050 cubic feet per second jumps from Laguna Creek to Gerber Creek at the Central Traction Railroad and travels north along the railroad to Gerber Creek.

The May 31, 1995 *Geotechnical Report*, prepared by Wallace Kuhl and Associates, states that according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map for the County of Sacramento, several large areas surrounding the two creeks on the site are listed as "Special Flood Hazard Areas inundated by 100-Year Flood." These areas include the major portion of the site west of the railroad tracks crossing the site and an area approximately 500 feet to the east of the railroad tracks. A flood area approximately 500 feet wide follows Elder Creek across the site and exits across the western boundary of the site.

Additional information concerning surface hydrology is contained in Section 9.4.

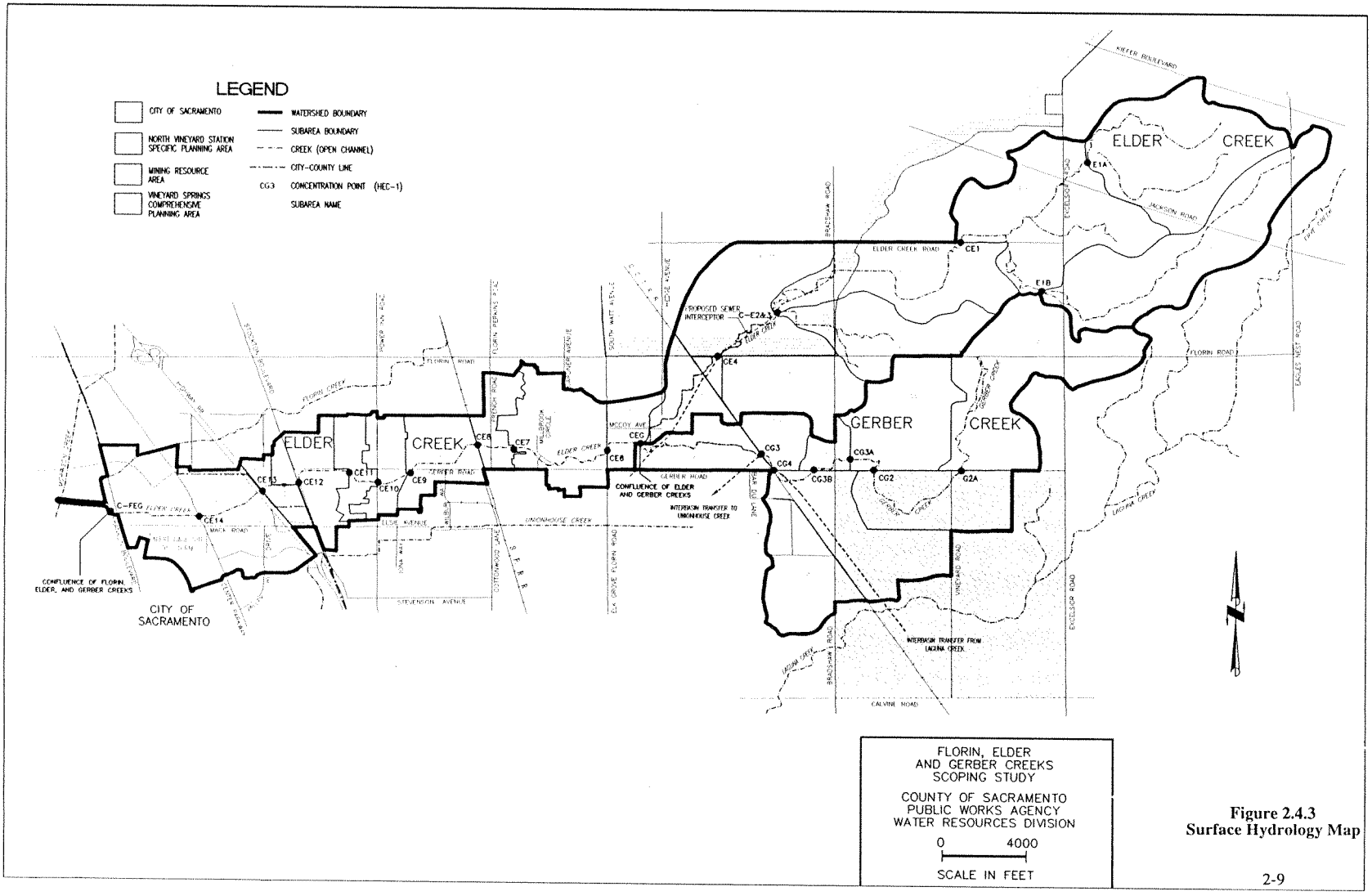


Figure 2.4.3
Surface Hydrology Map

2.4.4 Wetlands and Other Waters

According to the *Biotic Assessment*, dated May 3, 1996, prepared by Sugnet and Associates, there are five categories of wetlands and waters of the United States within the Plan area, including vernal pool, seasonal wetland, freshwater marsh, drainage swale, and perennial creek, totaling approximately 51 acres. Stock ponds also occur in several locations within the Plan area.

Due to access limitations, tentative identification of waters of the U.S. (including wetlands) on non-participant properties was undertaken using aerial photographic analysis, review of available soils data (U.S. Department of Agriculture, Soil Conservation Service, 1993), and observations made from off-site. Participating properties were subjected to wetland delineation according to methods outlined the Corps of Engineers Wetland Delineation Manual. These methods include field investigation and characterization of waters, including wetlands, using hydrologic, soils, and vegetative criteria.

Following are descriptions of the wetland resources found in the Plan area. A summary of wetland acreages occurs in Table 2.4.4. Figure 2.4.4 Wetlands Map and Figure 2.5 Constraints and Opportunities Composite Map show the wetlands and associated aquatic habitats existing within the Plan area.

Vernal Pools

Vernal pools are depressions within the grassland landscape which pond during the wet winter months and dry out during spring. They are generally small, but can exist in a wide range of depths (several inches to several feet) and sizes (several square feet to several thousand square feet). Vernal pools can occur as isolated basins or as depressions within swales. Maturation of various plant species is from late winter to late spring. These wetlands occur throughout the grassland areas, but are most abundant in the eastern half of the Plan area.

Approximately 18 acres of vernal pools have been identified within the Plan area. Vernal pools support a specialized plant community. Vegetation is dominated by native non-grass species.

Seasonal Wetlands

Seasonal wetlands are typically shallow and do not pond as deep as vernal pools, although their effective saturation period is about the same. Approximately 18 acres of seasonal wetlands have been identified within the Plan area. Seasonal wetlands are generally more variable than vernal pools with regard to hydrology in that they can occur in basins or on slopes. Vegetation is typically non-native grasses and forbs.

Freshwater Marsh

Freshwater marsh is typically deeper than seasonal wetlands and vernal pools. Freshwater marsh occurs on approximately seven acres and is characterized as having a longer wet period (usually well into the summer).

Creeks

Two intermittent creeks occur within the Plan area and cover approximately six acres. Elder Creek crosses the northwestern corner, and Gerber Creek is located along the southern boundary, near Gerber Road. Elder Creek is the larger of the two, both in size and flow. Both creeks are relatively low volume and would be seasonal in flow duration if not for irrigation and urban water runoff. Supplemental water has extended the flows of these creeks (particularly Elder Creek, which is intermittently wet throughout the year) into the dry season. Within each channel, isolated pools persist throughout the year.

Stock Ponds

Several man-made ponds (stock ponds) occur in the plan area. These features occur in several forms including impoundments of drainage swales, excavations within drainages, or excavation on uplands. Water level in the stock ponds fluctuates widely through the year, typically filling in winter and drying out or declining to lowest levels in fall. Vegetation within these ponds also varies widely depending on water regime and level of disturbance.

Drainage Swale

Drainage swales are sloped seasonal wetlands, that is, water conveyance systems for local watersheds. They are saturated for slightly lesser periods of time than seasonal wetlands but tend to support a similar flora. Drainage swales, which constitute approximately two acres of the total wetland area, are similar to seasonal wetlands except they convey water on a shallow gradient. The Plan area supports few of these features because of its overall flat topography.

Table 2.4.4
Summary of Wetland[1] Acreages

Classification	Approximate Acreage
Vernal Pool	18.0
Seasonal Wetland	18.0
Freshwater Marsh	7.0
Perennial Creek	6.0
Drainage Swale	2.0
Stock Pond	0.09[2]
Total	**51.0**

1/ Waters of the U.S.

2/ Only 0.09 acres of stock ponds have been verified by the U.S. Army Corps of Engineers. All other stock ponds are assumed to be non-jurisdictional waters of the U.S.

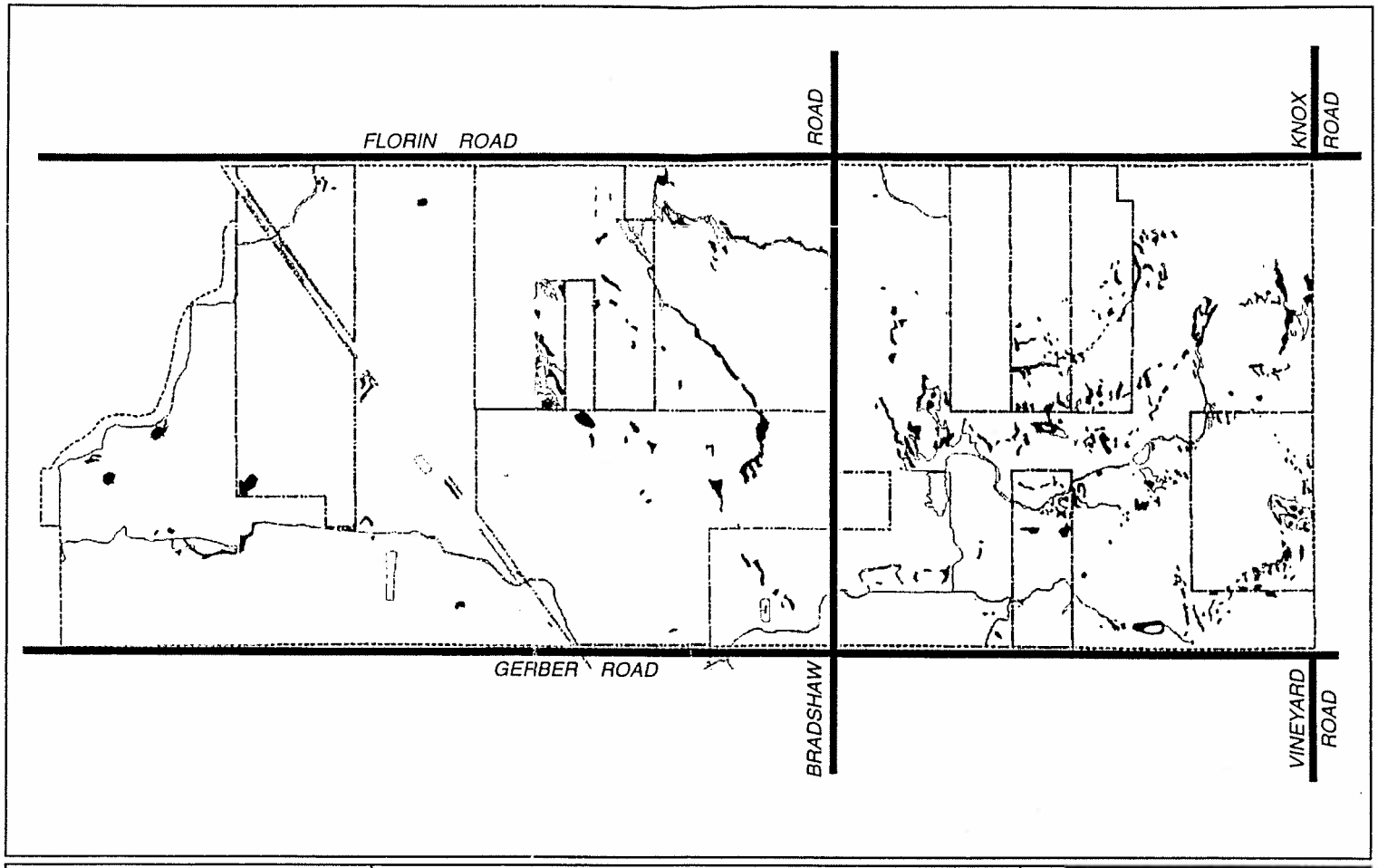


Figure 2.4.4
Wetlands Map

2.4.5 Vegetation and Wildlife

Vegetation

According to the *Biotic Assessment* by Sugnet and Associates, dated May 3, 1996, the Plan area vegetation is characterized primarily by annual grasses and forbs. Very few native woody plant species occur, except for where water is at or near the surface. Following are descriptions of the principal terrestrial habitats within the Plan area:

Non-native Annual Grassland. The dominant habitat type in the Plan area is non-native annual grassland. These areas are typically not irrigated and occur in several forms including historically disturbed fallow ground, dry pasture (primarily used for cattle and horses), and "buffer" areas along roads and near houses.

Irrigated Pasture. Flood irrigation of pastures occurs during the dry months in many parts of the Plan area. Plant species (forage) consists of a mixture of typical dryland species, as well as many species that occupy the margins of wetlands.

Trees. Numerous trees are scattered throughout the Plan area, typically associated with homesites or situated along fence lines. A tree survey of the participating properties was conducted by Tree Care Inc. While the survey did not address all parcels within the Plan area (participating parcels account for 36.4 percent of the total area), it accurately characterizes the general nature of the tree cover of the entire Plan area. The survey included native oaks 4-inch diameter at breast height (DBH) and non oak trees of 18-inch DBH. The survey revealed a total of 48 trees with a combined diameter of 1,470 inches. Predominant species were eucalyptus (814 inches total combined diameter), black walnut (121 inches), and fruitless mulberry (168 total inches). Other species include Italian stone pine, catalpa, Modesto ash, box elder, Japanese black pine, silver maple, London plane, weeping willow, and Monterey pine. All trees surveyed were in fair to poor condition.

The tree survey is contained in the Appendix. Figure 2.5 Constraints and Opportunities Composite Map includes tree locations.

Residences - Exotic Landscaping. Most of the vegetation around the residences consists of ornamental species. These areas support most of the trees and shrubs.

Wildlife

Throughout the Plan area, wildlife use is associated with that of urban (within rural residential areas) or cropland (within pastures and fallow fields) habitats.

Wildlife associated with urban habitat includes birds such as American crow, European starling, house finch, and house sparrow. Mammals typical of this habitat include raccoon, striped skunk, and Virginia opossum.

Wildlife associated with cropland habitat include birds such as ring-necked pheasant, mourning dove, brewer's blackbird, and western meadowlark. Mammals typically associated with cropland habitats include black-tailed jackrabbit and California ground squirrel. Raptors such as red-tailed hawk and turkey vulture have been observed over open cropland areas.

Special-Status Species

Two levels of special-status species assessments have been conducted within the Plan area. On-site determinate surveys have been completed for most of the participant properties. For the remainder of the Plan area, a list of potentially-occurring special-status species has been developed.

The Appendix contains a tabular listing of sensitive plant and animal species which may be observed in the area and a brief description of the habitats associated with these species. Following is a summary of surveys for special-status plant and wildlife species.

Plants. There are six special-status plant species potentially occurring in the Plan area, all associated with wetland habitat. Five of these species are primarily found in vernal pools. The sixth is associated with still or slow moving water that occurs in ponds and ditches from late spring through summer. Based on determinant surveys conducted on lands of Plan participants, no special-status species were observed.

Invertebrates. Surveys conducted within the participating properties revealed that there are three special-status invertebrate species that may occur within the Plan area. No elderberry shrubs, primary host plant of the Valley Elderberry Longhorn Beetle (federally "threatened"), have been observed within the Plan area. Among the participating properties, vernal pool fairy shrimp and vernal pool tadpole shrimp were observed in several areas.

Amphibians. There are two special-status amphibians that may occur within the Plan area. Based on determinant surveys conducted to date, no special-status amphibians have been found on participant properties.

Reptiles. There are two special-status reptiles that may occur within the Plan area. Within the Plan area, habitat for northwestern pond turtle is restricted to Elder Creek and Gerber Creek, which flow through the western and southern portions, respectively. Habitat for giant garter snake does not exist in Elder Creek within the Plan area, but may exist along Gerber Creek. Surveys conducted for the northwestern pond turtle and giant garter snake revealed one northwestern pond turtle along the Elder Creek corridor.

Birds. Special-status birds that may occur within the Plan area can be grouped into three categories: potential nesting species, non-nesting species (where no suitable nesting substrate is present), and potential winter residents (which do not nest in this region but occur only during winter). On the basis of special-status bird surveys, there are nine special-status species, including Swainson's hawk, which may nest or forage within the participating properties. Suitable nesting sites are present within the non-participant properties of the Plan area; however, no determinate surveys were conducted within those parcels. Burrowing owls and foraging tricolored blackbirds have been observed in the Plan area.

Mammals. Due to current and historic land-use practices (i.e., agricultural, rural residential, etc.), no special-status mammals are expected to occur within the Plan area.

2.4.6 Cultural Resources

A *Cultural Resources Assessment* was prepared by Peak and Associates, Inc., in December 1995. The complete Cultural Resources Assessment is contained in the Appendix, and a summary is provided below.

Prehistoric Background

The Eastern Miwok and the Plains Miwok occupied the lower reaches of the Mokelumne, Cosumnes and Sacramento rivers, including the area of south Sacramento County surrounding the Plan area, for a considerable period of time. A study of known village sites in the region indicates that small villages away from the major rivers appear to concentrate on the collection of fish species that inhabited slow-moving waters. There are no known villages in the immediate vicinity of the Plan area, and no prehistoric artifacts or evidence of prehistoric use of the Plan area was found. It is possible that Native American people may have utilized the Plan area for seasonal resource collection, but did not inhabit it on a permanent basis.

Historical Background

There is no indication that any important events or activities occurred in the Plan area in the early history of the region. The primary historical use of the area has been for agriculture, beginning after the gold rush in the early 1850s. The first lands to be farmed were the rich bottom lands along the major watercourses. By the mid-1860s, the prime farm land had been claimed, leaving lands with poorer soils and less available water, such as the Plan area. With irrigation, the soils in the area were found to be suitable primarily for the raising fruits such as strawberries, grapes, peaches, and apples. The service center for the farmers of the area was the town of Florin, which formed in 1875 about three miles from the northwest quarter of the Plan area along the Central Pacific railroad. Florin served as the shipping point for the farm products of the region.

The Central California Traction Railroad (CCT) was organized in 1905. The 53-mile CCT main line connected Sacramento with Stockton, with a branch from the main line to Lodi. The section from Sheldon to Sacramento through the Plan area was completed in 1910. Passenger service was eliminated in 1933, and in 1946 the use of electricity was discontinued in favor of diesel service. One historic period archeological site was discovered near the railroad tracks in the northwest portion of the Plan area. It consists of a small scatter of 1930s/40s era refuse that was primarily domestic in nature. No existing structures, or structures shown on historic period maps or other documentary sources, were located anywhere near this refuse deposit.

None of the surviving structures within the Plan Area represent the early years of pioneer settlement in this area. The earliest structures date to about the turn of the century. There are several structures dating within the 1900-1920 era, representing small rural residence types and agricultural utility buildings common for this period. Examples range from well preserved to poorly maintained to remodeled beyond recognition. None of the extant buildings are associated with important individuals or events.

2.4.7 Noise Environment

Brown-Buntin Associates, acoustical consultants, conducted continuous 24-hour noise level measurements at the Plan area on May 17-19, 1995 in order to determine typical hourly noise levels associated with traffic on nearby streets and railroad operations on the Central California Traction Railroad. The noise analysis is contained in the *Environmental Noise Analysis, North Vineyard Station Specific Plan*, dated December 4, 1996.

Sacramento County General Plan Noise Element Criteria

The Sacramento County Noise Element establishes a land use compatibility criterion of 60 dB L_{dn} for exterior noise levels in outdoor residential activity areas affected by transportation-related noise sources. An exterior noise level of up to 65 dB L_{dn} is allowed only after a practical application of the best available noise-reduction technology is included in the design. In addition, an interior noise level criterion of 45 dB L_{dn} is applied to residential land uses with windows and doors closed.

Noise Environment Overview

The existing ambient, or background, noise environment in the Plan Area is defined primarily by traffic on local roadways, railroad operations, and occasional aircraft overflights. The contributions from each of these noise sources to the overall ambient noise environment is described below.

During two 24-hour monitoring periods, three train operations occurred during each 24-hour period, resulting in L_{dn} noise measurements of 61.2 dB and 61.1 dB. If the noise levels due to the train events for these two days are subtracted from the hourly average noise levels during which the train operations occurred, the resulting ambient noise (L_{dn}) values for the two days are 53.3 dB and 54.3 dB.

Existing Traffic

Existing traffic data on area roadways are based on the existing traffic counts described in Section 7.0 Transportation and Air Quality. Assumptions have been made regarding traffic distributions, speed, and truck mix. Existing traffic noise levels on the streets bordering the Plan area and on Bradshaw Road are described in Table 2.4.7. Table 2.4.7 describes both the noise level (L_{dn}, dB) at a distance of 75 feet from roadways and the distance the 60 and 65 decibel noise contours currently extend into the Plan area.

Table 2.4.7
Existing Traffic Noise Levels

Roadway	L_{dn}, dB @ 75 ft.	Distance to Ldn Contour (ft.) 60 dB	65 dB
Florin Road			
Watt to Bradshaw	62.6	112	52
Bradshaw to Excelsior	59.4	68	32
Gerber Road			
Elk Grove-Florin to Bradshaw	63.0	120	56
Bradshaw to Excelsior	57.4	50	23
Bradshaw Road			
Gerber to Florin	65.6	178	82

Source: Brown-Buntin Associates, December 4, 1996.

Existing Railroad Noise

Noise level measurements were conducted along the Central California Traction Railroad at a distance of approximately 50 feet from the railroad tracks from May 17-19. The noise level measurements indicated that between two and three operations occur per day along the tracks. Currently up to four train operations may occur during a 24-hour period, resulting in 60 dB and 65 dB L_{dn} railroad noise contours at distances of 78 feet and 36 feet respectively from the tracks.

According to railroad staff, historically up to eight train operations occurred during a 24-hour period, and in the past five years traffic has doubled along the railroad line. There were no estimates of future operations.

Existing Aircraft Noise Levels

During the field review in the summer of 1995, no aircraft operations were noted as flying directly over the Plan area. The new guiding document for determining potential future noise impacts associated with the Mather Airport is entitled *Mather Airport Comprehensive Land Use Plan Update, May 1996, Draft*. Based upon this document, the Plan area is located outside the 60 dB CNEL contour.

2.4.8 Hazardous Materials

A preliminary Phase 1 Environmental Site Assessment of the North Vineyard Station Specific Plan area was completed by Wallace Kuhl and Associates in December 1995. The complete text of the December 22, 1995 Environmental Site Assessment, including recommendations, is contained in the Appendix. The purpose of the assessment was to preliminarily evaluate the Plan area for evidence of potential soil and ground water contamination resulting from current and/or former site activities. Physical access was available to only approximately one-half of the Plan area (consisting of participants' parcels identified in Figure 1.7).

No obvious evidence of significant hazardous materials contamination was observed during preliminary field reconnaissances of the Plan area. Some evidence and/or features was observed to indicate that some sites have the potential for hazardous materials contamination; however, no obvious evidence was observed on the participants' parcels. Locations of sites discussed in this section are included in Figure 2.5 Constraints and Opportunities Composite Map.

Superfund Sites

No potential or confirmed state or federal "Superfund" sites are known to exist within the Plan area. However, the B & E Market, located at the northwest corner of Bradshaw and Gerber roads, is listed as a site where an unauthorized hazardous materials release is known to have occurred (see discussion under Commercial Sites).

Agricultural Operations

The Plan area has consisted of fallow land or has supported dry farming, natural grass grazing, and irrigated pasture land uses since the 1940s. These agricultural uses typically require little to no applications of environmentally persistent pesticides. Prior to the 1940s, the area was used for row crops and vineyards.

While higher value row crops and vineyards have a somewhat increased potential for the past application of persistent pesticides, the vast length of time (more than 50 years) between the former vineyard and rowcrop cultivation negates potential concern for any significant levels of persistent pesticide residuals in existing surficial soils of the Plan area. Therefore, the potential for residual agricultural chemical concentrations in existing surficial soils of the Plan area is low.

Current strawberry cultivation within the Plan area is not anticipated to involve the use of environmentally persistent pesticides. Nearly all of the persistent agricultural chemicals of the organochlorine pesticide variety have been banned since the time of their prevalence in the 1950s, 1960s, and early 1970s.

PCB Potential

Numerous pole-mounted electrical transformers exist within the Plan area. No obvious evidence of transformer leakage was observed on accessible sites. Sites within the Plan area that developed in the early 1980s and later are unlikely to contain PCB-containing transformers. However, many transformers within the Plan area most likely predate 1979

and are not tagged with respect to PCB content. These transformers are therefore of unknown PCB content.

Asbestos Potential

Because the federal government banned nearly all uses of friable asbestos in building materials in 1978/79, existing structures within the Plan area built subsequent to 1979 are not likely to contain asbestos in their building materials. However, most of the existing structures within the Plan area predate 1979 and potentially contain asbestos in their building materials.

Water Supply Wells/Groundwater

Numerous water supply wells are located within the Plan area, some of which are currently in an improperly abandoned condition. However, since there are no large quantity agricultural wastewater producers, industrial facilities, or commercial facilities that discharge wastewater to land within the Plan area and the existing dairy within the Plan area is a relatively small-scale operation, groundwater contamination potential is considered low.

Commercial Sites

Several stored and abandoned vehicles and other materials and debris are located behind the structures of the Rose Nursery. In 1993, underground gasoline tanks were removed from the B & E Market site, located on the northwest corner of Bradshaw and Gerber roads. Although petroleum residues were detected in subsurface soils, the potential for groundwater contamination is low. This facility is also discussed in the Superfund Sites section, since it is an agency-listed facility.

Buried Petroleum Pipeline

As previously noted, a buried liquid petroleum pipeline, owned, operated and maintained by Santa Fe Pacific Pipeline Partners, L.P., lies beneath the western edge of the Bradshaw Road right-of-way. No leaks, ruptures or problems are known to have occurred along the pipeline course adjacent to or in the vicinity of the Plan area. The section of pipeline within the Plan area does not appear on the regulatory agency databases as an identified contamination or spill site.

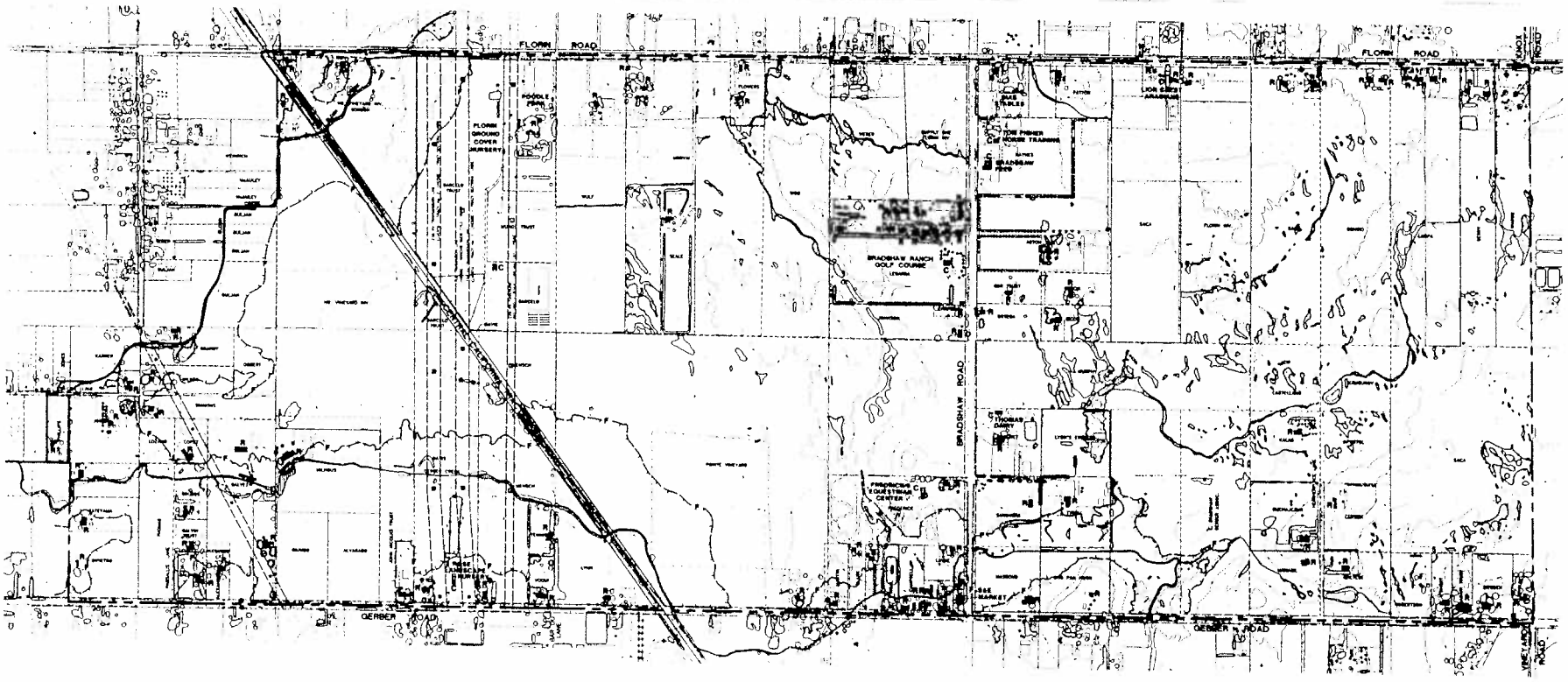


Figure 2.5
Constraints and Opportunities Composite Map

SECTION 3.0
LAND USE SUMMARY

This section summarizes the main steps in the approval process leading to Plan implementation. This section also includes the Specific Plan Land Use Diagram and provides a summary of the land use components that constitute the Specific Plan. Detailed information concerning each component is contained in individual sections of the Plan.

3.1 SUMMARY OF ACTIONS REQUIRED

Following is a summary of the land use decisions that will occur in conjunction with approval of the North Vineyard Station Specific Plan:

General Plan Amendment

The Plan area is within the adopted Urban Service Boundary and is part of a larger area designated on the County General Plan as Urban Development Area. The Plan area is also within the boundary that reflects the County's policy of locating higher density, mixed-use land use configurations along transit lines. Existing General Plan land use designations are depicted in Figure 3.1.A.

The Sacramento County General Plan Land Use Diagram will be amended as depicted in Figure 3.1.C. Proposed General Plan Land Use Designations.

Community Plan Amendment

The Vineyard Community Plan designation for the Plan area will be amended to an alpha-numeric designation which refers to the Specific Plan land use designations. The Community Plan will refer to the North Vineyard Station Specific Plan, eliminating the need for individual Community Plan designations within the Plan area. Existing Community Plan land use designations are depicted in Figure 3.1.B.

Specific Plan

The Specific Plan will be adopted following amendment of the Community Plan and General Plan and following certification of the Specific Plan Environmental Impact Report (EIR).

The following land use decisions will be made subsequent to the above-described actions and prior to implementation of the Specific Plan:

Rezoning

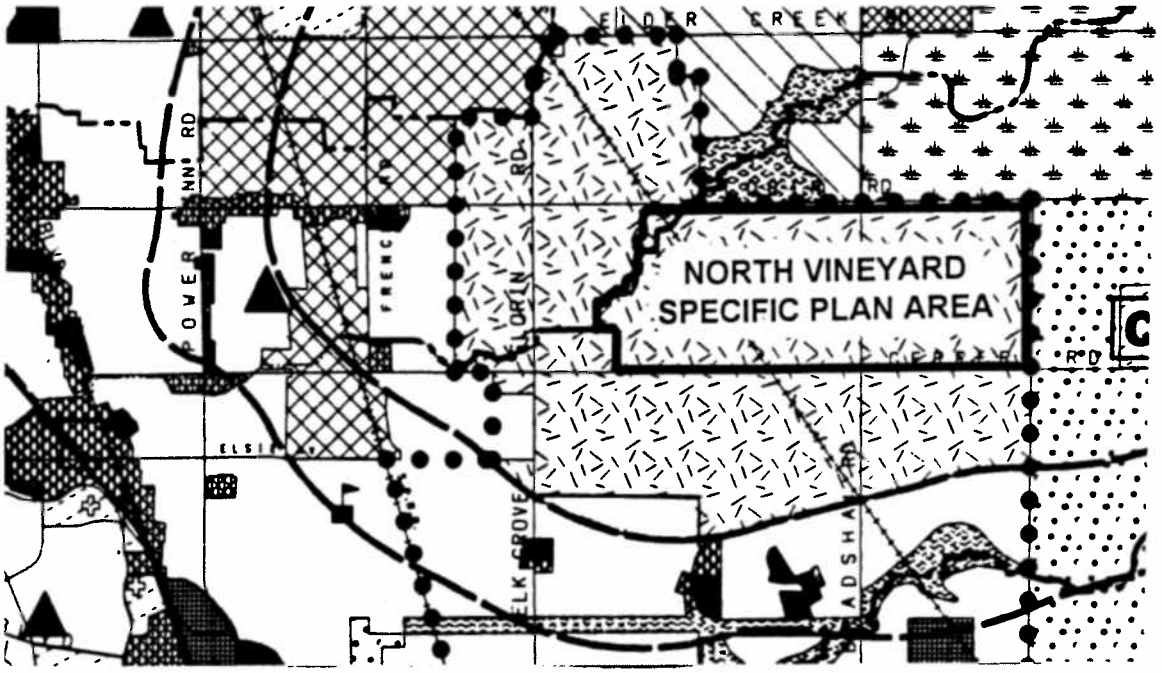
Adoption of the General Plan and Community Plan amendments and adoption of the Specific Plan will allow individual property owner/developers to submit applications for

rezoning of their lands to zoning classifications that are consistent with the Specific Plan. Consistent development standards are identified in the land use sections of this Specific Plan.

Tentative Subdivision Maps

Tentative subdivision maps will be submitted subsequently over a period of time in accordance with projected market demand and the requirements for public infrastructure described in the Phasing Plan included in this Plan.

Figure 3.1.A. Existing General Plan Land Use Designations



RESIDENTIAL

- AGRICULTURAL-RESIDENTIAL (1-10 ac/du)
- LOW DENSITY RESIDENTIAL (1-12 du/ac)
- MEDIUM DENSITY RESIDENTIAL (13-30 du/ac)
- HIGH DENSITY RESIDENTIAL (31-50 du/ac)

TRANSIT-ORIENTED DEVELOPMENT

- URBAN TRANSIT-ORIENTED DEVELOPMENT
- NEIGHBORHOOD TRANSIT-ORIENTED DEVELOPMENT

COMMERCIAL & INDUSTRIAL

- CORE AREA
- COMMERCIAL & OFFICES
- INTENSIVE INDUSTRIAL
- EXTENSIVE INDUSTRIAL

PUBLIC & QUASI-PUBLIC

- CEMETERY, PUBLIC & QUASI-PUBLIC

COMBINING LAND USES

- AGGREGATE RESOURCE AREA
- RESOURCE CONSERVATION AREA

OPEN SPACE

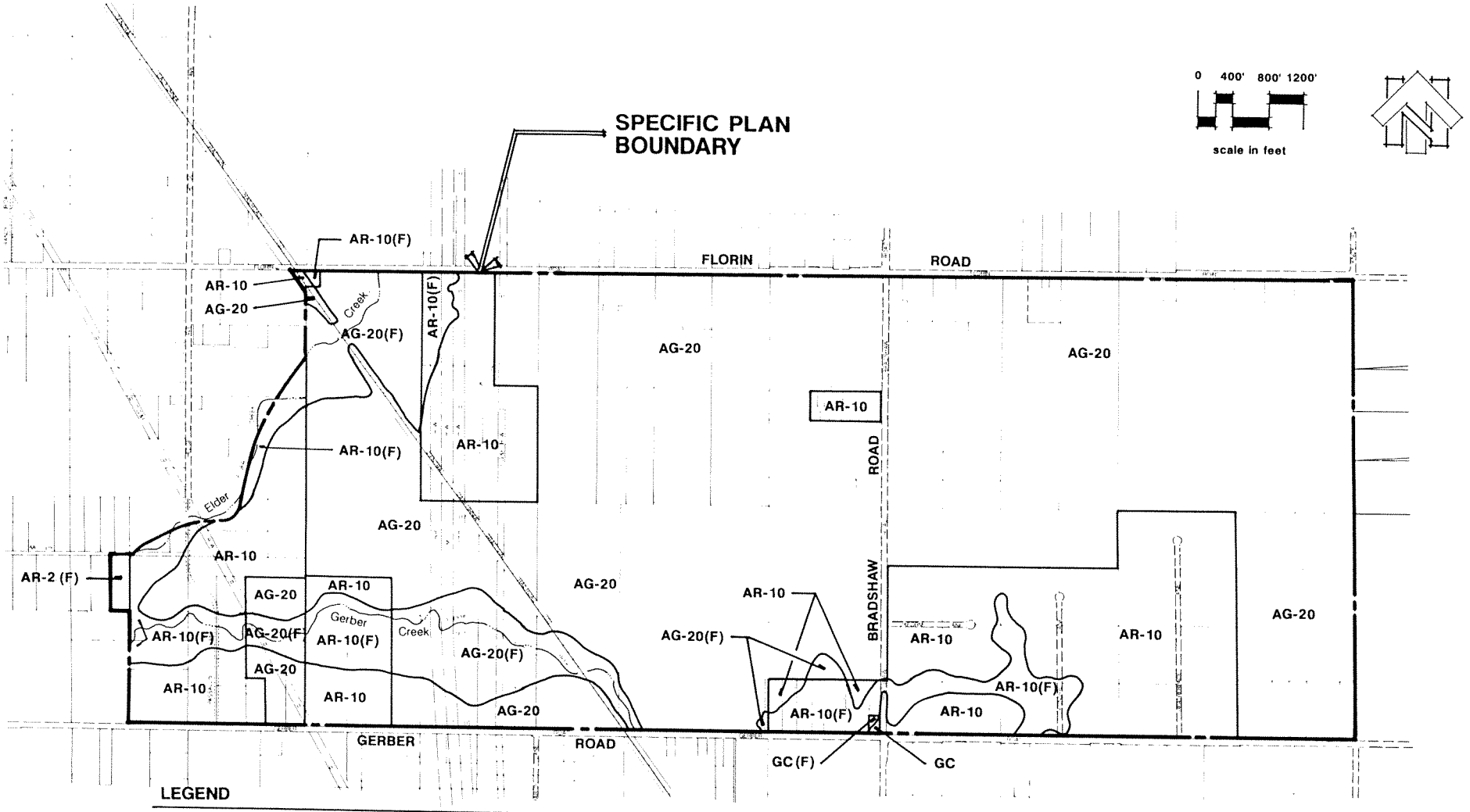
- RECREATION
- AGRICULTURAL-URBAN RESERVE
- NATURAL PRESERVE
- AGRICULTURAL CROPLAND
- GENERAL AGRICULTURE (20 ac.)
- GENERAL AGRICULTURE (80 ac.)
- URBAN DEVELOPMENT AREA
- AGRICULTURAL-RECREATION RESERVE

- HIGH SCHOOLS
- PARK SITES
- URBAN SERVICE BOUNDARY
- MEDICAL (HOSPITAL)
- URBAN STREAM CORRIDOR

DISPOSAL FACILITIES

- [T] TRANSFER STATION
- [L] LANDFILL
- [C] CLOSED LANDFILL
- [H] HAZARDOUS WASTE

● ● ● Areas within the dotted line reflect the County's policy of locating higher density, mixed-use configurations along transit lines. The County will require new development in these areas to be designated in a manner that conforms to concepts of transit-oriented development as found in Land Use Element Policy LU-26. Modification to TOD orientation, size, and graphic location may occur as specific stop locations and configurations are further defined by Regional Transit and as specified site planning occurs. The transit/land use relation strategy in the Land Use Element text further defines TOD.

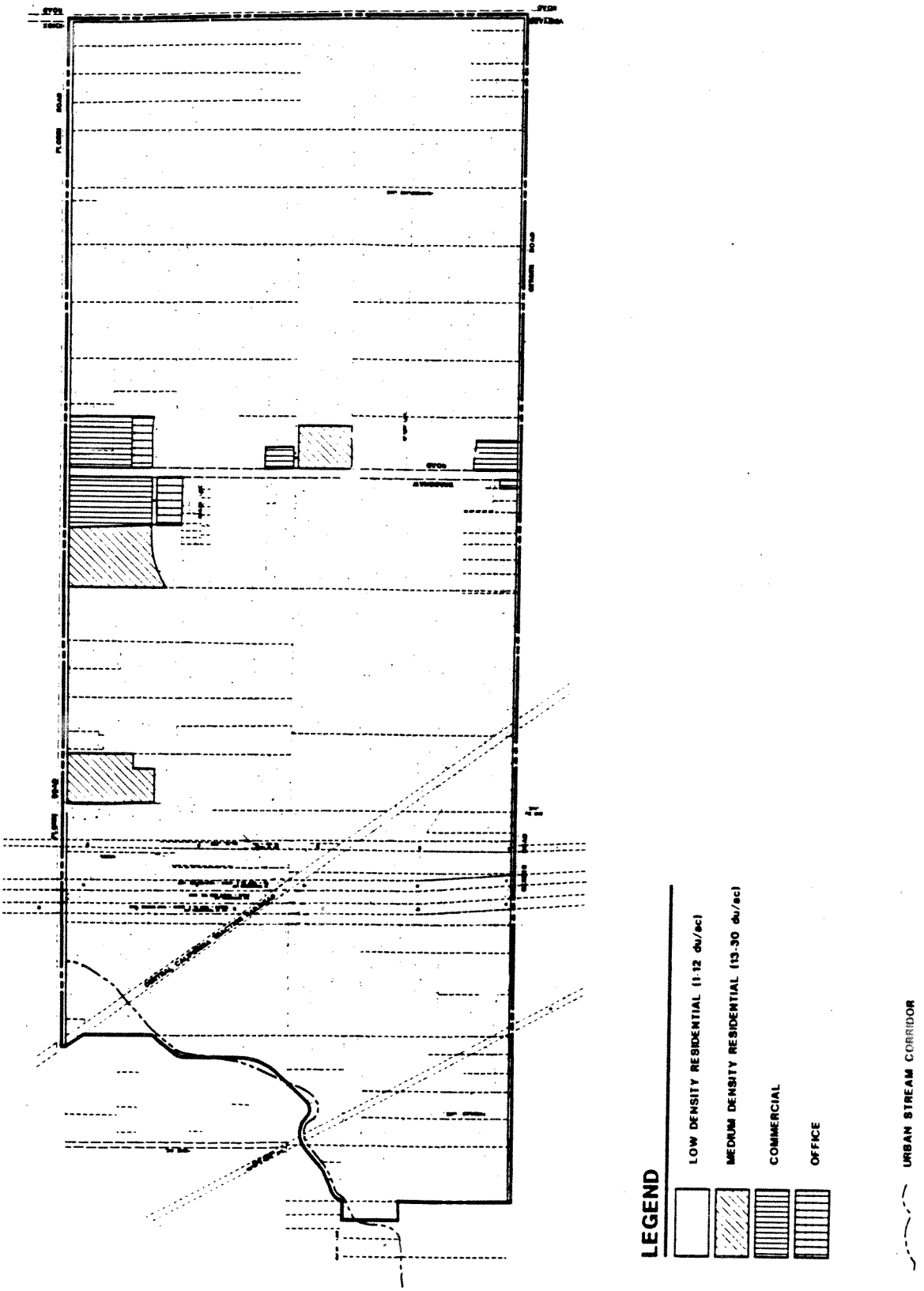


LEGEND

AR-2	Agricultural Residential 2	GC	General Commercial
AR-10	Agricultural Residential 10	(F)	Flood Combining Zone
AG-20	Permanent Agricultural Intensive		

Figure 3.1.B
Existing Community Plan Land Use Designations

Figure 3.1.C. Proposed General Plan Land Use Designations



3.2 SPECIFIC PLAN OVERVIEW

In response to direction contained in the Sacramento County General Plan, the North Vineyard Station Specific Plan responds to the need for a well-planned, high quality suburban environment in the Vineyard area. The Plan has been prepared following public input, extensive analyses of environmental conditions, adjacent land use, and area-wide infrastructure needs, and a multitude of other factors.

The Plan provides for the ultimate development of the entire 1,595-acre area, including 5,732 dwelling units in a wide range of types and densities, retail commercial and business professional uses for the convenience of local residents, parks and open space, schools, and all public facilities necessary to support the ultimate population at adopted service levels.

A key land use feature is the community's commercial area, located at the intersection of Florin Road and Bradshaw Road. Another important land use component is the Drainage Parkway system. Created within the alignments of Gerber and Elder creeks, these areas will serve the dual purposes of providing open space and passive recreation while dramatically improving storm drainage in the area.

The Plan places a high priority on aesthetics, quality of life, and land use compatibility. Accordingly, the most intensive land uses are placed in close proximity to major streets, transit facilities, and commercial sites. Open space buffers and other mechanisms are employed to further enhance land use compatibility. And, to ensure visual continuity and quality of the built environment, all Plan area streets and land uses are subject to consistent policies and design guidelines.

Transportation alternatives are a primary consideration of the Plan. The Plan includes a hierarchy of streets that will facilitate the safe and efficient movement of motorists, pedestrians, and bicyclists throughout the Plan area and beyond. Also, a network of off-road trails within the Drainage Parkways compliments the extensive pedestrian and bicycle transportation system along public streets.

Following is a summary of the key features of the Plan:

- A primarily residential community that includes a wide range of housing types and densities, all served by necessary public infrastructure.
- Well-defined residential neighborhoods, served by nearby parks and schools.
- A commercial center at the Florin Road/Bradshaw Road intersection that will provide retail commercial shopping and employment opportunities for area residents.
- Parks and other open space dispersed throughout the community to serve both active and passive recreational needs.
- A railroad corridor designated as a future public transit right-of-way.

- A naturalized storm drainage system within Drainage Parkways that is part of a larger, county-wide solution to area-wide flooding.

- A network of pedestrian and bicycle pathways along streets and within dedicated open space.

- A street network that provides safe and efficient travel throughout the Plan area, with multiple connections to existing major streets beyond the Plan area.

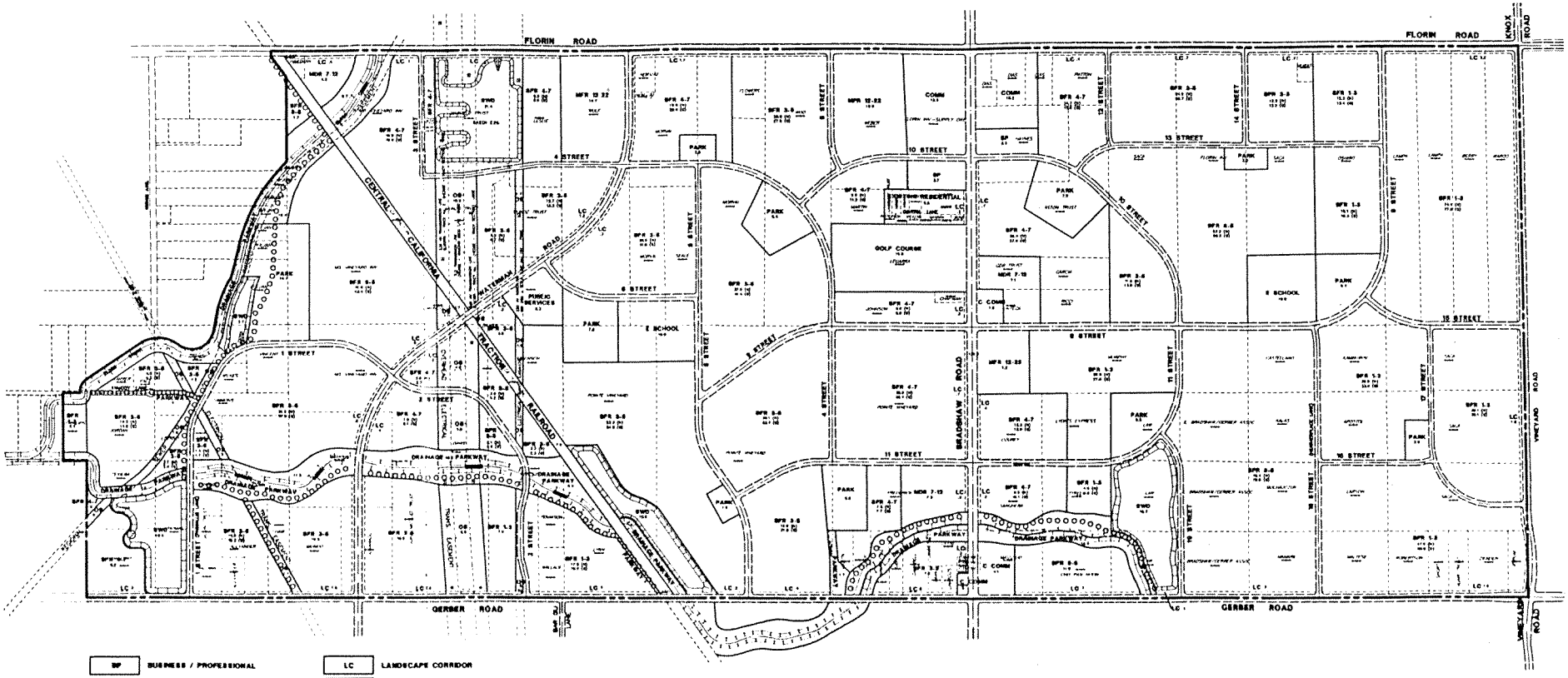
- Development standards, land use policies, and design guidelines that will guide development through ultimate buildout of the Plan.

Table 3.2 provides a listing of land uses and acreage depicted in the Specific Plan Land Use Diagram (Figure 3.2).

Table 3.2
Land Use Summary

Land Use	Fixed Count/2	Net Acres	Gross Acres	Dwelling Units
Residential/Density Range/1				
Single Family SFR/1-3	2 (gross)	--	283.4	567
Single Family SFR/3-5	5 (gross)	--	611.7	3,058
Single Family SFR/4-7	6 (gross)	--	204.6	1,227
Existing Residential	--	--	5.8	13
Medium Density MDR/7-12	10 (net)	18.7	19.4	187
Multi-Family MFR/12-22	18 (net)	37.8	39.7	680
Commercial		29.9	30.5	
Business Professional		7.1	7.9	
Schools		20.0	21.6	
Parks		63.5	68.2	
Golf Course		19.8	20.1	
Parkway		--	2.5	
Drainage Parkway		--	75.5	
Open Space/Storm Water Detention		--	104.7	
Major Streets		--	57.6	
Public Services		5.3	5.5	
Railroad		--	14.6	
Landscape Corridor		--	23.2	
Totals			**1,596.5**	**5,732**

1/ Density is expressed as dwelling units per acre.
2/ Fixed count refers to the density average used to calculate dwelling yields. Medium and Multi-family counts are based on net acreage; all Single Family counts are based on gross acreage.
3/ If the fire district and other service providing agencies determines that the site designated as "Public Services" on the Land Use Diagram is not needed within a reasonable time as determined by the Board of Supervisors for a fire station, library or additional park facility, that site may be rezoned and subdivided in a manner consistent with the surrounding land use (i.e., SFR 3-5).



BP	BUSINESS / PROFESSIONAL
COMM	COMMERCIAL
SFR 1-3	SINGLE FAMILY RESIDENTIAL (1-3)
SFR 3-6	SINGLE FAMILY RESIDENTIAL (3-6)
SFR 4-7	SINGLE FAMILY RESIDENTIAL (4-7)
MDR 7-12	MEDIUM DENSITY RESIDENTIAL (7-12)
MFR 12-22	MULTI-FAMILY RESIDENTIAL (12-22)
LC	LANDSCAPE CORRIDOR
	DRAINAGE PARKWAY
	PARKWAY
SWD	STORM WATER DETENTION BASIN
OS	OPEN SPACE
PS	PUBLIC SERVICES
ES	SCHOOLS
P	PARKS

NOTE: An eight acre park facility or two smaller park facilities shall be constructed within the area generally bounded by Passalis Lane (Loop) and Gerber Road. The actual size, configuration and location of park site(s) will be determined at a later date following the submission and review of tentative maps and development proposal within the general area. Consideration should be given to locating the park site adjacent to Gerber Creek in conjunction with the open space area associated with Gerber Creek. Developing property owners shall contact the Southgate Park and Recreation District to determine the size, configuration and location of the park site(s).

Figure 3.2
Specific Plan Land Use Diagram

The Plan's character is consistent with Policy LU-11.

> *Policy LU-11. Specific Plans and Community Plans for areas within the Urban Service Boundary should provide a balance of employment, neighborhood services, and different housing types wherever feasible.*

The Plan provides for the construction of 5,732 single family, medium density, and multi-family dwelling units in a range of densities and types. A total of 37 acres in seven sites distributed throughout the Plan area are designated for retail commercial and business/professional uses. The commercial areas, while providing employment opportunities and meeting certain frequently recurring commercial needs, are not intended to fully satisfy commercial and employment needs of Plan area residents. That is consistent with Policy LU-34 (see Section 5.0 Commercial Land Use), which discourages the creation of excessive retail commercial facilities.

The key design feature of the Plan is the North Vineyard Station Core Area, located at the intersection of Florin Road and Bradshaw Road. This core area allows for multi-family units and commercial uses to be developed at the intersection of two designated transportation corridors. This design feature is planned in accordance with General Plan Policy LU-14, linking development with transit service.

> *Policy LU-14. It is the policy of Sacramento County to design new development located within one-half mile of a transit stop on a transportation corridor to conform to the density requirements of Table III-4, except where the Board of Supervisors finds that development at the desired densities is not feasible. This policy shall not be applied to prevent, constrain, limit or deter the development of housing affordable to lower income households, on land currently zoned for residential or commercial use. This policy shall not be applied to justify reducing the available acreage for parcels at densities of RD-20 and greater.*

The Core Area is designed to serve as a focal point for the larger community area. A mixture of land uses and densities are located within a distance of one-half mile of the intersection, including Single Family Residential (i.e., 3 to 5 and 4 to 7 dwelling units per acre), Medium Density Residential and Multi-family Residential. Also, within one-half mile of the intersection are two Service Commercial sites totaling 23.4 acres and two Business/Professional sites totaling seven acres.

The Plan also includes higher density residential uses associated with transit access and support commercial uses along the Bradshaw Road corridor. This is consistent with Policy LU-18, as follows:

> *Policy LU-18. Design new development to be compatible with surrounding development.*

The land use types and densities within the Plan have been selected with consideration to existing and proposed land uses of areas beyond the Plan area in order to achieve land use compatibility. For example, the residential density on the eastern edge of the Plan area is low in order to respond to low density development east of the Plan area. Moreover, the

Plan policies and circulation system are intended to further ameliorate conflicts with adjoining areas.

> *Policy LU-27. The primary concepts in LU-26 should be employed wherever feasible in new urban development.*
>
> *Policy LU-26. Developments in the areas designated on the Land Use Diagram as Urban or Neighborhood TODs shall be designed in a manner that conforms to the concepts of transit-oriented development, including:*
>
> > *- High intensity, mixed-use development concentrated in a Core Area within an easy walk one quarter mile) of a transit stop on the Trunk or Feeder Line Network.*
> >
> > *- An emphasis on neighborhood support commercial services at street level in the Core Area that can serve the residents of the Core and surrounding Secondary Areas, with other employment encouraged in the Urban TODs created along the Trunk Line Network.*
> >
> > *- A pleasant walking environment created through good land use design, short distances, amenities, and streetscape features.*
> >
> > *- Direct, multiple linkages, especially for bicycles and pedestrians, between the Core Area and the surrounding Secondary Area.*

The Plan embraces certain aspects of Policy LU-26 by creating a higher density mixture of land uses concentrated at the intersection of Bradshaw Road and Florin Road. The area, which includes a Commercial and Business/Professional sites and much of the Multi-Family and Medium Density Residential development within one-half mile of the intersection of two planned transportation corridors. Also, all of the Commercial, Medium Density Residential, and Multi-Family Residential sites are located on major arterials easily served by transit.

The Plan provides for non-vehicular travel to all locations in a safe, efficient, and pleasant environment. Pedestrian and bicycle travel will occur within a network of Class I Pedestrian/Bicycle pathways in Landscape Corridors and within open space areas. Sidewalks and Class II bike lanes are also provided throughout the Plan as alternatives to vehicle use.

A variety of components are included in the Plan to further ensure the quality of non-vehicular travel.

The majority of the land use in the Plan area is designated for residential development in a variety of densities. Potential issues of land use incompatibility may occur in any instance where residential land use abuts another land use, such as commercial. However, the Plan is consistent with General Plan policies LU-19 and LU-28 in that incompatible land uses are buffered from one another using methods intended to retain community character. In most instances, the Plan designates higher density residential land use as a buffer to commercial land uses. The Plan also includes policies and design guidelines that address issues of potential incompatibility.

Policy LU-28. Community Plans and Specific Plans shall employ the primary concepts in LU-19 in designating locations for higher intensity mixed use development and designing circulation and pedestrian networks.

Policy LU-19. Incompatible urban land uses should be buffered from one another by methods that retain community character, and do not consume large land areas or create pedestrian barriers.

The Plan addresses the mixed-use provisions of Policy AQ-23:

Policy AQ-23. Promote mixed-use development to reduce the length and frequency of vehicle trips.

The Plan includes a mixture of land uses and over 37 acres designed for retail commercial and business/professional uses. While these uses are not intended to meet all employment and commercial needs of Plan area residents, it is anticipated that the length and frequency of trips will be reduced to some degree.

The General Plan includes the following policy to promote ridership of public transit:

Policy AQ-24. Provide for increased intensity of development along existing and proposed transit corridors.

The Plan is consistent with Policy AQ-24 because the highest intensity land uses (Neighborhood Commercial and Business/Professional) and the majority of the highest density residential uses (Multi-Family Residential) are located near the intersection of two planned transportation corridors (Bradshaw Road and Florin Road). All Commercial and Medium and Multi-Family Residential land uses are located on major arterials easily served by transit.

SECTION 4.0
RESIDENTIAL LAND USE

This section describes most aspects of residential development within the Plan area, including descriptions of each residential category, design guidelines and development standards. Implementation is addressed in Section 11.0

4.1 INTRODUCTION

4.1.1 Residential Concept

Table 4.1.1 provides a summary of acreage and dwelling unit yields associated with the Plan's residential land use categories. The Plan includes five residential density categories, each of which includes a permitted density range and a fixed count. The fixed count refers to the density average which is used to calculate dwelling unit yield. Table 4.1.1 shows that the Plan provides for the development of 5,732 dwelling units (including 13 existing residences located on Gavern Lane which predate the Plan).

Table 4.1.1
Residential Land Use Summary

Land Use/ Density Range	Fixed Count/[1]	Dwelling Units	Acres/[2]	Percent of Total	Pop./[3]
SFR/1-3	2	567	283.4	24.3	1,417
SFR/3-5	5	3,058	611.7	52.5	7,645
SFR/4-7	6	1,227	204.6	17.6	3,067
MDR/7-12	10	187	19.4	1.7	468
MFR/12-22	18	680	39.7	3.4	1,700
Existing		13	5.8	0.5	33
Totals		**5,732**	**1,164.6**	**100.0**	**14,330**

1/ Fixed count refers to the density average used to calculate dwelling yields.
2/ Single Family Residential acreage is expressed as gross acreage. In such instances, the acreage includes land to the center of the adjacent collector street(s). Acreage of adjacent arterial and thoroughfare streets is not included in gross acreage figures. Medium and Multi-family counts are based on net acreage.
3/ Population is based on the Sacramento County per household average of 2.5.

The residential character of the Plan was developed in accordance with Policy HE-3, contained in the Housing Element of the General Plan.

> *Policy HE-3. Promote the development of various types of housing opportunities, by ensuring an adequate supply of designated or zoned sites for rental and purchase housing, in all residential areas throughout the County.*

The broad range of densities and dwelling unit types included in the Plan provide for a diversity of housing types and sizes. The Plan emphasizes densities which are conducive to the development of conventional single family homes, including density ranges that are supportive of larger lot subdivisions. The Plan also provides for higher density housing, including small lot single family dwellings, apartments, and condominiums.

4.1.2 Residential Dwelling Unit Allocation

As shown in Table 4.1.1, each of the residential land use categories specifies a density range and a fixed count. The density of a residential project can be anywhere within the specified range, as long as the average density is consistent with the fixed count density. The fixed count is used to calculate service demands created by the Plan. Deviations from the density range and fixed count are permitted only in accordance with provisions of Section 11.0 of this Plan.

Table 4.1.2 describes the basis for determining dwelling unit allocation (or fixed count), based on the density ranges for each of the residential land use categories.

Table 4.1.2
Density for Determining Dwelling Unit Allocation
(dwelling units per gross acre)

Residential Density Designations	Corresponding Density for Allocation
1 - 3	2
3 - 5	5
4 - 7	6
7 - 12	10
12 - 22	18

On the basis of the fixed count densities described in this section, and the land use designations shown on the Specific Plan Land Use Diagram (Figure 3.2), each residential parcel in the Plan area has been assigned a residential dwelling unit allocation. The Residential Dwelling Unit Allocation table is contained in the Appendix. Deviations from the table are permitted only in accordance with Section 11.0 of this Plan.

4.1.3 Density Averaging/Transfer

Generally, residential development will occur within the density ranges specified in Table 4.1.2. However, in order to promote housing diversity and accommodate housing on sites

with unusual physical conditions, landowners may elect to deviate from the density range in accordance with the provisions set forth in Section 11.0 of this Plan.

Densities lower than that specified by the density designations shown on the Land Use Diagram are also permitted, provided that at least 75 percent of the total allocation for any application is achieved. This requirement is consistent with General Plan Policy LU-4, which states:

> *Policy LU-4. All residential projects involving ten or more units, excluding remainder lots and Lot A's, shall not have densities less than 75% of zoned maximums, unless physical or environmental constraints make achieving the minimum densities impossible, or unless existing zoning is inconsistent with LU-15.*

4.1.4 Calculation of Land Area

Single-family residential land area is expressed as gross acreage. In such instances, the acreage includes land to the center of the adjacent collector street(s). Acreage of adjacent Arterial and Thoroughfare streets is not included in gross acreage figures. Acreage devoted to schools and parks is expressed as both gross and net acreage in instances where the site is adjacent to a Collector street. All other land use areas are expressed as net acreage.

4.1.5 Underlying Specific Plan Land Use Designation

Lands subject to dedication and/or acquisition as Park and School sites are assumed to have an underlying Specific Plan land use designation which is compatible with surrounding uses. In the event a Park or School site is either reduced in size or eliminated due to a change in the controlling agency plans, a lessening of dedication requirement, or other reason approved by the Board of Supervisors, additional dwelling unit allocation consistent with a subsequent rezone approval is permitted.

4.2 SINGLE FAMILY RESIDENTIAL

4.2.1 Land Use Description

The Single Family Residential (SFR) land use category is the predominant land use in the Plan area.

The Single Family Residential (SFR) land use category allows for a range of lot and dwelling sizes, in accordance with the three density ranges shown below.

Land Use	**Density Range** (dwellings/acre)	**Fixed Count** (dwellings/acre)
Single Family Residential	1 to 3	2
Single Family Residential	3 to 5	5
Single Family Residential	4 to 7	6

Applying the fixed count densities to each of the Single Family Residential categories results in a total of 4,865 Single Family Residential dwellings.

The Plan will achieve a network of well-defined neighborhoods, each with it's own identity and internal focal point. The majority of the homes will be built on a network of residential streets that include convenient connections to arterials and thoroughfares, but are not subjected to high traffic volumes and through traffic.

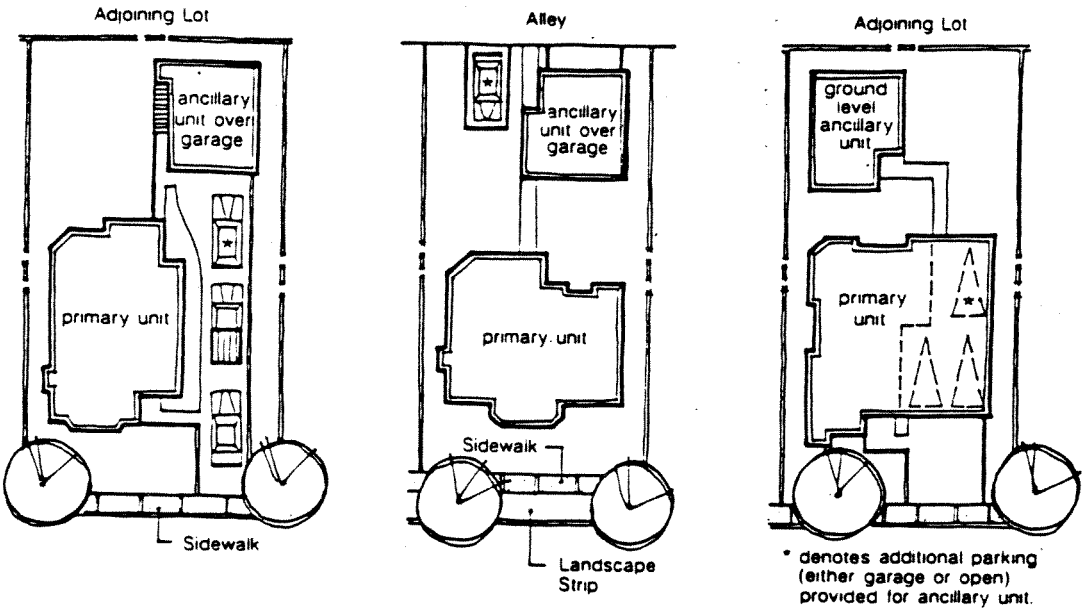
Development will occur within the Single Family Residential land use category as a series of individual subdivision projects. Ancillary dwelling units, as described below, will also be permitted, and will be integrated into the overall design of individual single family residential developments.

Ancillary Dwelling Units

Ancillary units, also known as second units or carriage homes, are permitted in Single Family Residential areas subject to provisions set forth in Section 4.2.3. Ancillary units help support both pedestrian activity and public transit by increasing overall densities with little impact on the desirable aspects of Single Family Residential neighborhoods. Ancillary units are not included in residential density and dwelling unit allocations set forth in this Plan (see Section 3.0), provided they meet the provisions of Section 4.2.3.

Figure 4.2.1.A provides an illustration of possible spatial relationships of ancillary units to primary dwellings.

Figure 4.2.1.A Conceptual Ancillary Dwelling Unit Designs



4.2.2 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Single Family Residential Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classifications that may be applied by rezone action to properties within the Plan designated Single Family Residential are: RD-1, RD-2, RD-3, RD-4, RD-5, and RD-7. The (F) combining zone classification must be applied to property that is subject to flooding.

4.2.3 Development Standards

The development standards for areas designated Single Family Residential as shown on Figure 3.2 are contained in Chapter 5, Article 1 of the Sacramento County Zoning Ordinance, except where modified by development standards provisions found in Table 4.2.3.

Table 4.2.3
Single Family Residential
Development Standards

Plan Land Use	SFR/1-3			SFR/3-5		SFR/4-7		
Zoning Designation	**RD-1/12**	**RD-2/12**	**RD-3**	**RD-4**	**RD-5**	**RD-4, 5**	**RD-6**	**RD-7**
Lot Dim. (min.)								
Area (sq. ft.)/1			9,000	7,000	5,200		4,500	3,800
Area, Corner (sq. ft.)/1			9,000	7,000	6,000		5,000	4,500
Width			65'	60'	52'		50'	35'
Pub. Street Frontage/2			55'	50'	45'		40'	30'
Width, Corner/2			70'	65'	60'		58'	45'
Depth/3			110'	100'	95'		85'	60'
Bldg. Setbacks (min.)								
Front, Living Area/4,5			20'	20'	15'/6		15'/6	15'/6
Front, Porch/5			20'	20'	15'/6		15'/6	10'
Front, Garage/7			20'	20'	20'/8		20'/8	20'/8
Side, Interior/4			5'	5'/9	5'/9		5'/9	5'/9
Side, Total Bldg. Sep./9			15'	10'	10'		10'	10'
Rear, Living Area/4			20'	20'	15'		10'	15'
Rear, Ancillary Unit/10			5'	5'	5'		5'	5'
Detached Garage/11			5'	5'	0'		0'	0'

Notes

1/ The minimum half-plex lot area is 3,000 sq. ft. for interior lots and 4,000 sq. ft. for corner lots. Half-plex lots have no minimum lot dimension requirements.

2/ The public street frontage for lots fronting on a curved street or on the curved portion of a cul-de-sac or elbow may be measured along an arc located within the front fifty (50) feet of the lot (see Figure 4.2.3.B).

3/ The minimum lot depths listed herein supersede the minimum lot depth provisions in the Zoning Code.

4/ Architectural projections are allowed to extend two (2) feet into the required interior side yard and rear yard setbacks. Architectural projections are also allowed to extend two (2) feet into required twenty (20) foot front yard setbacks. Architectural projections include eaves, bay windows (cantilevered and extending from the foundation), fireplaces, media bays, and architectural box-outs. Rear yard projections are allowed per Zoning Code, Section 305-02 (b).

5/ Vehicular visibility requirements must be met.

6/ May be reduced to ten (10) feet where adjacent to detached sidewalk.

7/ Where swing driveways are used, the front yard garage setback may be reduced to fifteen (15) feet.

8/ Driveway length may be reduced to nineteen (19) feet where automatic roll-up doors are used.

9/ Zero-lot line units are permitted where the total building separation requirement is met.

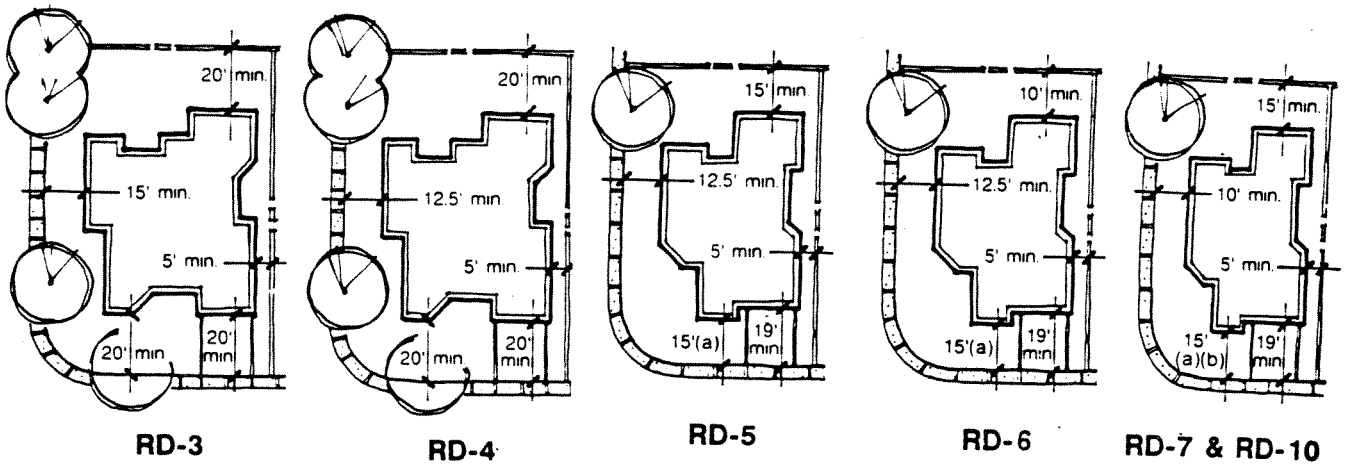
10/ Ancillary units have the same front, side, and street sideyard setback requirement as the primary unit. If attached, the required rear yard is the same as for the primary unit. If detached, the separation from the primary unit is governed by the Uniform Building Code and the Uniform Fire Code. Ancillary units may be placed above attached or detached garages. One (1) on-site parking space is required per unit in addition to the two (2) garage and two (2) driveway spaces required for the primary unit (see Figure 4.2.1.A.).

11/ Side and rear dimension.

12/ Refer to Sacramento County Zoning Code for applicable lot dimensions and building setbacks.

Figure 4.2.3.A. provides an illustration of setback requirements for Single Family Residential development. Figure 4.2.3.B. describes building setback requirements on curved streets.

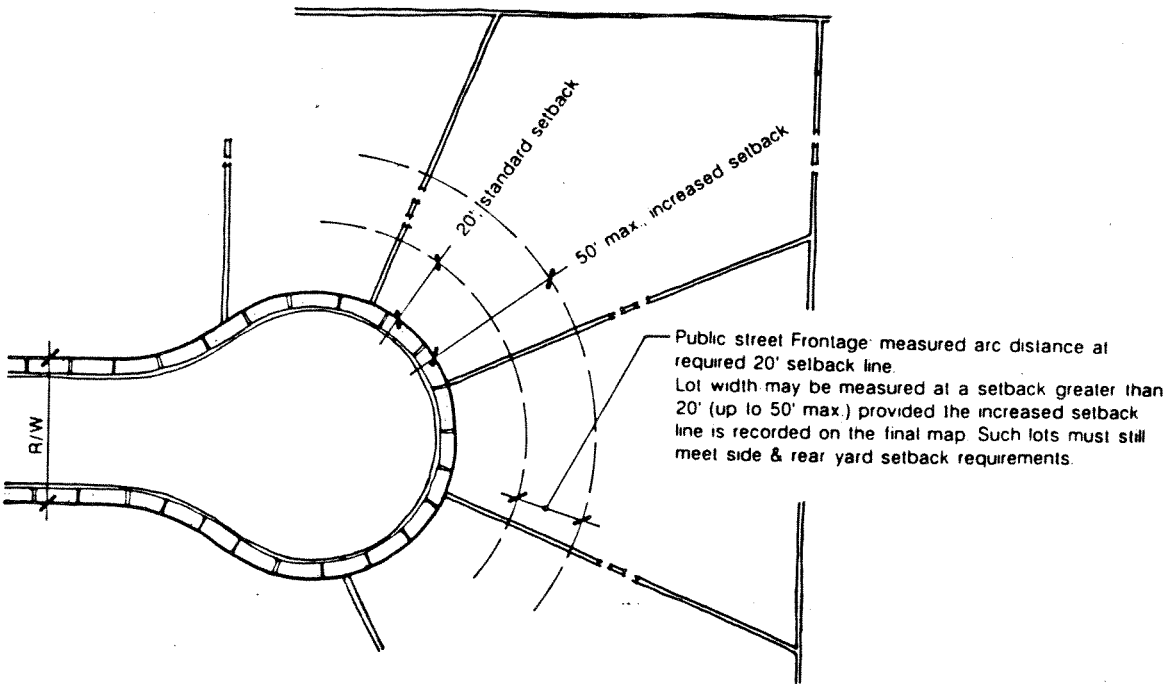
Figure 4.2.3.A. Conceptual Single Family Residential Setback Illustrations



(a) may be reduced to 10' where adjacent to detached sidewalk.

(b) the setback for porches is 10'.

Figure 4.2.3.B Width and Frontage Dimensions for Curved Frontage



4.2.4 Permitted Uses

Permitted uses within areas designated as Single Family Residential as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 1, Article 1 of the Sacramento County Zoning Ordinance for the RD-1, RD-2, RD-3, RD-4, RD-5, and RD-7 Zone classifications, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when this Plan is adopted remains in effect until the property is rezoned. Additional uses shall include:

- Half-plexes

Half-plexes shall conform to the development standards contained herein.

- Ancillary Dwelling Units

Ancillary dwelling units shall be permitted by right in the initial project application, up to 25 percent of the total project units. Ancillary units beyond 25 percent are subject to approval of a Conditional Use Permit. Ancillary units are not counted either towards designation density limitation or dwelling unit allocation limitation. Ancillary units are subject to the following criteria:

- Usable floor area shall not exceed 800 square feet.
- Building setbacks are consistent with Table 4.2.3.
- At least one off-street parking space is provided on-site, in addition to the two garage parking spaces and the two apron spaces required for the principal residence.
- The building design and location are compatible with adjacent homes in the neighborhood.

4.3 MEDIUM DENSITY RESIDENTIAL

4.3.1 Land Use Description

The Medium Density Residential (MDR) land use category provides for residential densities ranging from 7 to 12 dwelling units per acre, with a fixed count density of 10 dwelling units per acre (net). At the lower end of the density range the MDR category is intended primarily for development of zero-lot line residences, half-plexes, and various entry-level housing types. Figures 4.3.1.A and B provide graphic illustrations of lower density Medium Density Residential site design. At the higher end of the density range the MDR category will provide for the development of condominium and townhouse dwelling units. The Plan includes four Medium Density Residential sites, all located on major streets. Using the fixed count density of 10 dwelling units per acre (net), the 18.7 acres in this land use category will result in approximately 187 dwelling units.

Figure 4.3.1 A. Conceptual Small Lot Housing Site Designs

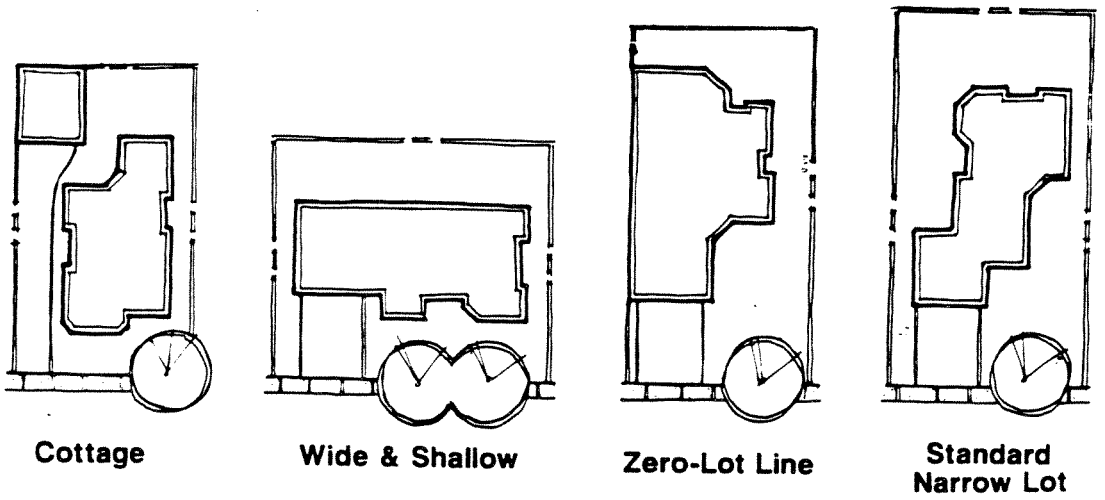
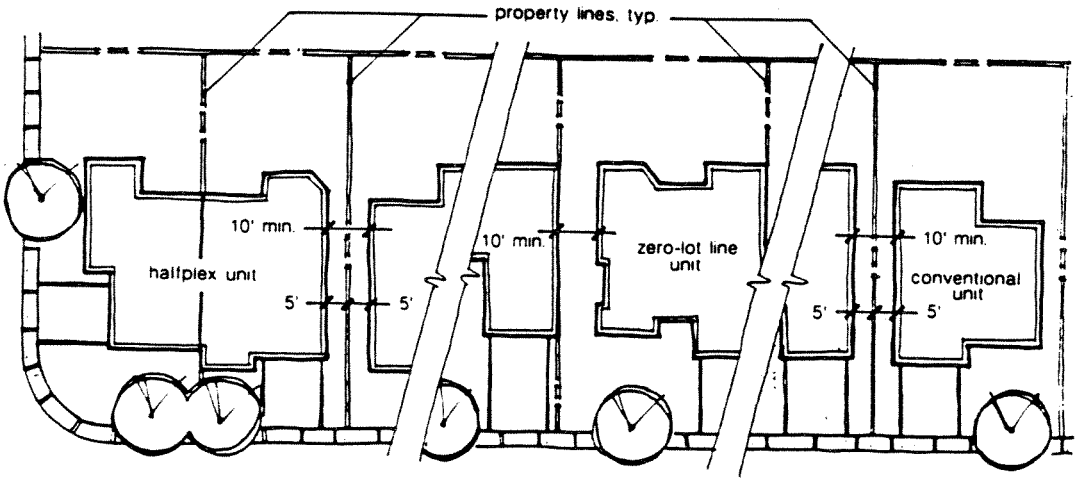


Figure 4.3.1.B. Conceptual Medium Density Residential Building Separation Illustrations



4.3.2 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Medium Density Residential Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classifications that may be applied by rezone action to properties within the Plan designated Medium Density Residential are: RD-7 and RD-10. The (F) combining zone classification must be applied to property that is subject to flooding.

4.3.3 Development Standards

The development standards for areas designated Medium Density Residential as shown on Figure 3.2 are contained in Chapter 5, Article 1 of the Sacramento County Zoning Ordinance, except where modified by development standards provisions found in Table 4.3.3.

Table 4.3.3
Medium Density Residential
Development Standards

Specific Plan Land Use	**MDR/7-12**	
Zoning Designation	**RD-7**	**RD-10**
Lot Dimensions (min.)		
Area (sq. ft.)/1	3,800	3,200
Area, Corner (sq. ft.)/1	4,500	4,000
Width	35'	35'
Public Street Frontage/2	30'	30'
Width, Corner/2	45'	45'
Depth/3	60'	60'
Building Setbacks (min.)		
Front, Living Area/4,5	15'/6	15'/6
Front, Porch/5	10'	10'
Front, Garage/7	20'/8	20'/8
Side, Interior/4	5'/9	5'/9
Side, Total Bldg. Sep./9	10'	10'
Rear, Living Area/4	15'	15'
Rear, Ancillary Unit/10	5'	5'
Detached Garage/11	0'	0'

Notes

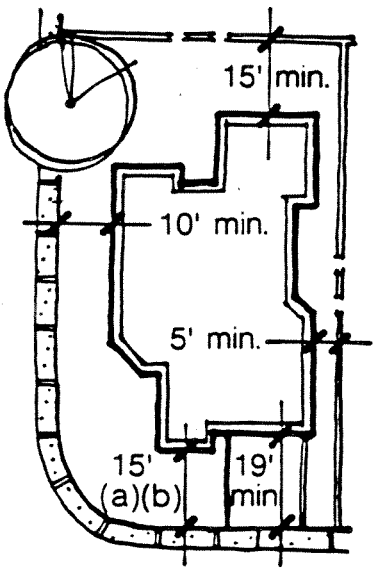
1/ The minimum half-plex lot area is 3,000 sq. ft. for interior lots and 4,000 sq. ft. for corner lots. Half-plex lots have no minimum lot dimension requirements.

2/ The public street frontage for lots fronting on a curved street or on the curved portion of a cul-de-sac or elbow may be measured along an arc located within the front fifty (50) feet of the lot (see Figure 4.2.3.B).

3/ The minimum lot depths listed herein supersede the minimum lot depth provisions in the Zoning Code.
4/ Architectural projections are allowed to extend two (2) feet into the required interior side yard and rear yard setbacks. Architectural projections are also allowed to extend two (2) feet into required twenty (20) foot front yard setbacks. Architectural projections include eaves, bay windows (cantilevered and extending from the foundation), fireplaces, media bays, and architectural box-outs. Rear yard projections are allowed per Zoning Code, Section 305-02 (b).
5/ Vehicular visibility requirements must be met.
6/ May be reduced to ten (10) feet where adjacent to detached sidewalk.
7/ Where swing driveways are used, the front yard garage setback may be reduced to fifteen (15) feet.
8/ Driveway length may be reduced to nineteen (19) feet where automatic roll-up doors are used.
9/ Zero-lot line units are permitted where the total building separation requirement is met.
10/ Ancillary units have the same front, side, and street sideyard setback requirement as the primary unit. If attached, the required rear yard is the same as for the primary unit. If detached, the separation from the primary unit is governed by the Uniform Building Code and the Uniform Fire Code. Ancillary units may be placed above attached or detached garages. One (1) on-site parking space is required per unit in addition to the two (2) garage and two (2) driveway spaces required for the primary unit (see Figure 4.2.1.A.).
11/ Side and rear dimension.

Figure 4.3.3 provides an illustration of setback requirements applicable to Medium Density Residential development.

Figure 4.3.3 Conceptual Medium Density Residential Setback Illustration



4.3.4 Permitted Uses

Permitted uses within areas designated as Medium Density Residential as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 1, Article 1 of the Sacramento County Zoning Ordinance for the RD-7 and RD-10 Zone classifications, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when this Plan is adopted remains in effect until the property is rezoned. Additional uses shall include:

- Half-plexes

Half-plexes shall conform to the development standards contained herein.

- Ancillary Dwelling Units

Ancillary dwelling units shall be permitted by right in the initial project application, up to 25 percent of the total project units. Ancillary units beyond 25 percent are subject to approval of a Conditional Use Permit. Ancillary units are not counted either towards designation density limitation or dwelling unit allocation limitation. Ancillary units are subject to the following criteria:

- Usable floor area shall not exceed 800 square feet.
- Building setbacks are consistent with Table 4.2.3.
- At least one off-street parking space is provided on-site, in addition to the two garage parking spaces and the two apron spaces required for the principal residence.
- The building design and location are compatible with adjacent homes in the neighborhood.

4.4 MULTI FAMILY RESIDENTIAL

4.4.1 Land Use Description

The Multi-family Residential (MFR) land use category provides for residential densities ranging from 12 to 22 dwelling units per acre. The MFR category is intended primarily for apartment and condominium developments. The Plan includes a total of 37.8 acres devoted to the MFR category. Using the fixed count density of 18 dwelling units per net acre, the Plan provides for the development of approximately 680 dwelling units.

The acreage devoted to the MFR category, and the corresponding dwelling unit yield, is consistent with program and policy direction provided in the Housing Element of the General Plan. Several policies seek to ensure that adequate sites for multi-family uses are planned and provided in newly developing areas. Several programs specify that the Plan area should provide between 31 and 35 acres of land designated for multi-family use, resulting in a dwelling unit yield of between 620 and 700 dwelling units.

Policies in the Housing Element also seek to ensure that multi-family residential sites are appropriately located so that services and facilities needed to facilitate the development of affordable housing can be provided. For example, the proximity of multi-family residential sites to public transit facilities achieves consistency with Housing Element Policy HE-6:

> *Policy HE-6. Support development proposals that seek to locate new market rate multi-family uses at strategic locations within transportation corridors and at transit stops and stations, or at other strategically located reuse and underdeveloped sites.*

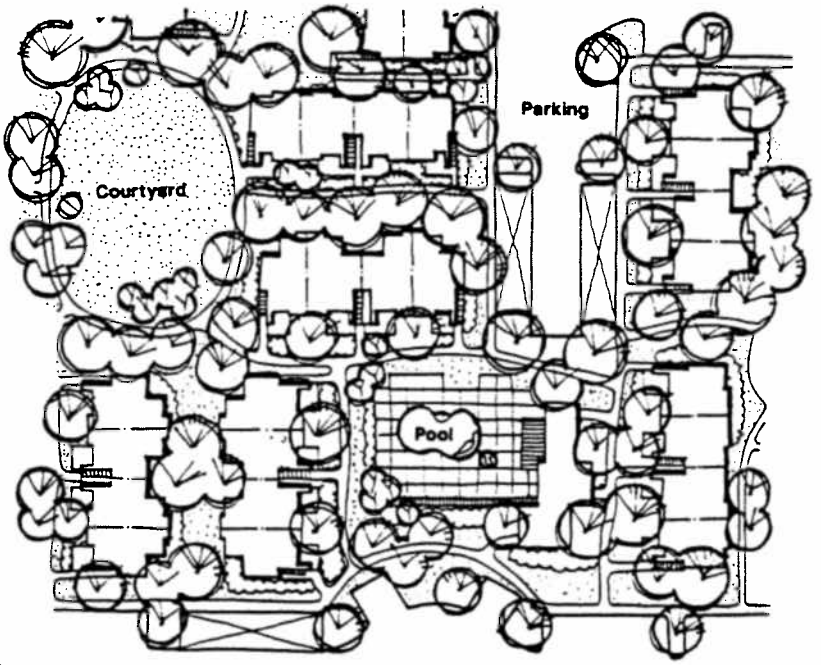
The Specific Plan circulation and public infrastructure systems have been designed to accommodate the requirements of all land uses shown on the Specific Plan Land Use Diagram, including multi-family sites. The Capital Improvement Program, shown in Section 10.0, also reflects the cost of these facilities. Any proposed changes to land use designations, including housing density, are subject to the requirements of the Specific Plan and must be consistent with the General Plan. This is consistent with Housing Element Policy 5.1:

> *Policy HE-5.1. The County, in adopting infrastructure financing plans for any new growth areas, shall consider housing affordability and the need to retain sites designated as multifamily in the Specific Plan, in addition to other criteria established by the Public Works Agency, in the imposition and spreading of infrastructure costs and in the structuring of the payment of such costs. Specifically, such financing plans shall consider how fees and debt can best be imposed to encourage retention of multifamily property and to foster housing affordability.*

Each of the Plan's multi family sites is situated on a major street, one located within close proximity to the Core Area (i.e. intersection of Bradshaw and Florin Roads). Two other sites are located close to future transit facilities associated with Bradshaw and Florin roads. All sites are in a favorable location, and are ensured the adequate provision of infrastructure and services through the implementation of the Plan's Public Facilities and Financing Plan.

Figure 4.4.1 provides an illustration of a typical Multi Family Residential development.

Figure 4.4.1 Multi Family Residential Design Concept



4.4.2 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Multi-family Residential Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classifications that may be applied by rezone action to properties within the Plan designated Multi-family Residential are: RD-15, RD-20, and RD-25. The (F) combining zone classification must be applied to property that is subject to flooding.

4.4.3 Development Standards

The development standards for areas designated Multi-family Residential as shown in Figure 3-2 are contained in Chapter 5, Article 2 of the Sacramento County Zoning Ordinance.

4.4.4 Permitted Uses

Permitted uses within areas designated as Multi-family Residential as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 1, Article 1 of the Sacramento County Zoning Ordinance for the RD-15, RD-20, and RD-25 Zone classifications, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when this Plan is adopted remains in effect until the property is rezoned.

4.5 RESIDENTIAL LAND USE POLICIES

1. Preserve the integrity of existing neighborhoods by preventing the encroachment of incompatible land uses and associated activities (e.g., excessive through traffic).

2. Rear and side yards shall face streets designated as Arterial and Thoroughfare streets on the Circulation Plan. Subdivisions shall be separated from Arterial and Thoroughfare streets by landscaped areas, sound walls, fences, and/or berms that conform to the Design Guidelines included in this Plan.

3. Subdivisions shall be designed in order to reduce through traffic; however, multiple linkages for pedestrians and bicyclists are encouraged.

4. Residential subdivisions shall be designed to facilitate pedestrian and bicycle travel.

5. Design and architecture of proposed residential projects should consider the Design Guidelines included in the Specific Plan.

6. Private open space and recreation amenities that will meet the needs of the resident population shall be provided in multi-family residential projects.

7. Residential lotting patterns should promote opportunities for public access into public open spaces. Parks and other community open spaces should be accessible at points along the street systems.

8. Residential subdivisions shall be designed to facilitate surveillance of parks and open space areas by residents and Sheriff patrols.

9. Single Family and Medium Density Residential dwellings shall have frontage on, and driveway access to, Collector Streets only in accordance with average daily traffic counts described in Section 7.5.1.

10. Provide a range of land use densities within newly developing areas to enhance community vitality and create a mix of lot and housing types.

11. Variation of housing within neighborhoods is encouraged, provided the mix is architecturally compatible.

12. Long stretches of backup lots along parkways and drainage/creek corridors should be discouraged. The use of front on streets, side yard lotting patterns and open-ended cul-de-sacs are appropriate.

13. Provide adequate buffering within the urban-residential areas where adjacent land uses differ significantly. Appropriate buffering techniques include larger lots, additional setbacks, landscape corridors or any appropriate combination.

4.6 RESIDENTIAL DESIGN GUIDELINES

4.6.1 Architectural Design

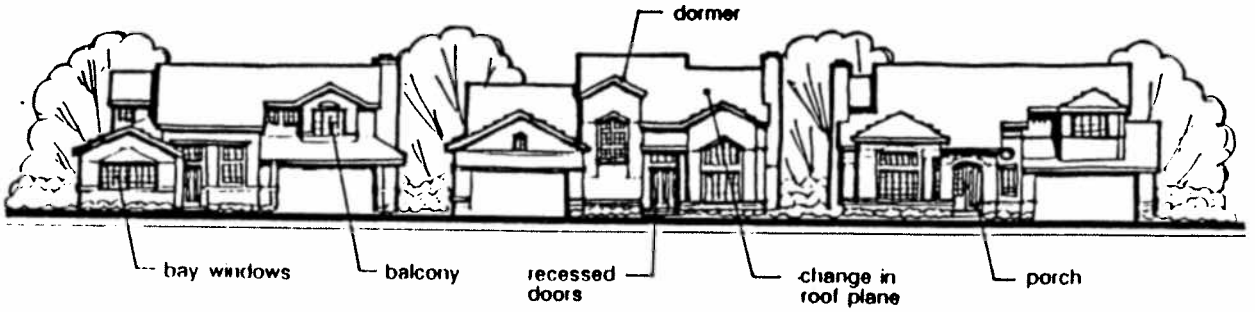
Architectural Design - Generally

It is not the intent of the following architectural design guidelines to dictate particular styles, materials, or colors. Rather, the guidelines are intended to ensure compatibility within neighborhoods while minimizing off-site visual impacts.

These guidelines also apply to any non-residential use that may be permitted in residential areas of the Plan.

Conceptual architectural designs for Single Family Residential development are illustrated in Figure 4.6.1.

Figure 4.6.1 Single Family Residential Architectural Design Concept



1. All buildings visible from an adjoining street should include architectural detailing, such as accent trim, reveals, recesses, projections, porches, and other similar features, which provide variety and visual interest.

2. Roofs should employ a hip and gable design, with slopes of between 4:12 and 6:12. Flat roof designs should not be permitted.

3. Roof material should consist of wood shakes, clay tile or other materials that have a similar color and texture, such as concrete or formed metal.

4. All roof materials and equipment should be non-reflective.

5. Roof-mounted equipment should not be visible from adjacent streets.

6. All wall and roof colors should be in muted tones.

Architectural Design - Single Family Dwellings

Architectural style within a single neighborhood or subdivision should provide a mixture of styles with varying elevations, materials, and roof designs, all based on a consistent design theme selected for that neighborhood or subdivision.

1. Attached garages should be offset from the main body of the dwelling to the maximum extent possible to improve the visual interest of the front elevation. A minimum offset of 5 feet is recommended; however, this offset should not be inconsistent with the Development Standards.

2. Swing in or side entry garages are encouraged where lots are of sufficient width.

3. Architectural diversity within an established style is required within each single family residential project. To accomplish visual diversity architectural design, materials, and colors should vary. Architectural details, such as balconies, dormers, bay windows, recessed doors, changes in roof pitch, and porches are encouraged to further embellish basic architectural designs. Figure 4.6.1.A. provides an example of diversity in architectural style.

Architectural Design - Multi-family Dwellings

1. Roof surfaces and ridgelines should be broken through staggering of dwelling units and variations in roof height and form.

2. To the extent possible, multi-family projects should consist of several smaller structures rather than a few large structures.

4.6.2 Site Design

Site Design - Multi-family Dwellings

1. Buildings should be arranged in informal groupings, rather than in a regimented, rectilinear fashion.

2. Natural site features should be incorporated into project site design, to the extent possible.

3. Parking areas should be provided for small groups of vehicles (e.g., 20 to 30) separated from other parking areas by open space and landscaping and located in close proximity to the dwelling units served.

4. Where multi-family projects adjoin open space, careful attention should be given to ensuring that the open space is visually integrated in the project.

5. Where multi-family projects abut single family rear or side yards, solid walls or fences should be provided, and a landscaped planter should be provided on the multi-family side as a buffer.

6. Secure bicycle parking should be provided in all multi-family projects.

7. Landscaping should be selected with consideration to wind control and solar access. For example, deciduous trees should be planted adjacent to habitable spaces where summer shade and winter sun is desired.

8. Plant materials should be selected with long-term results in mind, not quick screening.

9. All projects should include common recreation amenities such as swimming pools, play structures, tennis courts, and picnic areas. The nature of these facilities will be in accordance with a number of factors, including characteristics of the resident population.

10. Landscaping of common areas should be installed prior to occupancy of the first dwelling unit in a project. All landscaping should be maintained by the building owner.

11. Adequate open space should be provided between buildings to ensure privacy and allow adequate access to sunlight and air.

12. In most instances, an assemblage of smaller structures is preferable to fewer, larger buildings due to the increased opportunities for providing open spaces between buildings.

13. All outdoor parking areas (including carports) should be observable from the living area of at least one dwelling in the project, although not necessarily the dwelling assigned to that parking area

14. To the maximum extent possible, common open space should be interspersed throughout the project site. Common areas should provide for limited active recreation activities and passive use.

15. Active, noise-generating recreation areas should be separated from residential areas and/or screened to minimize disturbance to nearby residents.

16. Storage areas for maintenance equipment, and centralized trash collection areas should be well-integrated into the site design to minimize impact on nearby residents. These areas should be well-screened with fencing and landscaping, and should allow easy access by service vehicles.

SECTION 5.0
COMMERCIAL LAND USE

This section describes all aspects of commercial development within the Plan area, including descriptions of each retail commercial and business professional category, design guidelines and development standards.

5.1 COMMERCIAL CONCEPT

The North Vineyard Station Specific Plan includes a limited amount of commercial and business/professional development primarily for the convenience of future residents of the Plan and nearby areas. Commercial development designated within the Plan area is not intended to meet all of the retail commercial needs of Plan area residents and is not intended to include major shopping and employment facilities for the larger South County area. Instead, the Plan designates a small portion (less than 2 percent) of the total land area to commercial uses. In this way, planned commercial uses will serve the frequently recurring needs of area residents for commercial goods and services. This limitation on new commercial development is consistent with the following General Plan policy:

> *Policy LU-34. Discourage the creation of excessive amounts of retail shopping facilities.*

The 37.0 net acres devoted to commercial use are distributed among seven sites, which range in size from one-half to 14.7 net acres. Each commercial site is located on a major street intersection. Included are two Neighborhood Commercial sites, three small Convenience Commercial sites, and two Business/Professional sites.

Each commercial site is located in a compatible manner with adjoining land uses, and will be easily accessible from adjoining public transit routes.

The principal commercial site and community focal point is the commercial area located at the intersection Florin and Bradshaw roads. At ultimate development, this commercial area will be well integrated with the adjoining single family and multi-family residential development.

To ensure that commercial sites are designed in an aesthetic manner and are compatible with adjoining land uses, all commercial development is subject to land use policies and design guidelines, included in this section.

As graphically depicted in the Specific Plan Land Use Diagram, each of the seven commercial centers in the Plan are distinct and relatively compact, and none is linear in design; the largest commercial site has 950 feet of street frontage. The design and placement of commercial development is therefore consistent with the following General Plan policy:

Policy LU-33. Discourage the establishment and build-out of linear, strip pattern, commercial centers.

Each of the different commercial land use components are separately described in this section. Table 5.1 provides a summary of Commercial land use.

Table 5.1
Commercial Land Use Summary

Commercial Category	Acreage
Neighborhood Commercial	23.4
Convenience Commercial	6.5
Business/Professional	7.1
Total	**37.0**

5.2 NEIGHBORHOOD COMMERCIAL

5.2.1 Land Use Description

Two Neighborhood Commercial sites totaling 23.4 acres are designated at the Florin/Bradshaw Road intersection. This commercial center, which is the largest and most intensive commercial area in the Plan, will accommodate a full range of commercial uses intended primarily to meet the frequently recurring retail goods and service needs of nearby residents.

Following is a partial, representative listing of the types of uses which would be appropriate in the Neighborhood Commercial areas:

- Super Drug Store
- Supermarket
- Miscellaneous Retail Shops
- Barber/Beauty Shop
- Bank

The Neighborhood Commercial sites are located at the intersections of major streets for convenient vehicle access, and will be near transit stops. These sites are located near the multi-family and single family residential uses, which will facilitate access by pedestrians and bicyclists. The Neighborhood Commercial centers are designed to be compatible with adjoining single and multi-family residential land uses.

An example of Neighborhood Commercial development is illustrated in Figure 5.2.1.

5.2.2 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Neighborhood Commercial Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classification that may be applied by rezone action to properties within the Plan designated Neighborhood Commercial is Shopping Center (SC) Commercial. The (F) combining zone classification must be applied to property that is subject to flooding.

5.2.3 Development Standards

The development standards for areas designated Neighborhood Commercial on Figure 3.2 are described in Chapter 15, Article 5 of the Sacramento County Zoning Ordinance.

5.2.4 Permitted Uses

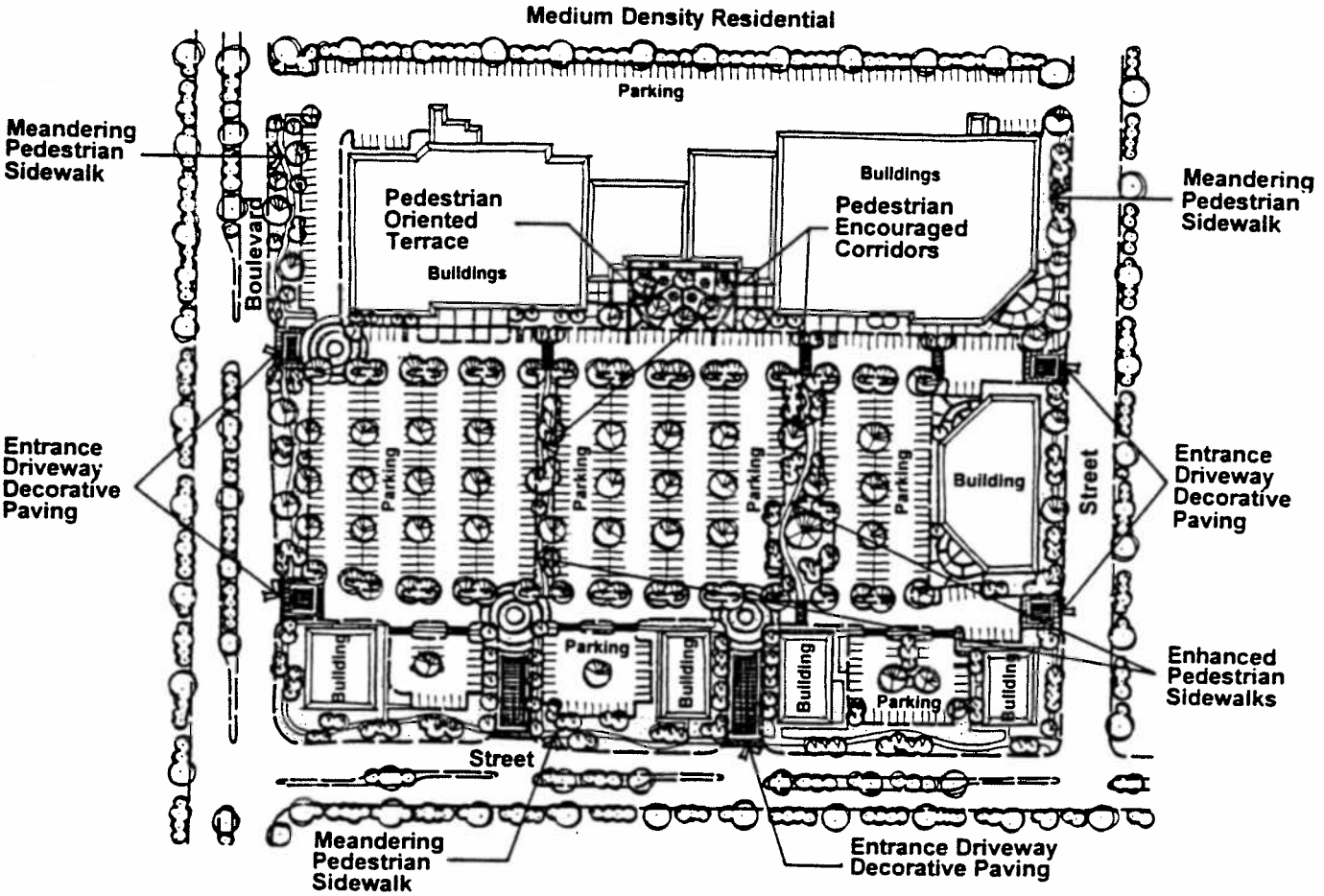
Permitted uses within areas designated as Neighborhood Commercial as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 25, Article 2 of the Sacramento County Zoning Ordinance for the Shopping Center (SC) Commercial Zone classification, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in

existence when this Plan is adopted remains in effect until the property is rezoned. Additional uses shall include:

- Joint park and ride lots

Joint use park-and-ride lots are permitted where sufficient parking spaces are available.

Figure 5.2.1 Neighborhood Commercial Land Use Concept



5.3 CONVENIENCE COMMERCIAL

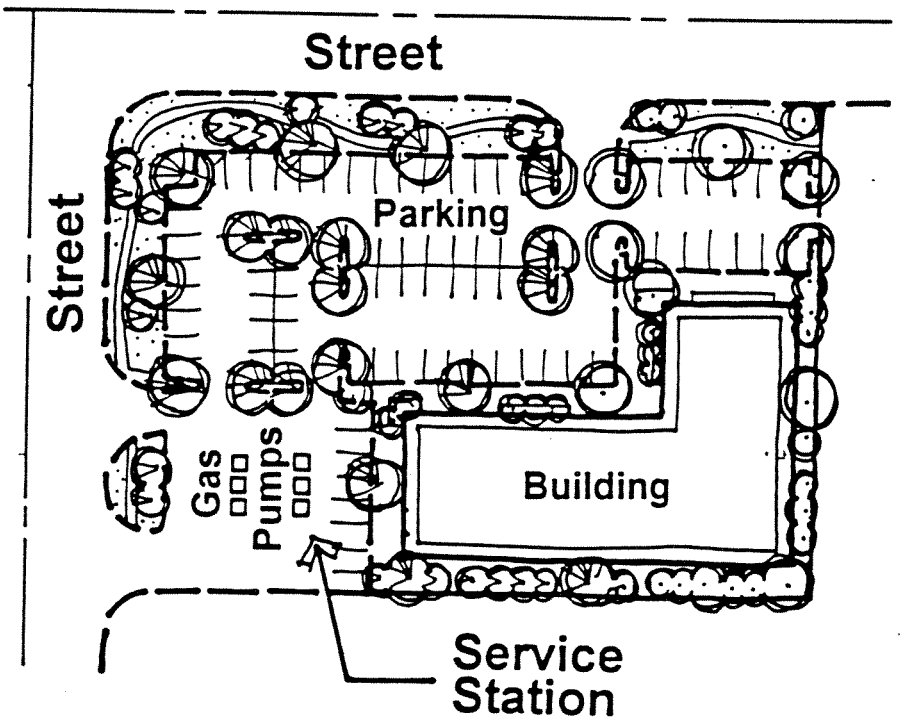
5.3.1 Land Use Description

A total of 6.5 acres are devoted to three Convenience Commercial sites, which range from one-half acre to 4.1 acres in size. These sites are located in the eastern half of the Plan area on Gerber and Bradshaw roads. The Convenience Commercial sites are intended to provide for low-intensity convenience commercial uses and small-scale business professional uses that serve Plan area residents. Following is a partial, representative listing of the types of uses that would be appropriate in the Convenience Commercial areas:

- Barber/Beauty Shop
- Convenience Food Store
- Bakery
- Bookkeeper/Accountant
- Insurance Agent

Figure 5.3 illustrates the Convenience Commercial land use concept.

Figure 5.3.1 Convenience Commercial Land Use Concept



5.3.2 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Convenience Commercial Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classification that may be applied by rezone action to properties within the Plan designated Convenience Commercial is Limited Commercial (LC). The (F) combining zone classification must be applied to property that is subject to flooding.

5.3.3 Development Standards

The development standards for areas designated Convenience Commercial on Figure 3.2 are described in Chapter 15, Article 2 and Article 5 of the Sacramento County Zoning Ordinance.

5.3.4 Permitted Uses

Permitted uses within areas designated as Convenience Commercial as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 25, Article 2 of the Sacramento County Zoning Ordinance for the Limited Commercial (LC) Zone classification, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when this Plan is adopted remains in effect until the property is rezoned. Additional uses shall include:

- Joint park and ride lots

Joint use park-and-ride lots are permitted where sufficient parking spaces are available.

5.4 BUSINESS/PROFESSIONAL

5.4.1 Land Use Description

Business/Professional sites are provided within the Plan area at a scale which is consistent with the needs of nearby residents. Large office complexes are not contemplated. Two sites totaling 7.1 acres are designated for Business/Professional uses. The two adjacent sites are located in the Neighborhood Commercial core area near the Florin Road/Bradshaw Road intersection and the Transit Center. The Business/Professional sites are well-situated relative to supporting retail uses, transit facilities, and high density residential sites, and will accommodate a wide variety of professional office uses.

Following is partial, representative listing of the types of uses that would be appropriate in the Business/Professional areas:

- Doctor/Dentist
- Accountant/Tax Preparer
- Attorney
- Real Estate
- Insurance

5.4.2 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Business Professional Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classification that may be applied by rezone action to properties within the Plan designated Business Professional is Business Professional (BP). The (F) combining zone classification must be applied to property that is subject to flooding.

5.4.3 Development Standards

The development standards for areas designated Convenience Commercial on Figure 3.2 are described in Chapter 15, Article 2 and Article 5 of the Sacramento County Zoning Ordinance.

5.4.4 Permitted Uses

Permitted uses within areas designated as Convenience Commercial as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 25, Article 2 of the Sacramento County Zoning Ordinance for the Business Professional (BP) Zone classification, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when this Plan is adopted remains in effect until the property is rezoned. Additional uses shall include:

• Joint park and ride lots

Joint-use park-and-ride lots are permitted where sufficient parking spaces are available.

5.5 COMMERCIAL LAND USE POLICIES

1. Parking lots, loading areas, outdoor lighting, trash enclosures, and other potentially disruptive features of commercial development shall be located, designed, and oriented to minimize negative impacts on adjacent residential areas.

2. Pedestrian and bicycle access to and within commercial areas should be facilitated by the creation of sidewalks, pedestrian/bicycle paths, and bicycle parking facilities.

3. To the extent not already required for implementation of the County Trip Reduction Ordinance or general Plan Policy AQ-15, businesses shall be encouraged to provide shower and locker room facilities for their employees, to further encourage walking and cycling to work.

4. All aspects of commercial development, including architecture, landscaping, lighting, and signage should consider the Design Guidelines included in the Specific Plan.

5. Commercial development shall be located, designed, and oriented to minimize negative impacts on nearby residential areas utilizing buffering techniques such as vegetative screening, open space, or other means to accomplish this objective.

6. The Commercial land uses located along Planning Area arterials and thoroughfares should be accessible by public transportation.

7. Provisions shall be made to accommodate pedestrians along street frontages and through parking areas to reach main building entrances.

8. Pedestrian access points shall be provided along the site perimeter of commercial and office uses to enable pedestrian access from adjacent residential neighborhoods. These access points should be designed appropriately to maintain land use compatibility and address safety concerns.

9. Consideration shall be given to the reduction of parking requirements for individual uses where it can be demonstrated that an overlap of parking demand exists for the overall commercial complex.

5.6 COMMERCIAL DESIGN GUIDELINES

5.6.1 Architectural Design

1. Low, primarily single-story structures are encouraged in Neighborhood Commercial and Convenience Commercial areas. Two-story structures are encouraged where office uses are placed over retail commercial uses and in the Business/Professional areas.

2. Brick, terra cotta, high quality woods, tile, stone and selected concretes should be the primary building materials.

3. Where visible from off site, rear and side elevations should have materials that are consistent with the front elevation.

4. Hip and gable roofs are encouraged. If flat roofing is used, the roof and all mechanical equipment should be screened from view by a continuous architectural feature.

5. Colonnades, covered walks and arcades are encouraged to enhance architectural designs and create a pleasant pedestrian experience.

6. Colors of buildings should be of varied earthen colors, including, but not limited to browns, brown-reds, terra cottas, grays, and coppers. Bright colors should be limited to doors, trims, awnings and other pedestrian-oriented features.

7. Roofing materials in non-reflective metals, concrete and clay tiles, wood shingles and shakes, and asphalt/concrete composites are encouraged. Parapets should reflect the character of the building's facade.

8. All commercial uses in a commercial center should adhere to a consistent architectural and site design theme.

5.6.2 Site Design

General Requirements

1. Site furnishings within commercial developments should be designed to conform to the architectural theme set forth in this Plan.

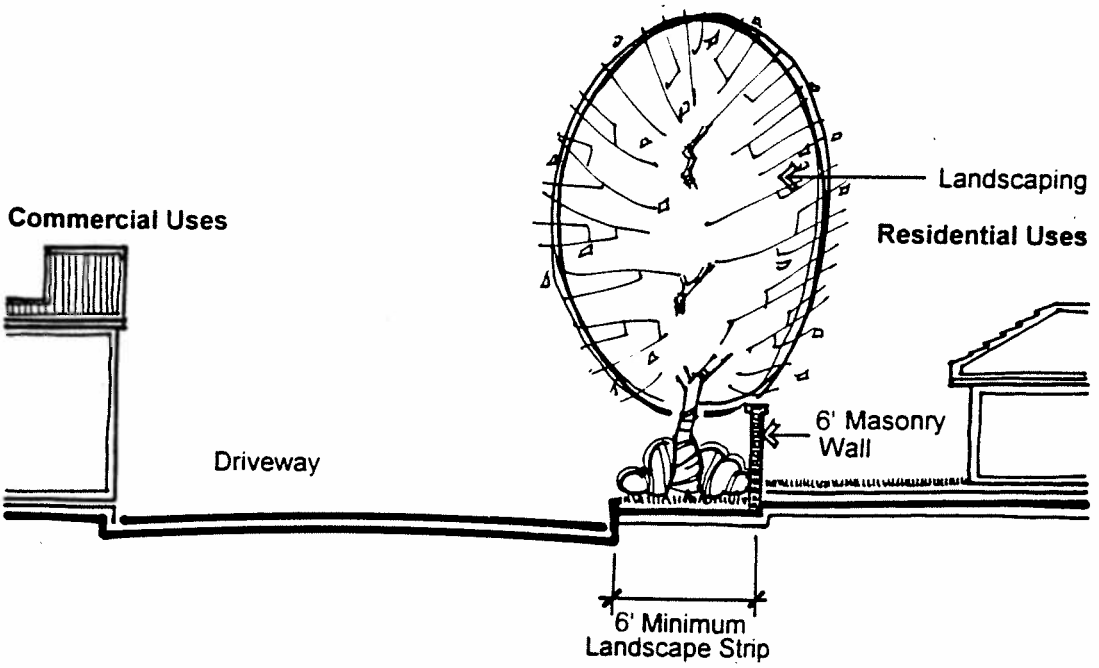
2. All storage, trash, loading and utility areas, meters, backflow preventers and transformers, etc., should be screened from view by means of plant materials, berms, or walls.

3. Pedestrian circulation should be encouraged in all commercial projects by means of pathways, gateways in fences, and sidewalks

4. Bike lockers and storage facilities should be provided.

5. Where commercial projects directly abut residential areas a planter and solid wall should be provided at the property line. Plant materials should include shade/canopy trees and groundcover. (See Figure 5.6.2)

Figure 5.6.2 Commercial/Residential Interface Concept



6. Outdoor trash disposal and loading areas, noise generating equipment, and night lighting should be located away from residential areas. Where trash and loading areas are within view of a residential area, such activity areas should be fully enclosed and landscaped.

7. All commercial landscaping should utilize the best technology available for water conservation.

8. Courtyards, atriums, trellis-covered areas, and eating courts should be developed whenever possible.

9. Outdoor gathering areas are encouraged as a means of fostering social interaction among Plan area residents and commercial center employees.

Parking Lot Design

1. A planter area should be provided between parking lots and adjacent streets to create a low visual screen. This screen may consist of low walls, plant materials, berms, or a combination of these elements.

2. Landscape planters should provide a minimum 40 percent shade coverage in all parking areas within a ten-year period.

3. Six-inch high concrete curbing should be used at all planting and landscaped areas.

4. All parking lot planters and landscape areas should be planted with live plant materials which should ultimately cover 100 percent of their area.

5. Driveways should be located and designed to avoid conflict with traffic on adjoining streets, particularly at major intersections.

6. Common access driveways and reciprocal driveway easements should be encouraged.

7. Pedestrian paths through commercial development should be separated from vehicular driveways and parking areas.

SECTION 6.0
OPEN SPACE

This section describes all aspects of non-park open space land use within the Plan area, including descriptions of each open space category, design guidelines, and development standards. This section also describes, in general terms, the manner in which jurisdictional wetlands will be addressed.

6.1 INTRODUCTION

The Plan includes 202.8 acres of dedicated open space which is dispersed throughout the Plan area. Open space serves a variety of functional and aesthetic purposes and is an important land use component that augments dedicated parkland (see Section 8.0). Table 6.1 provides a summary of open space acreage.

Table 6.1
Open Space Summary

Open Space Type	Acreage
Drainage Parkway	75.5
Stormwater Detention Basin	63.8
Parkway	2.5
Golf Course	20.1
Natural Open Space	40.9
Total	**202.8**

Open space areas are depicted in Figure 3.2 Specific Plan Land Use Diagram and in Figure 8.7 Proposed Parks and Public Use Plan. Table 6.1 describes the ultimate ownership, maintenance, and funding for each form of open space in the Plan.

6.1.1 Drainage Parkways

Drainage Parkways are linear open space areas that contain manmade storm drainage channels, wetland areas, and maintenance road/pedestrian paths. Gerber and Elder creeks will become part of an area-wide County flood control project through the improvement of these channels and their drainage conveyance.

A total of 75.5 acres are devoted to Drainage Parkway. The Drainage Parkway is intended to serve the dual purpose of conveying stormwater drainage and providing linear open space for recreational use. As described in Section 2.4.3, storm water drainage is presently poorly defined in most locations and occurs within a shallow drainage course which easily overflows its banks. The channels within the Drainage Parkways are designed to provide both an adequate depth to outfall future storm drains

Table 6.1
Open Space Ownership, Maintenance, and Funding

Open Space Component	Ultimate Ownership	Maintenance Responsibility	Maintenance Funding Source
Arterial Roadways			
Landspace Corridors	SRPD	SRPD	L&L District
6-foot Sidewalks	SRPD	SRPD	L&L District
Soundwalls	SRPD	SRPD	L&L District
Medians	County	SRPD	L&L District
Interior Roadways			
Landscape Corridors	SRPD	SRPD	L&L District
Detached Sidewalks	SRPD	SRPD	L&L District
Attached Sidewalks	County	SRPD	L&L District
Soundwalls	SRPD	SRPD	L&L District
Drainage Corridors			
Channel Sections	SCWA	SCWA	Zone 11A Taxes
Buffer Areas	SCWA	SRPD	L&L District
Trails	SCWA	SRPD	L&L District
Powerline Corridors			
Green Edge Landscaping	SRPD	SRPD	L&L District
Flood Control/Water Qual. Basins	SCWA	SRPD	L&L District
Parks	SRPD	SRPD	L&L District
Schools	EGUSD	EGUSD	School Dist.Taxes

Notes:
SRPD = Southgate Recreation and Parks District.
L&L District = Lighting and Landscaping Assessment District
SCWA = Sacramento County Water Agency
EGUSD = Elk Grove Unified School District

and an efficient course for storm drainage downstream to meet the existing improved channel near Millbrook Circle Drive.

Drainage Parkways will be interrupted only by the street crossings depicted in the Land Use Diagram. Thus, pathways within the Drainage Parkways will allow pedestrian and bicyclists to travel considerable distances within the Plan area with minimal contact with streets and vehicles.

The Drainage Parkways will be designed with the following components:

- Varying drainage width with the intent of creating a natural looking corridor.
- Channel bottom area will include a meandering, low-flow channel that varies in width from 12 to 50 feet. Except in limited instances, such as culverts under streets, the low-flow channel will be constructed entirely of earth.
- Buffer area with an average width of 50 feet on each side of the channel bottom that includes a 10-foot wide paved maintenance road/pedestrian path on one side (on a 15-foot wide gravel base), gently-sloping (3:1 to 4.5:1) channel sides, drought tolerant trees, shrubs, and annual grassland.

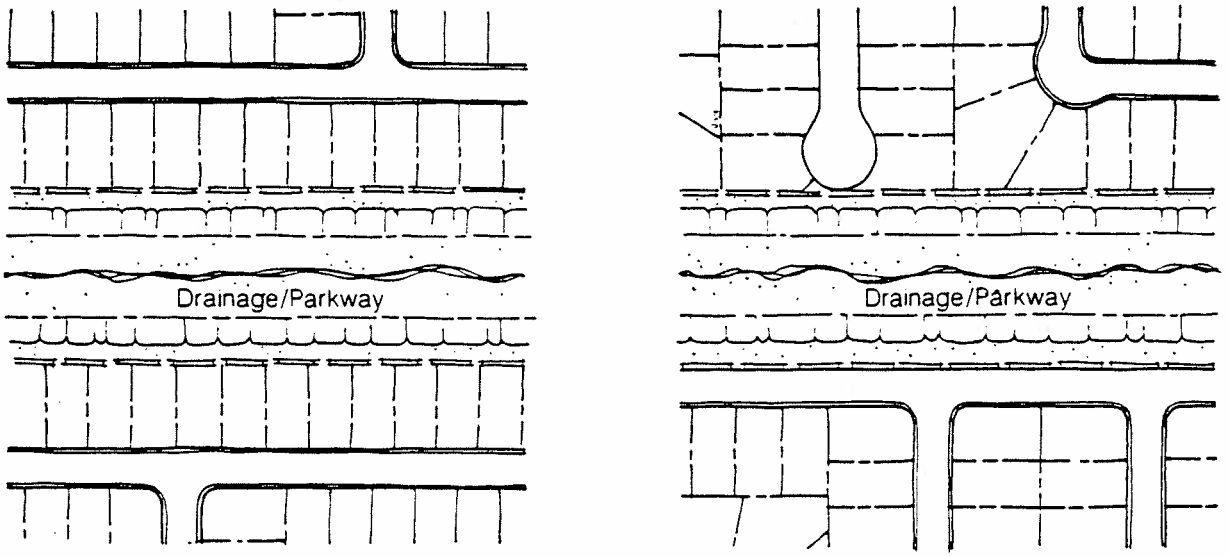
Drainage Parkways have been designed in a manner consistent with design characteristics suggested in General Plan Policy CO-120 and are visually and functionally integrated into the Plan.

> *Policy CO-120. Development design shall minimize the total floodplain frontage which is fenced off from public view. Development adjacent to Urban Stream Corridors shall be encouraged to provide where physically reasonable a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry.*

To the extent possible, Drainage Parkways will be visible from adjoining streets to improve surveillance and facilitate maintenance. In residential areas, homes will back-up to drainage parkways on one side only, as depicted in Figure 6.1.1.A. Fences between the Drainage Parkway and Single Family Residential areas will employ an open design, as specified in the General Policies of this Section.

The relationship of Drainage Parkways to adjoining development areas is also illustrated in Figures 6.1.1.B. and 6.1.1.C.

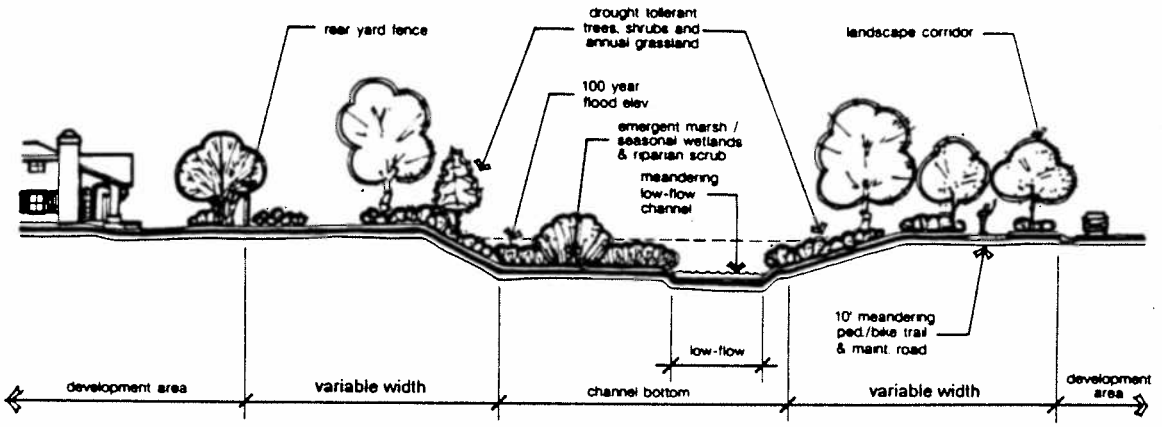
Figure 6.1.1.A Drainage Parkway/Single Family Residential Interface



Excessive back-up lots discouraged

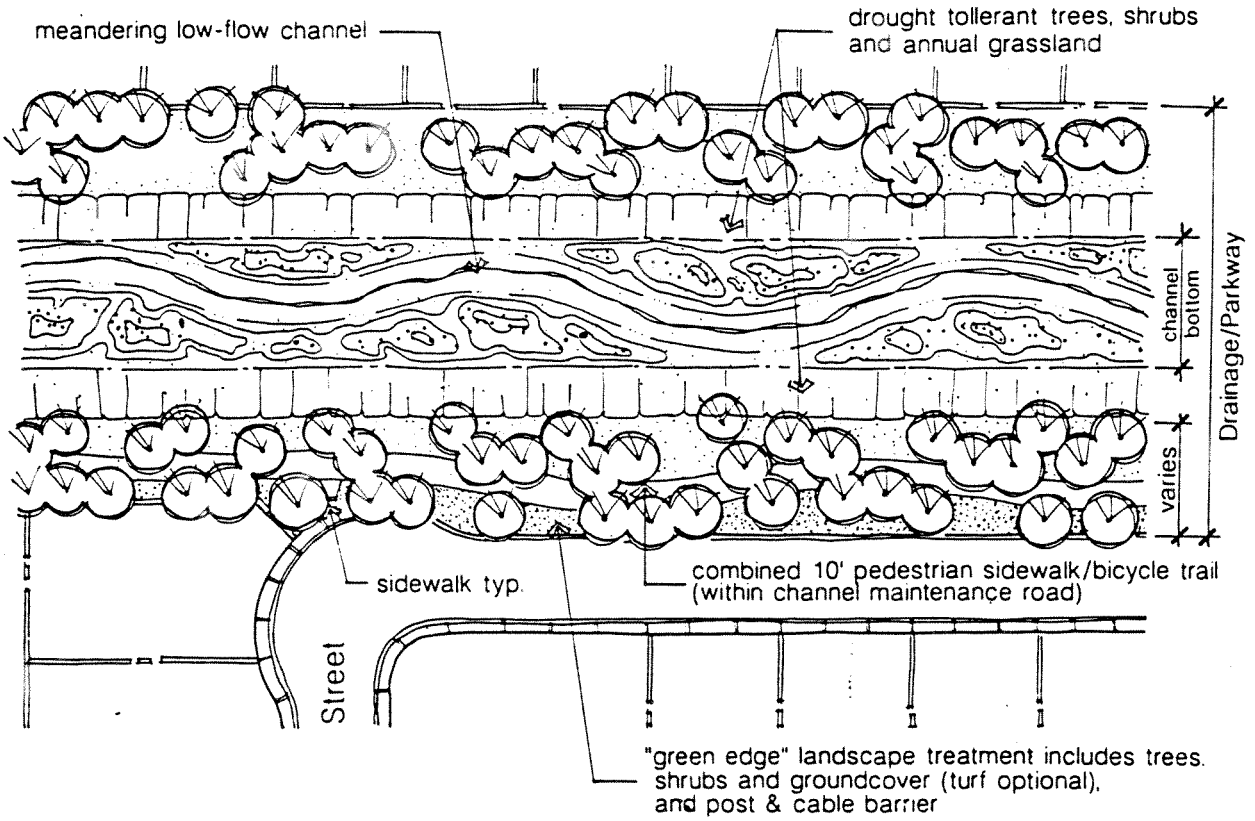
Front-on streets & open ended cul-de-sacs encouraged

Figure 6.1.1.B. Conceptual Drainage Parkway Design



Conceptual Drainage/Parkway Design

Figure 6.1.1.C. Drainage Parkway/Local Street Interface



Drainage Parkways will include two distinct forms of landscaping: riparian species will be planted in the channel bottom areas and drought tolerant plant species, including trees, shrubs, and annual grassland, will be planted in the buffer areas. The channel bottom areas may also incorporate existing and manmade wetlands (i.e., wetlands mitigation). The buffer area landscaping will be irrigated, in some instances.

Additional information concerning the design and function of the stormwater drainage channel is contained in Section 9.4 Storm Drainage.

6.1.2 Stormwater Detention/Water Quality

The Plan includes five on-site Stormwater Detention/Water Quality Basins ranging from 1.6 to 20 acres in size. A total of 63.4 acres are devoted to this use.

Stormwater Detention Basins are included in the Plan area for the primary purpose of intercepting and detaining peak stormwater flows conveyed within the Drainage Parkway channels. Water Quality Basins are intended to intercept water-borne pollutants before these materials can be conveyed beyond the Plan area. Figure 6.1.2 illustrates the relationship between basins and the adjacent Drainage Parkways.

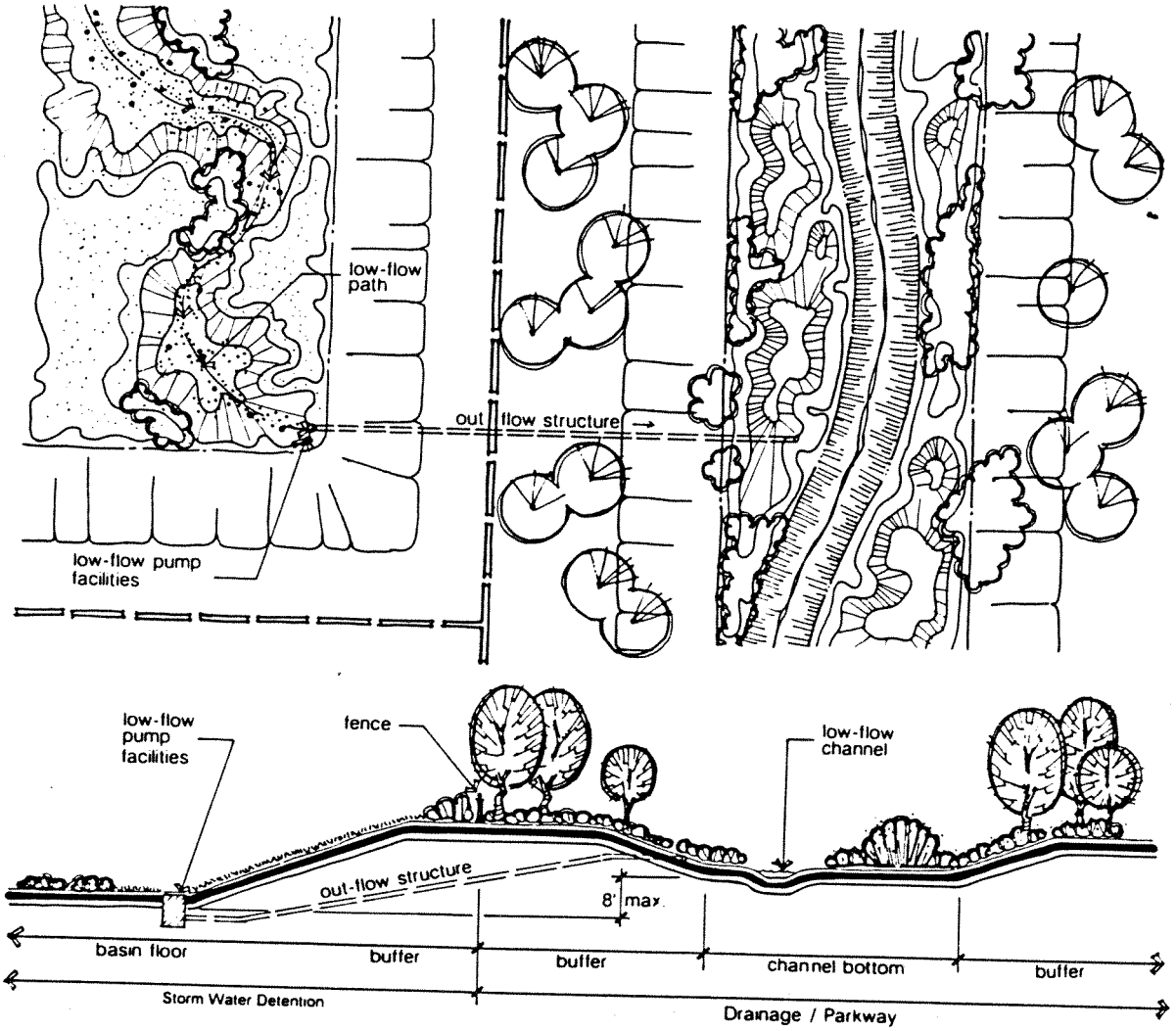
Located throughout the Plan area adjacent to Drainage Parkways, Detention Basins and Water Quality Basins also constitute an open space component. While these may be dedicated to and maintained by the County Water Resources Division to ensure proper

function, the Southgate Recreation and Parks District may enter into joint-use agreements with the County that would permit the development of certain recreational facilities. In such instances, these basins will serve a dual use and will be accessible to the public. In other instances, where recreation facilities are not developed, the basins will not be accessible to the public.

Detention and Water Quality Basins include two basic configurations: linear and point (non-linear). Basins may be designed in accordance with design criteria contained in the Manual of Standards for Design of Joint-Use Stormwater Detention Facilities, will appear natural, and will contain riparian vegetation.

Additional information concerning the design and function of Detention and Water Quality Basins is contained in Section 9.4

Figure 6.1.2 Detention/Water Quality Basin/Drainage Parkway Interface



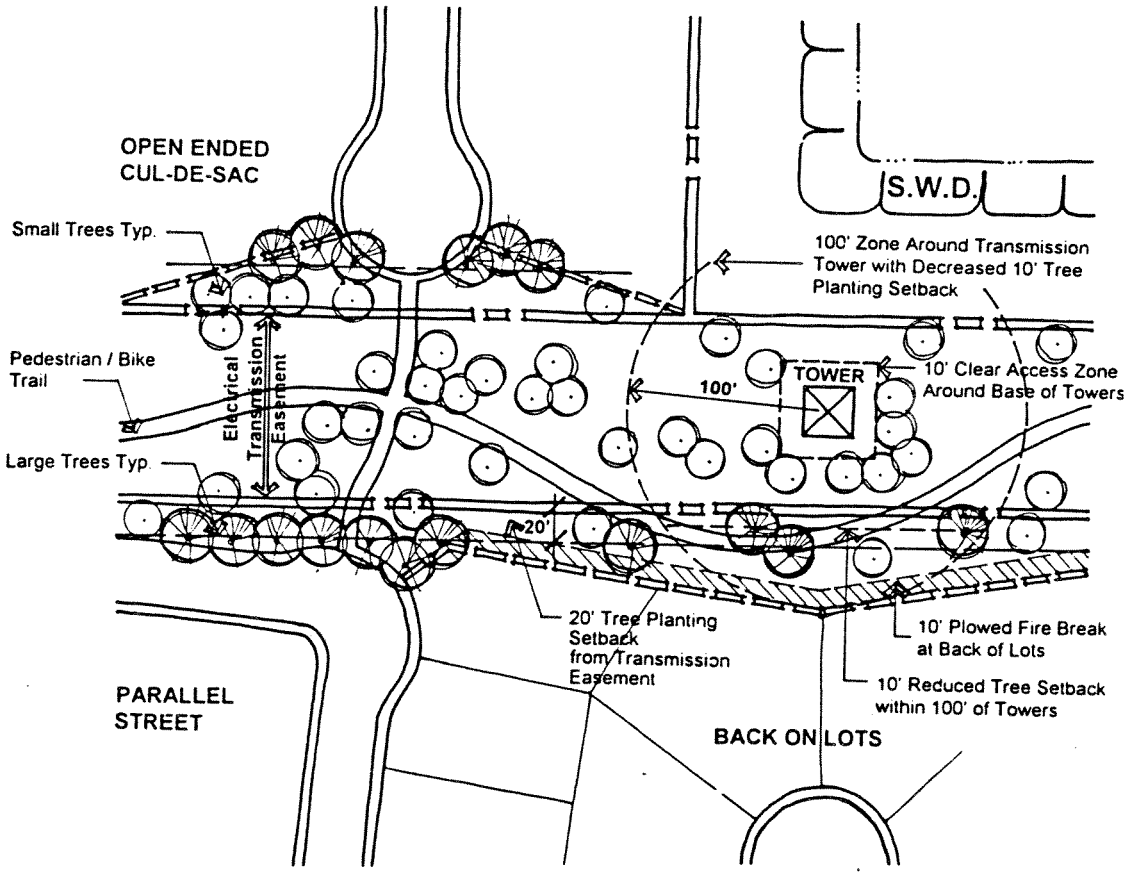
6.1.3 Parkways

Parkways are utilized in the Plan as a means of providing linear open space connections between parks and other uses. The Plan uses Parkways in five locations. Parkways total 2.5. These areas may eventually be dedicated to the Southgate Recreation and Park District for ownership and maintenance should the District have the need and means to provide a recreational or trail amenity through these locations. These areas are not counted toward Quimby Act requirements.

Parkways are designed to be visually integrated into the adjoining land use. When adjacent to Single Family Residential areas, fences separating rear yards from Parkways will employ an open design, as set forth in the General Policies of this Section.

A conceptual design for use of an electrical transmission corridor as a Parkway is shown in Figure 6.1.3

Figure 6.1.3 Parkway/Electrical Transmission Easement



6.1.4 Golf Course

The existing 20.1-acre Bradshaw Ranch Golf Course has been incorporated into the Specific Plan as an important privately owned and operated recreation and open space component. Measures will be taken to ensure that the proposed land uses on the perimeter of the golf course are compatible with the course.

6.1.5 Natural Open Space

A total of 40.9 acres of Natural Open Space are provided within portions of the high voltage powerline easements that span the western end of the Plan area. These areas are subject to specific limitations on permitted uses. For example, permanent structures are not permitted. Other improvements, such as light poles, parking lots, landscaping, and equipment storage may be permitted, subject to height limitations.

It is the intent of the Plan that these powerline easements will be left in an essentially "as-is" condition and not be developed with any intensive type of land use. The Southgate Recreation and Parks District may choose to utilize these areas for low intensity, passive recreational uses, such as hiking trails, picnic areas, and wildlife viewing stations.

6.1.6 Wetlands

Based on the Biotic Resources report by Sugnet and Associates, dated May 3, 1996 and as identified in Section 2.4.4, the Plan area contains 51 acres of jurisdictional wetlands. The wetlands inventory, contained in Section 2.4.4, was prepared pursuant to General Plan Policy CO-63, which follows:

> *Policy CO-63. Community Plans and specific plans shall include a complete inventory of seasonal and permanent marshland, riparian habitat, and riparian woodland.*

This section describes, in general terms, how these wetlands will be affected by Plan development and how impacted wetlands will be mitigated. Detailed information describing wetlands and proposed mitigation is contained in the Wetlands Mitigation Plan, which accompanies this Specific Plan. The Wetlands Mitigation Plan will set forth the goals, objectives, and procedures for accomplishing the mitigation. Specifically, the Plan will establish criteria for judging the relative success of the mitigation effort, set forth an annual monitoring plan, and provide a mechanism for the long-term management of the created habitat.

At this time, it is anticipated that the majority of compensation will occur off-site, except as outlined below. Off-site mitigation is proposed due to limited on-site opportunities for creation of viable wetlands and the potential for superior sites at off-site locations. In particular, the largest open space areas occur within powerline easements and park sites. The power agencies that own the powerline easements will not allow creation of wetlands, and wetlands are not a compatible use in active parks.

Specific plans are required to be consistent with policies in the Sacramento County General Plan relating to natural resource conservation. For example, the General Plan sets forth a policy of no-net loss of marsh or vernal pool acreage, values or functions, and it requires mitigation for any loss in relation to the values of quality of habitat. The General

Plan also advocates a policy of incorporating habitat corridors for wildlife and protecting special-status species habitat from agricultural operations, human access, and other disturbing activities. General Plan policies relative to wetlands are contained in this section, accompanied by statements describing the level of consistency achieved by the Plan.

Wetland Impacts

As summarized in Table 6.1.6, all of the existing wetlands within the Plan area will be affected either by the County storm drainage project (described in Section 9.4 of the Plan) or by ultimate development of private lands. Private development will impact 43.6 acres, and the County drainage project will impact 7.4 acres.

Table 6.1.6
Plan Area Wetland Impact Acreage

Wetland Type	Existing Wetlands	County Project	Private Development	Total Impact
Vernal Pool	18.0	0.1	17.9	18.0
Seasonal Wetland	18.0	2.3	15.7	18.0
Freshwater Marsh	2.0	0	2.0	2.0
Drainage Swale	7.0	0	7.0	7.0
Perennial Creek	6.0	5.0	1.0	6.0
Emergent Marsh	0	0	0	0
Total	**51.0**	**7.4**	**43.6**	**51.0**

Wetland Compensation

Federal, State, and County laws require that the loss of wetland resources within the Plan area due to development activity must be mitigated. The potential cumulative size of wetland mitigation area totals 62 acres of wetland creation and 78 acres of wetland acquisition, based on current regulatory requirements.

Impacts to freshwater marsh, drainage swales, and perennial creeks will be mitigated on-site with the provision of emergent marsh in the reconstructed channel bottoms of Gerber and Elder creeks. The new channels will also include upland vegetation in buffer areas bordering the channels and riparian vegetation near the channel bottom. These design features are consistent with General Plan Policy CO-71.

> *Policy CO-71. Community and Specific Plans shall identify potential areas, if any, where marsh or riparian habitat restoration/creation can be undertaken.*

The Plan includes 18.0 acres of vernal pool wetland habitat that has the potential of being impacted by the ultimate development of the Plan. Policy CO-83 of the General Plan states:

Policy CO-83. Ensure no net loss of vernal pool acreage, and/or values and functions, and mitigate any loss in relation to the values of quality of habitat.

In accordance with current compensation ratios, the total mitigation required for impacts to the seasonal wetlands will be 36.0 acres. During preparation of the Plan, efforts were undertaken to comply with General Plan Policy CO-84.

Policy CO-84. Evaluate feasible on-site alternatives in the environmental review process that reduce impacts on vernal pools and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria identified in the report "Sacramento County Vernal Pools" (1990).

A recent study (*Sacramento County Vernal Pools Study*, Jones and Stokes Associates, 1990) recommended 200 acres as the minimum size of a vernal pool preserve. The study did not rule out the viability of smaller preserves; however, it suggested that smaller preserves be "contiguous with existing preserves or permanent open space". After evaluating the quality of vernal pools within the Plan area and analyzing the requirements for on-site restoration, it was concluded that sufficient space for viable compensation is not available in the Plan area. The Wetlands Mitigation Plan prepared for this Plan concludes that off-site compensation for the loss of seasonal wetlands habitat in areas beyond the Urban Services Boundary will result in vernal pools habitat that is superior to that currently existing on the site. This approach is found to be consistent with General Plan Policy CO-78, which states:

Policy CO-78. Focus vernal pool preservation in permanent open space areas beyond the Urban Area.

The General Plan addresses the potential for special-status species within planning areas in the following policy:

Policy CO-147. Identify suitable habitat for threatened and endangered species through the Community and Specific Plan process.

Special-status species known to exist within the Plan area are described in the Biotic Resources report, dated May 3, 1996. Plant, invertebrate, amphibian, and reptile species identified in the Plan area depend upon various wetland habitat.

6.2 DEVELOPMENT STANDARDS AND PERMITTED USES

6.2.1 Zone Classifications

The Zone Classifications on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Open Space Zone Classification. However, actions to re-classify those properties to a classification other than that which is allowed by the Plan are prohibited.

The Zone Classification that may be applied by rezone action to properties within the Plan designated Open Space is Recreation ("O"). The (F) combining zone classification must be applied to property that is subject to flooding.

6.2.3 Development Standards

The development standards for areas designated Open Space on Figure 3.2 are described in Chapter 20, Article 3 of the Sacramento County Zoning Ordinance.

6.2.3 Permitted Uses

Permitted uses within areas designated as Open Space as shown on Figure 3.2 are those uses that are permitted in accordance with the zoning for the property in existence on the date this Plan was adopted and those permitted uses described in Chapter 1, Article 1 of the Sacramento County Zoning Ordinance for the Recreation ("O") Zone classification, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when this Plan is adopted remains in effect until the property is rezoned.

6.2.4 Underlying Specific Plan Land Use Designation

Property that is designated as Drainage Parkway, Open Space Corridor, Storm Water Detention Basin, and Water Quality Basin are assumed to have an underlying Specific Plan Land Use designation that is compatible with surrounding uses.

In the event the area shown as Drainage Parkway, Open Space Corridor, Storm Water Detention Basin, and Water Quality Basin is either reduced in size or eliminated due to a change in the controlling agency plans, a lessening of the dedication requirement or other reason approved by the Board of Supervisors, additional dwelling unit allocation consistent with a subsequent rezone approval is permitted.

6.3 OPEN SPACE POLICIES

6.3.1 General Policies

1. Storm drainage in open space areas shall be by means of natural or natural-appearing stream courses, rather than closed culverts, except where in conflict with other planned facilities.

2. Except where wetlands mitigation, drainage channel, or stormwater detention construction is proposed and where necessary to prevent erosion, grading and construction shall be prohibited in designated open space areas. In instances where grading is permitted, the minimum necessary shall be allowed.

3. Pedestrian and bicycle trails and pathways are encouraged within open space areas to the extent possible. Such facilities shall be located and designed to minimize disturbance of natural features.

4. To the maximum extent feasible, uses abutting Open Space shall be oriented and designed to permit surveillance of these areas in order to discourage unlawful activities.

5. Where residential development abuts Parkways and Drainage Parkways, fences shall adhere to the following design: six (6) feet in height, consisting of three (3) feet of wrought iron on top of three (3) feet of masonry wall.

6.3.2 Drainage Parkway Policies

1. The Drainage Parkways (i.e., Elder Creek and Gerber Creek) shall be designed as natural-appearing corridors, serving to enhance wetlands and riparian habitats, act as natural flood water detention areas, and function as water quality enhancement features. The Drainage Parkways shall be designed to permit the growth of vegetation that does not impede the design flow characteristics. Periodic clearing is allowed to maintain channel function.

2. Drainage Parkways should be crossed by streets only in those locations shown in the Specific Plan Land Use Diagram.

3. To the maximum extent possible, only one side of any segment of Drainage Parkway shall have homes backing up to it. However, homes shall not backup to the Drainage Parkway on sides containing a Pedestrian/Bicycle pathway.

4. Stormwater detention should include consideration for joint-use of park and recreation facilities at the time of final design.

6.3.3 Wetlands Policies

1. Except where off-site mitigation is allowed, all wetlands to be retained shall be contained within designated open space areas shown in the Specific Plan.

2. All activities within jurisdictional wetlands shall be in accordance with the applicable Section 404 U.S. Army Corps of Engineers permit.

3. Development shall be planned and carried out in a manner that to the extent possible preserves wetlands and their functional value. Preservation of small wetlands isolated by development greatly diminishes its functional value and is therefore undesirable.

4. Natural area buffers will be provided around the periphery of constructed wetlands in order to maintain their value to wildlife. While the precise dimensions of these buffers will vary depending on the type of habitat buffered and adjoining land uses, the goal is that the buffers will average a minimum of 50 feet in width. These buffers shall be maintained in their natural state and landscaping activities such as watering, mowing, or planting ornamental species shall not be allowed. It is further intended that the construction of structures or roads within buffers be restricted. Construction of low-impact passive recreation facilities such as nature trails, waterfowl viewing areas, etc. is considered compatible within these buffers.

5. Temporary fencing shall be installed along the boundary of the wetland preserve areas prior to construction, grading, movement of material or machinery onto the site, or issuance of any construction permits for abutting properties. The fencing shall not be removed until construction activity is completed.

6. Passive recreation facilities, such as hiking or bicycle trails, shall be designed to avoid impacts to wetlands and shall be approved by appropriate state and federal agencies prior to construction when necessary.

7. No grading, planting of non-native vegetation, vegetation removal, structures, fences, dams, fills, ponds, or excavation shall occur within wetland preserve areas, except for specifically approved activities.

8. Where impacts to wetlands cannot be avoided or where preserved wetlands would be relatively small and isolated by development, compensation shall occur as required by the Army Corps of Engineers.

9. Where wetland habitat must be compensated, a mitigation plan will be prepared which sets forth the goals, objectives and procedures for accomplishing the mitigation. Each plan must establish criteria for judging the relative success of the mitigation effort, set forth a monitoring plan and provide a mechanism for the long-term management of the created habitat.

10. Detailed wetland delineations shall be completed and verified by the U.S. Army Corps of Engineers for each property prior to its development.

6.3.4 Natural Resource Preservation Policies

1. Individual development projects, which include oak trees six inches dbh or larger (as indicated in the project arborist report), shall comply with the following measures:

    a. An arborist report shall be prepared for the individual developments and included in the project application. The report shall include a description of the health and condition of the oak trees, and shall include recommendations to mitigate the impacts of project development.

b. Following review of the individual development application by the County Planning and Community Development Department, requirements shall be placed on the project which require oak tree preservation and include appropriate protection measures, or allow tree removal, with mitigation when justified. Oak trees which are removed, because they are dead; in poor health, create a substantial safety hazard or conflict with the construction of arterial roadways shall not require mitigation.

c. Improvement Plans for individual development projects shall implement measures to preserve oak trees. Easements or other restrictions to ensure preservation of oak trees may be required in Final Maps.

d. If building permit applications are submitted for lots with preserved oak trees and required mitigation measures are to be implemented during construction of the subdivision lots, then building permits shall be reviewed by the County Planning and Community Development Department and the County Department of Environmental Review and Assessment (DERA) as part of the plan check process.

2. All native oak trees six inches dbh or larger, except those that are specifically approved for removal, shall be preserved and protected by utilizing the following measures:

a. A circle with a radius measurement from the trunk of the tree to the tip of its longest limb constitutes the dripline protection area of each tree. The longest limb may not be cut back in order to change the dripline. The area beneath the dripline is critical portion of the root zone and defines the minimum protected area of each tree. Removing limbs which make up the dripline does not change the protected area.

b. Chain-link fencing or similar protective barrier shall be installed at least one foot outside the driplines of the oak trees prior to initiating construction, in order to avoid damage to the tree canopies and root systems.

c. No signs, ropes, cables (except those which may be installed by a certified arborist to provide limb support) or any other items shall be attached to the oak trees. Small metallic numbering tags for the purpose of preparing tree reports and inventories shall be allowed.

d. No vehicles, construction equipment, mobile home/office, supplies, materials or facilities shall be driven, parked, stockpiled or located within the driplines of oak trees.

e. No grading (grade cuts or fills) shall be allowed within the driplines of oak trees.

f. Drainage patterns on the site shall not be modified so that water collects or stands within, or is diverted across, the dripline of any oak tree.

g. No mechanized trenching shall be allowed within the driplines of oak trees. If it is absolutely necessary to install underground utilities within the dripline of an oak tree, the utility line shall be bored and jacked under the supervision of a certified arborist.

h. The construction of impervious surfaces within the driplines of oak trees shall be stringently minimized. When it is absolutely necessary, porous materials shall be used and/or a piped aeration system shall be installed under the supervision of a certified arborist.

i. No sprinkler or irrigation system shall be installed in such a manner that sprays water or requires trenching within the driplines of oak trees. An above-ground drip irrigation system is recommended.

j. Landscaping beneath oak trees may include non-plant materials such as bark mulch, wood chips, boulders, etc. The only plant species which shall be planted within the driplines of oak trees are those which are tolerant of the natural semi-arid environs of the trees. A list of such drought-tolerant plant species is available from the Sacramento County Department of Environmental Review and Assessment (DERA). Limited drip irrigation approximately twice per summer is recommended for the understory plants.

3. Make every effort to protect and preserve non-oak native trees (excluding cottonwoods), including heritage (trees with a diameter at breast height, dbh, of 19 inches or greater) and/or landmark trees (as defined in the County Tree Ordinance). Native trees other than oaks which cannot be saved or are removed shall be replaced with in-kind species in accordance with established tree planting specifications and established replacement/compensation ratio of one 15-gallon tree for every inch dbh of tree removed.

4. Development shall be planned and carried out to avoid impacts to special status species where possible. Where impacts are unavoidable, mitigation plans will be developed and implemented which reduce these impacts to a less than significant level. Where a special status species is listed as a threatened or endangered species by either the United States Fish and Wildlife Service and/or the California Department of Fish and Game, the mitigation plan shall be approved by the applicable agency. Where other mitigation measures required by this specific plan (i.e. wetlands mitigation) would also satisfactorily mitigate sensitive species impacts, such measures will satisfy this requirement.

6.4 OPEN SPACE DESIGN GUIDELINES

6.4.1 Trails and Paths

1. The walking surface of all trails and paths should be eight feet in width (10 feet in Drainage Parkways, where maintenance roads also serve as pedestrian facilities), constructed in accordance with County of Sacramento construction standards.

2. An asphaltic surface should be used.

3. Pathways should be designed and located to minimize visual intrusion upon the privacy of adjoining a residential property.

4. Pathways should be slightly curvilinear in alignment and should conform to natural topography to the maximum extent possible.

6.4.2 Stormwater Detention Basins

As part of the stormwater drainage system the Plan employs several Stormwater Detention Basins adjacent to Drainage Parkways. Although these basins are intended to be functional in design, it is the intent of this Plan that they appear as natural as possible. The basins are not intended as a long-term seasonal water feature and will be filled with water only during peak storm flows, after which time water levels will diminish; however, some water will always be present. The following guidelines should govern the design of stormwater detention basins:

1. Basin sides should be gently-sloping to permit public access and use. The maximum slope ratio should not exceed 4 to 1.

2. The basin should be constructed entirely of earth. No concrete or other manmade materials should be employed, except at spillways and sump pump locations.

3. Planting of inundation-tolerant trees and other vegetation is encouraged around the perimeter of the basin.

4. To the extent that function is not impaired, basins may be designed and used for passive recreation activities.

5. Brush removal and mowing of grass is permitted in order to reduce fire fuel and ensure proper function of the Basin.

6.4.3 Lighting

1. Where lighting is used, it should illuminate only the pavement immediately adjacent to the fixture. Use of low, bollard-type fixtures is encouraged. Tall (16 feet or higher) pole-mounted fixtures are discouraged.

2. Illumination of Wetlands is prohibited.

3. Mercury vapor lighting should not be used.

CULTURAL RESOURCES POLICIES

1. Encourage the retention of important cultural features in the design of future projects.

2. Cultural resource surveys will be required in areas not previously subject to intensive investigation (that portion of the plan Area not currently identified as the proponent's parcels). If ground disturbing activities are planned within or adjacent to the boundaries of any identified archaeological sites, the following shall be required:

   a. The site area will be inspected by a qualified, professional archaeologist to assess the condition of the property and then determine the current status of the deposit.

   b. Based on this review and, as appropriate, a subsurface testing program will be developed and implemented to determine if the property meets criteria specified in Appendix K of CEQA to qualify as an important archaeological resource. The course of the testing program shall be clearly delineated in a research design which outlines prehistory of the area; research domains, questions, and data requirements; research methods inclusive of field and laboratory studies; report preparation; and significance criteria.

   c. Following field investigations, a technical report describing the evaluation program should be prepared. At a minimum this report shall include the elements discussed in the research design, as well as a description of the recovered site assemblage and a significance evaluation. If, based on the results of the testing program, a site is not determined to be an important archaeological resource, then effects to it would have been reduced to less than significant.

   d. If the site is determined to be an important archaeological resource, then additional mitigation measures, namely data recovery investigations may be necessary to reduce impacts to less than significant.

   e. As Native American archaeological resources are involved, identification and treatment shall be conducted in consultation with the local Native American community.

   f. Archaeological investigations shall be conducted by a qualified, professional archaeologist who either meets the federal standards as stated in the Code of Federal Regulations (36 CFR 61) or is certified by the Society of Professional Archaeologists (SOPA).

3. An historic architectural study shall be performed by a qualified, professional architectural historian if historic structures or buildings are present on the particular parcel subject to development. This inventory shall comply with NEPA and/or CEQA and include consultation with the NCIC and the Sacramento County Historical Society. The resulting report shall include results of the background literature search and field survey, an historic context statement, an analysis of the potential significance of noted resources, and recommendations for their preservation and/or mitigation.

4. Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during future development activities, work shall be suspended. Depending on the location of the activities, the appropriate Lead Agency shall be immediately contacted. This agency will coordinate any necessary investigation of the find with appropriate specialists as needed. The project proponent shall be required to implement any mitigation deemed necessary for the protection of the cultural resources. In addition, pursuant to Section 5097.97 of the State Public Resources Code and Section 7050.5 of the State Health and Safety Code, in the event of the discovery of human remains, all work is to stop and the County Coroner shall be immediately notified. If the remains are determined to be Native American, guidelines of the Native American Heritage Commission shall be adhered to in the treatment and disposition of the remains.

HAZARDOUS MATERIALS POLICIES

1. Future development on non-proponent properties identified as requiring a "site reconnaissance" on Table HA4-1 shall prepare and submit a site-specific field reconnaissance or preliminary site assessment according to State and County requirements. If contamination is identified, remediation and disposal procedures shall be undertaken by qualified personnel in accordance with all applicable regulations, and in coordination with all applicable agencies.

2. Future development and/or demolition of pre-1979 structures shall prepare and submit an asbestos survey according to State and County requirements. If asbestos contamination is identified, remediation and disposal procedures shall be undertaken by qualified personnel in accordance with all applicable regulations, and in coordination with all applicable agencies.

3. Future development shall identify existing septic tanks and/or water wells to be abandoned and abandon them according to State and County requirements.

4. Future development on properties identified as requiring proper "debris removal" on Table HM-4 shall remove all debris, trash, rubble, refuse and abandoned, discarded and/or out-of-service items from the affected properties and dispose of or recycle off-site according to State and County requirements

SECTION 7.0
TRANSPORTATION AND AIR QUALITY

7.1 INTRODUCTION

This section provides a summary of the information contained in the *Transportation Analysis for the North Vineyard Station Specific Plan*, dated October 2, 1996, prepared by Fehr and Peers Associates, Inc., contained in the Appendix.

This section describes all transportation-related issues affecting the Plan, including issues associated with roadways, bicycle and pedestrian facilities, public transit, and air quality. In addition, this section provides:

- Descriptions of all existing transportation facilities;
- Service standards used in analyzing existing and projected conditions, and in developing the Plan circulation system;
- Detailed descriptions of the major on- and off-site transportation components provided by the Plan;
- A listing of travel demand reduction measures incorporated into the Plan for the purpose of reducing vehicle traffic and air quality impacts; and
- Policies and design guidelines applicable to all transportation components.

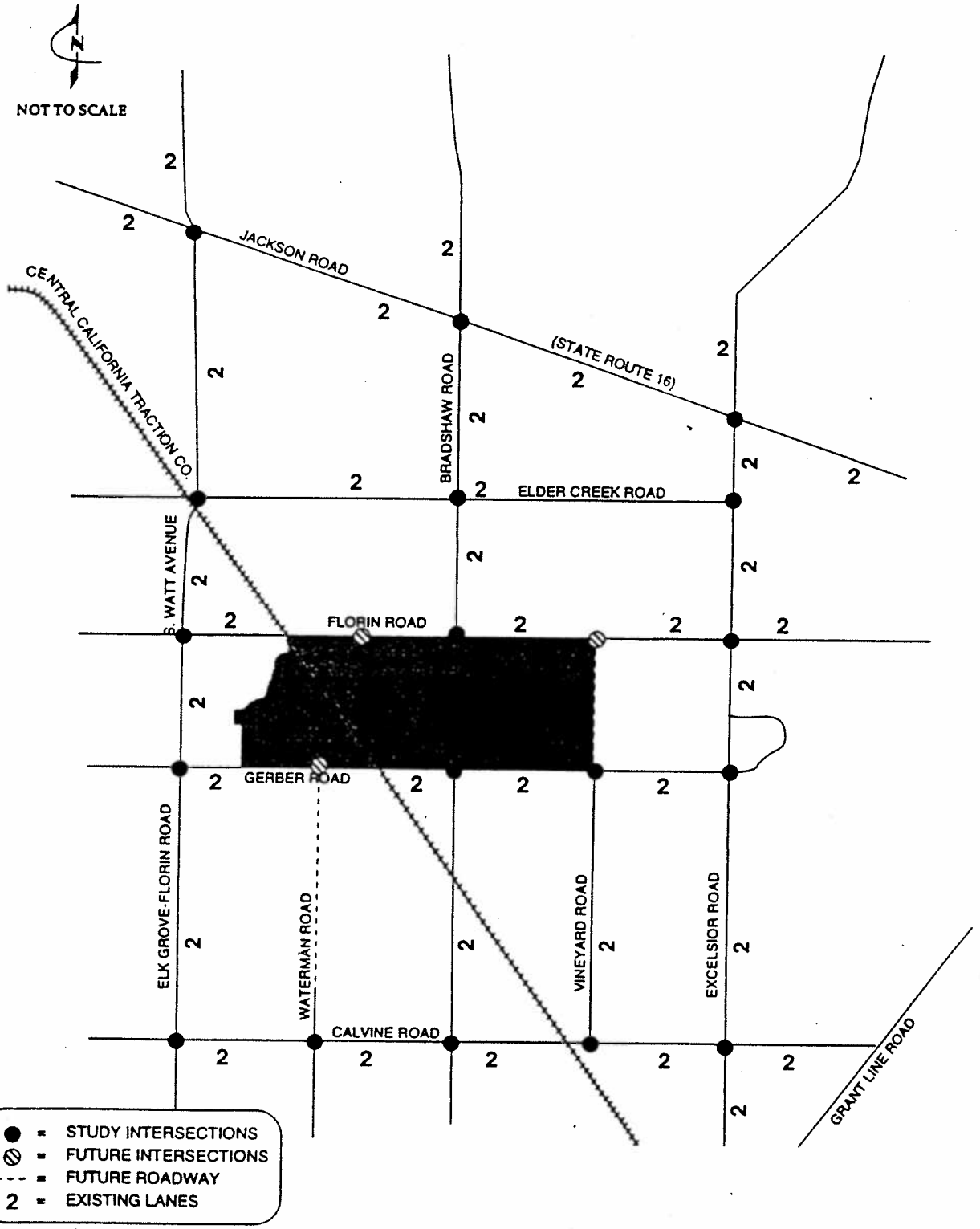
7.2 TRANSPORTATION/CIRCULATION ANALYSIS AREA

The study area for the North Vineyard Station Specific Plan includes major circulation facilities within the boundaries of the following roadways, as depicted in Figure 7.2:

- Jackson Road (State Route 16), on the north
- Excelsior Road, on the east
- Calvine Road, on the south
- Elk Grove-Florin Road/S. Watt Avenue, on the west

Figure 7.2 also describes existing lane configurations for all major roads in the study area.

Figure 7.2
Study Area Intersections and Roadways



7.3 SERVICE STANDARDS

7.3.1 Roadway Standards

Intersection Level of Service Standards

The following County General Plan policies are applicable to transportation systems within and beyond the Plan area. The degree to which the Plan is consistent with these policies is addressed in Section 7.5.1 Development Impacts/Improvements (On-site Facilities) and Section 7.5.2 Development Impacts/Improvements (Off-site Facilities).

> *Policy CI-22. Sacramento County shall apply the following Level of Service (LOS) standards for planning roads in the unincorporated area:*
>
> *1. Rural collectors: LOS "D"*
>
> *2. Urban area roads: LOS "E "*
>
> *and may proceed with additional capacity projects within the scope of the adopted Transportation Plan when the Board of Supervisors has determined that the implementation of all feasible measures which will reduce travel demand in the affected corridor will not provide the target level of service.*
>
> *Policy CI-23. New development which results in levels of service which are worse than those standards in CI-20 or the 1993 LOS, whichever is worse, shall not be approved unless traffic impacts are mitigated. Such mitigation may be in the form of:*
>
> *1. Capacity improvements to either the roadway system, the transit system, or both, or*
> *Demand reduction measures included in the project design, or operation, or both.*

Level of service (LOS) is a term which qualitatively describes operating conditions for intersections. There are six levels of service, "A" through "F", which represent driving conditions from best to worst, respectively. In general, LOS "A" represents free-flow conditions with no congestion, and LOS "F" represents severe congestion or delay under stop-and-go conditions.

The Sacramento County General Plan and the Congestion Management Plan both define the level of service standard for urban area roadways to be LOS "E" (i.e., LOS "F" is considered unacceptable). For intersections of rural collector roadways, the minimum acceptable LOS is "D". These standards have been set forth in Policy CI-22 in the County's General Plan Circulation Element. As set forth in Policy CI-23, if implementation of a project results in a level of service worse than those specified in Policy CI-22, traffic impacts must be mitigated by enhancing the capacity of the roadway and transit system or reducing the demand generated by the project.

Signalized Intersections. Level of service criteria for signalized intersections are shown in Table 7.3.1.A. Corresponding to each LOS is a volume-to-capacity (V/C) ratio, which is the ratio of the existing or projected volume to the theoretical capacity of the intersection. An intersection is defined to be "at capacity" at LOS "E" when the V/C ratio is 1.00. LOS "E" is the lowest acceptable service standard.

Table 7.3.1.A
Signalized Intersection Level of Service

Level of Service	Interpretation	Volume to Capacity Ratio
A	Uncongested operations; all queues clear in a single cycle	Less than 0.61
B	Very light congestion; an occasional phase is fully utilized	0.61 - 0.70
C	Light congestion; occasional queues on approaches	0.71 - 0.80
D	Significant congestion on critical approaches, but intersection is functional. Cars required to wait through more than one cycle during short peaks. No long standing queues formed.	0.81 -0.90
E	Severe congestion with some long standing queues on critical approaches. Traffic queue may block nearby intersection(s) upstream of critical approach(es).	0.91 - 1.00
F	Total breakdown; stop-and-go operation.	Greater than 1.00

Source: Interim Materials on Highway Capacity (Circular 212, Transportation Research Board, 1980).

Unsignalized Intersections. For those intersections that are unsignalized, two methodologies were used to analyze operating conditions. The criteria for level of service at two-way stop sign-controlled intersections are shown in Table 7.3.1.B., and level of service criteria for all-way stop-controlled intersections are shown in Table 7.3.1.C. As with signalized intersections, the County standards define LOS "F" as unacceptable.

Table 7.3.1.B
Level of Service for Unsignalized Intersections with Two-way Stop Control

Level of Service	Interpretation	Reserve Capacity
A	Little or no delay	400
B	Short traffic delay	300 - 399
C	Average traffic delays	200 - 299
D	Long traffic delays	100 - 199
E	Very long traffic delays	0 - 99
F	Stop-and-go conditions	< 0

Source: Highway Capacity Manual (Special Report 209, Transportation Research Board, 1985).

Table 7.3.1.C
Level of Service Characteristics for an Unsignalized Intersection with All-way Stop Control

Level of Service	Interpretation	Average Vehicle (in seconds)
A	Little or no delay	5
B	Short traffic delays	> 5, 10
C	Average traffic delays	> 10, 20
D	Long traffic delays	> 20, 30
E	Very long traffic delays	> 30, 45
F	Stop and go conditions	> 45

Source: Interim Materials on Unsignalized Intersection Capacity (Circular No. 373, Transportation Research Board, 1991).

Right-of-Way Width

Sacramento County Improvement Standards specify the following right-of-way widths for internal roadways (non-arterials) based on anticipated traffic levels and adjacent land use:

- Less than 1,000 daily trips — 40-foot width
- 1,000 to 4,000 daily trips — 50-foot width
- More than 4,000 daily trips — 60-foot width

7.3.2 Bikeway Standards

The 2010 Sacramento City/County Bikeway Master Plan identifies planned bicycle facilities within the study area. Circulation improvements for bicyclists must conform to the guidelines of the Master Plan, which includes design standards and a description of facilities in the Plan area. An excerpt of the Master Plan, as it affects the Plan area, is shown in Figure 7.3.2.

Following are descriptions of the three classes of bikeways, as described in the Bikeway Master Plan:

Class I Bikeways (Bike Path)

This is the most popular type of facility. Prime locations are powerline easements, utility easements, canal banks, river levees, drainage easements, abandoned railroad or highway rights-of-way, or regional community parks. Class I bikeways are intended for exclusive use of bicycles and pedestrians. However, if significant pedestrian use is anticipated, separate facilities for pedestrians are preferable in order to minimize conflicts. The minimum width for a two-way bike path is eight feet and the minimum width for a one-way path is five feet. A minimum two-foot wide graded shoulder is required on both sides of the pavement. Where heavy bike and/or significant pedestrian traffic is likely, a minimum width of more than eight feet (preferably 12 feet) is recommended.

Class II Bikeways (Bike Lane)

These facilities are located on arterial and collector roadways, but are separated from vehicle traffic by pavement striping and are identified by signs.

Class III Bikeways (Bike Route)

These facilities are shared with vehicle traffic and are provided to connect discontinuous segments of Class I or II bike routes. Also, these facilities may be located on residential streets and rural roads. Class III routes are identified with a sign, but no striping or legends are provided.

A complete description of the bikeway design standards is available in the *2010 Sacramento City/County Bikeway Master Plan.*

7.3.3 Transit Standards

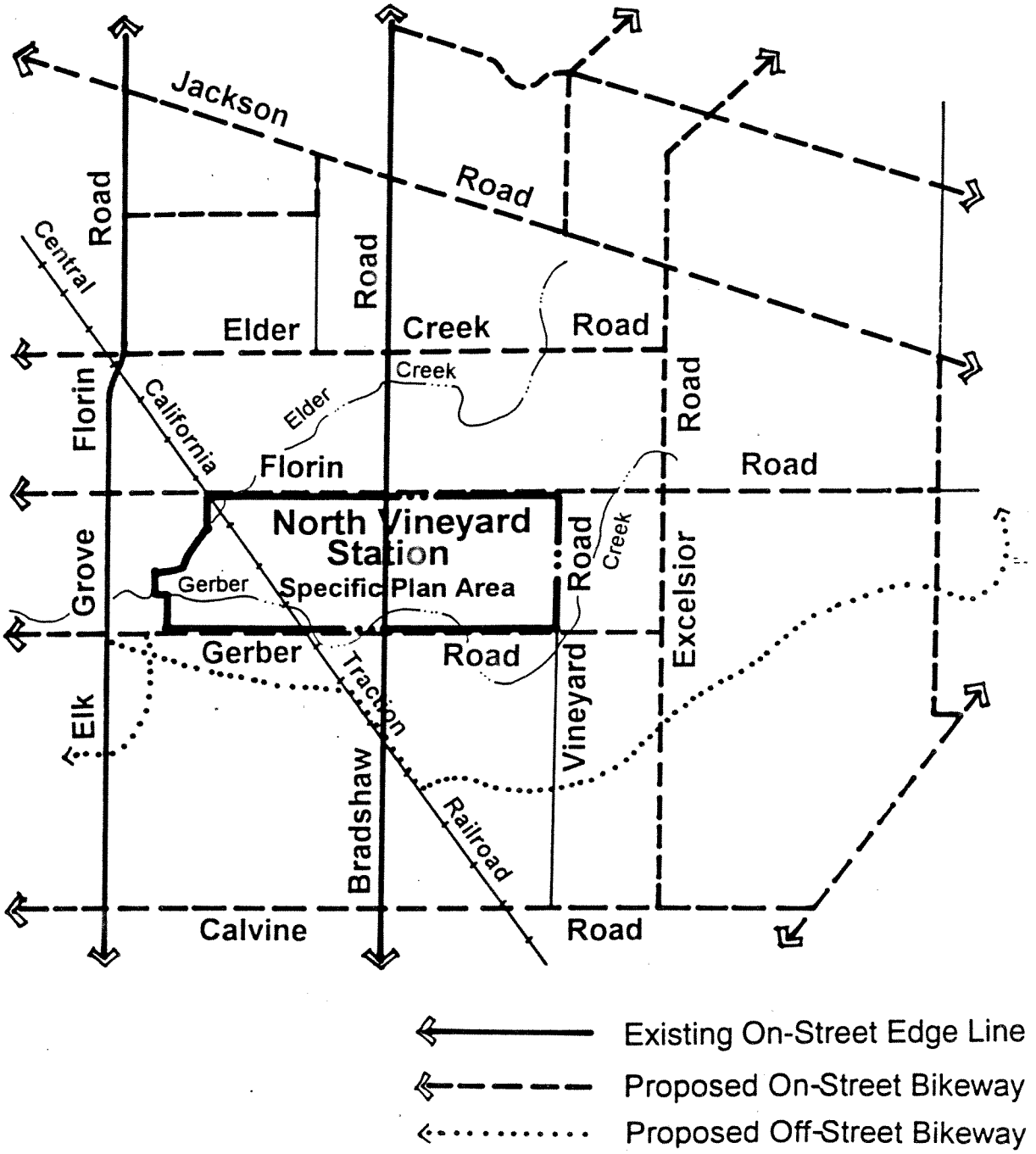
Sacramento Regional Transit (RT) has recently adopted a Transit Master Plan for the Sacramento region. The Master Plan and the County General Plan show that feeder bus service (i.e., a major transit corridor) is planned for the entire length of Elk Grove-Florin Road, Bradshaw Road, and Calvine Road within the study area. Feeder service is also planned for Florin Road from west of Elk Grove-Florin Road to the planned Vineyard Road extension.

Beside providing area-wide bus service, transit corridors are intended to support "trunk" transit service along the Central California Traction Railroad alignment. The RT Master Plan shows future extensions of the transit system into the Plan area and surrounding study area. Future transit uses within the railroad corridor may include light rail or a high occupancy vehicle (HOV) thoroughfare for buses.

RT guidelines specify bus stops at one-quarter mile intervals in suburban areas and turnouts when traffic volumes, traffic speeds, and service frequency warrant them. Both RT and County Improvement standards recommend locating bus stops after (or on the far side of) intersections, rather than before the intersection, for each direction of travel.

Although RT has yet to develop a bus service schedule for the Plan area, bus stops have been designated in this Plan in accordance with RT design criteria in order to facilitate future scheduling.

Figure 7.3.2
Bikeway Master Plan



7.4 EXISTING FACILITIES

This section provides a description of each circulation feature that exists in the study area, including roadways, bicycle and pedestrian facilities, public transit facilities, and rail facilities.

7.4.1 Existing Roadway Network

Streets and Highways

The physical characteristics of existing streets within the study area vary such that the capacity of roadway segments varies. In general, most study area roadways are rural, two-lane facilities with a capacity of approximately 15,000 vehicles per day due to numerous unsignalized driveways/access roadways, narrow lane widths, and narrow or unpaved shoulders.

Access to the study area is provided by a grid-system of arterial roadways including Florin Road, Gerber Road, Elk Grove-Florin Road, and Bradshaw Road. These roadways provide access to regional facilities, for example: State Route 99 (SR 99) about four miles to the west, U.S. Highway 50 roughly four miles to the north, and Jackson Road (State Route 16) located approximately two miles to the north.

Table 7.4.1.A provides a summary of the lane configurations and existing daily traffic volumes for roadway segments in the study area. Average daily traffic volumes were obtained from data collected in May, 1995. Figure 7.4.1 summarizes existing traffic levels on streets in the study area. With the exception of four roadway segments near SR 16, all of the existing roadway segments are operating at acceptable service levels according to Sacramento County service standards (see Section 7.3).

Following are summaries of the principal characteristics of the major roadways in the study area as of May, 1995:

Elk Grove-Florin Road/S. Watt Avenue. This two-lane facility provides the primary access from the Elk Grove area to Jackson Road and Highway 50, further to the north. The existing average daily traffic volume is 11,170 south of Gerber Road. North of Gerber Road, the traffic volume increases from 10,890 to 25,620 as the road extends northward, just north of Jackson Road.

Bradshaw Road. Bradshaw Road is a primary north-south roadway through the study area, providing access to Jackson Road and Highway 50 from the Elk Grove area. Like Elk Grove-Florin Road/S. Watt Avenue, the traffic volume on Bradshaw Road increases as the road continues northward, from 9,150 just south of Gerber Road to over 26,000 north of Jackson Road.

Vineyard Road. Vineyard Road is a two-lane rural roadway which connects Calvine Road with Gerber Road. The existing average daily traffic volume is 1,000 vehicles.

Excelsior Road. Excelsior Road, a two-lane facility, connects Grant Line Road with Jackson Road. The average daily traffic varies from 2,010 just north of Calvine Road to 3,500 just south of Florin Road. This roadway carries much less daily traffic than the other major north-south roadways, and, unlike Bradshaw Road and Elk Grove-Florin Road/S. Watt Avenue, the traffic volume does not increase appreciably at its northern end.

Jackson Road (State Route 16). This major, two-lane highway provides the principal connection between Sacramento and Rancho Murieta. The road also provides access to Ione and Highway 49. Currently, the highest daily traffic volume - 12,200 vehicles - occurs between S. Watt Avenue and Bradshaw Road. The traffic volume west of S. Watt Avenue and east of Excelsior Road is 7,500.

Elder Creek Road. Elder Creek Road provides an east-west connection from Excelsior Road to Highway 99. In the study area the average daily traffic increases in a westerly direction from 1,800 east of Bradshaw Road to 3,360 east of S. Watt Avenue to 5,500 west of S. Watt Avenue.

Florin Road. Along with Gerber Road, Florin Road provides the principal east-west connection through the study area. To the west this roadway provides connections to SR 99 and Interstate 5. The average daily traffic volume increases in a westerly direction from 2,420 just west of Excelsior to over 13,300 west of S. Watt Avenue.

Gerber Road. A major east-west roadway, Gerber Road provides a connection between Excelsior Road and Stockton Boulevard. Average daily traffic varies from 1,620 east of Bradshaw Road to over 17,100 west of Elk Grove-Florin Road.

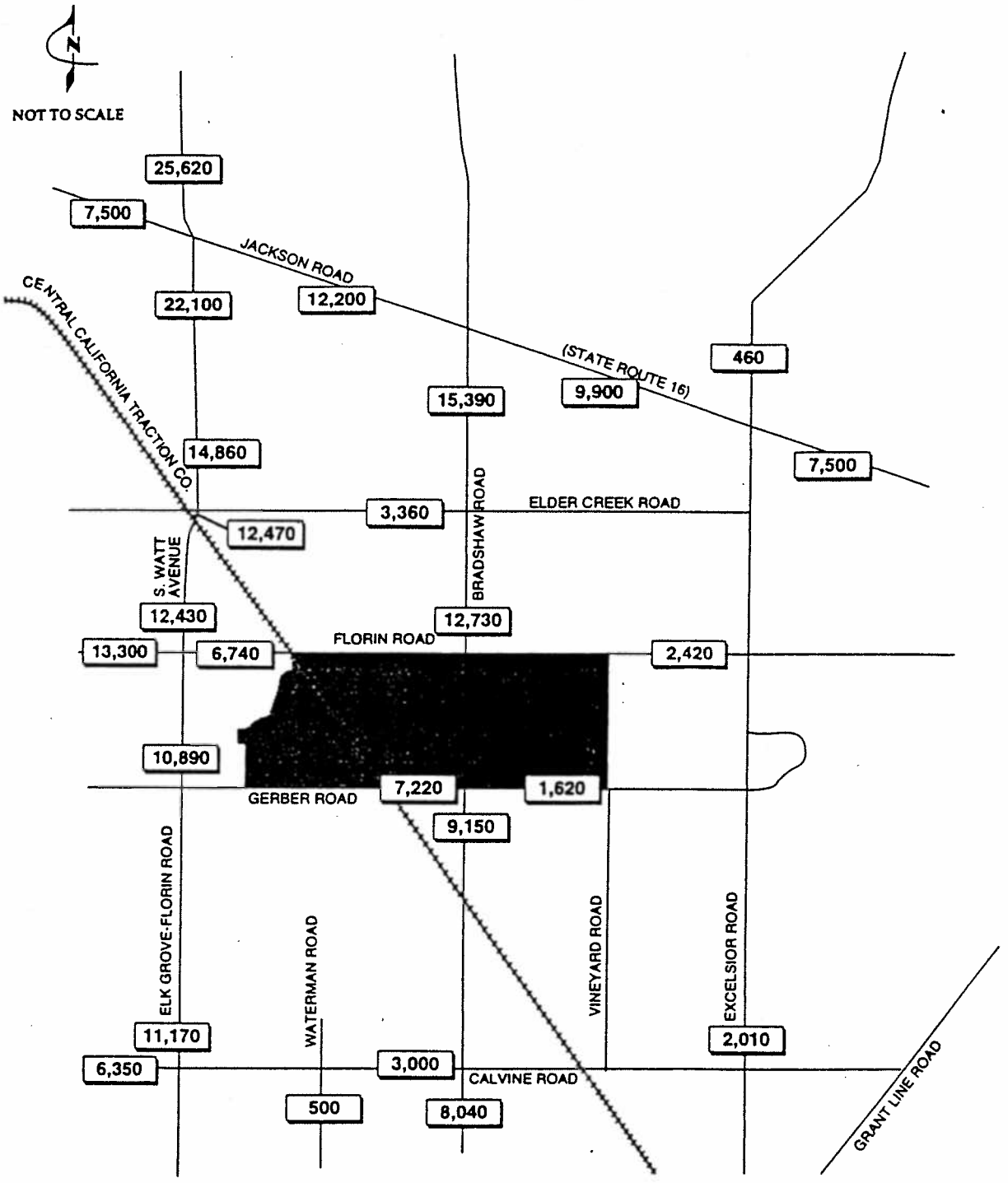
Calvine Road. The southernmost east-west roadway in the study area, Calvine Road connects Grant Line Road with SR 99. The average daily traffic increases in a westerly direction, from 2,300 east of Excelsior Road to over 6,350 vehicles west of Elk Grove-Florin Road.

Table 7.4.1.A
Major Roadway Characteristics

Roadway/Location	Lanes	ADT[1]
Jackson Rd.		
west of S. Watt Ave.	2	7,500
between S. Watt Ave. and Bradshaw Rd.	2	12,200
between Bradshaw Rd. and Excelsior Rd.	2	9,990
east of Excelsior Rd.	2	7,500
Excelsior Rd.		
south of Gerber Rd.	2	2,000
north of Jackson Rd.	2	460
Calvine Rd.		
west of Bradshaw Rd.	2	3,000
west of Elk Grove-Florin Rd.	2	6,350
Elk Grove-Florin Rd.		
south of Gerber Rd.	2	11,170
between Gerber Rd. and Florin Rd.	2	10,890
S. Watt Ave.		
between Florin Rd. and Elder Creek Rd.	2	12,730
north of Elder Creek Rd.	2	14,860
south of Jackson Rd.	2	22,100
north of Jackson Rd.	2	25,620
Elder Creek Rd.		
west of Bradshaw Rd.	2	3,360
Florin Rd.		
east of Bradshaw Rd.	2	3,200
bet. Elk Grove-Florin Rd. and Bradshaw Rd.	2	6,740
west of Elk Grove-Florin Rd.	2	13,300
Gerber Rd.		
west of Bradshaw Rd.	2	7,220
east of Bradshaw Rd.	2	1,620
Bradshaw Rd.		
south of Calvine Rd.	2	8,040
between Gerber Rd. and Calvine Rd.	2	9,150
between Gerber Rd. and Florin Rd.	2	13,400
between Florin Rd. and Elder Creek Rd.	2	12,730
between Elder Creek Rd. and Jackson Rd.	2	15,390
Vineyard Rd.	2	1,000

1/ ADT = Average daily traffic. Based on traffic counts taken May, 1995.

Figure 7.4.1
Existing Daily Traffic Volumes
May 1995



Signalized Intersections

Table 7.4.1.B. lists the level of service characteristics of major intersections in the study area. As shown in Table 7.4.1.B, under existing conditions, three of the signalized study area signalized intersections operate at unacceptable levels (LOS "F") during either or both of the a.m. and p.m. peak periods. The following signalized intersections currently have unacceptable levels of service in accordance with Level of Service standards described in Section 7.3:

- S. Watt Avenue/Jackson Road (a.m. peak and p.m. peak)
- Bradshaw Road/Jackson Road (a.m. peak)
- Elk Grove-Florin Road/Gerber Road (a.m. peak and p.m. peak)

Table 7.4.1.B
Existing Signalized Intersection Level of Service

	A.M. Peak Hour		P.M. Peak Hour	
Intersection	**V/C Ratio/1**	**LOS/2**	**VC Ratio**	**LOS**
S. Watt Ave./Jackson Rd.	1.04	F	1.12	F
Bradshaw Rd./Jackson Rd.	1.13	F	0.99	E
Bradshaw Rd./Elder Creek Rd.	0.77	C	0.76	C
Bradshaw Rd./Florin Rd.	0.89	D	0.82	D
Elk Grove-Florin Rd./Gerber Rd.	1.05	F	1.30	F
Bradshaw Rd./Gerber Rd.	0.82	D	0.66	B
Elk Grove-Florin Rd./Calvine Rd.	0.52	A	0.60	A

1/ V/C Ratio = Volume-to-Capacity Ratio
2/ LOS = Level of Service
Based on traffic counts taken May, 1995.

Unsignalized Intersections

Table 7.4.1.C describes LOS characteristics of major unsignalized study area intersections. As shown in Table 7.4.1.C, the Elk Grove-Florin/Florin intersection functions at an unacceptable level of service during the p.m. peak period. All other intersections are currently functioning at acceptable levels for both a.m. and p.m. peak periods, in accordance with adopted County service standards.

Signal warrant analyses were conducted at unsignalized intersections operating at LOS "C" or worse. Utilizing the Peak Hour Signal Warrant described in the Caltrans Traffic Manual (1985), criteria for requiring signals were met at the S. Watt Avenue-Elder Creek Road and Elk Grove-Florin Road-Florin Road intersections.

Table 7.4.1.C
Existing Unsignalized Intersection Level of Service

Intersection	Traffic Control	A.M. Peak Hour Delay, RC/1	A.M. Peak Hour LOS/2	P.M. Peak Hour Delay, RC	P.M. Peak Hour LOS
Excelsior Rd./Jackson Rd.	2-way stop	239	C	378	B
Excelsior Rd/Elder Creek Rd.	2-way stop	709	A	616	A
Vineyard Rd./Gerber Rd.	2-way stop	562	A	596	A
Excelsior Rd./Gerber Rd.	2-way stop	432	A	547	A
Waterman Rd./Calvine Rd.	2-way stop	489	A	677	A
Vineyard Rd./Calvine Rd.	2-way stop	881	A	767	A
S. Watt Ave./Elder Creek Rd.	All-way stop	15.0s	C	37.0s	E
Excelsior Rd./Florin Rd.	All-way stop	6.0s	B	3.0s	A
Elk Grove-Florin Rd./Florin Rd.	All-way stop	36.0s	E	66.0s	F
Bradshaw Rd./Calvine Rd.	All-way stop	15.0s	C	14.0s	C
Excelsior Rd./Calvine Rd.	All-way stop	4.0s	A	3.0s	A

1/ Delay = Average Total Delay (0.0 seconds applies to all-way stop control); and
RC = Reserve Capacity (000 vehicles applies to two-way stop control); s = seconds.
2/ LOS = Level of Service
Based on traffic counts taken May, 1995.

7.4.2 Existing Transit System

Presently, there are no transit services within the study area. The nearest bus routes operate on Kiefer Boulevard two miles to the north and on Power Inn Road two miles to the west of the Plan area.

7.4.3 Existing Pedestrian and Bicycle Facilities

Bicycle facilities in the vicinity of the Plan area are limited. Within the study area, the only designated bicycle facility is a Class II bikeway (see definition in Section 7.3) on Elk Grove-Florin Road from Florin Road to south of Calvine Road.

Although bicyclists can legally travel on all of the roadways within the study area, cyclists and motorists must share the travel lanes on the two-lane facilities adjacent to the Plan area. Since these roads typically have narrow, unpaved shoulders and vehicles travel at relatively high speeds, bicycle travel is not a well-utilized mode within the study area.

The Sacramento County Bikeway Master Plan (Figure 7.3.2) depicts proposed on-street bikeways on Florin and Gerber roads. No off-street routes are indicated in the Plan area; the nearest off-street route is an east-west route to the south of the Plan area and a route along Laguna Creek, which extends as far north as Calvine Road. The Bikeway Plan establishes a grid bikeway system; one-mile spacing is considered ideal for bikeway placement. In some cases, more closely spaced routes may serve residential areas.

7.4.4 Existing Rail Facilities

The Central California Traction rail line, operated and maintained by Union Pacific, crosses the western portion of the Plan area between Hedge Avenue (east of Elk Grove-Florin Road) and Bradshaw Road. The line runs diagonally from northwest to southeast and includes existing at-grade crossings on Gerber Road and Florin Road. Current

operations include two trains per day: one northbound and one southbound. The length of each train varies from two to 50 cars, depending on demand.

At-grade street and pedestrian crossings of the railroad are controlled by the California Public Utilities Commission.

7.5 PLANNED TRANSPORTATION FACILITIES

The North Vineyard Station Specific Plan provides a comprehensive transportation network designed in accordance with anticipated traffic volumes and travel demands of Plan land uses, as well as the regional system envisioned in the County General Plan. The system will provide for the safe and efficient movement of people and goods within and beyond the Plan area. The circulation system has been designed to adhere to the County's LOS standards, as described in Policy CI-22 and CI-23 (see Section 7.3.1).

This section describes proposed transportation improvements required to accommodate development within the Plan area and cumulative demands beyond the Plan area. Roadways within and beyond the Plan area have been planned to accommodate ultimate, cumulative development in the area. The projected average daily traffic volumes and travel lane configurations for study area roadways at projected cumulative buildout are summarized in Table 7.5 Summary of Planned Major Street Improvements. As shown, and with the exception of Excelsior Road south of Jackson Road, all major streets will be widened to at least four lanes. These roadways are graphically depicted in Figure 7.5.A. Major Street Locations

All planned major streets described in this section are depicted in Figure 7.5.A. Figure 7.5.A. also indicates projected average daily traffic (ADT) for those roadway segments shown in Table 7.5.

7.5.1 Development Impacts/Improvements (On-site Facilities)

This section describes the new and upgraded transportation facilities within the Plan area. Each transportation component is individually described and illustrated. Detailed information concerning Plan area roadways is graphically depicted in the Circulation Plan, Figure 7.5.B.

Thoroughfare and Arterial Streets

Arterial and Thoroughfare streets within the Plan area include upgrades of existing streets - Gerber Road, Florin Road, and Bradshaw Road - as well as extensions of Waterman Road and Vineyard Road into the Plan area. Waterman Road is a new four-lane, north-south arterial that will connect Gerber and Florin roads approximately halfway between Elk Grove-Florin Road and Bradshaw Road. This segment of Waterman Road will ultimately connect Gerber Road to a planned extension of Waterman Road from Vintage Park Drive. The proposed roadway will include a new at-grade crossing of the Central California Traction Railroad.

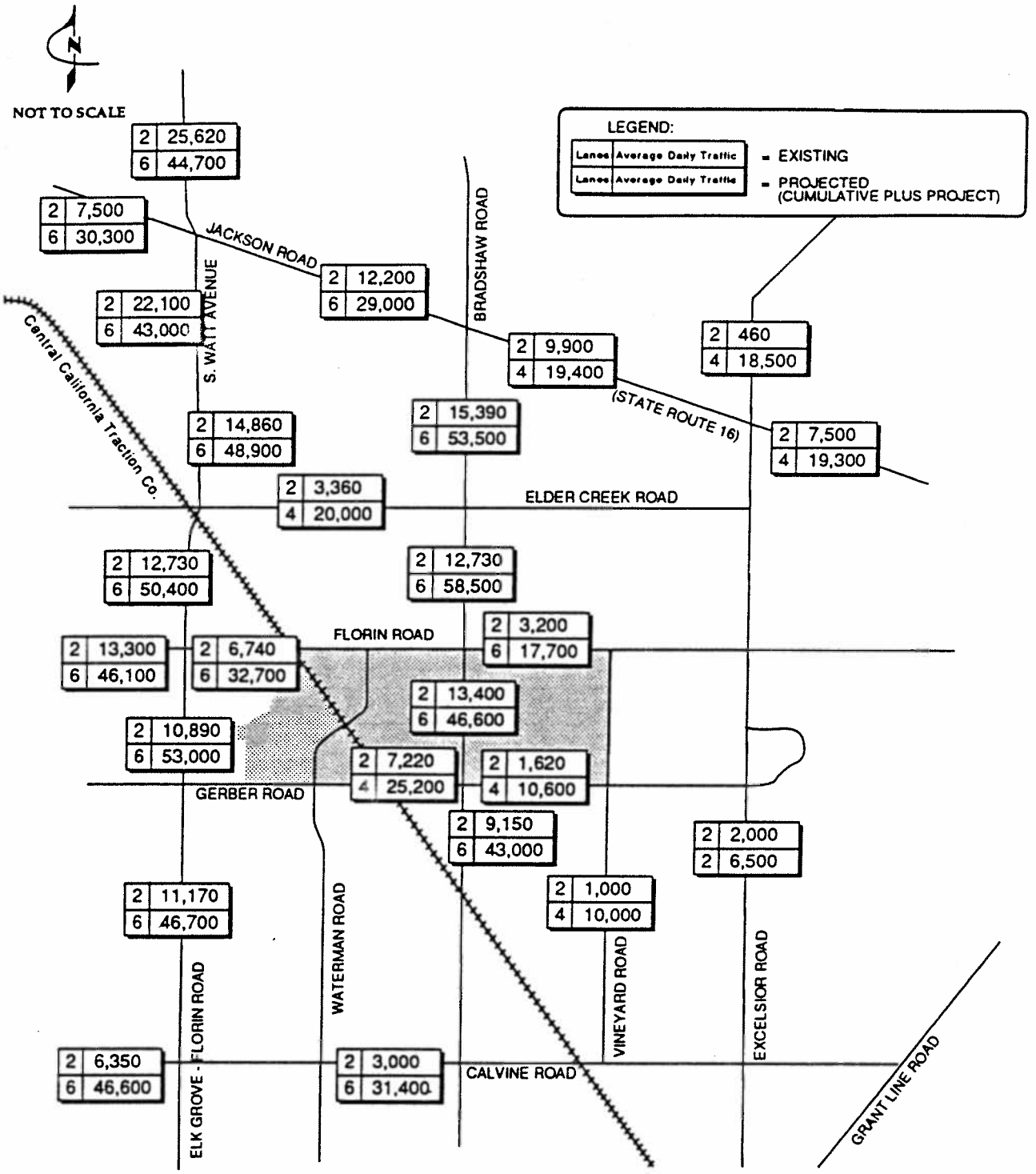
Vineyard Road will be extended from its current Gerber Road terminus to Florin Road. The Vineyard Road extension will be constructed to accommodate four travel lanes, according to the Sacramento County General Plan Transportation Map.

Following is a summary listing of Thoroughfare and Arterial roadway improvements within and bordering the Plan area:

- Gerber Road - Upgrade, 4 lanes
- Florin Road - Upgrade, 6 lanes
- Bradshaw Road - Upgrade, 6 lanes
- Vineyard Road - Extend, 4 lanes
- Waterman Road - Extend, 4 lanes

In accordance with General Plan Policy CI-22, all major roadways in the Plan are designated as urban area roads and have been designed to adhere to level of service (LOS) "E" or better. In accordance with Policy CI-23, this Plan includes a listing of proposed roadway improvements and travel demand reduction measures necessary to mitigate potential impacts and maintain consistency with adopted level of service (LOS) standards. (Referenced General Plan policies are contained in the Section 7.3.1 Service Standards.)

Figure 7.5.A.
Major Street Locations



Source: Sacramento County Traffic Volume Map (1994), Sacramento County General Plan (1993), and Fehr & Peers Associates (1996).

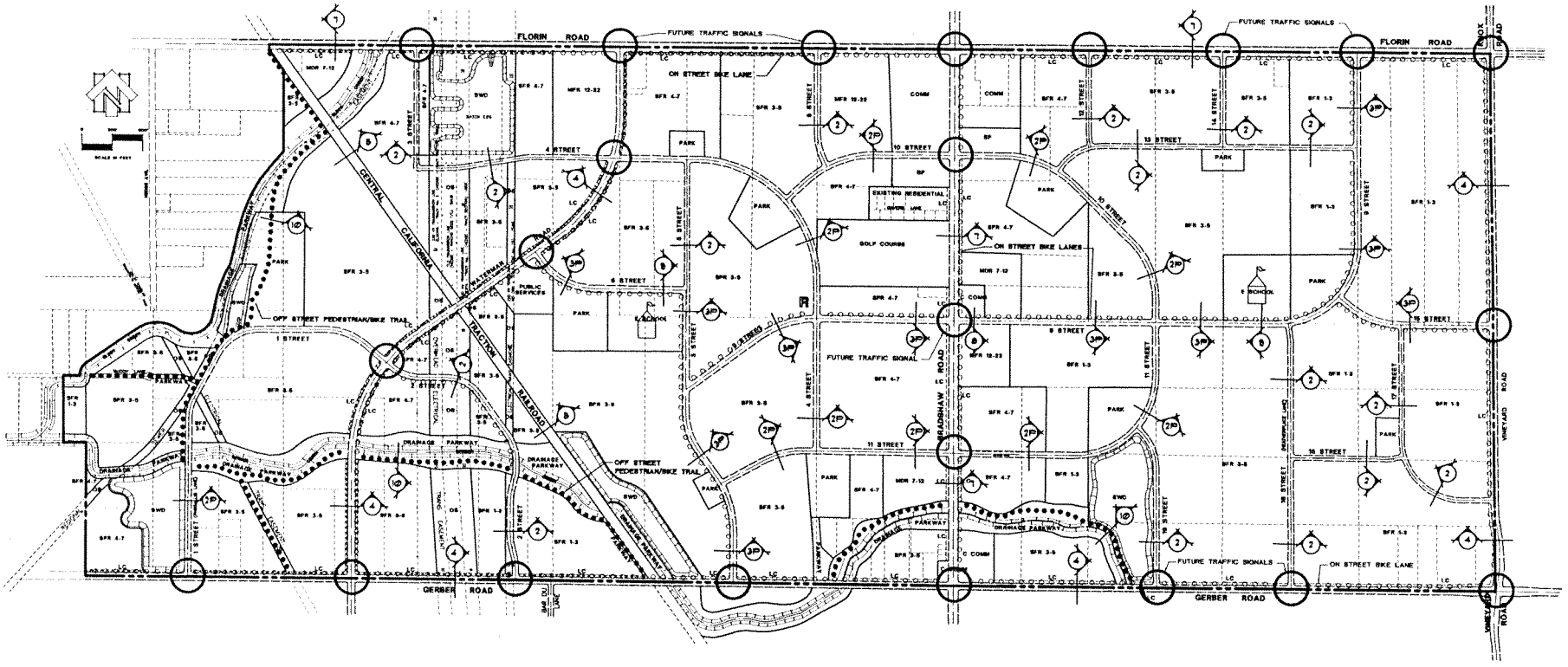


Figure 7.5.B
Circulation Plan

Table 7.5
Summary of Planned Major Street Improvements/3

Roadway/Location	Existing/1 Lanes	Existing/1 ADT	Projected/2 Lanes	Projected/2 ADT
Jackson Rd.				
west of S. Watt Ave.	2	7,500	6	30,300
between Bradshaw Rd. and Excelsior Rd.	2	9,990	4	19,400
east of Excelsior Rd.	2	7,500	4	19,300
Excelsior Rd.				
south of Gerber Rd.	2	2,000	2	6,500
north of Jackson Rd.	2	460	4	18,500
Calvine Rd.				
west of Bradshaw Rd.	2	3,000	6	31,400
west of Elk Grove-Florin Rd.	2	6,350	6	46,600
Elk Grove-Florin Rd.				
south of Gerber Rd.	2	11,170	6	46,700
between Gerber Rd. and Florin Rd.	2	10,890	6	53,000
S. Watt Ave.				
between Florin Rd. and Elder Creek Rd.	2	12,730	6	50,400
north of Elder Creek Rd.	2	14,860	6	48,900
south of Jackson Rd.	2	22,100	6	43,000
north of Jackson Rd.	2	25,620	6	44,700
Elder Creek Rd.				
west of Bradshaw Rd.	2	3,360	4	20,000
Florin Rd.				
east of Bradshaw Rd.	2	3,200	6	17,700
bet. Elk Grove-Florin Rd. and Bradshaw Rd.	2	6,740	6	32,700
west of Elk Grove-Florin Rd.	2	13,300	6	46,100
Gerber Rd.				
west of Bradshaw Rd.	2	7,220	4	25,200
east of Bradshaw Rd.	2	1,620	4	10,600
Bradshaw Rd.				
between Gerber Rd. and Calvine Rd.	2	9,150	6	43,000
between Gerber Rd. and Florin Rd.	2	13,400	6	46,600
between Florin Rd. and Elder Creek Rd.	2	12,730	6	58,500
between Elder Creek Rd. and Jackson Rd.	2	15,390	6	53,500
Vineyard Rd.	2	1,000	4	10,000

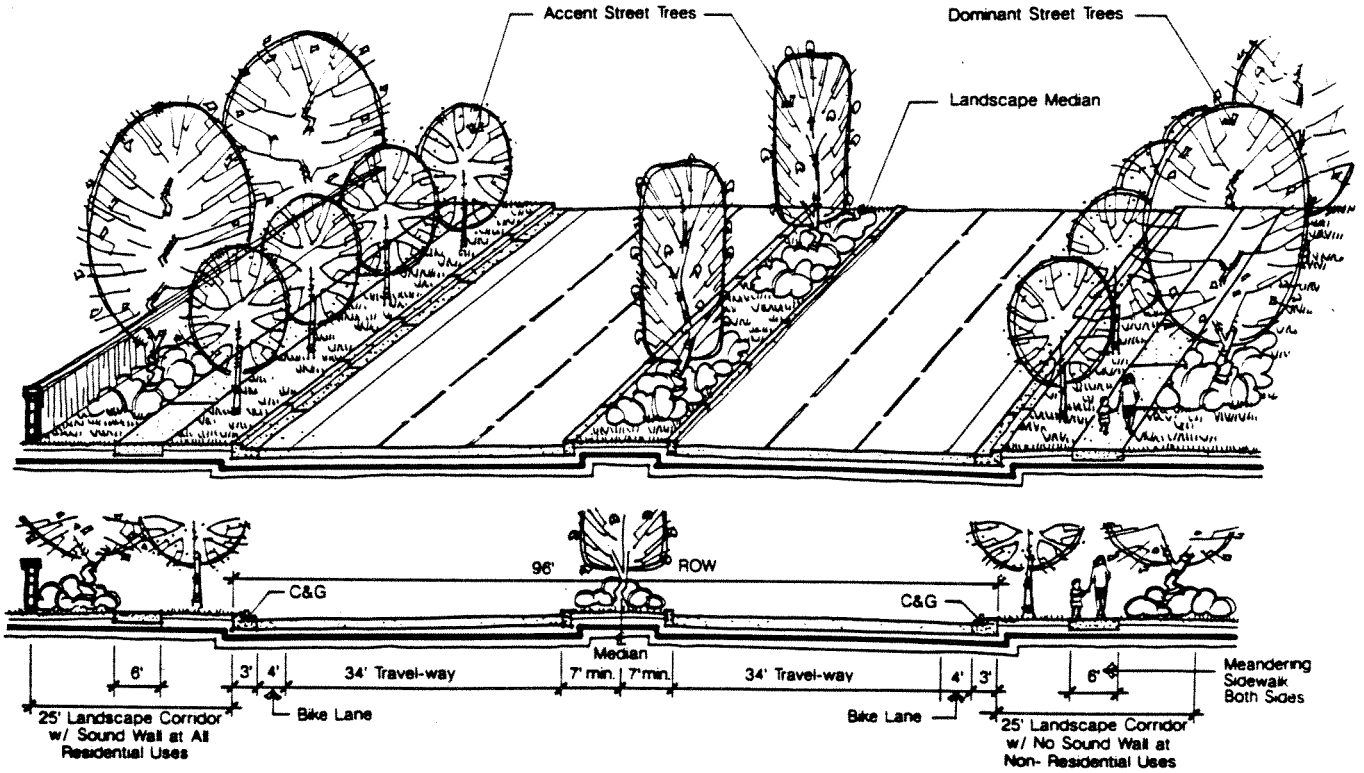
1/ Based on traffic counts taken May, 1995.
2/ Projected traffic counts include cumulative plus Plan.
ADT = Average Daily Traffic.
3/ Covers the period through cumulative build-out of the study area.

Thoroughfare Streets. As depicted in Figure 7.5.1.A., Thoroughfare Streets include the following features within a 96-foot wide right-of-way:

- 68-foot travel way (6 lanes)
- 14-foot landscaped median
- 4-foot Class II bicycle lane
- 3-foot curb and gutter
- On-street parking is not permitted.

A 25-foot wide landscape corridor is provided on each side of the right-of-way. Additional information concerning the Landscape Corridor is contained in this section.

Figure 7.5.1.A. Thoroughfare Street Section

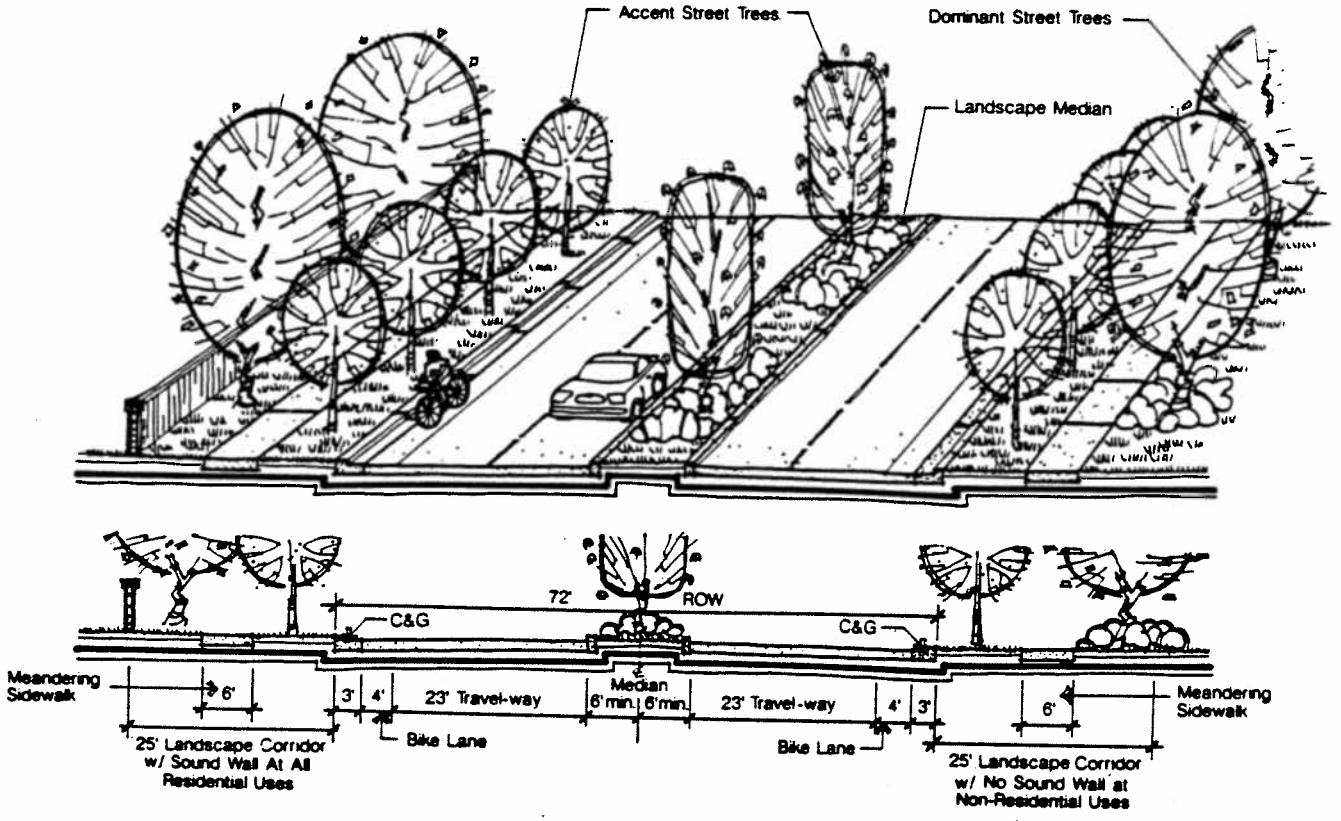


Arterial Streets. As shown in Figure 7.5.1.B. Arterial Streets have the following features within a 72-foot right-of-way:

- 46-foot travel way (4 lanes)
- 12-foot landscaped median or a 12-foot wide, two-way left turn lane
- 4-foot Class II bicycle lane
- 3-foot curb and gutter
- On-street parking is not permitted.

Adjoining the right-of-way on both sides of the street is a 25-foot wide landscape corridor. Additional information concerning the Landscape Corridor is contained in this section.

Figure 7.5.1.B. Arterial Street Section



Traffic Signals. Traffic signals are provided in order to maintain adopted level of service (LOS) standards on major roadways, as described in Section 7.3.1.

The Circulation Plan identifies traffic signal locations on Arterial and Thoroughfare streets at intersections identified in the Figure 7.5.B. Circulation Plan. As shown in the Circulation Plan, signals are provided on the perimeter and within the Plan area at proposed major street intersections with Florin Road, Vineyard Road, Gerber Road, Waterman Road, and Bradshaw Road. Except in one instance, signals occur at intervals of no closer than one-quarter mile.

Roundabouts. The intersections 9 Street/4 Street and 9 Street/10 Street may be designed as roundabouts. A roundabout is a circular intersection of two collector streets that allows through and turning movements without the need for traffic signals or stops signs. In certain instances, roundabouts have been found to be an effective method of controlling traffic at street intersections, while minimizing vehicle delay and air quality impacts.

Collector and Commercial Streets

Collector Streets. Collector Streets have been designed and located within the Plan area to connect Residential Streets with Thoroughfare/Arterial Streets. Collector streets are designed with 56-foot right-of-way. As depicted in Figure 7.5.1.C., Collector Streets with a 56-foot right-of-way include the following features:

- 30-foot travel way (2 lanes)
- 6-foot parking lane
- 3-foot curb and gutter
- 4-foot sidewalk

Aside from the Arterial and Thoroughfare streets, all of the streets identified on the Circulation Plan are Collector or Commercial streets.

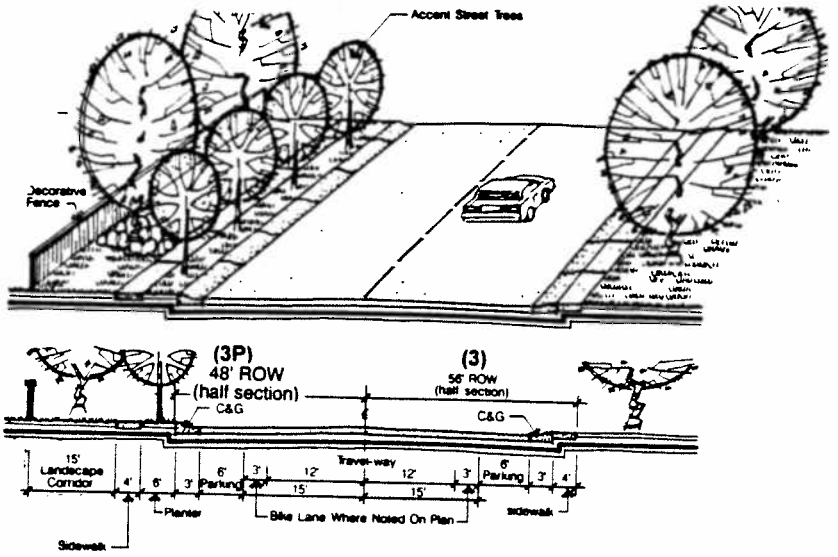
Collector Street Frontage Provisions. In order to facilitate the flow of vehicle traffic and promote traffic safety on Collector Streets, the Plan establishes the following special requirements that must be met in order for single family residential lots to have driveway access to Collector Streets.

Single family dwellings will be able to have driveway access to Collector Streets only under the following average daily traffic (ADT) conditions:

0 to 2500 ADT	No limitations or controls required.
2500 to 3500 ADT	Additional 10-foot front yard setback required from back of curb or 5-foot setback from sidewalk.
3500 to 4500 ADT	Frontage allowed only where driveway designs permit front out egress (i.e. hammerhead driveways). Figure 7.5.1.E. provides examples of possible driveways designs.
Over 4500 ADT	No driveway access to Collector Streets.

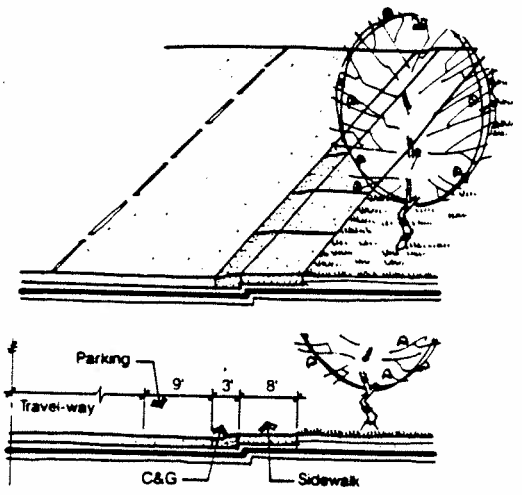
Residential Street intersections with Collector Streets are not constrained by this Plan, but are subject to County street standards.

Figure 7.5.1.C. Collector Street Section

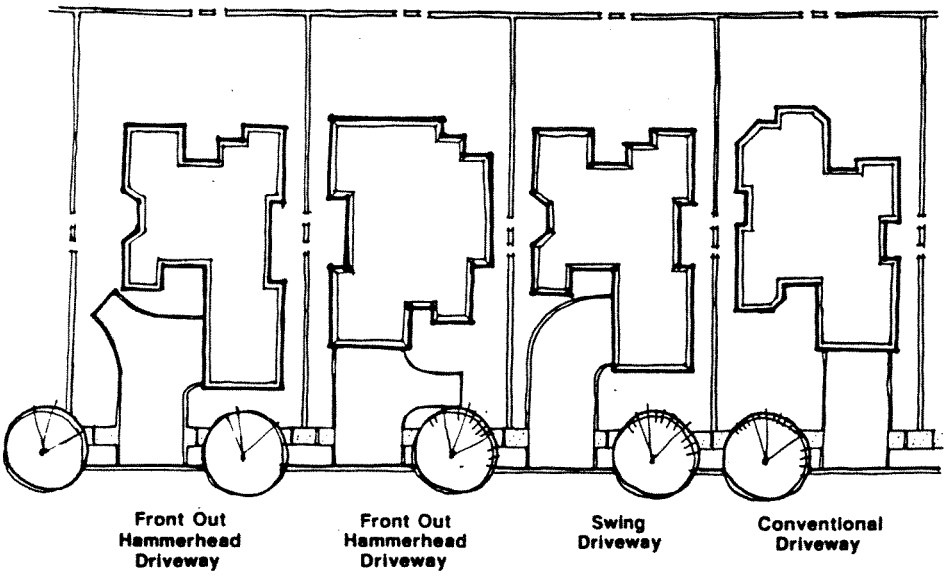


Half Streets Adjacent to Schools. Where Collector Streets are adjacent to public Schools identified in the Land Use Diagram, the right-of-way includes a 9-foot wide parking lane, and the sidewalk width is increased to eight feet, as depicted in Figure 7.5.1.D.

Figure 7.5.1.D. Half-Street Adjacent to Schools Section



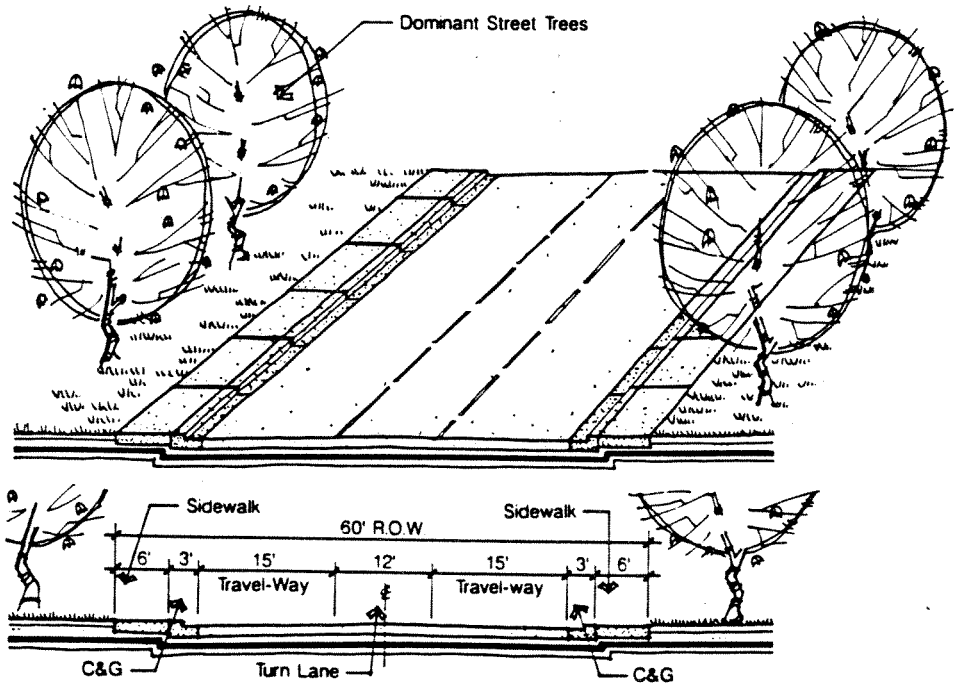
7.5.1.E. Illustrative Driveway Variations



Commercial Streets. The special Commercial Street design depicted in Figure 7.5.1.F. is used on both sides of streets that have Commercial land use street frontage on at least one side. Commercial Streets are designed with the following features within a 60-foot wide right-of-way:

- 30-foot wide travel way (2 lanes)
- 12-foot wide center left turn lane
- 3-foot curb and gutter
- 6-foot sidewalk

Figure 7.5.1.F. Commercial Street Section



Residential Streets

The locations of residential streets are not identified on the Circulation Plan. Rather, such streets will be designated on individual development plans (particularly tentative subdivision maps) submitted following Specific Plan adoption. Residential streets will be designed and placed in accordance with the requirements of this Plan.

In addition to requirements of this Plan, the following General Plan policy must be adhered to in the design of Residential streets.

> *Policy SA-18. Watercourse crossings shall be minimized. Creation of lots that require watercourse crossings for single lots, or that will likely encourage watercourse crossings to be built by property owners (lots with usable area on both sides of a watercourse) will not be allowed.*

The Circulation Plan identifies the only vehicular water course crossings allowed by the Plan. Each of the crossings depicted is a major street. And, Specific Plan policies specifically discourages any crossing of Drainage Parkways or other open space not depicted on the Specific Plan Land Use Diagram.

Primary Residential Streets. As illustrated in Figure 7.5.1.G., Primary Residential Streets may be constructed within a 50-foot right-of-way. The following features are included within a 50-foot right-of-way:

- 24-foot travel way
- 6-foot parking lane
- 3-foot curb and gutter
- 4-foot sidewalk (adjacent to the curb, except as noted herein)

Minor Residential Streets. Although locations have not been designated in the Circulation Plan, the Minor Residential Street is the predominant street design within Residential areas. As illustrated in Figure 7.5.1.H. Minor Residential Streets are designed with the following features with a 40-foot right-of-way:

- 26-foot travel way
- 4-foot sidewalk adjacent to the curb
- 3-foot curb and gutter

Figure 7.5.1.G. Primary Residential Street Section

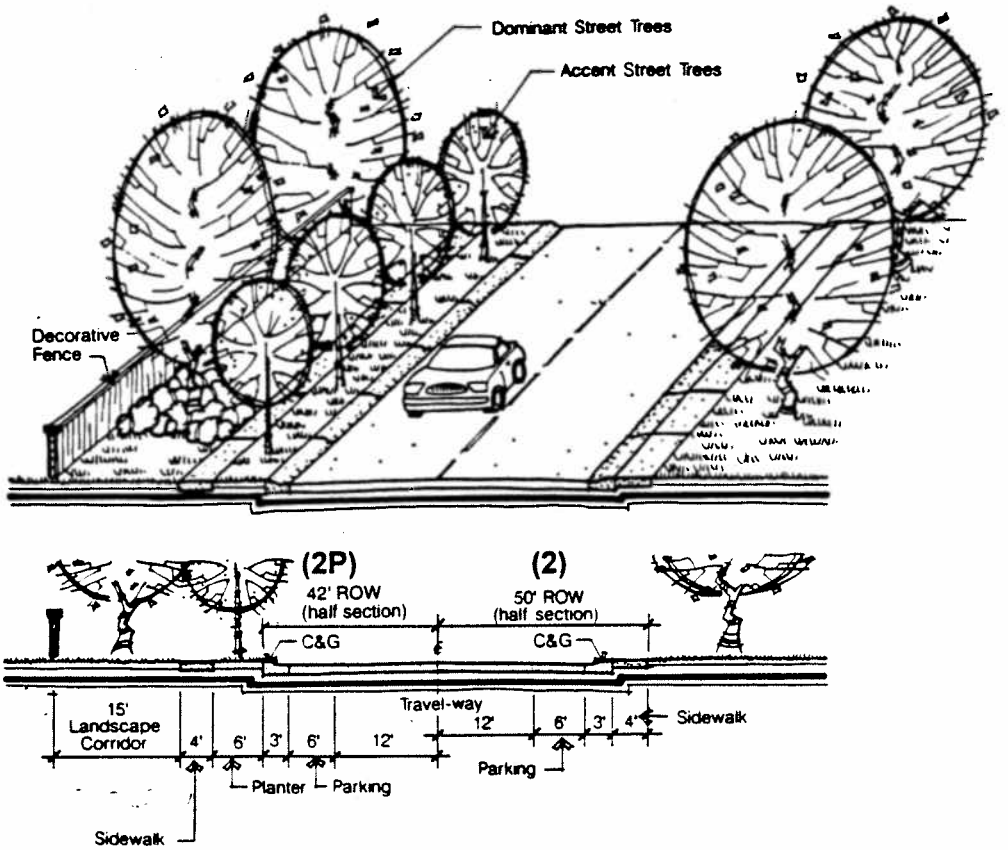
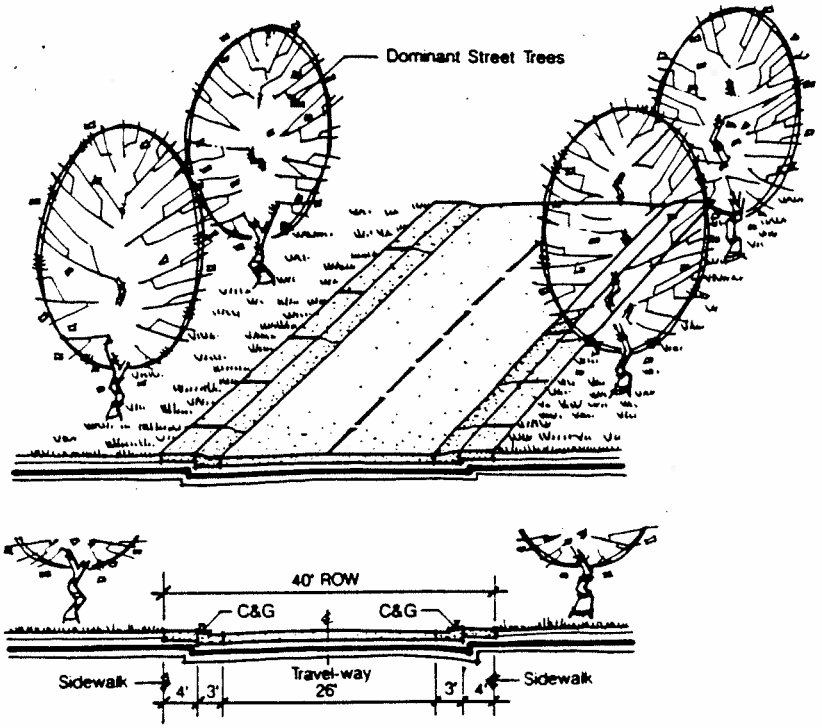


Figure 7.5.1.H. Minor Residential Street Section



Bus and Light Rail Transit Facilities

Provision of public transit within the county is guided by the following General Plan policy:

> *Policy CI-4. Require full and accurate analysis of all alternatives for public transit, including expanded bus service, private carrier operations, road capacity improvements, and rail transit, prior to committing funds for construction. Evaluation shall specifically include full social and economic costs and benefits, as well as net system effects and per-new-rider costs.*

Regional Transit completed its Transit Master Plan in 1993, which identifies costs, potential transit corridors, estimates future capital and operating costs, and states the generalized benefits of transit service. RT's Transit Master Plan identifies possible future transit corridors in the Plan area, including California Central Traction Railroad right-of-way.

Transit Corridors. The transit facilities included as part of the Plan are designed to coordinate with and maximize the potential of those transit corridors identified by RT (see Section 7.3) and Sacramento County. As noted in Section 7.3, RT guidelines recommend bus stops at one-quarter mile intervals in suburban settings, and they recommend turnouts when traffic volumes, speeds, and service frequency warrant safe stopping areas for buses. Consistent with this standard, the Circulation Plan shows bus stops at one-quarter mile intervals.

Roadways within the Specific Plan area will be designed to accommodate transit facilities such as turnouts, bus stops, and shelters should individual routes be designated on major collector streets. Thus, implementation of the proposed project will not disrupt or interfere with existing or planned transit operations in the area, and no operational deficiencies have been identified.

The Plan area has been designed to capitalize upon future transit opportunities. Specifically, higher density residential development, as well as commercial uses, are located at major intersections along transit routes, and the highest intensity land uses are located near the Transit Center.

Transit Center. A 10-acre Transit Center has been designated in the Plan to ultimately provide parking for carpools and buses and to facilitate the possible future extension of light rail transit into the Plan area. Included are a 1.1-acre transit station site and nine acres for park and ride lots. The Transit Center adjoins the Plaza Park, a specialized park intended to compliment the transit facilities and attract transit users.

The Transit Center, the concept for which is illustrated in Figure 7.5.1.I., is designed in accordance with Sacramento RT design standards for suburban light rail stations with the following amenities:

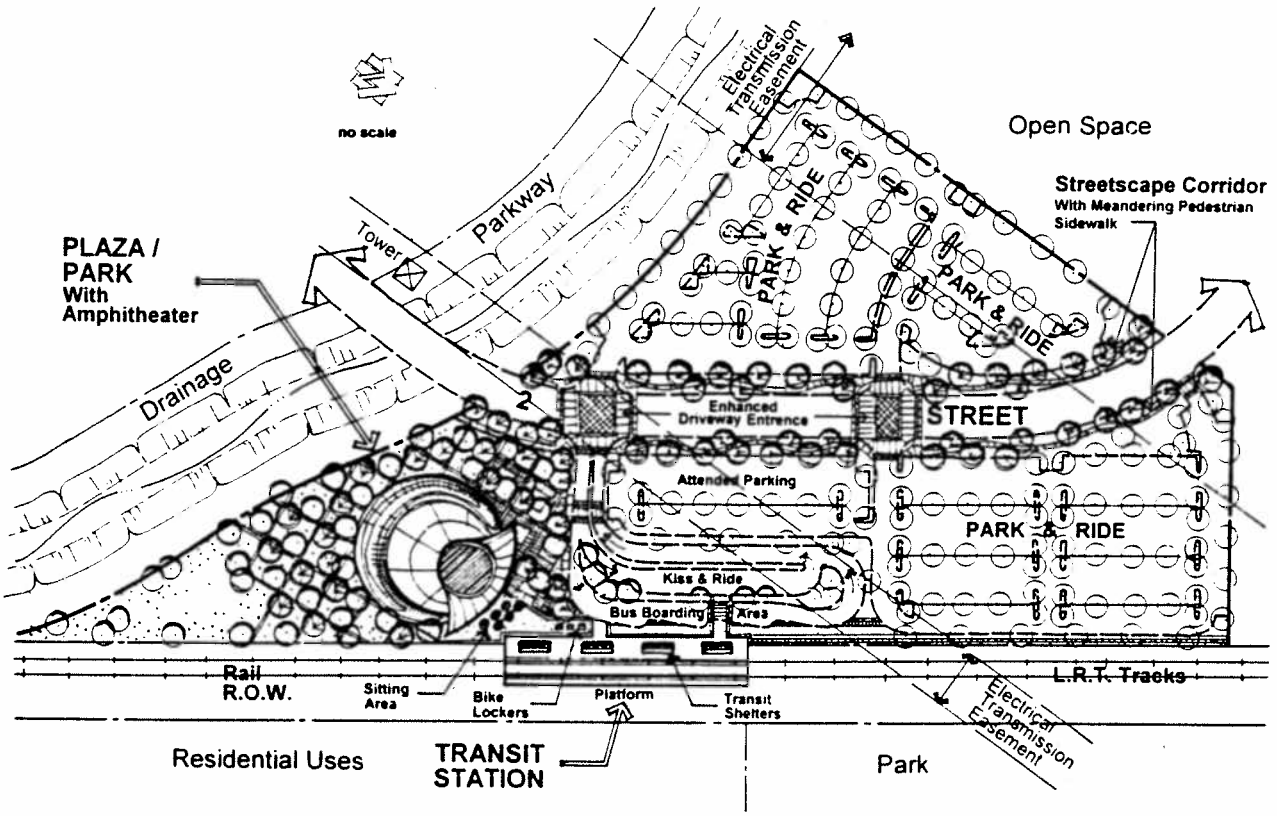
- Security features
- Shelters (platforms and ramps)
- Station furniture (benches, trash receptacles, telephones, drinking fountains)
- Information display (kiosks, schedule displays)
- Fare vending equipment
- Lighting
- Landscaping/planters

- Bicycle lockers/secure bicycle racks
- Artwork
- Concessionaires

On the basis of RT standards of 100 parking spaces per acre, the nine-acre parking area can be expected to accommodate approximately 900 vehicles. Also, park and ride areas are permitted uses in the Commercial sites. These provisions for park and ride facilities are consistent with the following General Plan policy:

Policy AQ-28. Require that large new developments dedicate land for use as park-and-ride lots if suitably located.

Figure 7.5.1.I. Transit Center Concept



Pedestrian and Bicycle Facilities

The Plan includes an extensive pedestrian and bicycle circulation system within the public road rights-of-ways and in open space areas, in accordance with the following Sacramento County General Plan policies:

> *Policy LU-13. Community Plans, Specific Plans, and development projects shall be designed to promote pedestrian movement through direct, safe, and pleasant routes that connect destinations inside and outside the plan or project area.*
>
> *Policy AQ-25. Require that new development be designed to promote pedestrian and bicycle access and circulation.*

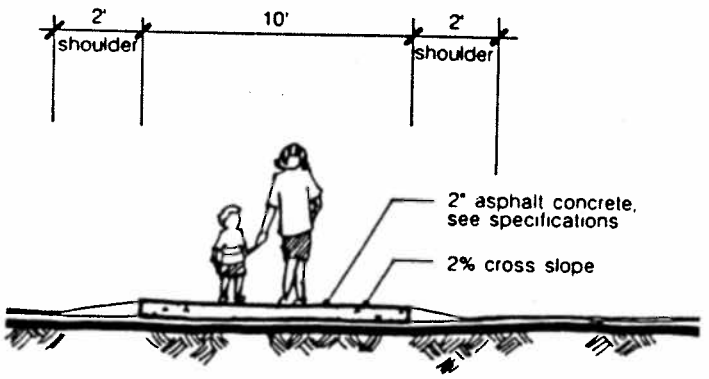
Pedestrian pathways are provided along all streets. Included are 6-foot wide pedestrian pathways within Landscape Corridors of Arterial and Thoroughfare streets and 4-foot wide sidewalks within the rights-of-way of all residential streets. In certain instances, pedestrian facilities on Primary Residential and Collector streets are separated from the curb by a 6-foot wide planter. Six-foot wide sidewalks are required for non-residential frontage streets.

The locations of all pedestrian and bicycle facilities, including sidewalks, pedestrian pathways, Class I Bicycle/Pedestrian Paths, and Class II Bike Lanes are shown in the Circulation Plan. As shown, a combination of pathways within the street rights-of-way and in off-street, open space locations will enable non-vehicular travel throughout the Plan area.

As shown in Figure 7.5.1.J., Class I facilities in Open Space areas consist of a 10-foot wide paved pathway with a 2-foot wide shoulder on both sides for use by both pedestrians and bicyclists. Where Class I pathways are included in Drainage Parkways, the 10-foot wide pedestrian/bicycle facility is also used as a maintenance road. As noted elsewhere in this Plan, the storm drainage system within the Plan area is part of a larger, comprehensive system being developed by the County. When that system is fully developed, linkages with the Plan area off-road pathway system will allow pedestrian and bicycle travel well beyond the Plan area.

The Plan also contains a number of policies that will further reinforce the use of non-vehicular modes of travel within the Plan area.

Figure 7.5.1.J. Pedestrian/Bicycle Path Section



Landscape Corridor

Landscape Corridors are included adjacent to the right-of-way on both sides of all Thoroughfare and Arterial streets and on one or both sides of many of the Collector and Primary Residential streets. The Landscape Corridors will include the following features:

- 25-foot width on both sides of Thoroughfare and Arterial streets.
- 15-foot width on Collector and Primary Residential streets, only where Single Family Residential lots back onto the street. (In this instance, pedestrian facilities are located outside the Landscape Corridor, in the street right-of-way.)
- Dense landscaping, fences, and soundwalls. (Refer to the Design Guidelines for design criteria for noise attenuation.)
- Pedestrian facilities on Thoroughfare and Arterial Streets consist of a 6-foot wide bicycle/pedestrian pathway, separated from the curb by a variable width planter. The pathway meanders within the Corridor to the extent possible.

Landscape Corridors will be designed as set forth in the Design Guidelines. It is anticipated that the Landscape Corridors will be dedicated to, and maintained by, the Southgate Recreation and Park District.

Railroad Corridor

The 100-foot wide California Central Traction Railroad right-of-way is accommodated within the Plan area design in either its current function or as a future transit corridor. For safety and to provide a visual buffer, a 6-foot high masonry wall will be constructed along both sides of the railroad right-of-way. Landscaping, consisting of wall-climbing vines and trees will be planted along the wall to soften its appearance (see Design Guidelines). Figure 7.5.1.K. illustrates the relationship of the Railroad/Light Rail Corridor to adjoining residential land uses.

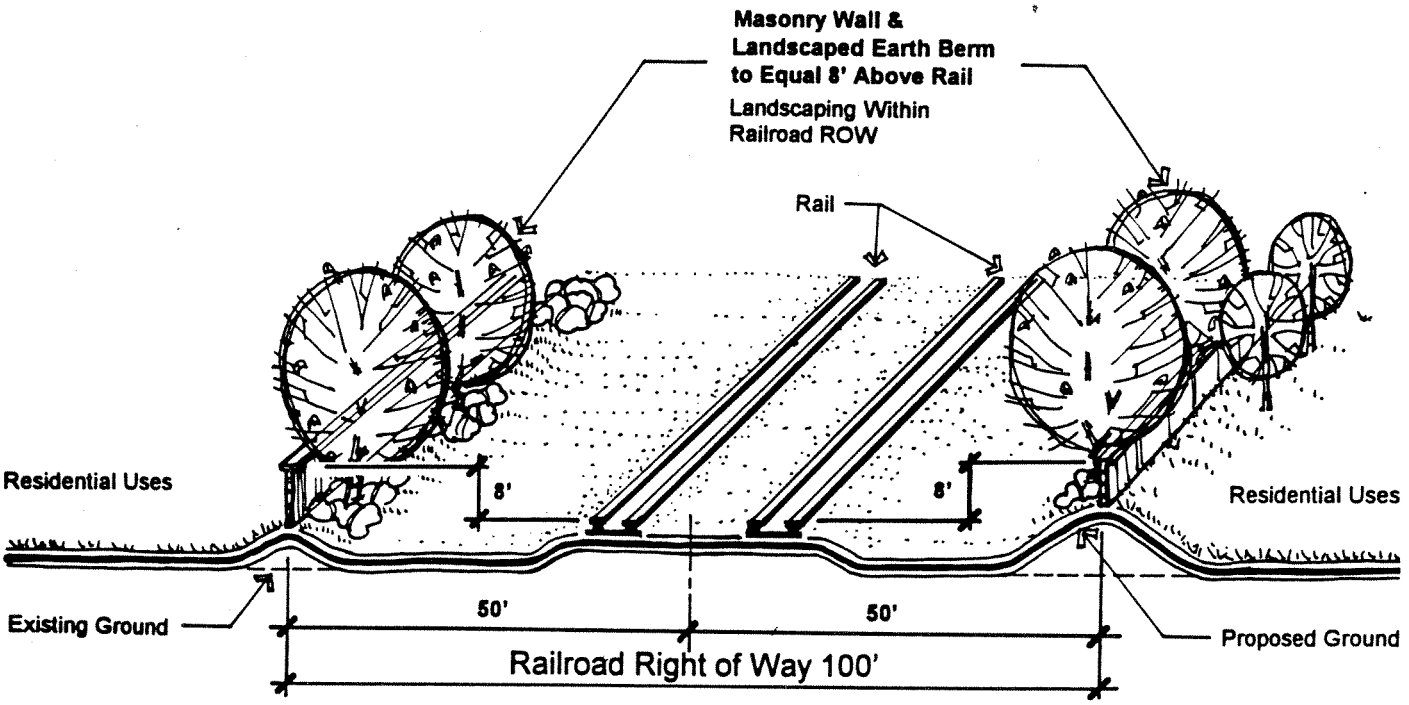
As previously noted, at-grade street and pedestrian crossings of the railroad are controlled by the California Public Utilities Commission (PUC). An application for approval of crossings depicted on the Specific Plan Land Use Diagram is pending before the PUC. RT plans relative to the Plan area are summarized in Section 7.3.3.

Refer to the Design Guidelines for soundwall design criteria for noise attenuation.

Park and Ride Lots

As described in Section 5.0 of this Plan, each of the parking lots in the commercial sites is permitted to accommodate a park-and-ride lot if sufficient space is available. Commercial sites are located in close proximity to possible transit facilities.

Figure 7.5.1.K. Light Rail Transit and Railroad Section



7.5.2 Development Impacts/Improvements (Off-site Facilities)

The Transportation Analysis prepared for the Plan has determined the extent of circulation improvements required beyond the Plan area in order to maintain consistency with adopted County transportation policies. The following provides separate descriptions of proposed improvements required solely to address project-related demands and projected cumulative development of the study area.

The extent to which Plan area property owners will participate in the funding of these improvements is described in Section 10.0 Capital Improvement Program and Financing Strategy.

Additional information concerning off-site circulation improvements is contained in the *Transportation Analysis for the North Vineyard Station Specific Plan*, dated October 2, 1996, prepared by Fehr and Peers Associates, Inc.

Project-related Improvements

The following streets will be widened to four lanes to maintain level of service (LOS) "E", in accordance with General Plan Policy CI-22:

- Elk Grove-Florin Road from Gerber Road to SR 16.
- Bradshaw Road from Gerber Road to SR 16.
- Florin Road from S. Watt Avenue to the proposed Waterman Road extension.
- Gerber Road from Elk Grove-Florin Road to Bradshaw Road.
- Jackson Road from South Watt Avenue to Bradshaw Road.

Improvements at the following intersections are intended to maintain level of service (LOS) "E" in accordance with General Plan Policy CI-22:

- South Watt Avenue/Jackson Road.
- Bradshaw Road/Jackson Road.
- Bradshaw Road/Elder Creek Road.
- Bradshaw Road/Florin Road.
- Elk Grove-Florin Road/Gerber Road.
- Bradshaw Road/Gerber Road.
- South Watt Avenue/Elder Creek Road.
- Elk Grove-Florin Road/Florin Road.

Cumulative Development Improvements

The following improvements will maintain LOS "E", in accordance with General Plan Policy CI-22, at all but the following study area intersections:

- Bradshaw Road - Strictly limit access between Florin Road and Elder Creek Road.
- Bradshaw Road/Jackson Road intersection - Construct dual right turn lanes on the eastbound approach and triple left turn lanes on the northbound approach.
- Jackson Road/Excelsior Road intersection - Modify the northbound and southbound approaches to include a second through lane.
- Bradshaw Road/Elder Creek Road intersection - Construct dual right turn lanes on the eastbound approach.
- Elder Creek Road/Excelsior Road intersection - Modify the northbound and southbound approaches to include a second through lane. Widen Excelsior Road between Elder Creek Road and Jackson Road to four lanes. Widen the southbound departure leg of the Elder Creek Road/Excelsior Road intersection to two lanes before merging into a single southbound lane.
- Florin Road/Excelsior Road intersection - Modify the eastbound approach to include dual left turn lanes and add a second northbound through lane. Widen Excelsior Road north of Florin Road to accommodate two departure lanes.

7.6 TRAVEL DEMAND REDUCTION MEASURES

Travel demand reduction measures are incorporated into various aspects of the Plan in order to reduce vehicle emissions, thereby reducing traffic congestion and improving air quality. The General Plan addresses air quality in the following policy:

> *Policy AQ-15. All new major indirect sources of emissions shall be reviewed and modified or conditioned to achieve a reduction in emissions. This indirect source review program will be developed in coordination with SACOG and SMAQMD, and include the following features:*
>
> *A. A 15 percent reduction in emissions from the level that would be produced by a base-case project assuming full trip generation per the current ITE Trip Generation Handbook.*
>
> *B. A focus on cost-effectiveness measured in terms of cost per ton of pollutant avoided.*
>
> *C. A list of cost-effective measures to be developed, maintained, and annually reviewed by SMAQMD.*
>
> *D. A maximum expenditure cap which will be computed for each indirect source on the basis of factors including, but not limited to, total emissions and project value.*
>
> *E. A process for obtaining a waiver from the 15 percent requirement if it is found that a lower level of reduction is all that can be achieved with cost-effective measures and offsets, or that achieving the full 15 percent reduction would cost more than expenditure cap.*
>
> *F. An exception for projects which have already undergone the indirect source review at some point in the development approval process.*
>
> *G. A procedure to give full credit for other measures required in a project that may also achieve a reduction in emissions.*

Sacramento County has developed a preliminary list of measures and corresponding credits that can be applied to the required 15 percent reduction in emissions. This list is based on data originally prepared by the SMAQMD in a February, 1995 report entitled *Indirect Source Review Program: Implementation Guidelines*. Sacramento County is currently developing specific requirements that will be incorporated into the Zoning Code.

The following measures, which are incorporated into the North Vineyard Station Specific Plan, are all contained in the preliminary list of acceptable measures. According to the County's preliminary guidelines, the above measures result in a 15.5 percent reduction in emissions and meet the requirements of General Plan Policy AQ-15.

1. The Plan contains a mixture of complementary land uses (residential, commercial, parks, schools) located within the project or within one-half mile of the project boundaries. Approximately half of the Plan meets the County's criteria, which allows for up to a 6% credit. SPECIFIC PLAN CREDIT = 3%.

2. The Plan is designed to provide a transit stop within a reasonable distance of all land uses. The proposed roadway network of Arterial, Thoroughfare, and Collector streets would accommodate bus stops within one-quarter mile of most land uses. SPECIFIC PLAN CREDIT = 2%.

3. The Plan will include easements to accommodate bus stop improvements (route signs, benches, shelters and lighting) at all major transit stops. Current RT policy only requires easements for stops since a private firm provides the shelter and related improvements in exchange for advertising space. SPECIFIC PLAN CREDIT = 2%.

4. The Plan is designed to accommodate and provide access to the planned on-street (Class II) bicycle lanes as identified in the 2010 Sacramento City/County Bikeway Master Plan (BMP). On-street facilities within one-half mile of the project site are planned on Florin, Bradshaw, and Gerber Roads, and the entire Plan area meets the criteria. SPECIFIC PLAN CREDIT = 2.0%

5. In addition to the bikeways included in the BMP, both on-street and off-street facilities are included throughout the Plan area and will be located within one-half mile of all major land uses. SPECIFIC PLAN CREDIT = 1.5%

6. Through policy language, the Plan provides for direct (i.e., minimum distance) pedestrian connections between adjacent and complementary land uses. All parks, schools, and commercial areas will be connected to residential areas by interconnected roads and pathways. SPECIFIC PLAN CREDIT = 2%

7. The Plan circulation system provides direct automobile access between complementary land uses to minimize the distance traveled, within the limits of physical constraints (i.e., drainage parkways). SPECIFIC PLAN CREDIT = 1%

8. The Plan area will participate in a Transportation Management Association to create, administer, and finance on-going programs to reduce vehicle trips. The Financing Plan for the Plan will include means to fund the TMA. SPECIFIC PLAN CREDIT = 3%

TOTAL SPECIFIC PLAN CREDIT: 15.5%

Table 7.6 summarizes the measures, credits, and reference information for the trip and emission reduction measures.

Table 7.6
Summary of Vehicle Trip and Emission Reduction Measures

Measure	Specific Plan Reference	Max. Credit Allowance (%)	Credit Taken (%)
1. Complementary land uses	Figure 3.2	6	3
2. Convenient transit stops	Figure 7.5.B.	2	2
3. Physical amenities at major transit stops.	Section 7.8.6	2	2
4. Bicycle connections to city/county Bikeway Master Plan facilities	Figure 7.5.B.	2	2
5. Bike lanes/paths within 1/2 mile of all major land uses	Figure 7.5.B.	1.5	1.5
6. Multiple/direct pedestrian access between complementary land uses	Section 7.7 Figure 7.7	2	1
7. Multiple/direct automobile access between complementary land uses.	Section 7.7 Figure 7.5.B.	1	1
8. Participation in Transportation Management Association	statutory	3	3
TOTAL EMISSION REDUCTION		**20.5%**	**15.5%**

7.7 CIRCULATION POLICIES

1. Thoroughfare, Arterial and Collector streets shown on the Specific Plan Diagram are approximate locations. Minor adjustments may be permitted in conjunction with review and approval of tentative subdivision maps and as specified in Section 11.0.

2. Local streets shall be constructed on a subdivision-by-subdivision basis within individual residential subdivisions. Thoroughfare and Arterial streets may be constructed in advance of residential subdivision development, as needed for access and public safety.

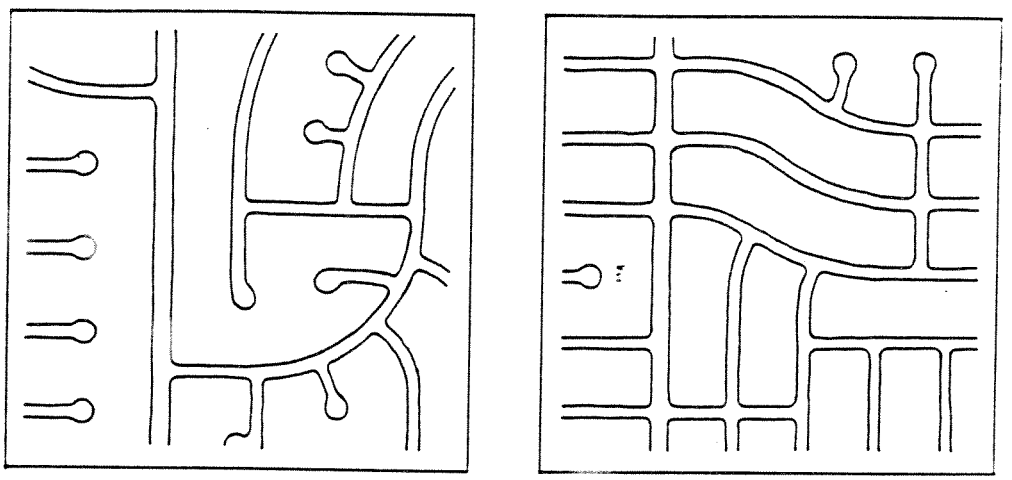
3. Bus shelters and turnouts, designed in accordance with County improvement standards, shall be located along thoroughfare and arterial streets at residential subdivision entrances, at commercial centers, and at public facilities to facilitate extension and use of public transit.

4. All streetscape on public and private streets, including sidewalks, pedestrian paths, bicycle lanes and landscaping, shall be designed and constructed in accordance with the cross sections included this Plan, and the Design Guidelines. The minimum width of the landscape corridors on arterial and thoroughfare streets adjacent to residential and commercial projects shall be 25 feet, including a meandering sidewalk.

5. Sidewalks or pedestrian paths shall be provided on both sides of all streets, except where the County allows sidewalk construction on one side, only. Paths shall be separated from thoroughfare and arterial streets to the maximum extent possible. Intrusion upon the privacy of residential property shall be minimized.

6. Minor streets within residential subdivisions shall be designed to emphasize internal circulation and discourage through traffic and unsafe speeds. Minor streets should be designed with interconnected routes; excessively winding and dead-end streets are discouraged. Figure 7.7.1 illustrates discouraged and recommended examples of street patterns.

Figure 7.7.1 Street Pattern Illustration



7. Pedestrian and bicycle paths shall be located within Thoroughfare, Arterial, and Collector street rights-of-way and in open space areas. Public access rights shall be guaranteed in all instances.

8. All residential developments shall be designed to provide convenient pedestrian and bicycle access to schools, parks, and open space areas.

9. Pedestrian and bicycle trails and pathways are encouraged within open space areas to the extent possible. Such facilities shall be located and designed to minimize disturbance of important natural features.

10. No streets other than those shown on the Specific Plan Land Use Diagram shall cross or be constructed upon a Drainage Parkway or other open space area identified on the Land Use Diagram.

11. Residential streets adjacent to Drainage Parkways should be designed to allow surveillance of these open space features from the street.

12. Plan for the future use of the Central California Traction Railroad corridor as a public transportation right-of-way, including fixed line bus service.

13. The street pattern within urban residential areas should be simple in design, and should be interconnected, linking neighborhoods and providing multiple access routes which converge on commercial areas, parks and transit stops.

14. Support the acquisition of parcels of land that may be needed in the future for any transportation purpose when the opportunity arises through conditions of approval, dedication, sale or donation.

15. The project proponents should work with County Transportation staff to identify alternative forms of traffic control (such as roundabouts) on the minor roadways internal to the project. Where roundabouts are used, the final design shall include provisions for irrigated landscaping.

16. Safe and convenient crossings of major roads should be provided for pedestrians and bicyclists.

17. The Plan shall include a network of interconnected bicycle and pedestrian facilities.

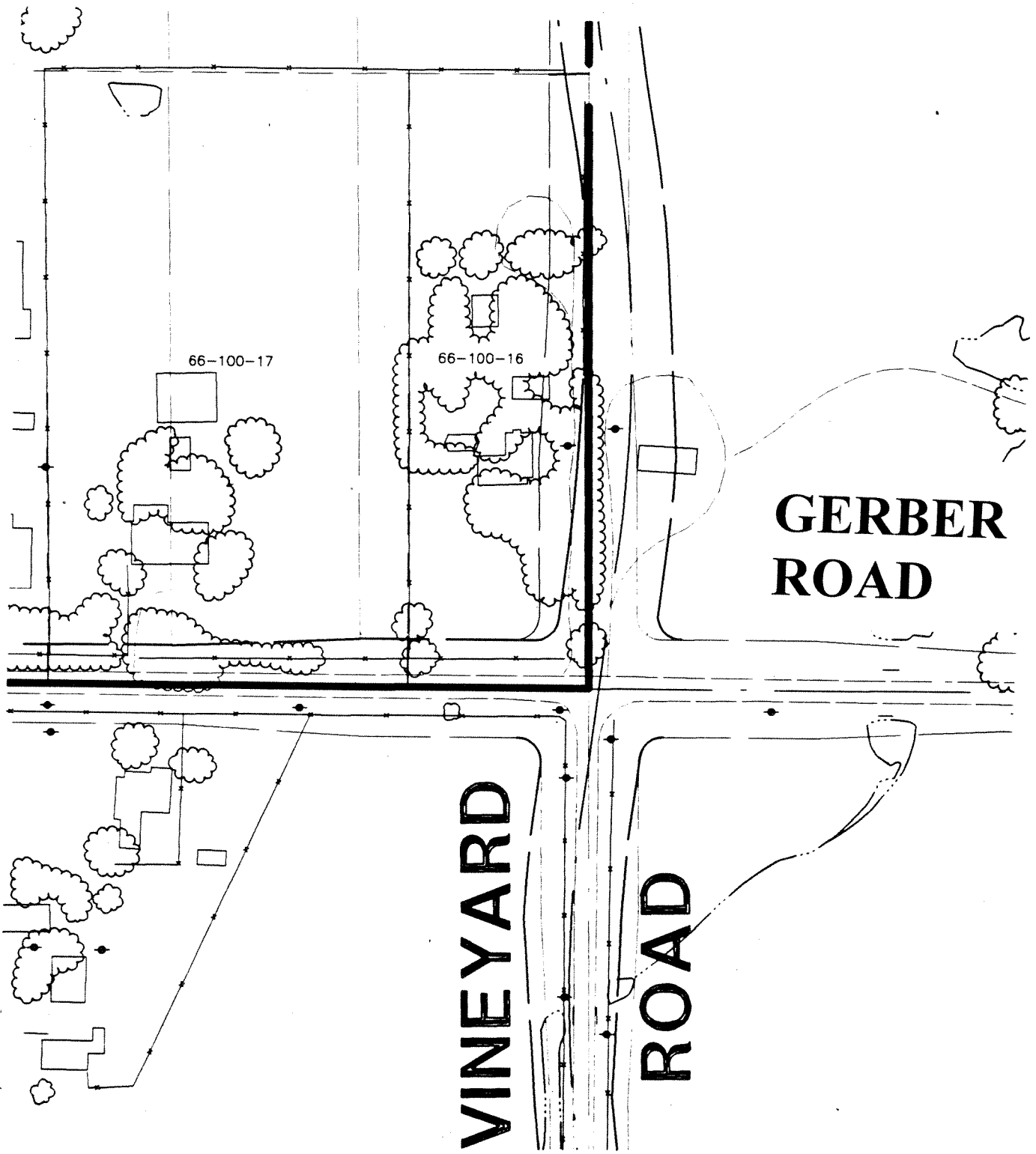
18. The Plan area should participate in a Transportation Management Association.

19. Encourage commercial buildings to be located near adjacent streets with parking in the rear.

20. Permit park and ride lots as joint use facilities within the commercial center of the planning area.

21. The extension of Vineyard Road, directly north of Gerber Road, should generally conform to the alignment shown on Exhibit 7.7.2, titled "Conceptual Alignment Plan for the Extention of Vineyard Road". Whenever possible, the roadway extension should be designed to eliminate any significant impacts to existing property owners.

Figure 7.7.2 Conceptual Alignment Plan for the Extension of Vineyard Road



7.8 AIR QUALITY POLICIES

1. Prepare and implement a dust control plan that includes:
   - the use of water or chemical palliatives on disturbed soils;
   - the stabilization of soil piles with vegetation or by covering;
   - allowing two feet of freeboard and the covering of haul trucks loads;
   - conducting no grading during period of high winds exceeding 25 miles per hour

2. Maintain construction equipment and vehicles in proper running order. Construction contractors shall be required to show written evidence of appropriate maintenance prior to bring equipment on site.

7.9 NOISE POLICY

1. Future noise sensitive residential land uses proposed for development within the future 60 dB Ldn traffic or railroad operation noise contours shall be required to prepare an acoustical analysis and to implement identified noise attenuation measures necessary to ensure compliance with the noise standards of the County General Plan Noise Element.

7.10 STREETSCAPE DESIGN GUIDELINES

7.10.1 Planting

The following landscape guidelines are intended to promote consistent streetscape landscaping on all Thoroughfare, Arterial, and Collector streets and the Railroad Corridor within the Plan area. Detailed design, including plant selection, density, and spacing, will be determined in conjunction with the tentative subdivision map process.

Plant Materials - Landscape Corridor Edge

The following guidelines apply to planting within the public right-of-way.

1. Plants (including trees, shrubs, and groundcover) and hard materials (such as brick, poured concrete, concrete pavers, and rock) should be selected from the list included in the Appendix. Native, drought tolerant plants and trees should be used to the maximum extent possible.

2. All trees should be a minimum container size of five gallons.

3. A primary objective of the streetscape plantings should be to obscure the visibility of any solid wall or fence. Plant materials should be installed which provide screening of at least 60 percent of the wall/fence when viewed from the nearest point on the street within a period of five years.

4. All portions of the public right-of-way not devoted to street or pedestrian path paving should be landscaped with materials listed in the Appendix.

5. Prominent entry landscape treatments may be employed at project entry points in order to foster a sense of community identity. (See Section 7.10.3 relative to signs.)

6. Plants with similar water needs should be grouped to reduce over-irrigation of low water-using plants.

7. Mulch should be used extensively in all landscaped areas to improve water-holding capacity and reduce runoff.

8. Efficient irrigation systems, such as drip irrigation, soil moisture sensors, and automatic irrigation systems, should be installed that minimize runoff and evaporation and maximize the water that will reach plant roots.

Plant Materials - Medians

1. Plants, including trees, shrubs, and groundcover should be selected from the list contained in the Appendix. Native, drought tolerant plants and trees should be used to the maximum extent possible.

2. Maximum shrub height at maturity should not exceed four feet.

3. Where turning bays make the median is too narrow for trees, shrubs and/or a flowering groundcover should be planted, or cobbles should be installed.

Plant Materials - Railroad Corridor

1. Tree and vine species should be selected from the list contained in the Appendix.

2. Vines should be planted to achieve 60 percent coverage of the adjacent masonry wall within a period of five years.

3. All trees should be a minimum container size of five gallons. Trees should be planted in groupings of three to five trees at intervals of no greater than 50 feet.

7.10.2 Walls and Fences

It is the intent of this Plan for walls and fences installed along Thoroughfare, Arterial, and Collector streets and the Railroad Corridor for safety, privacy and/or noise attenuation to be as invisible and unobtrusive as possible. To this end, walls and fences should adhere to the guidelines which follow. Soundwalls may be used to reduce vehicle noise to acceptable levels as specified in the County General Plan.

1. All walls and fences should be screened with trees and shrubs, in accordance with the planting guidelines set forth in Section 7.10.1.

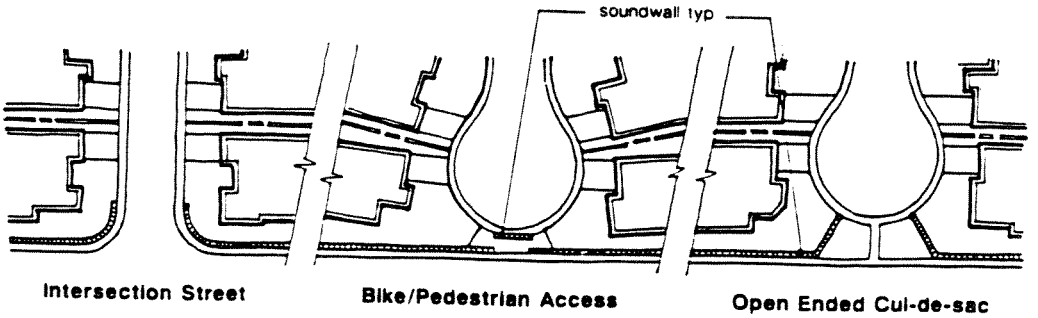
2. Fences and walls should be constructed of natural weather and rot resistant materials. Where wood is used, appropriate treatment should be applied to enhance longevity. Construction materials and colors should be consistent along a given street.

3. Walls and fences (built on existing grade or on berms) should not extend higher than 6 feet above finished grade. Where berms are used, particular attention should be given to ensuring that storm drainage is not impaired. The height and location of soundwalls should comply with County visiblity standards at intersections.

4. Only masonry walls should be constructed along the Railroad Corridor and the right-of-way of Thoroughfare and Arterial streets. However, where the Railroad Corridor abuts a Storm Water Detention basin chain-link fencing may be used instead.

5. Breaks may occur in soundwalls at Residential streets and at cul-de-sac ends as shown in Figure 7.10.2.

Figure 7.10.2 Soundwall Break Alternatives



6. Soundwalls along major streets and the railroad right-of-way should adhere to the following standards to ensure compliance with the Sacramento County General Plan noise policies and to protect noise sensitive developments from excessive noise levels.

Table 7.10.2
Approximate Sound Wall Heights

	Wall Height (ft.)	Noise Level (L_{dn}, dB)
Florin Road		
Watt to Bradshaw	6	64.5
	10	60.0
Bradshaw to Vineyard	7	59.7
Gerber Road		
Elk Grove-Florin to Bradshaw	6	62.9
	9	59.6
Bradshaw to Vineyard	6	58.3
Bradshaw Road		
Gerber to Florin	6	64.8
	11	59.6
Vineyard Road		
Gerber to Florin	6	59.5
Waterman Road		
Gerber to Florin	6	63.1
	9	59.8
Railroad	8.5	60.0

Assumptions: 1) Building pads are at the same grade as roadways.
2) Outdoor activity areas are 75 feet from roadway centerlines.
3) Minimum height to break line-of-site to automobiles tire noise is 6 feet.

Notes: Barriers must be continuous and relatively airtight along their length and height. To ensure that sound transmission through the barrier is insignificant, barrier mass should be about 4 pounds per square foot, although a lesser mass may be acceptable if the barrier material provides sufficient transmission loss in the frequency range of concern. Satisfaction of the above criteria requires substantial and well-fitted barrier materials, placed to intercept line of sight to all significant noise sources. Earth, in the form of berms or the face of a depressed area, is also an effective barrier material.

7.10.3 Signage

It is the intent of the Plan to prevent the use of signs which are inconsistent with the community character. All signs should adhere to the guidelines which follow.

1. Subdivision identification signs are permitted at each entry point. Where more than one subdivision proposes an identification sign, a single sign should be designed which incorporates all project names.

2. Signs should be constructed of natural materials, such as stone and wood, to the maximum extent possible. Plastic and metal signs are prohibited, except that metal may be used for lettering. Materials should complement those used in walls and other streetscape enhancements and should be of high quality and high durability.

3. Natural, earth-tone colors should be emphasized.

4. Internally illuminated signs should not be permitted.

5. To the extent possible, all entry signs should be incorporated into the design of a landscape planter.

7.10.4 Lighting

The following guidelines, which address nighttime streetscape illumination on all public and private streets, are intended to ensure that nighttime illumination enhances safety and convenience in an aesthetically pleasing, unobtrusive manner. Lighting installed on private property is not addressed by these guidelines.

1. Street lights should be provided on all streets within the Plan area in accordance with placement standards established by the County of Sacramento.

2. In all instances, lighting should be the minimum intensity necessary to achieve its intended purpose.

3. Downward oriented, cut-off type fixtures and shielding should be used in order to prevent light spillage and glare impacts beyond the target of illumination and the public right-of-way.

4. Mercury vapor lighting fixtures should not be used.

7.10.5 Sidewalks and Pathways

1. Sidewalks should be installed in the locations and at the widths shown in Section 7.5.1 of the Specific Plan.

2. All paths and sidewalks should be located to minimize visual intrusion upon private property.

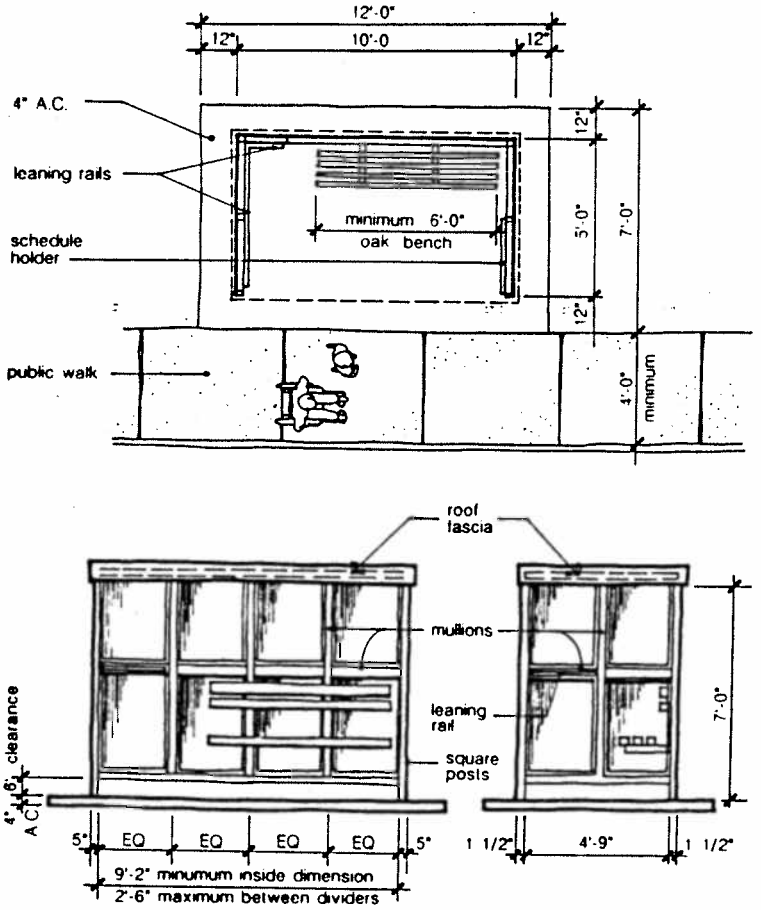
3. Sidewalks and Class I pathways should be constructed of either asphalt concrete or concrete.

7.10.6 Street Furniture

1. All structures should emphasize natural materials that are consistent with those used in nearby walls and fences. Where metal or plastic is used, such materials should be painted with earth-tone colors.

2. Bus shelters and benches throughout the Plan area should adhere to a consistent architectural design theme, as illustrated in Figure 7.10.6.

Figure 7.10.6 Bus Shelter Design and Placement



SECTION 8.0
PUBLIC FACILITIES AND SERVICES

8.1 INTRODUCTION

This section describes existing public facilities and services that will be required to serve the needs of Plan area land uses. Included are descriptions of public schools, law enforcement, fire protection, solid waste disposal, library services, and parks. Each service includes descriptions of existing facilities, service standards, and impacts Plan area development will have on that service. In some instances, proposed facilities within the Plan area are described. Policies applicable to each public facility and service are listed at the end of each sub-section.

Figure 8.7 Proposed Parks and Public Use Plan shows the locations of public facilities discussed in this Section.

8.2 SCHOOLS

This section describes existing school facilities in the vicinity, service standards, the impact Plan implementation may have on school facilities, proposed schools in the Plan area, and policies.

8.2.1 Existing Facilities

The Plan area is within the Elk Grove Unified School District (EGUSD), the boundaries of which cover a large portion of south Sacramento County. Although there are no schools presently within the Plan area, the District Master Plan identifies North Vineyard Station West as one of 15 elementary schools needed within the District by the year 2005. The nearest school is Maeola Beitzel Elementary School, located south of Vintage Park Drive and east of Elk Grove-Florin Road. The Plan area is within the Florin High School attendance area; however, attendance boundaries for high schools, as well as elementary and middle schools, are subject to periodic adjustment by the District.

8.2.2 Service Standards

The Elk Grove Unified School District plans for school facilities using its Facilities Master Plan. The number, type, and location of school facilities required to serve the Plan area are based on criteria and standards set forth in the Master Plan.

The District selects school sites in accordance with criteria developed by the California Department of Education. Factors considered in site selection include width to length ratio; proximity to potential hazards, such as railroad tracks, airports, and high voltage powerlines; noise level; site access; and absence of environmental constraints, such as wetlands and 100-year flood zones. In addition, the District has established walking distance limits described in Table 8.2.2.A. Students living beyond these distance limits are eligible for busing. The Department of Education must review and approve all sites considered for selection and use by the District.

Table 8.2.2.A
Walking Distance/Busing Policy

Grade	Walking Distance
K	3/4 mile
1-3	1 mile
4-6	1 1/4 mile
7-8	2 miles
9-12	3 miles

Source: 1996 EGUSD standards.

The District uses the student generation rates shown in Table 8.2.2.B. to determine the projected number of students that will result from residential development. Site selection criteria and projected student generation are the basis for determining the location, type, and number of schools required to serve a new development.

Table 8.2.2.B.
Estimated Student Generation Rates

School Type	Single Family	Multi Family
Elementary (K-6)	0.3872	0.3249
Middle 7-8)	0.1088	0.0755
High (9-12)	0.1786	0.1053
Total	**0.6746**	**0.5057**

Table 8.2.2.C. describes the maximum number of students that may be accommodated within each type of school under both year-round and nine-month enrollment periods. The Elk Grove School District uses year-round school in some elementary and middle schools in order to increase efficiency. Year-round school provides for a 20 percent increase in student enrollment.

Table 8.2.2.C.
Maximum School Capacities

School Type	Traditional 9 month	Multi-track Year-round
Elementary (K-6)	850	1,060
Middle (7-8)	1,200	1,440
High (9-12)	2,000	N/A

8.2.3 Development Impacts/Proposed Facilities

As shown in Table 8.2.3, using the student generation rates contained in Table 8.2.2.B, the Plan area population can be expected to result in 2,176 K-6 students, 600 7-8 students, and 974 9-12 students, for a total of 3,750 students in the Plan area. On the basis of these student generation figures and the maximum student capacities described in Table 8.2.2.C., the Plan will generate the need for two year-round elementary schools, and less than one middle school and one high school.

Table 8.2.3
Projected Student Yield by Grade Level

Residential Land Use	Dwelling Units	K-6	7-8	9-12	Totals
SFR/1	5,052	1,956	549	902	3,407
MFR	680	220	51	72	343
Totals	**5,732**	**2,176**	**600**	**974**	**3,750**

1/ Includes Medium Density Residential.

The Elk Grove Unified School District has requested two elementary (K-6) school sites within the Plan area. The sites shown in the Specific Plan Land Use Diagram (Figure 3.2) and in Figure 8.7 Parks and Public Use Plan. These sites, which have been accepted by the District, meet the site selection criteria previously listed and are located centrally within each half of the Plan area, separated by Bradshaw Road. No portion of the Plan area is further than 3/4 of a mile from a planned school; therefore busing will not be required. Each of the 10-acre sites is adjacent to a park site in order to allow joint use of facilities. This relationship will also allow joint operation of day care facilities, in accordance with District practice.

The District will accommodate middle and high school students in existing or new facilities located outside the Plan area. In fall 1997, the District intends to complete construction of a combined middle school/high school south of the Plan area on Calvine Road, between Waterman Road and Bradshaw Road.

The Public Facilities Element of the Sacramento County General Plan contains a number of policies applicable to the siting of school facilities, as identified below:

> *Policy PF-28. Schools shall be planned as a focal point of neighborhood activity and interrelated with neighborhood retail uses, churches, parks, greenways and off-street paths whenever possible.*
>
> *Policy PF-33. New schools should link with planned bikeways, pedestrian paths wherever possible.*
>
> *Policy PF-29. New elementary schools in the urban area should be planned whenever possible so that almost all residences will be within*

walking distance of the school (one mile or less) and all residences are within two miles of a school.

Each of the planned elementary school sites is located next to a park site. Together, these will be prime focal points of each surrounding residential neighborhood. Each of the proposed school sites will be accessible by either a sidewalk, a Pedestrian Pathway, or Class II Bike Lane, or a combination of these. Most of the homes in the Plan area are within one-half mile of an elementary school.

Policy PF-30. New elementary and junior high schools shall be planned adjacent to neighborhood and community parks whenever possible and designed to promote joint use of appropriate facilities.

The Plan, through both land design and policies, ensures that schools are integrated into the community. In addition, the Plan includes policies that encourage joint use agreements and cooperative facilities planning.

Policy PF-37. Development projects shall not be approved unless the hearing body finds that provisions for reservation of school sites are adequate to meet the needs of the school district.

The number, size, and location of the proposed school sites identified in the Plan are based on direction received from the Elk Grove Unified School District. Sites have been identified based on the estimated student yield of the Plan area, as well as the needs of the surrounding area, and are consistent with the District's school site selection criteria.

Policy PF-38. Specific Plans shall show the location of future school sites based upon adopted school district master plans and criteria in the General Plan, and shall include assurances of funding for acquisition.

As noted above and in accordance with General Plan Policy PF-38, school sites identified in the Plan are based on School District direction. Financing issues for all public facilities, including public schools, are addressed in Section 10.0 Capital Improvement Program and Financing Strategy.

8.2.4 School Policies

1. Provide the number, type, design, and location of school facilities consistent with the Elk Grove Unified School District Master Plan.

2. New elementary schools sites should be designated adjacent to existing or proposed neighborhood or community park sites and designed to promote joint use of both facilities.

3. Provide bikeways or pedestrian facilities to link schools sites with residential areas.

8.3 LAW ENFORCEMENT

This section describes law enforcement services pertinent to the Plan area. Included are descriptions of existing conditions, applicable service standards, the probable impact of Plan implementation, proposed facilities, and policies.

8.3.1 Existing Facilities

Sacramento County Sheriff provides law enforcement services to the Plan area, and the California Highway Patrol provides traffic enforcement. The Plan area is in Sheriff's Department District 7, which encompasses 535 of the total 880 square miles in unincorporated Sacramento County.

The Sheriff's Department "processing center" is located at Marketplace 99 shopping center, at the corner of Bond Road and East Stockton Boulevard. The center is staffed by one lieutenant, three community-oriented policing officers and volunteers. The purpose of the center is to provide a place for the public to file complaints and reports and ask questions.

In 1994, the Sheriff's Department South Station facility, located at the corner of Bond Road and Waterman Road, was completed. This station provides briefing space for officers and patrol car fueling and maintenance. The proximity of the Plan area to the South Station and the "Processing Center" is consistent with the following County General Plan policy:

> *Policy PF-58. Plan and develop law enforcement facilities in keeping with overall needs and the distribution of growth.*

8.3.2 Service Standards

The Department's adopted service standard is one patrol officer per 1,000 residents. In 1994, there were insufficient patrol officers to meet the Department's service standard on a County-wide basis, including District 7.

8.3.3 Development Impacts/Proposed Facilities

Because of the uncertainty that Sheriff's Department patrol officer service standards will be achieved, particular attention is being given to designing the North Vineyard Specific Plan in a manner that will reduce the demand for patrol officers. Design elements that address public safety are described throughout the Plan and include, but are not necessarily limited to, streets, open space, landscaping, and lighting. The use of design elements within the Plan area to enhance security is consistent with the following General Plan policy:

> *Policy PF-60. Design neighborhoods and buildings in a manner that prevents crime and provides security and safety for people and property; when feasible.*

A specific example of how the Plan adheres to this policy is found in the design of Drainage Parkways. Particular attention has been given to ensuring that these open space areas are visible from adjoining areas and easily accessible by law enforcement

personnel. As a further means of achieving consistency with this policy, all proposed development plans are reviewed by the Sheriff's Department to ensure that public safety concerns are adequately addressed.

8.3.4 Law Enforcement Policies

1. Residential-based surveillance and law enforcement notification programs, such as Neighborhood Watch, shall be encouraged.

2. All land uses in the Plan area should be designed to facilitate surveillance and access by law enforcement equipment and personnel.

3. Streets shall be designed to ensure that emergency response is not impaired.

8.4 FIRE PROTECTION

This section describes fire protection services available to the Plan area. Included in this section are descriptions of existing conditions, applicable service standards, the probable impact of Plan implementation, and policies.

8.4.1 Existing Facilities

The Plan area is within the service boundary of the Florin Fire Protection District, which covers an area of 70 square miles and operates six stations. Effective January 1997, the District has contracted with the American River Fire District for all fire services. As of November 1993, there were 71,000 people residing within the District. The nearest stations are:

- Station 50 - located on Gerber Road, near Elk Grove-Florin Road;
- Station 52 (Reserve) - located on Elder Creek Road, near Bradshaw Road; and
- Station 55 - located on Excelsior Road, near Gerber Road.

* As a Reserve station, Station 52 contains no staff or apparatus.

At the present time, the District is providing fire protection and emergency medical services within the Plan area from Station 55 and Station 50. As the Plan area develops, an additional station will be required. The existing Station 52, while adequate, is antiquated and will not serve the needs of the Plan area when it is fully built out. The existing building will need to be replaced with a facility designed to house a minimum of five firefighters and three pieces of apparatus.

8.4.2 Service Standards

The Insurance Services Office (ISO) rating is the recognized classification for a fire department or district's ability to defend against major fires. A rating of 10 generally indicates no protection, whereas an ISO rating of 1 indicates high firefighting capability. The District has been given an ISO rating of 3 in areas where a water distribution system and hydrants are in place and an ISO rating of 8 in "unwatered" areas.

Beyond ISO ratings, there are no adopted service standards in the District.

8.4.3 Development Impacts/Proposed Facilities

At the present time, the District will provide fire protection services to the Plan area from Station 55, and no new facility within the Plan area will be needed in the short term. As project build-out progresses within the Plan area, an additional station may be necessary to serve North Vineyard Station and surrounding development. The 5.5-acre Public Services site in the Plan area (see Figure 8.7 Parks and Public Use Plan) could accommodate a fire station, if determined to be necessary by the District in the future.

8.4.4 Fire Protection Policies

1. Fire stations shall be located, designed and oriented in a manner harmonious with adjoining land use. To the extent feasible, fire stations should be located adjacent to joint school/park sites.

2. Ensure adequate water flows to serve the Plan area with an adequate level of fire protection.

3. The provision of fire protection services and facilities within the Plan area should be at a level sufficient to address public health and safety needs.

4. If the fire district and other service providing agencies determines that the site designated as "Public Services" on the Land Use Diagram is not needed within a reasonable time as determined by the Board of Supervisors for a fire station, library or additional park facility, that site may be rezoned and subdivided in a manner consistent with the surrounding land use (i.e., SFR 3-5).

8.5 SOLID WASTE DISPOSAL

This section describes solid waste disposal services available to the Plan area, applicable service standards, the impact Plan implementation would have on solid waste disposal services, and policies.

8.5.1 Existing Facilities

Pickup and disposal of solid waste is provided by the Sacramento County Solid Waste Management Division, which serves unincorporated Sacramento County north of Calvine Road. South of Calvine Road solid waste services are provided by private companies under contract to the County. County solid waste services include refuse transfer, residential refuse collection, refuse disposal, and resource recovery.

The nearest transfer station is located near the intersection of Fruitridge Road and Florin Road. From there, waste is transported to Sacramento County's Kiefer Landfill, located at the intersection of Grant Line Road and Kiefer Boulevard. A decision has not been made as to whether or not this transfer station will serve the Plan area. The landfill's current permit has an estimated closure date of 2001. However, the County is seeking a landfill expansion permit that will provide additional capacity through 2035.

8.5.2 Service Standards

Solid waste is generated at an average per capita rate of six pounds per day. Under AB 939, the county-wide County Integrated Waste Management Plan will require recycling programs which are expected to result in a 32.1 percent diversion away from landfills. The ultimate goal of AB 939 is 50 percent diversion, with intermediate goals of 25 percent diversion by 1995 and 50 percent diversion by 2000.

Refuse from Plan area residences will be collected by an automated truck collection system, identical to that provided to other residential areas of the county. The automated trucks are capable of collecting refuse from approximately 2,500 households per week. Commercial and industrial accounts will be required to obtain service from one of the private refuse collection companies that serve unincorporated areas of the county.

8.5.3 Development Impacts/Proposed Facilities

On the basis of the projected Plan area residential population only, ultimate development of the Plan area can be expected to result in 44.1 tons of solid waste per day. No solid waste transfer or disposal facilities are proposed within the Plan area.

8.5.4 Solid Waste Disposal Policies

1. Recycling of residential and commercial solid waste should be promoted and encouraged within the Plan area.

2. Residential developments shall be designed to facilitate the use of automated solid waste collection trucks.

3. All residential projects shall be designed so that solid waste containers can be hidden from street view.

8.6 LIBRARY SERVICES

This section identifies existing library facilities, describes service standards, and provides an overview of development impacts associated with implementation of the Specific Plan. This section also includes policies applicable to the Plan.

8.6.1 Existing Facilities

Library facilities in the area are administered by the Sacramento Public Library Department. The nearest "Neighborhood Branch" library is the Southgate Library, which is located on 65th Street, one block south of Florin Mall Drive.

In accordance with the Library Master Plan, the closest planned library facility is in Elk Grove. However, the Department may consider an amendment to its Master Plan to provide a facility north of the Plan area, in the Sunrise/Douglas area.

8.6.2 Service Standards

Service and facility needs are addressed in the Library's Master Plan, which also includes standards and guidelines for determining future facilities needs. The Master Plan includes a directive that libraries provide a level of service that is dependent upon the size of the population a particular facility is intended to serve.

8.6.3 Development Impacts/Proposed Facilities

The Library Master Plan makes no provision for a library in the Plan area. However, the 4.9-acre Public Services site could accommodate a library branch. Funds will be collected and designated for library use. Section 10.0 Capital Improvement Program and Financing Strategy describes financing relative to library facilities.

8.6.4 Library Service Policies

1. Encourage the provision of adequate library facilities in convenient proximity to Plan area residents.

2. A branch library shall be accommodated within the Public Services site, if deemed appropriate by the County.

8.7 PARKS

This section contains information relative to public parks in the Plan area. Included are descriptions of existing parks in the vicinity, service standards used to determine park needs in the Plan area, proposed parks required to meet the needs of Plan area residents, and policies. Information relative to non-park open space is contained in Section 6.0.

8.7.1 Existing Facilities

The regulation of public park land in the North Vineyard Station Specific Plan area is under the authority of the Southgate Recreation and Park District. The District encompasses 52 square miles and is bounded by Calvine Road on the south, Grant Line Road on the east, Jackson Highway on the north, and Sacramento city limits to the west, just beyond Highway 99.

There are currently no parks within the boundary of the Specific Plan. The nearest existing parks are Churchill Community Park, located one mile to the south and Sunrise-Florin Park, located one mile to the west. The nearest planned park facilities include the George P. Dunmore Park, located one-half mile to the east on Excelsior Road, a golf course proposed within the Vineyard Springs area, and the Laguna Creek Trail system to the southeast.

8.7.2 Service Standards

The Southgate Recreation and Park District requires park land dedication in the amount of 5 acres per 1,000 population. On the basis of the projected population of the Plan at build-out, a total of 74.5 acres of park land will be required for dedication to the Southgate Recreation and Park District, as illustrated in Table 8.7.2.

Table 8.7.2
Parkland Dedication Requirement

Dwelling Units in Plan	Population Per Dwelling Unit	Plan Area Population	Parkland Dedication Std.	Parkland Required
5,732	2.6	14,903	5 ac./1000 pop.	74.5

The following park development standards have been established by the Southgate Recreation and Park District:

- **Parkway**

Size: Linear/variable

Use: Usually located along geographical boundaries, stream corridors or roadways. Provides additional opportunity for bike/pedestrian trails. Can be improved, but can also provide unimproved open space.

- **Mini Park**

Size: 0 - 5 acres

Use: Provides small park area imbedded within residential neighborhoods. Oriented towards child/family playground, etc.

- **Neighborhood Park**

Size: 6 - 10 acres

Use: Provides neighborhood recreation. Facilities may include ballfields, picnic area, tennis courts, basketball courts, and limited parking.

- **Community Park**

Size: 11 acres or more

Use: Provides recreation for community. Amenities may include community meeting facilities, ballfields, tennis courts, picnic areas, swimming pool, etc.

Where parks abut schools, it is the intention of the District to develop park sites and facilities in cooperation with the Elk Grove Unified School District and establish joint-use agreements relative to use and maintenance. In addition to operating parks, the District also owns and maintains other open space areas, such as undeveloped (natural) open space, stream corridors, and landscape corridors along streets. The District utilizes Lighting and Landscape Maintenance Districts for funding of maintenance, in many cases.

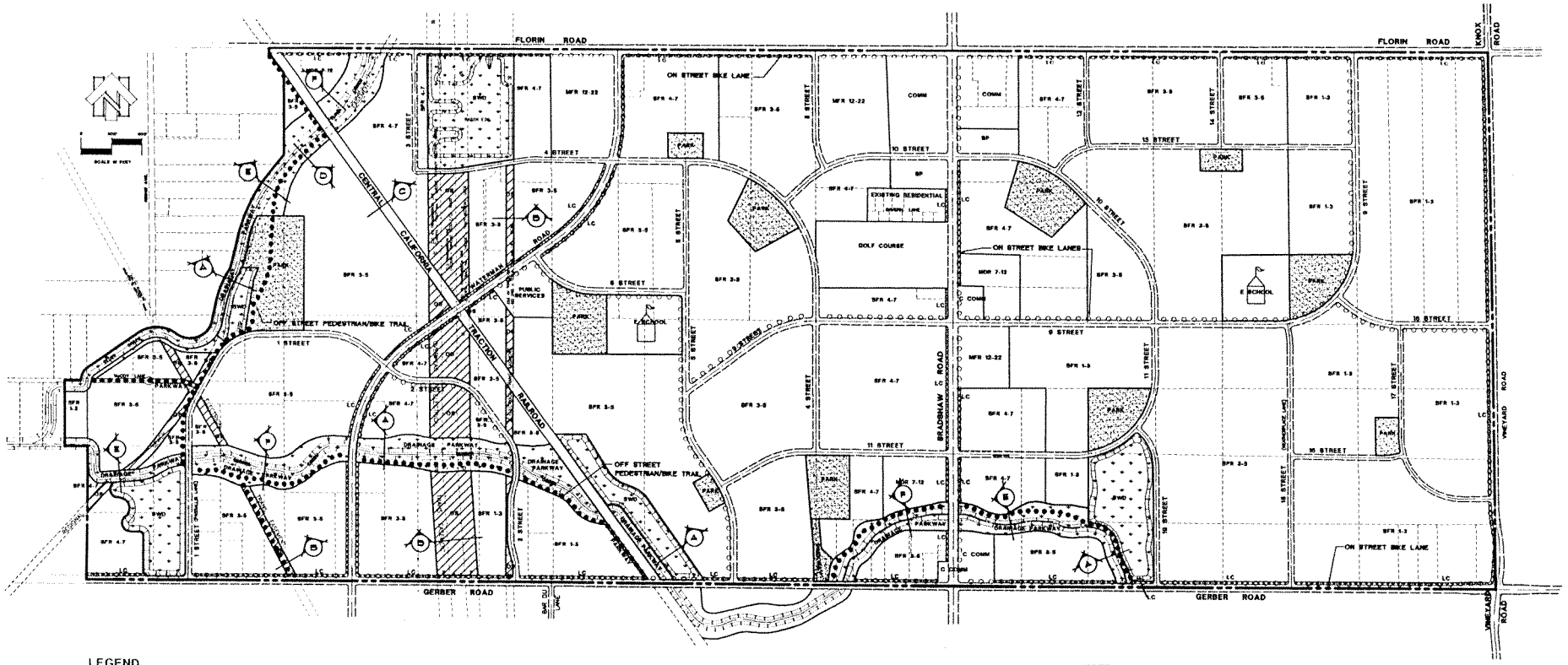
8.7.3 Development Impacts/Proposed Facilities

The Plan includes 71.5 net acres of park land (gross acres of 76.2 acres) dispersed throughout the Plan area. Included are seven Neighborhood Parks, four Mini Parks and a conceptual park designation within the Passallis Lane area. In many instances, park sites are located adjacent to school sites or other forms of open space. The locations of all proposed parks are shown in Figure 8.7.3, and Table 8.7.3 provides a summary of parkland.

Table 8.7.3
Park Land Summary

Park Facility/Number Provided	Acreage
Neighborhood Park (8)	56.0
Mini Park (5)	7.5
Conceptual Park Designation(s) at Passallis Lane area	8.0
Total	**71.5**/1

1/ This represents a net acreage. The Plan designates 76.2 gross acre for park purposes.



LEGEND

- Parks
- Parkways
- Drainage Parkways/Storm Water Detention
- Open Space
- Landscape Corridors
- On Street Bike Lanes
- Off Street Ped/Bike Trail
- Schools
- Cross Section Key

NOTE: An eight acre park facility or two smaller park facilities shall be constructed within the area generally bounded by Passalis Lane (Loop) and Gerber Road. The actual size, configuration and location of park site(s) will be determined at a later date following the submission and review of tentative maps and development proposal within the general area. Consideration should be given to locating the park site adjacent to Gerber Creek in conjunction with the open space area associated with Gerber Creek. Developing property owners shall contact the Southgate Park and Recreation District to determine the size, configuration and location of the park site(s).

Figure 8.7
Proposed Parks and Public Use Plan

Park sites are shown in the Specific Plan Land Use Diagram (Figure 3.2) .

Mini Parks

Four Mini Parks, each approximately 1.5 to 2-acres in size and totaling 7.5 acres, are distributed throughout the Plan area. Mini Parks are intended primarily for use by surrounding neighborhoods and are not designed for organized sports events.

Facilities expected to be included in Mini Parks include some or all of the following:

- Tot lot with adjacent sitting area.
- Picnic table(s) with tree shading.
- Multi-use sports court.
- Tennis, basketball, or sand volleyball courts.
- Open grass/multi-purpose game fields.
- Security lighting.

Neighborhood Parks

A total of 64.0 are devoted to Neighborhood Park sites, which range from 6.4 to 14.7 acres in size. The seven sites within the Plan area are located so that all residential neighborhoods are within convenient walking distance of a Neighborhood Park. Two of the park sites are adjacent to elementary schools, thus allowing for joint-use of certain recreational facilities. Also indicated on the Park Plan and the Specific Plan is a conceptual identification of an eighth park site within the Passallis Lane area. This eight acre park facility or two smaller park facilities are planned for construction within the area generally bounded by Passallis Lane (Loop) and Gerber Road. The actual size, configuration and location of park site(s) will be determined at a later date following the submission and review of tentative maps and development proposal within the general area. Consideration should be given to locating the park site adjacent to Gerber Creek in conjunction with the open space area associated with Gerber Creek. Developing property owners shall contact the Southgate Park and Recreation District to determine the size, configuration and location of the park site(s).

Facilities expected to be included in Neighborhood Parks include some or all of the following:

- Tot lot and children's play area with adjacent seating.
- Family picnic area with shade shelter.
- Turf space large enough for ball fields and soccer fields.
- Court games: tennis, full court basketball, turf or sand volleyball, handball.
- Free play area.
- Storage area.
- Picnic table(s) with tree shading.
- On-site parking in limited instances.
- Security lighting.
- Restroom.
- Day Care Facility (when located adjacent to a school).

8.7.4 Park Policies

1. Whenever possible, park sites should be located adjacent to public facilities, such as schools, libraries, and fire stations. Joint-use agreements should be encouraged. In such instances, recreation amenities, including play equipment, should be coordinated to minimize duplication.

2. Parks shall be located in the approximate locations shown on the Specific Plan Map. Precise locations will be determined at the time of tentative subdivision map approval for each residential project.

3. Parks and open space areas shall be linked by a pedestrian and bicycle circulation system to the maximum extent feasible.

4. Wherever possible, parks should be bordered on at least two sides by streets in order to facilitate public access and surveillance.

5. Park facilities and sites shall be provided in conformance with the Southgate Recreation and Park District Master Plan.

6. Parks shall be designed, and facilities oriented, to minimize noise and visual impacts on adjoining residential lots.

7. Where parks are adjacent to Drainage Parkways, the park shall include pedestrian pathways which connect to the pathway in the Drainage Parkway.

8. Parks adjacent to Drainage Parkways shall include appropriate fencing or plant buffering to separate active recreation areas from the Drainage Parkway.

9. An eight acre park facility or two smaller park facilities shall be constructed within the area generally bounded by Passallis Lane (Loop) and Gerber Road. The actual size, configuration and location of park site(s) will be determined at a later date following the submission and review of tentative maps and development proposal within the general area. Consideration should be given to locating the park site adjacent to Gerber Creek in conjunction with the open space area associated with Gerber Creek. Developing property owners shall contact the Southgate Park and Recreation District to determine the size, configuration and location of the park site(s).

SECTION 9.0
INFRASTRUCTURE MASTER PLANS

9.1 INTRODUCTION

This section describes public infrastructure, including water, sanitary sewer, storm drainage, and electric, gas, and telecommunication utilities. Each infrastructure component includes a description of existing facilities, service standards, and a description of proposed Plan area facilities required to serve proposed development, as depicted in the Specific Plan Land Use Diagram. Policies applicable to all public infrastructure are provided following each sub-section.

Additional information concerning water, sanitary sewer, and storm drainage infrastructure can be found in technical studies prepared by MacKay and Somps, contained in the Appendix. Other public services and facilities are described in Section 8.0. Public infrastructure financing is addressed in Section 10.0 Capital Improvement Program and Financing Strategy.

9.2 WATER SUPPLY

9.2.1 Existing Facilities

At the present time, a public water distribution system does not exist in the Plan area; water for domestic use is obtained from privately owned and operated wells. It is generally assumed that these wells are relatively shallow, drawing from the upper aquifer at groundwater depths of approximately 90 to 120 feet below grade.

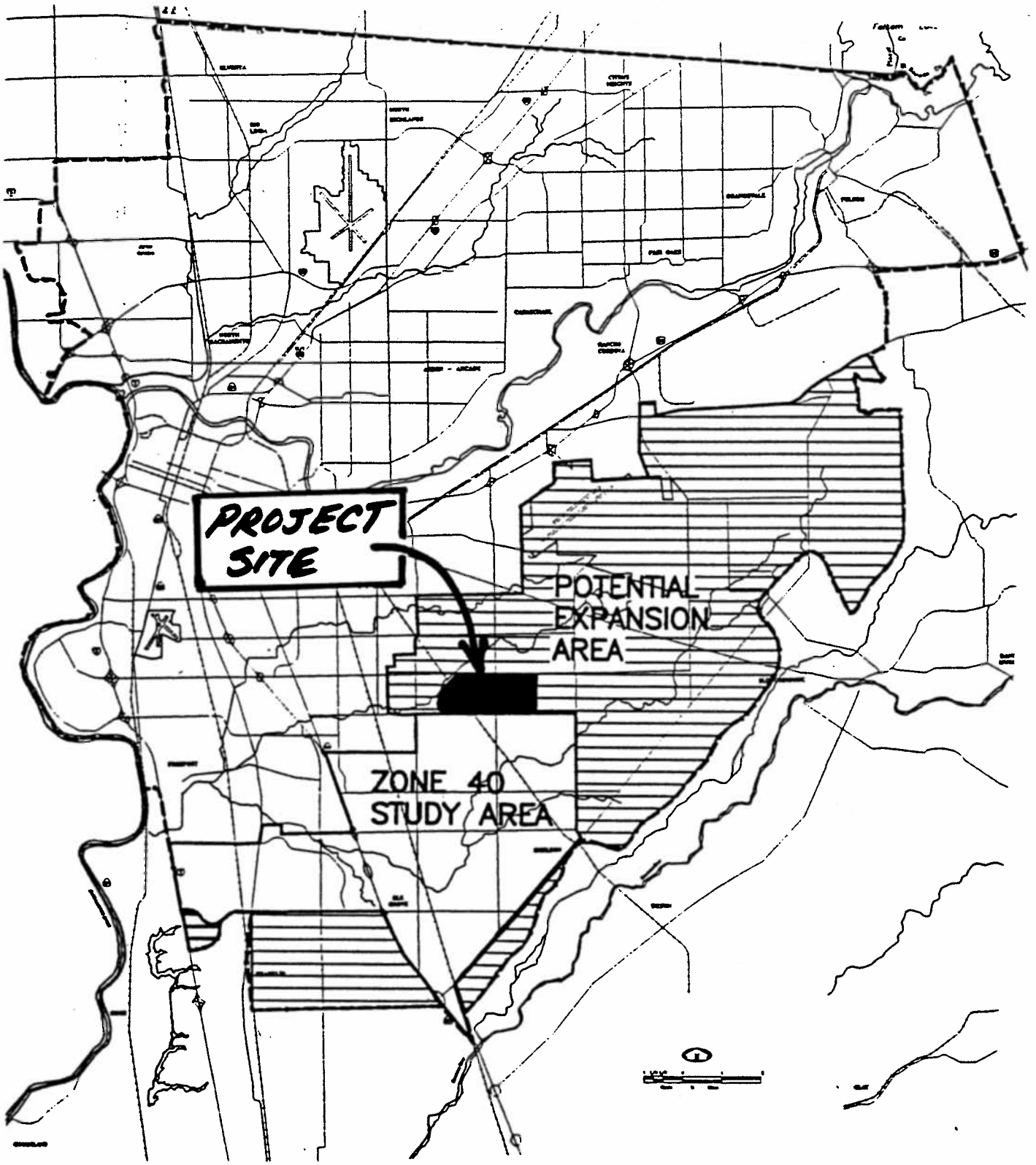
Water supply purveyors in the area include Sacramento County Water Agency (SCWA) Zone 40 and the City of Sacramento, each of which is described below. Potential surface water sources and the regional Water Forum process are also discussed in this section.

Sacramento County Water Agency (SCWA) Zone 40

Although not presently within Zone 40, it is proposed that the Plan area will be annexed to, and will receive water service from, Zone 40. SCWA may contract with the federal government under reclamation laws with the same powers as irrigation districts, and with the state of California and the federal government with respect to the purchase, sale, and acquisition of water. SCWA may also construct and operate required facilities.

SCWA is responsible for development and implementation of a Water Management Plan for Zone 40. This zone was created for the purposes of constructing facilities for the production, conservation, transmission, distribution, and sale of ground and surface water, for the present and future beneficial use of the lands or inhabitants within the Zone. The current Zone 40 Service Area boundaries are shown in Figure 9.2.1, which was taken from the 1995 Zone 40 Master Plan update.

Figure 9.2.1 Zone 40 Service Area



In 1987, the SCWA developed a Master Plan Report for the Zone 40 Water District. The boundaries of that study extended to the southerly boundary of the Specific Plan Area, but did not include it. The 1987 Master Plan had as its main objective the development of a long-term plan for meeting future water needs through a program of conjunctive use of local groundwater supplies and surface water supplies. The Master Plan projected surface water availability in 1992, and included several scenarios for transmission mains, based upon assumptions of where the delivery point would be for future surface water supplies. The study identified the most economical treatment and conveyance method as the purchase of treatment capacity at the City of Sacramento's Fairbairn treatment plant on the American River. Several of the base assumptions of the 1987 Master Plan Report have changed since that time.

In 1993, SCWA developed a countywide groundwater model which provided a tool to determine safe, sustainable yields from groundwater sources. Negotiations currently underway will recommend an appropriate sustainable groundwater yield for the southern county groundwater basin.

In 1993, SCWA began an update study for the Zone 40 Water Supply Master Plan. Various Technical Memoranda were published throughout late 1993 and through 1994. The latest Master Plan Update Report was published in June 1995. The Master Plan Update Report is currently in the environmental documentation and public hearing process, and is expected to be adopted by the SCWA Board of Directors in late 1996. The study area for this update was basically unchanged from original boundaries. This update modified the unit demand rates associated with various land uses and established seasonal variations in water use.

Zone 40 Facilities. Zone 40 owns wells, treatment and storage facilities, and transmission mains. Zone 40 facilities exist to the south of the Plan area. Currently, there are two separate systems: one east of Bradshaw Road and one west of Bradshaw Road. The facilities east of Bradshaw Road were installed to provide service to the Country Creek Estates development along Vineyard Road, and have been expanded to provide service to several developments west of Vineyard Road. Currently, a 12-inch main exists in Vineyard Road, approximately 6,500 feet south of Gerber Road. This system is supplied by three domestic wells.

The existing Zone 40 system west of Bradshaw Road currently serves the Churchill Downs development. Currently, facilities exist along the Waterman Road extension approximately one mile west of Bradshaw Road and 6,000 feet south of Gerber Road. This system is tied to the rest of the Zone 40 system to the south and west. A storage facility exists to the south along Waterman Road, approximately 1.6 miles south of Gerber Road.

Zone 40 Expanded Master Plan Study. In late 1995, SCWA began a further study, this time to expand the study areas associated with the Master Plan update in response to proposed land planning in areas immediately adjacent to the Zone 40 Master Plan Update's study area. The expanded area involves two individual areas. The Northern study area encompasses the North Vineyard Station Specific Plan, as well as areas to the west, north, and east of the Plan area.

Several technical memoranda have been drafted and submitted to SCWA, including the *Final Draft Water Master Plan for Areas Adjacent to Zone 40 Water Supply Master Plan Update's Study Area*, which deals with the Northern study area. An early draft indicates predominant reliance upon the City of Sacramento's American River water Place of Use for the western portion of the Plan area, with treatment plant expansions, transmission main expansions, and installation of a new transmission main along Florin Road from Power Inn Road. For the eastern portions of the Plan area, reliance upon groundwater recharge is foreseen.

A final draft document, entitled *Water Master Plan for Areas Adjacent to Zone 40 Water Supply Master Plan Update's Study Area (Adjacent Area Water Master Plan)*, was published in September 1996. It includes final demand analysis, an assessment of existing water supplies and treatment facilities, and an evaluation and conceptual design of the Northern Study Area water system. The Plan area comprises 1,595 acres of the 5,596-acre Northern Study Area, or approximately 28.5 percent.

Vineyard Water Distribution Study. The original 1987 Zone 40 Master Plan required a supplemental distribution study for the Vineyard area. In September 1993, SCWA adopted the Vineyard Water Distribution Study. This study predicted local demands for the areas south of Gerber Road, and developed transmission main sizing and required storage facilities for the areas to the south of Gerber Road.

The nearest Zone 40 facility is the "Vineyard System", located south of the Plan area. This system includes a 3.5 million gallon storage and treatment facility and a 24-inch water main that extends as far north as Vintage Road (about one mile south of Gerber Road). The "Vineyard System" facility is planned for an eventual expansion to 7 million gallons.

Zone 40 facilities in Country Creek Estates operate independently of the rest of the Zone 40 system, but are planned to be eventually tied in with the rest of the Vineyard system. The Country Creek Estates facilities include a 12-inch main, which extends to approximately 6,500 feet south of Gerber Road.

City water main facilities exist to the west and northwest of the Plan area. The nearest existing facilities are described for background purposes, as follows: A 30-inch transmission main currently exists in Power Line Road, approximately 2.8 miles west of the Plan area , and a 24-inch main exists at the intersection of Florin-Perkins Road and Elder Creek Road, one mile north and one and one-half miles west of the Plan area.

City of Sacramento Water Supply (American River Place of Use)

The City of Sacramento currently holds surface water rights from the American River. A geographical service area has been assigned for use of this water which extends beyond the current city limits into areas of the unincorporated Sacramento County. Known as the City of Sacramento American River Place of Use (POU), the easterly geographical boundary runs along Bradshaw Road. The POU extends north of Florin Road and south of Gerber Road, and includes the portion of the Plan area west of Bradshaw Road. Surface water from the City's contractual source could therefore be utilized within the westerly approximately 945-acre portion of the Plan area.

Surface Water Supply

In accordance with a September 5, 1995 report to the County Board of Supervisors, substantial progress has been made toward acquiring surface water supplies which would help to reduce groundwater depletion and make possible the integrated use of groundwater and surface water supplies in a conjunctive use program. Many of these efforts are a direct result of the success of the Sacramento Area Water Forum process (see following discussion).

Citizens Utilities and SCWA staff have been negotiating with City staff, as part of the Water Forum process. A draft agreement between the City, Citizen's Utilities, and SCWA has been reached to have the City wheel treated surface water to Citizens Utilities and Zone 40 for use in areas within the City's POU. SCWA staff are working on the environmental documentation and contract negotiations necessary to allow SCWA to enter into a long-term municipal and industrial water service contract with the United States Bureau of Reclamation as intended by Congress in Public Law 101-514. The contract will be for 22,000 acre-feet of water annually of which 7,000 acre-feet will be subcontracted to the City of Folsom. The EIR is expected to be complete in early 1997.

Additionally, an agreement-in-principle between the Sacramento Municipal Utility District (SMUD), the City of Sacramento, and SCWA approved by the Board of Supervisors on March 8, 1994, will make 15,000 acre-feet of SMUD's Bureau of Reclamation contract water available annually for use within Zone 40. The environmental documentation process being conducted by SMUD dovetails with that for the PL 101-514 water and will likely be completed along the same time frame.

Efforts to acquire "winter water" have also been initiated. On May 30, 1995, the Board of Supervisors approved the submittal of an application to the State Water Resources Control Board for the appropriation of water from the American and Sacramento rivers. The water would only be available when water is in excess of that dictated by the Hodge Decision criteria, existing riparian water rights, existing appropriated water rights, federal/and state project water, and water needed for Delta outflow requirements and other environmental resource protection criteria. While not available in all years, this water could be used conjunctively with existing groundwater supplies to increase long-term groundwater yields. Efforts to prepare the necessary environmental documentation are planned.

Water Forum Process

The Sacramento Area Water Forum and the Foothill-Forum Water Group are developing a regional plan to provide a safe, reliable, and environmentally sound water supply. Six major "stakeholder groups" are involved in the formulation of the plan. More than forty-seven organizations represent business, environmental, public, and water district interests in the Water Forum process, which began in September 1993. In April 1995, the stakeholders agreed on a set of sixty-five agreements-in-principle which serve to document the progress made to date. In January 1996, a progress report was released detailing several proposals under consideration to meet regional water needs to the year 2030. A proposed final agreement is anticipated by the end of 1996 for review by all stakeholders.

9.2.2 Service Standards

Sacramento County requires a public water system for any new residential subdivision with an average lot size of two acres or less.

The Sacramento County General Plan addresses water supply criteria in Policies CO-20 and CO-21, which follow:

> *Policy CO-20. In new development areas, as identified in Figure III-1 of the Land Use Element, entitlements for urban development shall not be granted until a Master Plan for water supply has been adopted by the Board of Supervisors and all agreements and financing for supplemental water supplies are in place. The land use planning process may proceed, and specific plans and rezoning may be approved.*

A Water Master Plan for Zone 40 was completed in February of 1987. The Master Plan recommended conjunctive use with surface water supplies from a proposed Bureau of Reclamation contract or an expansion of the City's American River POU. Facilities have been designed and financing structured to implement conjunctive use of surface water and groundwater supplies within Zone 40.

> *Policy CO-21. The Master Water Plan shall include three planning objectives which direct the Plan to consider alternate conservation measures, achieve safe yield of ground water supply in conjunction with development in new urban growth areas, and formulate a five year monitoring program to review water plan progress.*

SCWA has satisfied the objectives of CO-21 with current studies and programs, as follows:

- SCWA, being a signatory of the statewide Memorandum of Understanding Regarding Urban Water Conservation, is moving forward with a conservation program that includes a suite of water conservation Best Management Practices, as identified in the Memorandum.

- The 1987 Water Supply Master Plan has identified a safe yield for groundwater extraction in the Zone 40 area which has not been exceeded based on the results of the 1993 Sacramento County Phase 1 Groundwater Study.

- The ongoing Water Supply Master Plan Update reflects the commitment to monitor the 1987 Master Plan and update the necessary elements to reflect changing conditions.

Subdivisions and parcel maps within the Plan area will comply with Policy CO-23, below, by adhering to the infrastructure plans included in this Specific Plan.

> *Policy CO-23. Subdivisions and Parcel Maps shall be required to demonstrate adequate quantity and quality of groundwater prior to approval of residential lots in areas of the County where supply and quality are doubtful.*

Policy LU-60. Sewer and water treatment and delivery systems shall not provide for greater capacity than that authorized by the General Plan.

The water system proposed for the Plan area is designed in accordance with service demands of the land uses described in the Specific Plan Land Use Diagram, which is consistent with the land uses in the General Plan.

9.2.3 Development Impacts/Proposed Facilities

Annual domestic water demands for the Specific Plan area have been calculated based upon the Zone 40 Master Plan Update and the Zone 40 Expansion Study. As indicated in Table 9.2.3, Plan area development is ultimately projected to require 5,116 acre-feet of water annually. The demands for each land use are consistent with the values determined in the Zone 40 Expansion Study for their portion of the Northerly Study Area.

Table 9.2.3
Projected Water Demand

Land Use	Demand Factor (acre-feet/year	Acres	Annual Demand (acre-feet/year
SFR 3-5/4-7 du/ac	3.57	1,088.2	3,885.0
MDR 7-14 du/ac	4.58	45.4	208.0
MFR 14-22 du/ac	5.09	39.7	202.0
Comm/BP	3.40	38.7	132.0
Public Service	1.28	16.0	20.0
Schools/Parks	4.28	153.7	654.0
Streets	0.26	58.0	15.0
Totals		**1,595.0**	**5,116.0**

Maximum Day, Peak Hour

Maximum-day demands are computed from average annual demands (reduced by a conservation element of 19.3 percent) by multiplying by a factor of 2.0. Peak hour demands are then calculated at two times maximum day demands for transmission main sizing or a factor of 1.8 for storage facility sizing. Maximum day demands are therefore approximately 2.4 mgd for the area west of Bradshaw Road and 3.2 mgd for the area east of Bradshaw Road.

The Zone 40 Master Plan expansion study for the northern study area identifies transmission main sizing to serve the area. These main sizes have been utilized in the Master Water Distribution Plan (Figure 9.2.3). The backbone distribution mains, which are typically 12-inch diameter, are also shown in Figure 9.2.3. Additional engineering analysis to refine distribution main sizing may be required prior to final design of facilities.

Peak-hour flows used to determine storage requirements are 1.8 times maximum day demands. Peak-hour demands are therefore approximately 7.51 mgd for the area west of Bradshaw Road and approximately 5.76 mgd for the area east of Bradshaw Road.

Fire Flows

Required fire flows are a function of land use. Single family residential development typically requires 1,000 to 1,500 gallons per minute (gpm), while most multi-family and commercial developments require 3,000 gpm. The proposed network of distribution mains can adequately provide these required fire flows. Additional engineering analysis will be necessary prior to final construction plan sizing of mains.

Water Supply Master Plan

Zone 40 Expanded Study Content. The Zone 40 Expanded Study developed ultimate water supply and distribution demands for the area encompassing the North Vineyard Station Specific Plan. The study utilized the unit demand factors and seasonal variations developed in the 1995 update report, and discussed six surface water supply sources and six groundwater supply variations. Final alternatives were narrowed to two for the Northerly Study area.

The maximum-day demand for the area west of Bradshaw Road will be served ultimately by surface water supplied through the City's American River Treatment Plant. This water may be a combination of City water and water developed specifically for the county, but treated at the expanded plant. Peak hour flows will be met by use of storage facilities.

Phased development of the Plan area will require an interim conjunctive use groundwater supply in the area west of Bradshaw Road. This groundwater system can ultimately provide an emergency backup supply for the area once adequate surface water is provided to the area.

The maximum-day demand for the area east of Bradshaw Road will be served by a conjunctive use system of both groundwater and surface water. The current and planned Zone 40 Vineyard area systems to the south will connect this area to the rest of the Zone 40 system. Peak-hour demands will be met by storage facilities.

Groundwater in the Plan area will be extracted from the deeper aquifer and may therefor require treatment for potential excess iron and manganese. Additional discussion on other constituents which may require reduction can be found in Technical Memorandum No. 3 of the Zone 40 Water Supply Master Plan Update Report. Raw water from a field of several wells will be delivered to centralized treatment facilities located at the storage facility sites.

Water Distribution Master Plan

Delivery and storage systems for the area were planned and tentatively sized as part of the Master Plan. These facilities have been reflected on the Master Water Distribution Plan (Figure 9.2.3). Transmission mains are normally 12-inch diameter and larger mains. The transmission mains shown on the Master Water Distribution Plan (Figure 9.2.3) provide for a main east/west feed along Florin Road and north/south feeds along Elk Grove Florin Road, Waterman Road, Bradshaw Road, and Vineyard Road. Smaller transmission mains

generally grid the Plan area in the proposed Collector roadways. Distribution mains 12 inches in diameter and larger are also shown in Figure 9.2.3. Transmission mains are funded by standard Zone 40 connection fees, while distribution mains are not.

The master planned system proposes installation of a large booster pump along the transmission main along Florin Road, at the edge of the service area. This station will have an ultimate capacity of approximately 16,400 gpm.

Connections to Existing Systems

Zone 40 Vineyard System. The *Adjacent Areas Water Master Plan* addresses connections southward to the existing Zone 40 system. During initial phases of construction, it is probable that connections to this system would enhance service to both the Plan area and the existing Zone 40 system to the south. No sizing has been proposed, but the nearest north/south mains are 12 inches in diameter. It is expected that these lines would be extended at the same time.

City of Sacramento System. The City's existing 30-inch diameter pipeline at Power Inn Road has some available capacity to serve initial development in the Northern Study Area. The City plans to construct a new pipeline in Power Inn Road which would be up-sized to provide ultimate capacity to the Northern Study Area. The new main would be approximately 60- to 72-inches in diameter. Extension of a main along Florin Road from Power Inn Road to the Plan area boundary would be necessary to provide surface water supplies.

Raw Water Facilities

Groundwater extracted from municipal wells will provide conjunctive use supplies. Wells are anticipated to be installed in clusters surrounding the proposed storage and treatment facilities. It is expected that up to six wells will feed each treatment facility. Raw water from the wells will be piped directly to the treatment facility through approximately 12-inch diameter lines. These raw water lines will be funded by standard Zone 40 fees.

Storage and Treatment Facilities

Storage facilities consisting of 2.0-million gallon reservoirs are proposed in order to provide for peak-hour and fire flow demands. A total of 8.0 million gallons of storage is necessary for the Northern Study Area. The Plan area requires a total of 2.2 million gallons of storage. Each tank site will include booster pumps to provide adequate pressures to the system. These storage facilities are planned for two locations within the Plan area: one west of Bradshaw Road and one east of Bradshaw Road. Both facilities would be near the northern boundary of the Plan area.

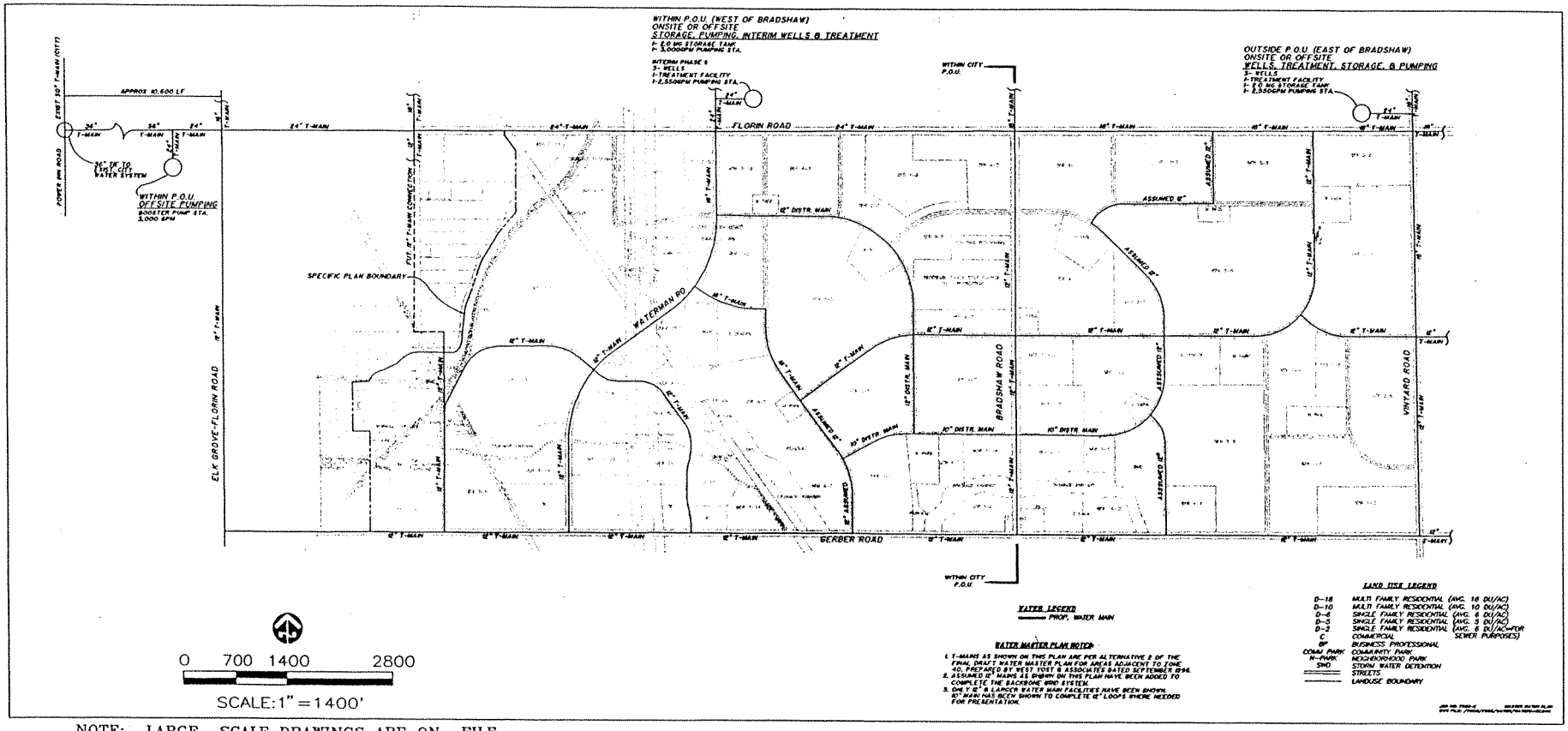
Treatment facilities are proposed at the site of the storage facilities. Each will be served by a remote water well field of three to six wells located within approximately 1,000 feet of the treatment facility. Raw water will be fed directly to the treatment facility from these wells. The treatment facility, providing primarily oxidation and filtration, will feed the storage tanks. Booster pumps with capacity of 7,640 to 8,890 gpm will be provided at each storage site.

Phasing Considerations

Development within the Plan area may begin in the construction year immediately following adoption of the Specific Plan document. Because of the physical layout of many of the other infrastructure services, such as sewer and drainage, it is anticipated that development may commence in the westerly portions of the Plan area. This area is within the City American River POU, which is ultimately planned to be supplied with nearly 100 percent surface water. It is anticipated that initial development will be served by installation of first phase well and treatment facilities which will become an integral portion of the ultimate system. With connection across Bradshaw Road, this first phase facility could be located west of Bradshaw Road and ultimately provide treated groundwater to the east side.

Alternatives

An initial, possibly interim, alternative is necessary to allow any approved development to proceed. A feasible alternative approach is to develop a more localized supply and distribution system which is an increment or component of the larger master planned system. This system could consist of the planned storage facility, including booster pump, a groundwater treatment plant, and a field of wells to initially feed the storage tank and system. This system could be supplemented by connection to the existing Zone 40 systems to the south of the Plan area, as a back-up or emergency measure.



NOTE: LARGE SCALE DRAWINGS ARE ON FILE AT THE COUNTY PLANNING DEPARTMENT.

Figure 9.2.3
Master Water Distribution Plan

9.2.4 Water Supply Policies

1. Annex developing portions of the North Vineyard Station planning area to Zone 40 of the Sacramento County Water Agency and to the Sacramento County Water Maintenance District.

2. Insure a reliable supply of water to the North Vineyard Station planning area through the implementation of programs identified in the Zone 40 Master Plan.

3. Install and maintain public fire hydrants with adequate flow to serve the fire protection needs of all residents

4. Building permits and improvement plans for proposed projects shall not be approved until a Public Facilities/Financing Plan has been adopted for the Plan area.

5. Development projects shall participate in the cost of constructing master infrastructure facilities. Determination of fair share costs, timing, and funding mechanisms for master infrastructure facilities shall be determined by the adoption of a Financing Plan for this Specific Plan area.

9.3 SANITARY SEWER

This section describes existing sanitary sewer facilities in the vicinity, service standards, and the impact Plan implementation may have on sewer conveyance and treatment systems. Sanitary sewer policies are also described.

9.3.1 Existing Facilities

At the present time, there are no public sewer facilities currently within the Plan area. Existing homes and commercial uses rely upon individual septic systems for effluent disposal. A 108-inch interceptor exists in Elk Grove-Florin Road, approximately one-half mile west of the Plan Area. This existing interceptor is nearing capacity.

The North Vineyard Station Specific Plan area is currently within the Spheres of Influence of the Sacramento County Sanitation District No. 1 (CSD 1) and the Sacramento Regional County Sanitation District (SRCSD). These districts own and operate trunk and interceptor sewer systems throughout Sacramento County, as well as the Regional Treatment Plant located approximately six miles southwest of the Plan Area. In order to receive sewer service, the Plan area must be annexed to both CSD-1 and SRCSD. This is consistent with General Plan Policy PF-14, which reads as follows:

> *Policy PF-14. Independent community sewer systems shall not be established for new development.*

9.3.2 Service Standards

The Sacramento County General Plan has established a county-wide policy to provide public sewer service to all new residential developments of densities greater than one dwelling unit per acre. This policy also applies to industrial and commercial developments. As a result of this policy, all land uses proposed in the Plan must be served by a public sanitary sewer system.

9.3.3 Development Impacts/Proposed Facilities

The SRCSD plans to construct another 108-inch interceptor sewer pipeline through the western portion of the Plan area along Elder Creek in the near future. This new interceptor, called the Bradshaw/Folsom Interceptor, will provide relief for the Elk Grove-Florin Road interceptor and will provide additional capacity for future growth in the northeast portion of Sacramento County's Urban Service Area, including the city of Folsom. The interceptor segment nearest the Plan area - Bradshaw 6 - is included in Phase 1 of the two-phased project, and is expected to be completed before 1999. Segments in phase 2 will be completed between 1999 and 2004. Plan area sewerlines are expected to connect to this new interceptor.

A county-wide Sewer System Master Plan, entitled the Sacramento Sewerage Expansion Study (SSES), is currently being considered for adoption by CSD 1 and SRCSD. The flow estimation criteria developed in the SSES has been used throughout Plan area sewer study.

The Sewer Master Plan prepared for the North Vineyard Specific Plan defines sub-areas which will contribute flow to the proposed Bradshaw/Folsom Interceptor at three points. Gravity trunk systems to convey sewage to connection points on the interceptor have been identified in the Master Plan. In addition, extensions of smaller (non-trunk) pipelines to the limits of each sub-area have been analyzed to verify the ability to serve by gravity. The Master Plan indicates that the Plan area can be served without need of lift stations.

The study area to be served by the sewer facilities analyzed in the Sewer Master Plan extends off-site to the north, east, and south of the Plan area, and has been divided into three major service sheds which correspond to connection points on the proposed Bradshaw/Folsom Interceptor. (See Figure 9.3.3.A.). The boundaries of the major sheds were established by the Water Quality Division of the Sacramento County Public Works Department based on several factors, including the previous SSES, analysis of topography, and the ability to sewer by gravity.

The direction to accommodate off-site flow is consistent with the County's General Plan Policy PF-9, which states:

> *Policy PF-9. Design trunk and interceptor systems to accommodate flows generated by full urban development at urban densities within the ultimate service area. This could include phased construction where deferred capital costs are appropriate.*

The Plan area and lands to the south are within the County's Urban Policy boundary which defines the expected areas of urbanization during the planned twenty-year buildout of the General Plan. Areas to the north and east of the Specific Plan are not within the Urban Policy boundary. However, the General Plan acknowledges that development in Sacramento County will ultimately extend beyond its Urban Policy boundary. This acknowledgment is made, in part, through inclusion of an Urban Services boundary. This line establishes the area for which infrastructure improvements are to be sized. The Urban Services boundary in this portion of Sacramento County is along the west side of the Deer Creek/Cosumnes River floodplain, roughly six miles east of the Plan area. Therefore, oversizing to accommodate future development of the service area is consistent with the General Plan, as expressed in Policy PF-60, which follows.

> *Policy LU-60. Sewer and water treatment and delivery systems shall not provide for greater capacity than that authorized by the General Plan.*

The development of the Sewer Master Plan included the following steps:

1. Major sewer sheds were defined.

2. A schematic backbone collection system was established.

3. Major sheds were divided into sub-sheds in order to define the areas which contribute flows to certain points (nodes) on the collection system.

4. To estimate sewage flows, land use boundaries were overlaid on the sub-sheds creating sub-areas of single land use within each sub-shed. The acreages of these sub-areas were determined and multiplied by the average number of

Equivalent Single-Family Dwellings (ESDs) per acre for their particular land use in order to determine the total number of ESDs entering each pipe system.

5. Pipes were sized and inverts calculated using an iterative process.

The methodology for estimated sewage flows in trunk and interceptor lines is defined in the Sacramento Sewerage Expansion Study and was used to calculate flows expected in the Plan area sewer system..

Peak Dry Weather Flows have been computed based on 310 gallons per day (gpd) per Equivalent Single Family Dwelling (ESD) entering each trunk pipe system. ESD values used in the Sewer Master Plan are as follows:

Land Use	**ESD Value**
Single-Family Residential	1 Per Dwelling Unit
Multi-Family Residential	0.75 Per Dwelling Unit
Commercial	6 Per Acre
Employment	6 Per Acre
School	5 Per Acre
Parks	0
Open Space/Constrained Areas (Detention, drainage channels, powerline corridor, and golf course)	0
Off-Site/Non-Constrained Areas	6 Per Acre

Design calculations in the Sewer Master Plan for on-site and off-site land uses that will contribute to the sanitary sewer system estimate peak wet weather sewage flows of 16.92 million gallons per day. As previously noted, sewage is expected to flow by gravity into the new Bradshaw/Folsom Interceptor.

Figure 9.3.3.A. shows off-site sewer facilities and Figure 9.3.3.B. depicts the Sewer Master Plan for facilities within the Plan area. The sewer lines have been laid out after consideration of topography and other physical constraints. Within the Plan area, the pipelines are generally located within existing or proposed roads. The location of proposed sewers in areas outside the Plan area are more schematic in nature and are expected to be modified with the submittal of development proposals for those areas.

The pipelines in Gerber and Florin roads are estimated to carry in excess of 1 million gallons per day (mgd), and therefore are classified as "trunk" facilities subject to CSD 1 policies for reimbursement of construction costs. Portions of other parts of the system are also expected to reach trunk classification.

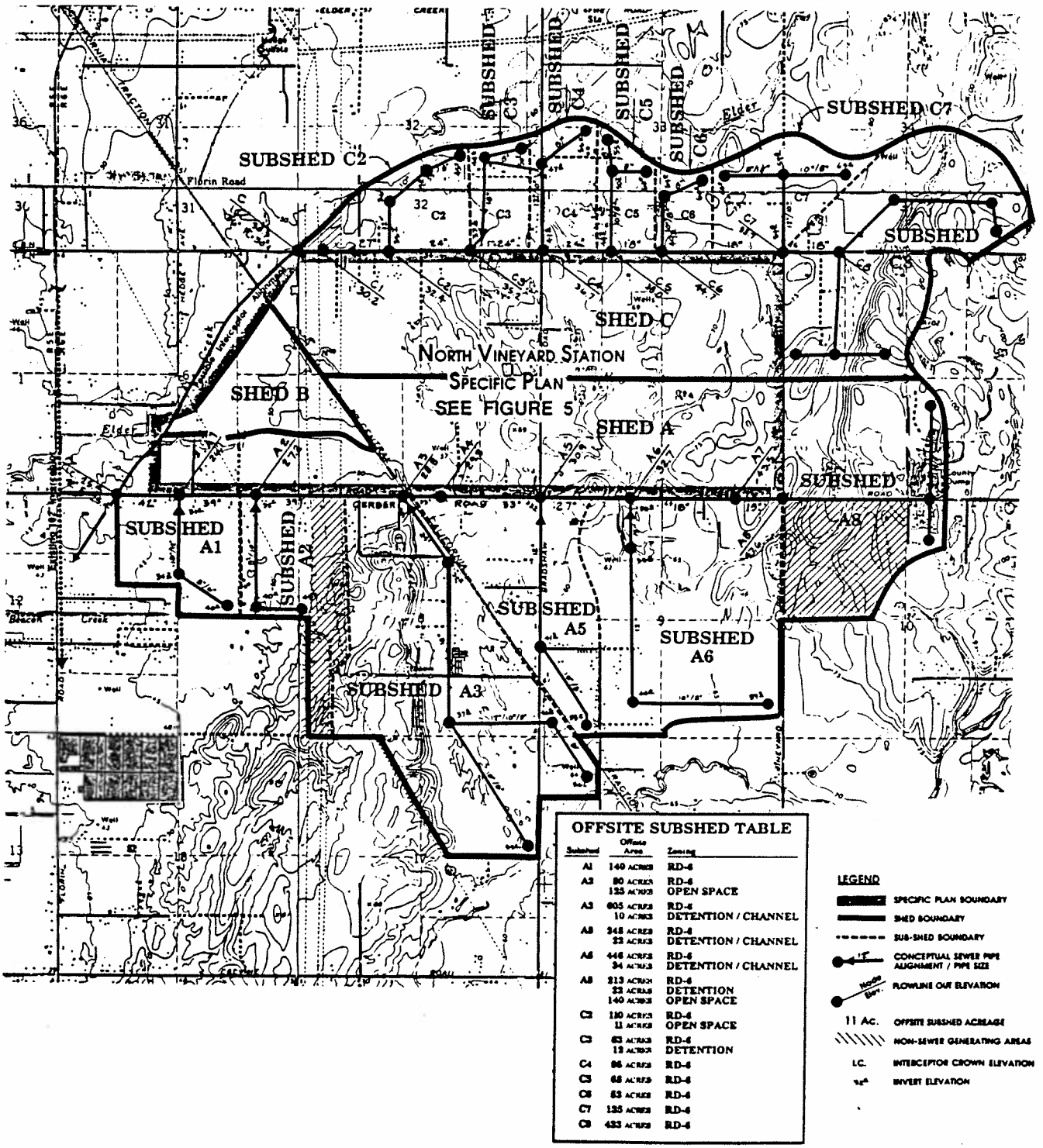
9.3.4 Sanitary Sewer Policies

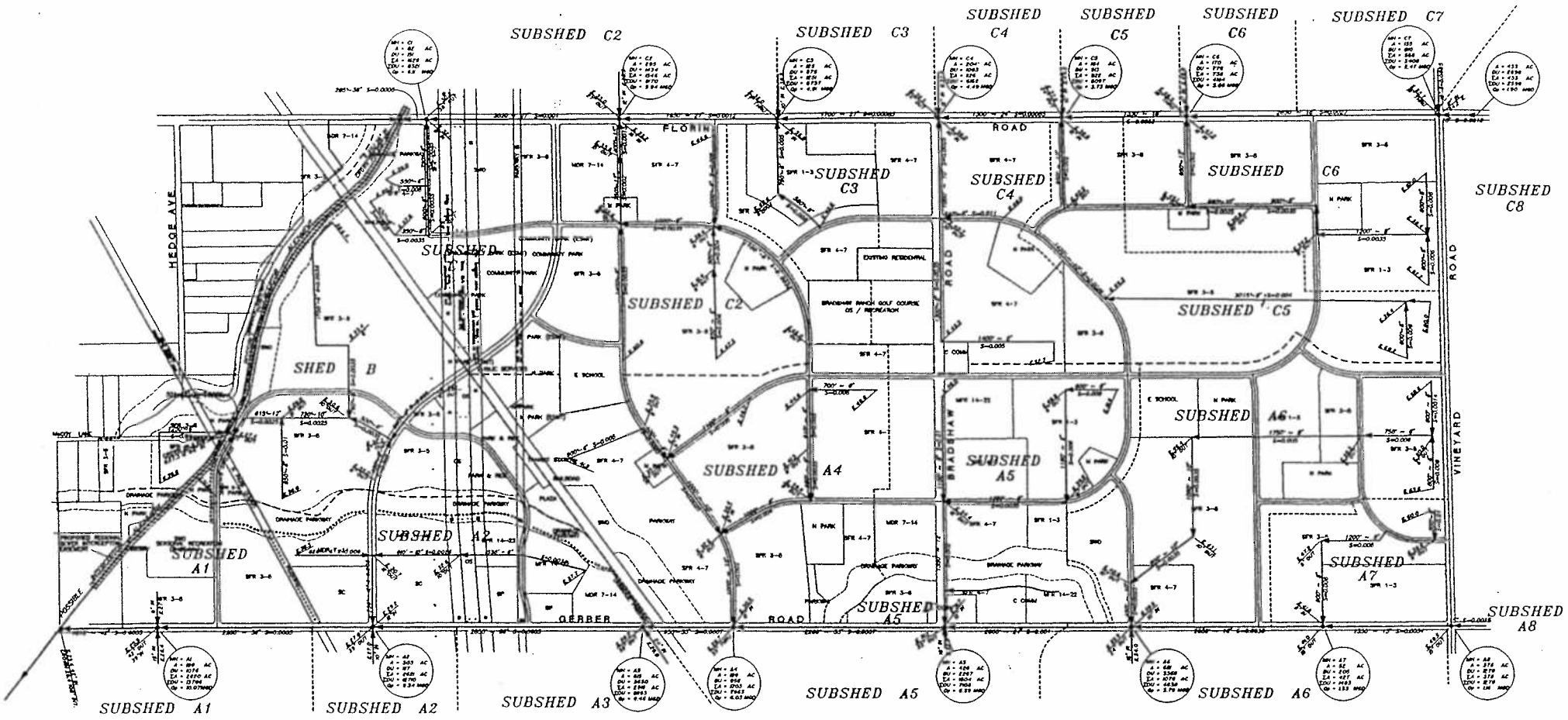
1. Annex developing portions of the North Vineyard Station planning area into the Sacramento County Sanitation District No. 1 and the Sacramento Regional County Sanitation District, prior to recordation of any final maps or approved improvements plans.

2. Building permits or improvement plans for proposed projects shall not be approved until a Public Facilities/Financing Plan has been adopted for the Plan area.

3. Development projects shall participate in the cost of constructing master infrastructure facilities. Determination of fair share costs, timing, and funding mechanisms for master infrastructure facilities shall be determined by the adoption of a Financing Plan for this Specific Plan area.

Figure 9.3.3.A. Off-site Sanitary Sewer Facilities





LANDUSE LEGEND

D-18	MULTI FAMILY RESIDENTIAL (AVG. 18 DU/AC)
D-10	MULTI FAMILY RESIDENTIAL (AVG. 10 DU/AC)
D-6	SINGLE FAMILY RESIDENTIAL (AVG. 6 DU/AC)
D-5	SINGLE FAMILY RESIDENTIAL (AVG. 5 DU/AC)
D-2	SINGLE FAMILY RESIDENTIAL (AVG. 6 DU/AC=FOR SEWER PURPOSES)
C	COMMERCIAL
BP	BUSINESS PROFESSIONAL
COMM PARK	COMMUNITY PARK
N-PARK	NEIGHBORHOOD PARK
SWD	STORM WATER DETENTION
	STREETS
	LANDUSE BOUNDARY

SEWER LEGEND

- MAJOR-SHED LINE
- SUB-SHED LINE
- IE 32.5 — FLOWLINE ELEVATION
- 10" S=0.0025 — SANITARY SEWER PIPE

MH = M4 — MANHOLE/JUNCTION POINT NUMBER
A = 42.0 AC — CONTRIBUTING AREA
DU = 168 — CONTRIBUTING EQUIVALENT SINGLE FAMILY DWELLING UNITS
ΣA = 42.0 AC — TOTAL CONTRIBUTING AREA
ΣDU = 168 — TOTAL CONTRIBUTING DWELLING UNITS
Qp = 0.23 MGD — PEAK WET WEATHER FLOW

0 500 1000 2000
SCALE: 1"=1000'

Figure 9.3.3.B
Sewer Master Plan

NOTE: LARGE SCALE DRAWINGS ARE ON FILE AT THE COUNTY PLANNING DEPARTMENT.

9.4 STORM DRAINAGE

This section describes existing storm drainage facilities in the vicinity, service standards, and the impact Plan implementation may have on storm drainage facilities within and beyond the Plan area. Storm drainage policies are also described.

9.4.1 Existing Facilities

The North Vineyard Station Specific Plan area lies within the drainage sheds of Elder and Gerber creeks, as shown in Figure 9.4.1. Elder Creek enters the Plan area from the north, crossing under Florin Road approximately 1,000 feet east of the Central California Traction Railroad tracks. At this point, the creek carries runoff from just over 4,400 acres. The creek travels generally in a southwest direction along the west boundary of the Plan area for approximately 5,200 feet, where it leaves the Plan area after being joined by Gerber Creek. At its confluence with Gerber Creek, the tributary shed for Elder Creek is approximately 5,070 acres.

Gerber Creek first enters the Plan area under Gerber Road approximately 1,700 feet east of Bradshaw Road with a tributary area of approximately 1,340 acres. The creek generally travels west through the site, temporarily leaving the Plan area approximately 1,100 feet west of Bradshaw Road before re-entering the Plan area just east of the railroad tracks. The creek exits the Plan area beyond its confluence with Elder Creek at the western boundary of the Plan area.

Within the Plan area, both Elder and Gerber Creeks are relatively shallow (1 to 4 feet deep) and narrow (10 to 30 feet wide) and appear to have been realigned along property lines at several locations.

Currently, Gerber Creek experiences flow transfers, both into and out of its drainage shed during high flow events. High flows from Laguna Creek back up at the railroad tracks, and excess flows travel north along the railroad into the Gerber Creek shed.

Downstream of the railroad tracks, excess flows spill out of the Gerber Creek shed by overtopping Gerber Road to the south into the Unionhouse Creek shed. The general locations of these overspill areas are shown on Figure 9.4.1.

As a result of the flat terrain and large amounts of floodplain storage within the shed, the calculated peak flows are relatively low for the size of the area being drained. The calculated floodplain ranges from approximately 300 to 1,600 feet in width. The Florin Road bridge was found to be inadequate to pass the 100-year flow, and the road will be overtopped during a 100-year event.

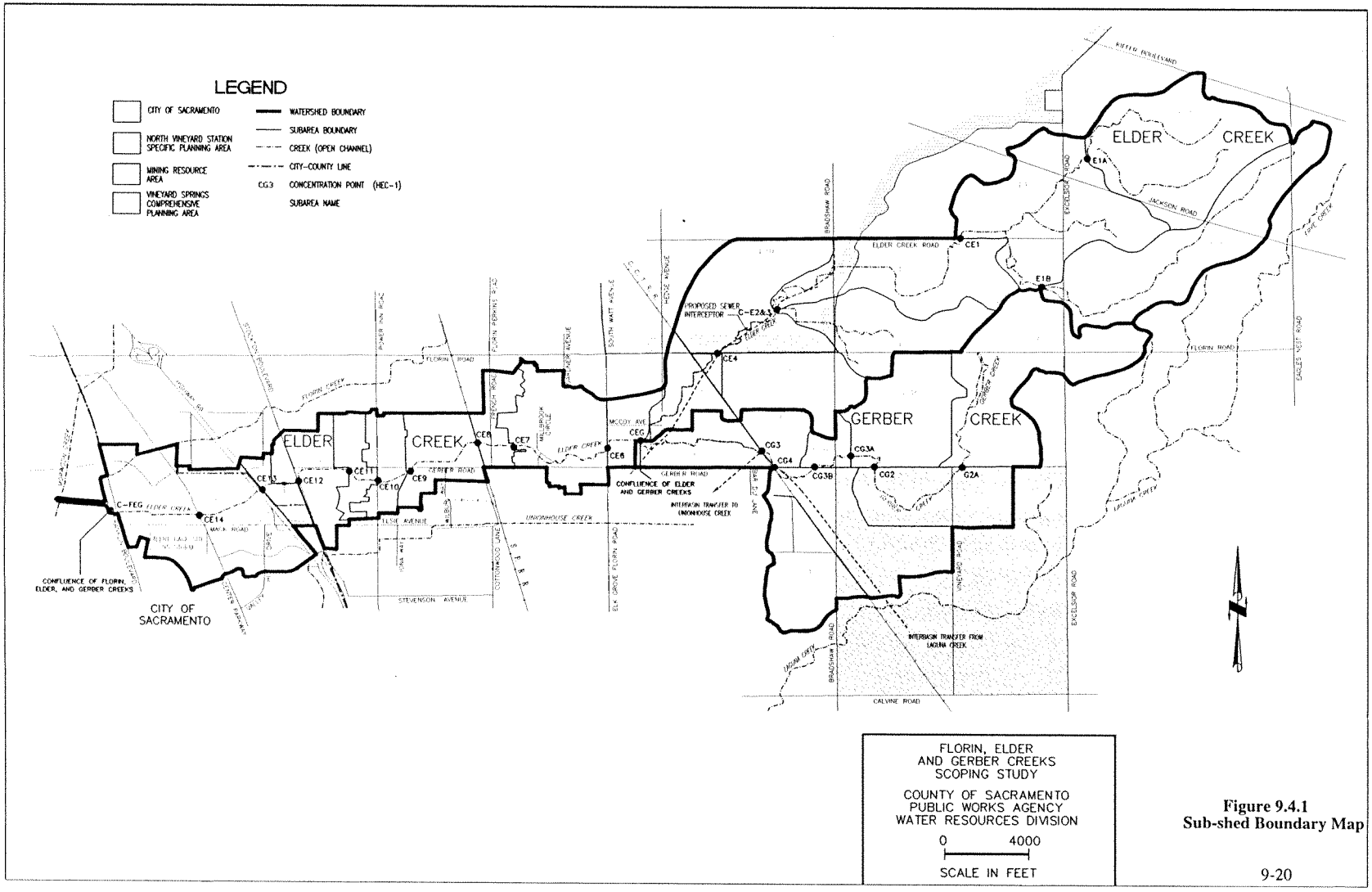


Figure 9.4.1
Sub-shed Boundary Map

9.4.2 Service Standards

The Sacramento County Water Resources Division (WRD) requires new development and new public projects to follow specific guidelines in the maintenance and construction of drainage facilities. These standards are designed to protect new structures from the 100-year (i.e., 1 percent) flood event and new roads from the 10-year (i.e., 10 percent) flood event. The Division is also responsible for implementing a program to mitigate the stormwater quality impacts of urban development. Requirements for the construction of drainage facilities are found in the Sacramento County Water Agency Drainage Ordinance and the Sacramento County Improvement Standards, both of which are set by the Sacramento County Board of Supervisors.

9.4.3 Development Impacts/Proposed Facilities

The entire Elder and Gerber Creek watershed lies within the County Urban Services boundary. The design flows for the channels therefore accommodate full urbanization of the shed even though that may never occur.

A Sacramento County WRD scoping study developed general guidelines for meeting the specific requirements within the Elder and Gerber Creek sheds. The Project Alternative was chosen from among six alternative methods by which the objectives of the Drainage Master Plan could be achieved. Each alternative was analyzed in accordance with the following criteria:

- Flood control effectiveness
- Reliability (potential for failure)
- Land use efficiency
- Costs (construction, maintenance, operational)
- Environmental impacts and benefits
- Resulting aesthetics
- Operational safety
- Joint use potential
- Compatibility with water quality facilities
- Conformance with General Plan Policies
- Phasing potential

The subsequent WRD UNET computer model analysis generally confirmed the results of the scoping study.

The Drainage Master Plan (contained in the Appendix) formulated for the Plan area achieves the following:

- Identifies existing drainage facilities and predicted flooding patterns.

- Analyzes alternatives and recommends preferred flood control and conveyance facilities to serve the drainage needs of the lands within the Plan area and to mitigate for potential impacts due to development. (The County WRD requires 100-year flood protection for structures and 10-year protection for roads.)

- Recommends Stormwater Quality Management Facilities consistent with the County's New Development Management Program.

The proposed storm water system was selected based on its ability to satisfy the master plan goals for the watershed and best meets the criteria previously listed. The proposed design is identified as an improved Naturalized Channel with Point Detention. The storm Drainage Master Plan is depicted in Figure 9.4.3.A. and includes four primary, components, as follows:

- Channel Improvements
- Flood Control Detention
- Bridge and Culvert Improvements
- Storm Water Quality Improvements

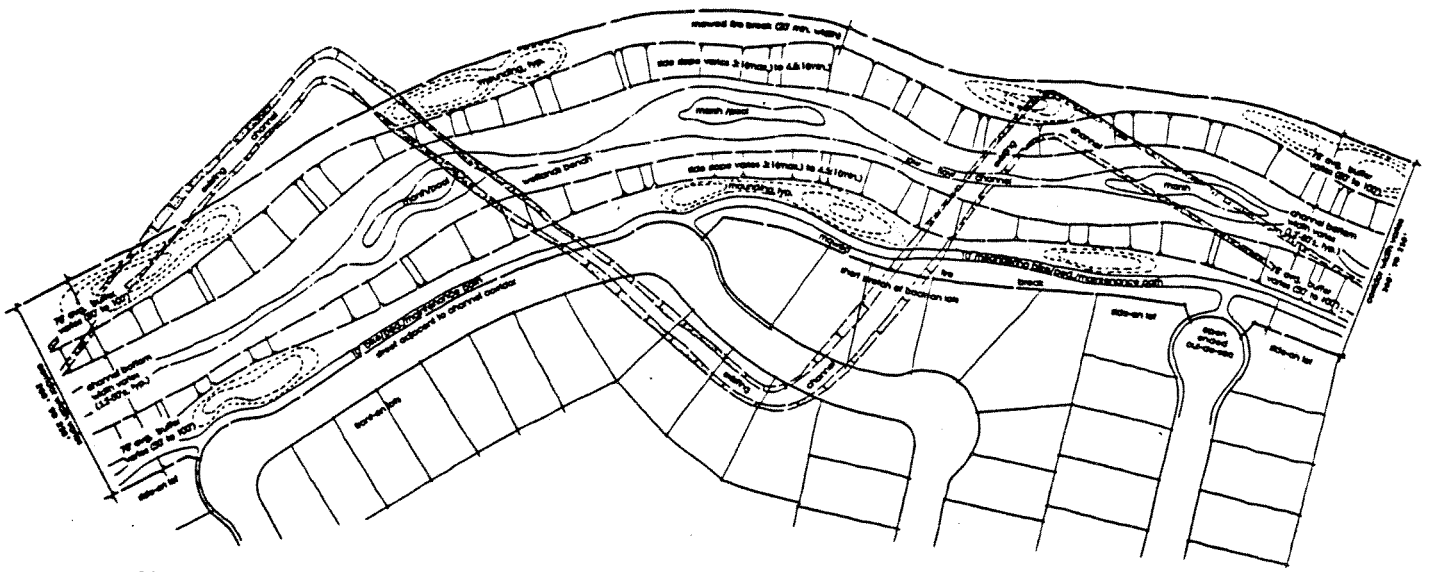
Each of the Storm Drainage Plan components is summarized below. As previously noted, the October 1996 Drainage Study, contained in the Appendix, should be consulted for additional information.

Channel Improvements

As shown in Figure 9.4.3.B., the proposed channels within the Plan area will have a more naturalized appearance than a straight, uniform trapezoidal channel. As shown in Figure 9.4.3.B., the naturalized channels will have a low flow channel that meanders within the main channel bottom which will also meander within the open space corridor. The channel side slopes will vary between 3 to 1 (horizontal to vertical) and 4.5 to 1. Occasional low marsh/pool areas will be created within the channel bottom. Along the overbank areas, occasional areas of mounding will provide an additional aesthetic variation within the corridor. The end result will be a meandering, varied channel with high aesthetic and biological value.

Additional information concerning channel improvements within the Drainage Parkway is contained in Section 6.1.1.

Figure 9.4.3.B. Naturalized Channel Concept



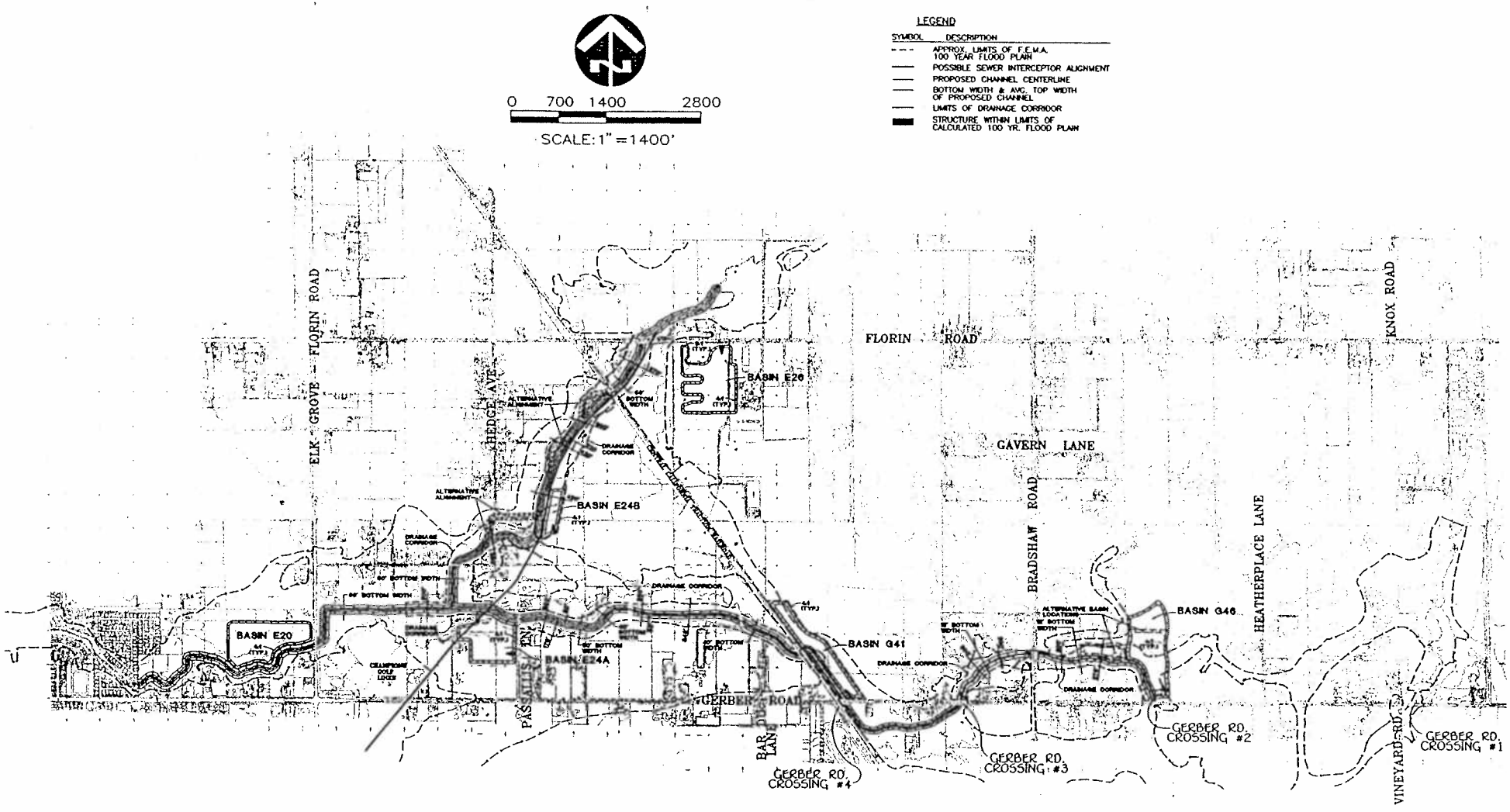


Figure 9.4.3.A
Storm Drainage Master Plan

Elder Creek Channel Improvements. The width of the main channel bottom for Elder Creek is 50 feet throughout the Plan area, with an average depth of eight feet below grade. Off-site improvements will be needed for Elder Creek both upstream and downstream of the Plan area. At the downstream end, it will be necessary to construct a 50-foot bottom width channel with side slopes, which will vary between 3 to 1 and 4.5 to 1, from the confluence of Elder and Gerber creeks downstream approximately 3,200 feet to the existing improved channel. Upstream of the Plan area, the proposed improved channel will continue from Florin Road approximately 1,500 feet. This is needed to eliminate the existing overtopping condition over Florin Road during a 100-year storm event.

Gerber Creek Channel Improvements. The width of the main channel bottom for Gerber Creek will vary. The following guidelines have been established for the Master Drainage Plan:

Segment	**Bottom Width**
Confluence to Waterman Road	50 ft.
Waterman Road to Gerber Road Crossing No. 3	40 ft.
Gerber Road Crossing No. 3 to Bradshaw Road	15 ft.
Bradshaw Road to Plan Area Boundary at Gerber Road	12 ft.

At the time of future design, these widths can be modified provided that the ultimate goals of the Master Drainage Plan are met. The average depth of the Gerber Creek channel will be approximately eight feet below the existing flow line. Off-site improvements will occur in the segment between Gerber Road Crossing No. 3 and Gerber Road Crossing No. 4, where the creek temporarily leaves the Plan area. This segment of channel will ultimately need to have a 40-foot bottom width to serve the adjacent lands and is shown following the existing creek alignment. The alignment is intended to provide a general guide for future development. Modifications to the alignment to provide for increased land use efficiency or to avoid existing facilities may be necessary at the time of future design. With County WRD approval, an unreimbursed or partially reimbursed, a narrower channel section may be constructed through this segment without adversely affecting the Specific Plan area.

Flood Control Detention

In order to meet regional flow criteria established by the County, it is necessary to construct detention facilities that will reduce the ultimate 100-year peak flows to levels that are below existing levels. The flood control detention proposed for the Plan area is point detention. A total of four detention basins will be constructed for the purpose of flood control. Figure 9.4.3 shows the proposed locations of the detention basins, and the detention basin data is contained in Table 9.4.3.

Detention throughout the drainage sheds is expected to attenuate 10-year flows to near existing levels and 100-year flows to well below existing levels. All but one of the proposed dual-purpose detention basins will operate as off-channel facilities, with flood

flows diverted into the basins from the channels. The general layout and operating characteristics of each type of basin are described below.

Off-channel Basins. Each of the off-channel detention basins will be located directly adjacent to the channel, separated by a 10-foot top-width berm, unless the berm will be utilized as a maintenance road, in which case the width shall be designed to the satisfaction of WRD. Low flows requiring water quality treatment will be diverted into the basins by small check dams across the channel. Low flows will enter the basin until the basin has filled to the water quality design pool elevation. Additional flows will then be prevented from entering the basins by a float-controlled device in order to reserve the remaining volume for flood control storage. During a large storm event, flood flows will spill over a weir constructed in the berm between the channel and the basin. Once the flood wave has passed, the storage volume will be released back into the channel through a set of outlet pipes which are flapgated on the channel side.

Each basin will be constructed with a 4 to 1 side slope, a minimum 15-foot wide clear strip around the perimeter for maintenance access (except along berms not being utilized as maintenance roads), and an access ramp down to the bottom of the basin.

On-channel Basin. The one on-channel dual purpose basin, E-26, will directly receive all flows from Sub-basin E4A. The basin was sited within the existing power line corridor since this land is required to be open space. Since this location does not allow a spillway connection to the channel, an off-channel basin is not feasible at this location without relocating the channel.

Flows from Sub-basin E4A will flow directly into the basin through storm drain pipes. Low flows will be directed into the water quality portion of the pond at the north end. During a larger storm, flows will exceed the capacity of the water quality volume and will spill into the flood control portion of the pond which will be benched approximately two feet above the water quality portion. The release of flood flows from the pond will be controlled by an outlet pipe which will discharge into the channel. As a result of this on-channel basin configuration, more volume was needed to achieve the required attenuation.

This basin will also have a side slope of 4 to 1, a fifteen-foot wide maintenance access, and an access ramp to the bottom.

Bridge and Culvert Improvements

Bridge and culvert improvements at several street and railroad crossing locations will be required to provide the necessary depth and/or capacity for the ultimate condition of the drainage channels. The numerous private bridges and culverts which now provide access to individual properties will ultimately be eliminated. At the time of channel construction, provisions will need to be made to replace these structures with temporary crossings or to provide alternative access to these properties. The October 1996 Drainage Study describes the bridge and culvert improvements required to construct the channels.

Storm Water Quality Improvements

Water quality facilities for the Specific Plan will be dry extended detention basins. Four of the basins will be dual purpose facilities that also serve as flood control basins, as

described above. One basin will be for the purpose of water quality only. Detention basin data is contained in Table 9.4.3.

In order to comply with Sacramento County's NPDES Permit, stormwater quality control measures will be constructed in the Plan area. In addition to the use of the Dry Extended Detention Basin method, source control measures are required for the Plan area in accordance with Volume 5 of the draft City/County Drainage Manual - *Manual of Standards for Design of New Development On-site Stormwater Quality Control Measures.* Source control measures will include provision of a permanent storm drainage message as follows: "No dumping - Flows to Creek" or other approved message at each storm drain inlet.

Following is a general description of the operating characteristics of the treatment facilities within the Plan area. The on-channel dual purpose and the on-channel water quality detention basins will all have similar operating characteristics. The off-channel dual purpose basins will operate differently, as described below. In all cases, the runoff captured for treatment will be slowly released from the basin over a 48-hour period.

Off-channel Basins

Basins E24A, G41, and G46 operate as off-channel dual purpose basins. For water quality treatment, small, frequent flows will be diverted out of the adjacent channel and into the basins by a small check dam which will direct low flows through small inlet structures which drain into the basins. For the dual purpose basins, when the water quality volume has been filled, in-flow into the basin will be stopped by a float-activated control to reserve the flood control volume until the peak flood wave passes.

In some instances, there may be a storm drain pipe which outfalls into a creek just downstream of a basin. In this case, low flows from the shed may be diverted into the basin directly from the pipe. This can be accomplished by constructing a small diversion weir within a manhole or junction structure located adjacent to the basin. Low flows will be diverted into a small pipe draining to the basin, while higher flows will overtop the weir and continue to the creek.

On-channel Basin. Basin E26 is an on-channel basin serving 390 acres in Sub-shed E4A. Low flows will flow directly into the basin from the storm drains serving the shed. Low flows will be directed into the lowered water quality portion of the pond at the north end where they will be slowly released.

Basin E24B operates as an on-channel water quality only basin. Small frequent flows will flow directly to Basin E24B, which will be detained for a sufficient period of time to allow adequate treatment before exiting the channel through a gravity outlet pipe.

Table 9.4.3
Detention Basin Data

Basin #	Sub-shed	Contrib. Area (ac)	Site Area (ac)	Bottom Elev.	NPDES Pool Elev.	Data Volume (ac-ft)	Flood Pool Elev.	Data Volume (ac-ft)
E24A	E5, G5	515	11.8	35.0	37.5	8.0	41.8	45.0
E24B	Port. E5	160	4.1	38.9	41.4	5.0	---	0.0
E26	E4A	390	20.0	40.5	42.5	12.3	47.9	60.0
G41	G3B, G3C	262	10.6	41.5	42.8	8.3	47.4	24.0
G46	G3A	476	15.8	50.5	53.0	15.0	55.9	40.0

Policy SA-5. A comprehensive drainage plan shall be prepared for urbanizing streams and their tributaries prior to any development within the 100-year floodplain defined by full watershed development without channel modifications. The plan shall:

a. Determine the future 100-year flood elevations associated with planned and full development of the watershed;

b. Determine the future 100-year floodplain boundaries for both flood elevations (planned and full development) based on minimum 2-foot contour intervals;

c. Assess the feasibility of gravity drainage into the existing flowline of the stream;

d. Assess the feasibility of alternative means of drainage into the stream;

e. Identify potential locations for sedimentation ponds and other stormwater treatment facilities;

f. Determine the minimum lowering of the stream bottom necessary and develop a channel design consistent with General Plan policies;

g. Determine the location and extent of marsh, vernal pool and riparian habitat; and

h. Develop measures for protecting and mitigating natural habitat.

i. Develop measures to ensure vector abatement control.

This policy is not applicable to downstream portions of urbanizing creeks identified as infill areas in Public Works Department policies for which the County does not intend to prepare master drainage plans.

As required by Policy SA-5, the Comprehensive Drainage Master Plan (CDMP) prepared for this Specific Plan has been developed with particular focus upon the requirements of this policy. Its completion satisfies all requirements of this policy.

Policy SA-12. The County shall require all new urban development projects to incorporate runoff control measures to minimize peak flows of runoff and/or assist in financing or otherwise implementing Comprehensive Drainage Plans.

The CDMP is specifically designed to mitigate beyond-project impacts by implementing regional flood control facilities, thereby reducing flood flows below existing conditions. Participation in the County Water Agency Zone 11A improvement fees will assist in financing the necessary facilities.

Policy SA-16. For residential zoning, the area outside the 100-year floodplain must be contiguous or reasonably situated to provide buildable area for a residence and associated structures. Examples of structures include swimming pools, sheds, barns, detached garages, and other outbuildings that are normally associated with residential development.

The modifications to the existing channels required to provide gravity drainage service to the Plan area, consisting of deepening and widening, result in a reduction in total floodplain width. Additional subdivision of land and development of streets consistent with the Specific Plan will provide access to all newly created residential properties. The Plan does not create new residential parcels which are severed by channel facilities. Channels and their associated corridors will ultimately be owned in fee title by public entities.

Policy SA-17. Vehicular access to the buildable area of newly created parcels must be at or above the 10-year flood elevation. Exceptions may be made when the existing public street from which access is obtained is below the 10-year flood elevation.

In some instances, the drainage channel will split an existing parcel. However, the Specific Plan does not provide for the creation of new parcels separated by the proposed drainage channels. The lands adjacent to the channels will be accessed from only one side of the channel. Channel crossings are minimized by the Specific Plan. The ultimate ownership of drainage channels by the County of Sacramento will assure that no private crossings are constructed.

Interim development of channel facilities should include particular focus on access to parcels that now lie on both sides of the channel. It may be necessary to provide alternative interim access until an ultimate access solution is provided.

Policy CO-9. Community and specific plans shall specify urban runoff control strategies and requirements, consistent with Master Drainage Plans and Public Work's urban runoff management program, for development in newly urbanizing areas and identify sites where retention and treatment are warranted consistent with discharge permit requirement and county-wide runoff measures.

The Specific Plan CDMP incorporates urban storm water quality features that are specifically designed to provide treatment to a large percentage of the total volume of annual urban runoff. Basins designed for the purpose of water quality only and those designed for the dual purpose of flood control and storm water quality are designed utilizing the SATO report developed for the County, which allows capture and passive treatment of the majority of first flush runoff.

Policy CO-10. Development within newly urbanizing areas shall incorporate runoff control measures in their design or participate in an areawide runoff control management effort consistent with the urban runoff management program developed by the Public Works Department.

The CDMP includes a significant number of flood control detention facilities that are specifically designed to attenuate not only for the impacts of urban development within the Specific Plan, but also implement its proportional share of the regional flow attenuation as part of the comprehensive basin master plan for both Elder and Gerber creeks.

Policy CO-107. To the maximum extent practical retain topographic diversity and variation when channels are realigned or modified, including maintaining meandering characteristics, varied berm width, naturalized side slope, and varied channel bottom elevation.

Very little topographic diversity exists along the existing channels within the Specific Plan area. The modifications proposed for the channels in the CDMP provide significant enhancements to topographic diversity by providing a meandering, naturalized channel corridor with varied bottom widths, side slopes, and channel bottom elevation.

Policy CO-108. Natural appearance channels will be encouraged for watercourses in newly developing areas (outside of identified in-fill areas).

The CDMP provides for naturalized variations in channel cross section and location. Natural growth of riparian vegetation has been taken into account in analyzing the conveyance capacities of the channels.

Policy CO-109. Channel lowering shall occur after consideration of alternatives and only when it is necessary to accommodate the gravity drainage of storm runoff and/or accommodate floodflows under existing bridge structures.

The full range of alternatives considered for this Plan did not reveal a viable solution which allowed the channels to remain at their current elevations and locations while

providing gravity service to the Specific Plan area and providing regional flood control facilities.

Policy CO-110. Channel modifications shall not prevent minimum water flows necessary to protect and enhance fish habitats, native riparian vegetation, water quality, or ground water recharge.

Minimum flows will be preserved and potentially enhanced as the system of detention basins and development within the Specific Plan matures. The design of the channel bottom is intended to enhance riparian habitat.

Policy CO-111. Improvements in watercourses in currently undeveloped areas will be designed for low maintenance. Appropriate Manning's "n" values will be used in design of the watercourses to reflect future vegetative growth (including mitigation plantings) associated with the low maintenance concept.

The channel cross section has been designed with a relatively high Manning's 'n' value (channel roughness coefficient) to allow for future vegetation growth and minimal maintenance.

Policy CO-119. Roads, parking, and associated fill slopes shall be located outside of the Urban Stream Corridor, except at stream crossings. Crossings shall be minimized and be aesthetically compatible with naturalistic values of the stream channel.

The Specific Plan minimizes the number of road crossings encroaching into the urban stream corridors. While roadways are planned adjacent to the corridors for maximum visual access, they do not encroach into the corridor. (See also, Policy CO-120 in Section 6.0.)

Policy CO-124. Development projects adjacent to the Urban Stream Corridor shall provide unencumbered maintenance access to the stream as necessary and consistent with policies of this plan.

The design of the corridor and the adjacent land plan and local street circulation plans will assure that adequate and unencumbered maintenance access is available to the urban stream corridor. The incorporation of the Drainage Parkway trail system, which is wide enough to be infrequently utilized by maintenance equipment, will provide a high degree of accessibility to the channel.

Policy CO-126. Maintain streams to allow natural vegetation in and along streams, commensurate with flood control and public acceptance, to assist in removal of nutrients, pollutants, and silt.

Provision for positive drainage of the Specific Plan area and future urban development upstream require lowering of the channel flow lines. Accommodating the existing and future flows within the stream corridor requires that they be widened substantially (see requirements of Policy SA-17). This widening will present an environment conducive to the establishment of natural riparian and wetland vegetation that is superior to existing conditions. The design of the proposed channels employ conservative estimates of

roughness coefficients which will account for the establishment and maintenance of significant levels of wetland vegetation within the channel. The proposed maintenance schedule for these channels will provide for hand removal of large, non-native obstructions, such as debris, and very dense or tall woody vegetation. Mass clearing of normal levels of wetland vegetation within the channels is neither necessary nor proposed.

> *Policy CO-151. Provide unobstructed water flows throughout the network of natural waterways by prohibiting blockage, tunneling, or obstruction of contiguous stream channels.*

The master plan for the proposed channel sections is specifically focused on the requirements of this policy. The proposed facilities provide for unobstructed water flows throughout the contiguous length of the proposed channels. Many obstructions to flow currently exist along these channels. Implementation of the master planned facilities will reduce these obstructions. The ultimate procurement of fee title interest in the channel corridors by the County will assure that future obstructions do not occur.

9.4.4 Storm Drainage Policies

1. Stormwater Detention Basins shall be designed to ensure public safety, shall be visually unobtrusive, and shall provide wildlife habitat. Basins shall comply with guidelines set forth in Section 6.0.

2. Public infrastructure, such as electrical substations, water wells, and sewer lift stations, shall be designed, located and maintained so that safety and nuisance factors, such as noise, light glare, and odors will not impact nearby land uses.

9.5 PUBLIC UTILITIES

This section describes existing public utilities (also referred to as Dry Utilities) in the vicinity of the Plan area, including electricity, natural gas, and telecommunications (i.e., telephone and cable television). Service standards, Plan implementation impacts on those systems, and policies are also described.

9.5.1 Existing Facilities

Electricity

The Sacramento Municipal Utility District (SMUD) currently operates overhead 12-kilovolt (kv) and 69-kv lines throughout and beyond the Plan area. SMUD's 69-kv lines are located along Florin and Gerber Roads and in the transmission line corridor which traverses the Plan area (see Section 2.2).

Natural Gas

Offsite, a 4-inch underground PG&E gas main exists in Florin Road as far east as Hedge Road, at which point it turns south and extends to a point approximately 1,000 feet from the Plan area boundary.

Telecommunications

The northern portion of the Plan area is within the Pacific Bell telephone service boundary. Pacific Bell has existing overhead facilities along Florin and Bradshaw roads. The southern portion of the Plan area is served by Citizen's Utilities telephone company, which has existing overhead facilities along Gerber Road.

Overhead cable television lines extend from the west, along Florin Road to Hedge Road and along Gerber Road to Elk Grove-Florin Road.

9.5.2 Service Standards

Service standards for the utilities described in this section are established and administered by the California Public Utilities Commission.

9.5.3 Development Impacts/Proposed Facilities

SMUD has plans to construct a new 69-kv powerline along Bradshaw Road and anticipates the need for a new substation, which is expected to be located on the west side of Bradshaw Road, near Gerber Road. The size and locations of other electrical (including sub-stations), gas, telephone, and cable utilities within the Plan area have not been determined at this time.

9.5.4 Public Utility Policies

1. All new electrical and telecommunication facilities shall be installed underground, excluding primary transmission lines and substations. Undergrounding of existing overhead facilities should be promoted.

2. Public infrastructure, such as electrical substations, water wells, and sewer lift stations, shall be designed, located and maintained so that safety and nuisance factors, such as noise, light glare, and odors will not impact nearby land uses.

SECTION 10.0
CAPITAL IMPROVEMENT PROGRAM AND FINANCING STRATEGY

10.1 INTRODUCTION

The North Vineyard Station (NVS) Specific Plan area is designated as an urban growth area in the County of Sacramento General Plan. A land use plan has been prepared to accommodate future development while corresponding public facility master plans have been prepared to identify the major facilities required for NVS to develop. This chapter discusses the NVS Financing Strategy which identifies the major infrastructure improvements necessary to support the proposed level of development, analyzes phasing constraints, provides the costs per acre for infrastructure categories, and identifies existing and potential funding sources.

A North Vineyard Station Public Facilities Financing Plan (NVS PFFP) will be required for the NVS Specific Plan area prior to the approval of any zoning for urban uses. The requirement for a financing plan is established by Policy LU-8 of the Sacramento County General Plan, which states:

> *LU-8. Infrastructure financing plans which specify the extent, timing, and estimated cost of all necessary infrastructure shall be approved by the Board of Supervisors, together with the approval of zoning for any urban uses in urban growth areas. The resulting financing mechanisms shall be implemented prior to the approval of all entitlements in urban growth areas.*

Because the NVS Specific Plan does not include any rezoning, a financing plan is not required to be part of the Specific Plan. A NVS Financing Strategy is required to be part of the Specific Plan, however, to establish a policy framework for the funding of major public facilities required to serve new development in the Specific Plan area. The Financing Strategy will lay the ground work for the NVS PFFP and give the Board of Supervisors sufficient information to make the General Plan/Community Plan level decision. The NVS Financing Plan to follow will expand upon the financing strategy and provide greater detail on the phasing of improvements and analyze and recommend potential financing mechanisms.

10.2 FINANCING STRATEGY

A Financing Strategy, which is currently being prepared, is a stand-alone document and will be considered by the Board of Supervisors along with the Specific Plan. The analysis and conclusions presented in the Financing Strategy will be summarized in this section when the Financing Strategy is completed.

The purpose of the Financing Strategy is to:

- Establish a policy framework for financing the required major public infrastructure;
- Identify the major roadway, storm drainage, sanitary sewer, water supply, park improvements, fire protection, library, school, and transit facilities required for the specific plan area to develop;
- Estimate the costs for the identified required major facilities;
- Present the cost per acre and the cost per dwelling unit equivalent for each facility category;
- Identify phasing constraints of the required major facilities;
- Identify existing funding sources to finance the required major infrastructure and identify the infrastructure components that currently do not have a funding source;
- Identify a range of potential strategies to fund the unfunded major required public facilities.

The components of the Financing Strategy are as follows:

Capital Improvement Programs - The Financing strategy will include a Capital Improvements Program (CIP) which is separated into major public facilities categories. The portion of the CIP for each public facilities category lists the major public facilities necessary for development of the Specific Plan area and the associated costs. The CIP also includes exhibits showing the location of projects listed for each components of the CIP. The CIP projects are derived from the detailed technical studies that were prepared for the Specific Plan and are included as technical appendices or in other sections of this document.

Phasing - The approach that the NVS PFFP will take in examining the phasing of facilities will be described in the Financing Strategy. The Financing Strategy will discuss phasing issues for each facility category and how they may affect the financing decision. Critical phasing constraints that limit possible funding strategies will also be identified.

Costs - The Financing Strategy will summarize the Specific Plan land uses in terms of the total acres and potential development base per land use category. The cost per acre and the cost per dwelling unit equivalent for each facility category will be presented.

Public Facilities Financing Plan Matrix- Table 10.3-1 is the Public Facilities Financing Plan Matrix that will also be included in the NVS PFFP. The matrix is an overall summary of the financing plan that shows the major facility categories, the costs for each major facility category, and existing and proposed funding sources. Table 10.3-1 shows that $176,580,000 in major roadway, storm drainage, water supply, sanitary sewer, parks and recreation, fire protection, transit, library, and school facilities are required in order for the NVS Specific Plan area to develop.

Table 10.3-1 shows that existing programs can be used to fund all or a portion of the required sanitary sewer, storm drainage, water supply, and school facilities. The $33,182,000 required to fund major drainage improvements will be funded by Zone 11A of the Sacramento County Water Agency; the $28,239,000 required to fund major water supply improvements will be funded by Zone 40 of the Sacramento County Water Agency; and the $5,212,000 required to fund major sanitary sewer facilities will be funded by the Sacramento Regional County Sanitation District and County Sanitation District No. 1. Of the $67,712,000 required to fund school facilities, $33,392,000 can be financed by the Elk Grove Unified School District's school impact fees.

Table 10.3-1 also shows that there is no identified source of funding for the $28,005,000 in roadway facilities, $1,552,000 in internal roadway facilities, $945,000 in water facilities, $1,795,000 in fire protection facilities, $2,138,000 in transit facilities, $6,904,000 in parks and recreation facilities, $896,000 in library facilities, and $34,392,000 in school facilities. However, additional potential funding sources for the school facilities include bond proceeds from the State School Building Program and the EGUSD Mello Roos Community Facilities District.

Analysis of Proposed Financing Mechanisms - The Financing Strategy will identify a range of potential funding sources for facility components for which there are no identified funding sources. The NVS Financing Strategy will also discuss potential solutions for any identified constraints to facilities to be funded by existing programs. Potential funding sources that will be described in the NVS Financing Strategy include, but are not limited to, development fee programs, a Mello-Roos Community facilities District, an Assessment District, and participation in other funding sources including local, state, and federal programs.

10.3 FINANCING PLAN

A NVS PFFP will be required prior to the approval of any rezone within the NVS Specific Plan area. The NVS PFFP will build upon the NVS Financing Strategy and will include the following:

Phasing Analysis - Phasing requirements for the identified major public facilities will be addressed in the NVS PFFP. The phasing analysis will identify the priority of CIP items in relation to each other and the level of development at which each CIP project is required. Critical facility requirements that are potential constraints to development will also be identified.

Land Use - The NVS PFFP will also describe the Specific Plan land uses in terms of the total development base. A projected absorption schedule for each land use category will be included.

Analysis and Recommendation of Financing Mechanisms - Based upon the facilities costs identified, the nature of the facility, the land uses, projected absorption, and phasing requirements, the NVS PFFP will recommend the implementation of one or several funding strategies.

Table 10.3-1
Public Facilities Financing Plan Matrix
(1998 Dollars)

(All numbers rounded to the nearest thousand)

Facility Type	Estimated NVSSP Facility Cost	Potential Funding Sources					
		Existing County Fees			Proposed NVSSP Project-Specific Fees [5]	EGUSD School Impact Fees	Other
		SRCSD & CSD-1	Sac. Co Zone 40 Water Agency	Sac. Co Zone 11A Drainage Fee			
	1998 $'s						
Roadway	$28,005,000				$28,005,000		
Internal Roadway	$1,552,000				$1,552,000		
Sanitary Sewer	$5,212,000	$5,212,000					
Drainage	$33,182,000			$33,182,000			
Water	$29,184,000		$28,239,000				
Parks & Recreation [1]	$6,904,000						$945,000
Fire Protection [2]	$1,795,000				$6,904,000		
Transit	$2,138,000				$1,795,000		
Library [3]	$896,000				$2,138,000		
School [4]	$67,712,000				$896,000		
						$33,392,000	$34,320,000
Total Facilities	**$176,580,000**	**$5,212,000**	**$28,239,000**	**$33,182,000**	**$41,290,000**	**$33,392,000**	**$35,265,000**

(1) Costs based on preliminary estimates provided by Southgate Rec. and Park District. The total cost for the community center has been included in the Park and Recreation CIP and is shown to be funded by the park and recreation component of the NVS PFF
(2) Costs based on preliminary estimate provided by American River Fire District.
(3) Costs based on information in the Sacramento Public Library Master Plan.
(4) Costs based on information provided by the Elk Grove Unified School District. Potential "other" funding sources could be the State School Building program, and other unidentified programs.
(5) The Project-Specific Fees will fund facilities not covered by existing County fee programs. Due to timing constraints, these facilities may also be funded by up-front financing mechanisms.

10.4 TRANSPORTATION AND CIRCULATION

10.4.1 General

Section 7.0 of this document and the *Transportation Analysis for the North Vineyard Station Specific Plan*, dated October 2, 1996, prepared by Fehr and Peers Associates, Inc., provide a comprehensive discussion of the necessary transportation and circulation infrastructure for this project. This category of infrastructure is sub-categorized as follows:

- Roadway Facilities
- Internal Roadway Facilities
- Bicycle/Pedestrian Pathways
- Transit Facilities

The Plan area is within County Roadway and Transit District IV and Southgate Recreation and Park District (SRPD). Transportation and circulation facilities within the Specific Plan area may be funded by a combination of the following:

- County District IV Roadway and Transit Fee program;
- Roadway component, the internal roadway component, and the park and recreation component of the North Vineyard Station Specific Plan PFFP development fee program;
- Existing parkland dedication and "in-lieu" fee program;
- Private development; and
- Other funding sources including local, state, and federal programs, as well as facility requirements placed on future development.

The Financing Strategy will identify potential funding sources.

10.4.2 Roadway Facilities

Facilities and Funding

The *Transportation Analysis for the North Vineyard Station Specific Plan* identifies the facilities needed to mitigate the impacts of the full build-out of the Specific Plan area on the existing road system. Several of these facilities have not been included in the Roadway CIP because they will be funded by other sources.

Roadway improvements, identified in the Roadway CIP as Table 10.4-1, are based upon the impacts identified in the traffic study and are not necessarily the CIP that will be implemented with the financing plan. The projects included in the final CIP will be selected with input from the County Transportation Division based on the results of the traffic study and the County's priorities. The Roadway CIP lists the individual improvement projects for roadway-related facilities with a project description and

estimated project cost. These projects include segments of roadways, intersections, interchanges, bridge widening, etc.

The roadway component of the PFFP fee typically funds interior lanes of major roadways. Adjacent development is responsible for the outside 11 feet of pavement, curb, gutter, sidewalk, as well as bus turnouts, landscaping and soundwall, as necessary. Two exceptions are proposed in the Roadway CIP, as follows:

1) Along major roadways at public uses such as park, open space, drainage corridor, and drainage facilities, the outside 11 feet of pavement, curb, gutter and sidewalk, as well as bus turnouts and landscaping, as necessary, will be funded by the roadway component of the PFFP development fee. Costs for right-of-way acquisition for sections of the curb lane have been included in the Roadway CIP.

2) Along pre-project residential and pre-project commercial land uses, the outside 11 feet of pavement, curb, gutter, sidewalk as well as bus turnouts, landscaping and soundwall, as necessary, will be funded by the roadway component of the PFFP development fee. Costs for right-of-way acquisition for sections of the curb lane have been included in the Roadway CIP.

Listing the funding sources for roadways, Table 10.4-1 includes the estimated total cost of the improvements, as well as the percentage funded by various existing funding sources. The table also describes the portion of the project funded by other sources. Costs presented in Table 10.4-1 were estimated utilizing the per unit costs developed for the adopted EGWV PFFP, where applicable. Some modification and supplemental cost estimates were utilized, as necessary.

The Financing Plan will detail the approach to the funding of roadway facilities.

Phasing Considerations

The prioritization of the individual projects in the CIP list will be developed with input from the County Transportation Division based on the results of the traffic study and the County's priorities.

Table 10.4-1 Capital Improvement Program Roadway Summary (1 of 2)

Simulation Measure	Project Number	Roadway Segment/ Item	Project Description	On-site or Off-site	Total Estimated Cost	% Funded by Other Sources	Other Funding Sources	Reimb. Available	Cumulative Total Estimated Net Cost
TR 3	R3 3	Florin Road: CCTC RR (Project Boundary) to Waterman	6 Lane 106' R/W center sect w/ med. (excludes outside 11' pvmt. & Rg.)	On	$470,000	0.00%		$0	$870,000
TR 3	R3 11	Florin Road: CCTC RR Crossing	Reconstruct at-grade RR crossing (106' R/W)	On	$225,000	0.00%		$0	$1,095,000
TR 3	R3 12	Florin Road Crossing at Elder Creek	New Bridge Construction (106' R/W)	On	$858,000	0.00%		$0	$1,953,000
	R9 29	Florin Rd at Waterman Rd	8 X 4 Intersection Widening & Signalization, 3-way (incl 450' intc. lag imps.)	On	$588,000	0.00%		$0	$2,541,000
TR 4	R8 12	Elk Grove Florin Road: Elder Creek Crossing	New Bridge Construction (106' R/W)	Off	$801,000	0.00%		$0	$3,343,000
	R4 3	Gerber Road: Project Boundary to Waterman	4 Lane 84' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	On	$570,000	0.00%	50% Reimb. from Vineyard Springs	$285,000	$3,628,000
	R3 4	Gerber Rd at Waterman Rd	4 X 4 Intersection Widening & Signalization, 4-way (incl 450' intc. lag imps.)	On	$680,000	0.00%	50% Reimb. from Vineyard Springs	$340,000	$3,968,000
	R8 0	Gerber Rd at Collector	4 X 2 Intersection Signalization 3-way	On	$140,000	0.00%		$0	$4,108,000
	R4 3 1	Park Frontage Imps -Gerber Road (Project Body to Waterman)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$9,000	0.00%		$0	$4,117,000
	R4 3 2	Es. Reid Frtg. Imps -Gerber Rd (Proj. Body to Waterman, No. Side Only)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20' Soundwall	On	$53,000	0.00%		$0	$4,170,000
	R7 3	Waterman Road: Gerber (Project Body) to Florin (Project Body)	4 Lane 84' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	On	$1,378,000	0.00%		$0	$5,548,000
	R7 12	Waterman Road: Gerber Creek Crossing	2 8' X 6' Box Culverts With Headwalls (84' R/W)	On	$158,000	0.00%		$0	$5,707,000
	R7 13	Waterman Road: CCTC RR Crossing	Const. new at-grade RR crossing (84' R/W)	On	$200,000	0.00%		$0	$5,907,000
	R7 31	Drain Parkway Frontage Imps -Waterman Road (Gerber to Florin)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$46,000	0.00%		$0	$5,953,000
	R7 32	Open Space Frontage Imps -Waterman Road (Gerber to Florin)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$41,000	0.00%		$0	$5,994,000
	R7 33	Park Frontage Imps -Waterman Road (Gerber to Florin)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$205,000	0.00%		$0	$6,199,000
	R5 3	Waterman Rd at Collector	4 X 2 Intersection Signalization, 4-way	On	$140,000	0.00%		$0	$6,339,000
	R5 4	Waterman Rd at Collector	4 X 2 Intersection Signalization, 3-way	On	$140,000	0.00%		$0	$6,479,000
	R5 5	Waterman Rd at Collector	4 X 2 Intersection Signalization, 4-way	On	$140,000	0.00%		$0	$6,619,000
TR 2	R8 3	Brighton Road: Garber (Project Body) to Florin (Project Body)	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	On	$1,678,000	100.00%	Mass. A. Dev Fees For Storm Assess. D	$0	$6,619,000
TR 17	R3 5	Gerber Rd at Brighton Rd	4 X 6 Intersection Widening & Signalization, 4-way (incl 450' intc. lag imps.)	On	$785,000	80.00%	80% was above 20% Reimb Vineyard Spgs	$157,000	$6,776,000
	R7 32	Brighton Road: Garber Creek Crossing	2 8' X 5' Box Culverts With Headwalls (106' R/W)	On	$192,000	0.00%		$0	$6,968,000
	R8 3 1	Drain Parkway Frontage Imps -Brighton Road (Garber to Florin)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$29,000	0.00%		$0	$6,997,000
	R8 3 2	Es. Reid Frontage Imps -Brighton Road(Garber to Florin)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20' Soundwall	On	$165,000	0.00%		$0	$7,162,000
	R8 3 3	Es. Comm. Frontage Imps -Brighton Road(Garber to Florin)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$100,000	0.00%		$0	$7,262,000
	R5 6	Brighton Rd at Collector	8 X 2 Intersection Signalization, 4-way	On	$140,000	0.00%		$0	$7,402,000
	R5 7	Brighton Rd at Collector	8 X 2 Intersection Signalization, 4-way	On	$140,000	0.00%		$0	$7,542,000
TR 1	R5 8	Brighton Rd at Collector	8 X 2 Intersection Signalization, 4-way	On	$140,000	0.00%		$0	$7,682,000
TR 12	R2 1	South West: Fruitridge to Jackson	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$1,721,000	80.00%	Co. Dev. Fees, City?	$0	$8,026,200
TR 2	R8 5A	Jackson Rd at South West Ave	4 X 4 Intersection Widening, 4-way (incl 450' intc. lag imps.)	Off	$800,000	100.00%	Undistributed	$0	$8,026,200
TR 14	R2 6	Brighton Road: Elder Creek to s/o Morrison Creek Crossing	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$1,554,000	100.00%	Mass. A. Dev. Fees	$0	$9,580,200
TR 2	R8 18	Elder Creek Rd at Brighton Rd	4 X 6 Intersection Widening, 4-way (incl 450' intc. lag imps.)	Off	$705,000	80.00%	Mass. A. Dev. Fees	$0	$9,726,200
TR 2	R8 58	Brighton Road: Tributary to Elder Creek Crossing	Bridge/Culvert Improvements	Off	$190,000	100.00%	Mass. A. Dev. Fees	$0	$9,916,200
TR 2	R8 15	Brighton Road: s/o Morrison Creek Crossing to Jackson	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$555,000	0.00%	Mass. A. Dev. Fees	$0	$10,471,200
TR 13	TR 24R22	Brighton Rd at Bradshaw	Bridge/Culvert Improvements	Off	$1,012,000	100.00%	Road Fund, I.S.T.E.A.	$0	$11,483,200
TR 1	R6 5	Jackson Rd at Bradshaw	Upgrade signalized 4 X 4 to 6 X 6 Intc. 4-way (incl. 450' intc. lag imps.)	Off	$350,000	100.00%	Unidentified	$0	$11,833,200
TR 1	R8 4	South West: Elder Creek to Fruitridge	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$1,795,000	80.00%	Co. Dev. Fees, City?	$0	$13,628,200
TR 19	R2 8	Florin Rd at Elk Grove-Florin Rd	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$1,678,000	80.00%	Co. Dev. Fees, City?	$0	$13,222,200
TR 18	R2 5	Elder Creek Rd at South West Ave	6 X 6 Intersection Widening & Signalization, 4-way (incl. 450' intc. lag imps.)	Off	$1,058,000	80.00%	Mass. A. Other Sales Tax, Co. Rd. Dev. F	$0	$9,547,800
TR 2	R8 4	Brighton Road: Florin (Project Body) to Elder Creek	4 X 6 Intersection Widening & Signalization, 4-way (incl. 450' intc. lag imps.)	Off	$785,000	80.00%	Co. Roadway Dev. Fee	$0	$9,739,800
TR 2	R8 14	Brighton Road: Gerber Creek Crossing No. 4	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$1,678,000	100.00%	Mass. A. Dev. Fees	$0	$9,916,800
TR 3	R3 14	Florin Road: Waterman to Brighton	Bridge/Culvert Improvements	Off	$258,000	0.00%		$0	$10,175,800
TR 15	R3 30	Florin Rd at Brighton Rd	6 X 6 Intersection Widening & Signalization, 4-way (incl. 450' intc. lag imps.)	On	$1,147,000	0.00%		$0	$11,322,800
	R5 50	Florin Rd at Collector	4 X 2 Intersection Signalization, 4-way	On	$1,058,000	50.00%	Mass. A. Dev. Fees	$0	$11,852,100
TR 4	R4 4	Gerber Road: Waterman to Brighton	4 Lane 84' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	On	$140,000	0.00%		$0	$11,992,100
TR 4	R4 11	Gerber Road: CCTC RR Crossing	Reconstruct at-grade RR crossing (84' R/W)	On	$1,325,000	0.00%	50% Reimb. from Vineyard Springs	$662,500	$12,654,600
TR 4	R4 12	Gerber Road: Gerber Creek Crossing No. 4	2 8' X 6' Box Culverts With Headwalls (84' R/W)	On	$200,000	0.00%	50% Reimb. from Vineyard Springs	$100,000	$12,754,600
TR 4	R4 13	Gerber Road: Gerber Creek Crossing No. 3	2 8' X 6' Box Culverts With Headwalls (84' R/W)	On	$202,000	0.00%	50% Reimb. from Vineyard Springs	$101,000	$12,855,600
	R6 1	Gerber Rd at Collector	4 X 2 Intersection Signalization, 3-way	On	$185,000	0.00%	50% Reimb. from Vineyard Springs	$92,500	$12,948,100
	R6 2	Gerber Rd at Collector	4 X 2 Intersection Signalization, 3-way	On	$140,000	0.00%		$0	$13,088,100
	R4 4 1	Open Space Frontage Imps -Gerber Road (Waterman to Bradshaw)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$140,000	0.00%		$0	$13,228,100
	R4 4 2	Drain Parkway Frontage Imps -Gerber Road (Waterman to Bradshaw)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$14,000	0.00%		$0	$13,242,100
	R4 4 3	Detention Basin Frontage Imps-Gerber Road (Waterman to Bradshaw)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	On	$35,000	0.00%		$0	$13,277,100
	R4 4 4	Es. Reid Frtg. Imps -Gerber Rd (Waterman to Bradshaw, No. Side Only)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20' Soundwall	On	$27,000	0.00%		$0	$13,304,100
TR 3	R4 3F	Gerber Road: Ext'd. Reid Front -(Proj. Body to Waterman, So. side only)	Outside Travel Lane, 11' pavement width with 6' shoulder, at Existing Resident	Off	$278,000	0.00%		$0	$13,582,100
	R3 2	Florin Road: Elk Grove Florin to CCTC RR (Project Boundary)	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	On	$80,000	0.00%	100% Reimb. from Vineyard Springs/ Elsmy	$40,000	$13,582,100
	R4 12F	Drainage Frontage Imps -Gerber Road Crossing #4 (So. Side Only)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	Off	$1,277,000	0.00%		$0	$14,859,100
	R4 13F	Drainage Frontage Imps -Gerber Road Crossing #3 (So. Side Only)	11' Pvmnt, 3' C&G, 6' Sidewalk = 20'	Off	$14,000	0.00%	100% Reimb. from Vineyard Springs/ Elsmy	$14,000	$14,859,100
	R4 4F	Gerber Road-East: Reid Front -(Waterman to Bradshaw, South side only)	Outside Travel Lane, 11' pavement width with 6' shoulder, at Existing Residen	Off	$14,000	0.00%	100% Reimb. from Vineyard Springs/ Elsmy	$14,000	$14,859,100
TR 1	R6 3	Elk Grove-Florin Road: Gerber to Florin	6 Lane 106' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$65,000	0.00%	100% Reimb. from Vineyard Springs/ Elsmy	$14,000	$14,859,100
TR 4	R4 2	Gerber Road: Elk Grove Florin to Project Body	4 Lane 84' R/W center sect w/ med (excludes outside 11' pvmt. & Rg.)	Off	$1,626,000	80.00%	80% was above 20% Reimb Vineyard Springs/ Elsmy	$65,000	$15,184,700
TR 16	R3 3	Gerber Rd at Elk Grove Florin Rd	4 X 6 Intersection Widening, 4-way (incl. 450' intc. lag imps.)	Off	$437,000	0.00%	Sac. Co. Roadway Dev. Fee	$0	$15,184,700
					$785,000	0.00%	50% Reimb. from Vineyard Springs	$218,500	$15,403,200
						100.00%	Mass. A. Dev. Fees, O.S.T. Fee Mass. St.	$0	$15,403,200

Table 10.4-1 Capital Improvement Program Roadway Summary (2 of 2)

MITIGATION MEASURE	Project Number	Roadway Segment/ Item	Project Description	On-site or Off-site	Total Estimated Cost	% Funded by Other Sources	Other Funding Sources	Reimb. Available	Cumulative Total Estimated Net Cost
	R4 2F	Garber Road-Extst Residential Frontages -(E G Florin to Proj Bndry)	Outside Travel Lane, 11' pavement width with 6' shoulder, at Existing Resident	Off	$27,000	0 00%	50% Reimb from Vineyard Springs	$13,500	$15,418,700
	R9 2	Vineyard Road- Gerber (Project Bndry) to Florin (Project Bndry)	4 Lane 84' R/W center sect w/ med (excludes outside 11' pvmt & flg)	On	$1,168,000	0 00%		$0	$16,582,700
	R36	Gerber Rd at Vineyard Rd	4 X 4 Intersection Widening & Signalization, 4-way (Incl 450' Intx leg imps)	On	$680,000	0 00%	50% Reimb from Vineyard Springs	$340,000	$16,922,700
	R31	Florin Rd at Vineyard Rd	6 X 4 Intersection Widening & Signalization, 3-way (Incl 450' Intx leg imps)	On	$589,000	0 00%		$0	$17,511,700
	R58	Vineyard Rd at Collector	4 X 2 Intersection Signalization, 3-way	On	$140,000	0 00%		$0	$17,651,700
TR-8	R3 5	Florin Road- Bradshaw to Vineyard (Project Bndry)	6 Lane 108' R/W center sect w/ med (excludes outside 11' pvmt & flg)	On	$1,628,000	0 00%		$0	$19,279,700
	R51	Florin Rd at Collector	6 X 2 Intersection Signalization, 3-way	On	$140,000	0 00%		$0	$19,419,700
	R52	Florin Rd at Collector	6 X 2 Intersection Signalization, 3-way	On	$140,000	0 00%		$0	$19,559,700
	R4 5	Garber Road- Bradshaw to Vineyard (Project Bndry)	4 Lane 84' R/W center sect w/ med (excludes outside 11' pvmt & flg)	On	$1,168,000	0 00%	50% Reimb from Vineyard Springs	$583,000	$20,142,700
	R4 14	Garber Road- Garber Creek Crossing No 2	2-8' X 5' Box Culverts With Headwalls (84' R/W)	On	$179,000	23 00%	23% Drain Fee Reimb 50%Reimb Vineyards	$68,915	$20,211,615
TR-5	R1 2	Jackson Road- South Watt to Bradshaw	6 Lane 108' R/W center sect w/ med (excludes outside 11' pvmt & flg)	Off	$3,848,000	100 00%	Unidentified	$0	$20,211,615
	R4 5 1	Drain Parkway Frontage Imps -Garber Road- (Bradshaw to Vineyard)	11' Pavement, 3' C&G, 6' Sidewalk = 20'	On	$15,000	0 00%		$0	$20,226,615
	R4 5 2	Detention Basin Frontage Imps-Garber Road- (Bradshaw to Vineyard)	11' Pavement, 3' C&G, 6' Sidewalk = 20'	On	$20,000	0 00%		$0	$20,246,615
	R3 3 1	Drain Parkway Frontage Imps-Florin Road- (CCTC RR to Waterman)	11' Pavement, 3' C&G, 6' Sidewalk = 20'	On	$34,000	0 00%		$0	$20,280,615
	R3 3 2	Detention Basin Frontage Imps-Florin Road- (CCTC RR to Waterman)	11' Pavement, 3' C&G, 6' Sidewalk = 20'	On	$78,000	0 00%		$0	$20,358,615
TR-25	R23	Jackson Rd at Excelsior	6 X 4 Intersection Widening, no & so bound only (Incl 450' Intx leg imps)	Off	$353,000	100 00%	Unidentified	$0	$20,358,615
TR-23	R4 8	Garber Road- Vineyard (Project Boundary) to Excelsior	Widen shoulders to provide minimum pavement width	Off	$485,000	0 00%	50% Reimb from Vineyard Springs	$242,500	$20,602,115
	R4 15	Garber Road- Garber Creek Crossing No 1	Bridge/Culvert Improvements	Off	$461,000	0 00%	50% Reimb Vineyard Springs	$230,500	$20,832,615
TR-7, TR-22	R11 3	Excelsior Road- Garber to Florin	Widen shoulders to provide minimum pavement width	Off	$485,000	0 00%		$0	$21,317,615
TR-8	R3 8	Florin Road- Vineyard (project Boundary) to Excelsior	Widen shoulders to provide minimum pavement width	Off	$440,000	0 00%		$0	$21,757,615
	R3 13	Florin Road- Tributary No 1 to Garber Creek Crossing	Bridge/Culvert Improvements	Off	$86,000	0 00%		$0	$21,843,615
TR-10	R9 1	Vineyard Road- Calvine to Gerber (Project Boundary)	Widen shoulders to provide minimum pavement width	Off	$970,000	0 00%	100% Reimb from Vineyard Springs/ EGMV	$970,000	$21,843,615
TR-6, TR-21	R2 3	Elder Creek Road- Bradshaw to Excelsior	Widen shoulders to provide minimum pavement width	Off	$1,015,000	0 00%		$0	$22,858,615
TR-7, TR-22	R11 4	Excelsior Road- Florin to Elder Creek	Widen shoulders to provide minimum pavement width	Off	$485,000	0 00%		$0	$23,343,615
	R11 15	Excelsior Road- Tributary to Elder Creek Crossing	Bridge/Culvert Improvements	Off	$86,000	0 00%		$0	$23,429,615
TR-11	R5 5	Calvine Road- Vineyard to Excelsior	Widen shoulders to provide minimum pavement width	Off	$440,000	0 00%	100% Reimb from Vineyard Springs/ EGMV	$440,000	$23,429,615
TR-7, TR-22	R11 5	Excelsior Road- Elder Creek to Jackson	Widen shoulders to provide minimum pavement width	Off	$245,000	0 00%		$0	$23,674,615
TR-7, TR-22	R11 2	Excelsior Road- Calvine to Gerber	Widen shoulders to provide minimum pavement width	Off	$1,015,000	0 00%	100% Reimb from Vineyard Springs/ EGMV	$1,015,000	$23,674,615
TR-6, TR-21	R2 2	Elder Creek Road- South Watt to Bradshaw	Widen shoulders to provide minimum pavement width	Off	$970,000	0 00%		$0	$24,644,615
TR-11	R5 3	Calvine Road- 1300' East of Waterman to Bradshaw	Widen shoulders to provide minimum pavement width	Off	$310,000	0 00%	100% Reimb from Vineyard Springs/ EGMV	$310,000	$24,644,615
TR-11	R5 4	Calvine Road- Bradshaw to Vineyard	Widen shoulders to provide minimum pavement width	Off	$440,000	0 00%	100% Reimb from Vineyard Springs/ EGMV	$440,000	$24,644,615
	R44A	Florin Rd at Sunrise Blvd	Interim Intersection Improvements, 3-way(Inc 450' Intx leg Imp s)	Off	$307,000	75 00%	Sac Aggregates/Sunrise/Douglas C	$0	$24,721,615
	R44B	Florin Rd at Sunrise Blvd	Ultimate Intersection Improvements, 3-way(Incl 450' Intx Leg Imp s)	Off	$868,000	86 70%	Sunrise/Douglas Com Plan/Spec	$0	$24,943,615
	R12	Offsite Arterial Frontage Improvements	Class "A" Frontage Improvements	Off	$824,000	0 00%		$0	$25,345,615
	R101	Right of Way Acquisition for Onsite Arterials	ROW land acquisition	On	$1,558,000	0 00%		$0	$26,903,615
	R100	Right of Way Acquisition for Offsite Arterial	ROW land acquisition	Off	$1,101,000	0 00%		$0	$28,004,615
		Preparation of P.F.F.P. and Technical Studies			$0	0 00%		$0	$28,004,615
		Grand Total Roadway			$55,911,000			$6,782,915	$28,005,000

Note Roadway segment lengths exclude 450' intersection leg widening included in CIP Regional identified intersections (except where intersection projects have not made the cut off (above the thick line)

10.4.3 Internal Roadway Facilities

Facilities and Funding

The Internal Roadway CIP includes half-street frontage improvements for collector and minor roadways within the Specific Plan area along park sites, open space corridors, drainage parkways, linear parkways, and drainage facilities.

The internal roadway facilities are not major facilities and funding for these facilities will be addressed in the Financing Strategy and Financing Plan.

Internal roadway costs are described in Table 10.4-2.

Phasing Considerations

The amount of construction of frontage improvements, for which each project will be responsible, will be determined as each project is processed for tentative map approval.

Table 10.4-2 Capital Improvement Program Internal Roadway Summary

NORTH VINEYARD STATION SPECIFIC PLAN
PRELIMINARY CAPITAL IMPROVEMENT ITEMS LISTING
Internal Roadway Improvements Listing & Cost Estimate

Project Number	Item	Project Description	On-site or Off-site	Detail Sheet Linked?	Quantity	Unit	Unit Price	Total Estimated Cost
Internal Collector Frontage Improvements at Parks, Open Space, Drainage Parkway & Facilities								
IR1	Park 1/2 Street Fig Impv -Onsite Collector Roads-66' R/W	Complete Half Section - 21' Pavement, 3' C&G, 6' Sidewalk = 30'	On	Yes	6,780	L.F.	$110	$745,800
IR2	Park 1/2 Street Fig Impv -Onsite Collector Roads-66' R/W	Complete Half Section - 18' Pavement, 3' C&G, 6' Sidewalk = 27'	On	Yes	2,100	L.F.	$103	$216,300
IR3	Drain Parkway/Det. Basin 1/2 Street Fig Impv -Onsite Collector Roads-66' R/W	Complete Half Section - 21' Pavement, 3' C&G, 6' Sidewalk = 30'	On	Yes	4,000	L.F.	$110	$440,000
IR4	Drain Parkway/Det. Basin 1/2 Street Fig Impv -Onsite Collector Roads-66' R/W	Complete Half Section - 18' Pavement, 3' C&G, 6' Sidewalk = 27'	On	Yes	865	L.F.	$103	$89,100
IR5	Open Space Parkway 1/2 Street Fig Impv -Onsite Collector Roads-66' R/W	Complete Half Section - 21' Pavement, 3' C&G, 6' Sidewalk = 30'	On	Yes	550	L.F.	$110	$60,500
IR6	Right of Way Acquisition for Collector Frontage Improvements		On	No	0	Acres	$70,000	$0
	Total for Internal Collector Frontage Improvements				14,296	L.F.		$1,552,000
Total Internal Roadway Facilities								$1,552,000

PRELIMINARY DUE CALCULATIONS:

Preliminary Roadway DUE's =	6,124
Preliminary Internal Roadway Fee per DUE =	$253

10.4.4 Bicycle/Pedestrian Pathways

Facilities and Funding

Bicycle/Pedestrian pathways are included along all major roadway sections proposed in the Roadway CIP, and are therefore included as part of those individual projects. These facilities comply with existing County standards. Ultimate improvement of the standard roadway cross-section will provide both an on-street bikeway and a detached meandering sidewalk.

In addition to these on-street bicycle/pedestrian facilities, trails will be located within the Open Space corridor, within park areas, and along the linear parkway and drainage parkway. The trails located within the Open Space corridor, within park areas, and along the linear parkway are included in the Park and Recreation CIP and will be funded by the park and recreation component of the PFFP development fee. The trails along the drainage parkway will be joint-use facilities serving as a drainage maintenance path as well as a bicycle/pedestrian path and are included in both the Drainage CIP and the Park CIP. The drainage parkway trail improvements associated with a drainage maintenance path, such as excavation and aggregate base, will be funded by the County of Sacramento Drainage Fee program. There are no identified sources at this time to fund the remainder of the drainage parkway trail improvements, such as paving, striping, signs, bollards and decomposed granite shoulders.

Phasing Considerations

Construction of bicycle/pedestrian pathways internal to the Plan area will be phased, depending on the type and location of the facility. On-street facilities will be built with the construction of project-specific frontage improvements along the major roadways. Trails in the Open Space corridor, park areas, and along the linear parkway will be administered by SRPD as funds become available. Drainage parkway trail improvements associated with a drainage maintenance path will be constructed in conjunction with the drainage channel improvements. (See phasing of drainage improvements in this section.)

10.4.5 Transit Facilities

Facilities and Funding

In accordance with the Regional Transit Master Plan, a 10-acre transit center and park-and-ride facility has been designated in the Specific Plan area to provide for the immediate use of carpools and buses and to facilitate the possible future extension of light rail transit into the Specific Plan area.

In addition, joint use park and ride lots are planned to be located within the Specific Plan area in conjunction with commercial development.

Transit facilities for the Plan area include major and minor bus turnouts which are considered part of the required frontage improvements associated with the development of individual fronting properties and are therefore not included in the Transit CIP.

The source of funding of the frontage improvements where bus turnouts are located will also be responsible for funding bus turnouts. The cost for the 9 acre park and ride facility is estimated to be $2,000,000.

Phasing Considerations

Phasing of the bus stop facilities will be dependent upon the construction of adjacent projects with frontage on these major arterial or thoroughfare roadways. Regional Transit (RT) will determine the construction timing of the bus shelters, the park-and-ride facility, and the transit center based on RT's implementation of bus routes and possible extension of light rail to serve the area.

10.5 SANITARY SEWER

10.5.1 General

Sanitary sewer facilities required to serve the Plan area are presented in Section 9.0 of this document and the Technical Appendix, North Vineyard Station Specific Plan Sanitary Sewer Study. The Specific Plan area is currently within the Spheres of Influence of the Sacramento County Sanitation District No. 1 (CSD 1) and the Sacramento Regional County Sanitation District (SRCSD). Developing areas will need to annex to these districts. The CSD 1 plans to construct the Bradshaw/Folsom Interceptor Project in 1998/99. The Sewer Master Plan prepared for the Plan defines sub-areas which will contribute flow to the proposed Bradshaw/Folsom Interceptor at three points. Development within the Specific Plan area will require the construction of sewer trunk lines and sewer laterals in major streets.

The extent of these facilities is consistent with that of other standard urban development projects. The projects listed in the Sanitary Sewer CIP provide service availability to the Specific Plan area. Upstream lateral extension of these systems, consistent with the standards of the County Sewer Ordinance and Improvements Standards, will provide a complete sanitary sewer collection system serving the future needs of all projected land uses within the Specific Plan area.

The sanitary sewer facilities serving the Specific Plan area will be funded by the County of Sacramento CSD 1 Fee program and private development.

10.5.2 Facilities and Funding

The proposed trunk facilities are listed on Table 10.5-1. The sewer costs included in the CIP are based on unit prices utilized in the County's reimbursement programs. The Sanitary Sewer facilities identified in the CIP will be funded by the Sacramento County Sanitation District No. 1 Fee program. All non-trunk sanitary sewer facilities are the responsibility of the developer.

Advance construction of trunk facilities may be funded by development with an existing system of credits against future trunk connection fees and reimbursement for additional amounts beyond those credits.

10.5.3 Phasing Considerations

The Bradshaw/Folsom interceptor must be constructed prior to any development within the Specific Plan area. Phasing of sanitary sewer facilities is driven by the phasing of individual development projects within the area which require service. The first project will require extension of the trunk and lateral facilities necessary to serve it and proposed upstream developments. Current County development standards require the extension of these facilities to the upstream boundary of the project phase constructing them.

Table 10.5-1
Capital Improvement Program Sanitary Sewer Summary

NORTH VINEYARD STATION SPECIFIC PLAN
PRELIMINARY SEWER CAPITAL IMPROVEMENT ITEMS LISTING

Project Number	Project Name	On-site or Off-site	Project Description	Detail Sheet Linked	Total
SANITARY SEWER IMPROVEMENTS					
Trunk Systems Carrying 1 MGD or Greater					
2.1	**TRUNK SANITARY SEWER - FLORIN ROAD, SHED C**				
2.1a	TRUNK SS - FLORIN ROAD (INTERCEPTOR TO WATERMAN)	On	36"/27" TRUNK SAN. SEWER CONST.	Yes	$256,000
2.1b	TRUNK SS - FLORIN ROAD (WATERMAN TO BRADSHAW)	On	27" TRUNK SAN. SEWER CONST.	Yes	$750,000
2.1c	TRUNK SS - FLORIN ROAD (BRADSHAW TO VINYARD)	On	24"/18" TRUNK SAN. SEWER CONST.	Yes	$820,000
2.2	**TRUNK SANITARY SEWER - GERBER ROAD, SHED A**				
2.2a	TRUNK SS - GERBER ROAD (INTERCEPTOR TO WATERMAN)	On	42"/39" TRUNK SAN. SEWER CONST.	Yes	$905,000
2.2b	TRUNK SS - GERBER ROAD (WATERMAN TO BRADSHAW)	On	39"/33" TRUNK SAN. SEWER CONST..	Yes	$1,482,000
2.2c	TRUNK SS - GERBER ROAD (BRADSHAW TO VINYARD)	On	24" TO 15" TRUNK SAN. SEWER CONST.	Yes	$974,000
Subtotal Trunk Systems Carrying 1 MGD or Greater					**$5,187,000**
Lateral Sewer Systems Carrying Less Than 1 MGD					
2.3	LATERAL SS - PASSILIS LANE (AT INTERCEPTOR)	On	LATERAL SAN. SEWER CONST. (INTERCEPTOR CONNECT.)	Yes	$25,000
Subtotal Lateral Systems Carrying Less Than 1 MGD					**$25,000**
Total Sanitary Sewer Costs					**$5,212,000**

10.6 STORM DRAINAGE

10.6.1 General

Storm drainage facilities required to serve the Plan area are presented in Section 9.0 of this document and the Technical Appendix, North Vineyard Station Specific Plan Drainage Study. The Plan area lies within the drainage sheds of Elder and Gerber creeks and is currently within County of Sacramento Zone 11A. The Master Drainage Plan includes the following proposed drainage facilities for the Specific Plan Area:

- Channel Improvements
- Flood Control Detention
- Bridge and Culvert Improvements
- Storm Water Quality Improvements
- Gravity Storm Drainage Pipelines
- Drainage Parkway Improvements

These components are consistent with the County's Elder and Gerber Creek Drainage Master Plan.

Extension of the non-trunk storm drainage pipe network upstream by separate and individual development projects will be necessary to complete the system. Identification of this extended system is beyond the scope of the Specific Plan process.

Together, these facilities provide a full spectrum of the required drainage improvements necessary for development within the Specific Plan area.

The drainage facilities serving the Specific Plan area will be funded by the County of Sacramento Drainage Fee program and private development.

10.6.2 Facilities and Funding

The facilities listed in the Storm Drainage CIP (Table 10.6-1) are separated into three categories for clarity: Channel Related Items, Detention Basin Construction, and Trunk Drainage. Parkway improvements include a joint-use trail system that will serve as a drainage maintenance path and a pedestrian/bicycle path. Included in the Drainage CIP are costs for acquisition of certain lands which will be funded by public financing. The drainage costs included in the total cost estimates are based on unit prices utilized in the County's reimbursement programs.

Additional drainage-related facilities for bridges and culverts are included in the Roadway CIP.

Facilities included in the Storm Drainage CIP, including a portion of the joint-use trail system, will be funded by the County of Sacramento Drainage Fee program. Only the drainage parkway trail system improvements associated with a drainage maintenance path, such as excavation and aggregate base, will be funded by the County of Sacramento Drainage Fee program. Arterial frontage improvements along the drainage parkway and at drainage facilities are included in the Roadway CIP and will be funded by the roadway component of the PFFP development fee. Internal roadway half-street frontage improvements along the drainage parkway and adjacent to drainage facilities are included

in the Internal Roadway CIP and funding for these facilities will be addressed in the NVS Financing Strategy and Financing Plan. The funding for the non-trunk storm drainage pipe network will be the responsibility of the developer.

Advance construction of the facilities included in the Storm Drainage CIP may be funded by development with an existing system of credits against future drainage fees. Amounts in excess of the drainage fees will be reimbursed over a five year period.

10.6.3 Phasing Considerations

Due to the flat terrain of the Specific Plan area, in order to achieve gravity drainage and flood protection for the area, channel improvements must be constructed from the westerly boundary of the Specific Plan area approximately 5,000 lineal feet downstream to the existing improved channel near Millbrook Circle. In addition, at a minimum, channel improvements, bridge and culvert improvements, and drainage parkway improvements will be necessary from the Specific Plan area boundary upstream to the Plan area's point of discharge.

It is the policy of the County of Sacramento to construct channel improvements, bridge and culvert improvements, and drainage parkway improvements to their ultimate configuration. Trunk and/or non-trunk gravity pipelines will need to be constructed from the Plan area's point of discharge at the channel upstream to serve it and proposed upstream developments. Current County development standards require the extension of these facilities to the upstream boundary of the project phase constructing them. Depending on the size and location of a project, detention basins may need to be constructed in order to provide adequate flood control and storm water quality. The possibility exists to phase the construction of detention basins as capacity requirements dictate.

Table 10.6-1 Capital Improvement Program Storm Drainage Summary (1 of 2)

NORTH VINEYARD STATION SPECIFIC PLAN
PRELIMINARY DRAINAGE CAPITAL IMPROVEMENT ITEMS SUMMARY

Project Number	Project Name	On-site or Off-site	Project Description	Detail Sheet Linked	Total
DRAINAGE IMPROVEMENTS					
(See also Roadway Section for Additional Bridges/Culverts)					
Channel Related Items					
3.1	**Elder Creek Reach 3 (Improved Channel to W. Bndry)**				
3 1 1 A	ELDER CREEK REACH 3A - OFF-SITE CHANNEL IMPS	Off	OFF-SITE CHANNEL CONSTR. (APPROX. 1,830 L.F.)	Yes	$947,000
3 1 1 B	ELDER CREEK REACH 3B - OFF-SITE CHANNEL IMPS	Off	OFF-SITE CHANNEL CONSTR. (APPROX. 3,020 L.F.)	Yes	$1,572,000
3.2	**Elder Creek Reach 1A (W. Bndry to Florin Rd.)**				
3 2 1 A	ELDER CREEK REACH 1A (a) - CHANNEL IMPROV'S	On	CHANNEL CONSTR. (APPROX. 2,650 L.F.)	Yes	$1,183,000
3 2 1 B	ELDER CREEK REACH 1A (b) - CHANNEL IMPROV'S	On	CHANNEL CONSTR. (APPROX. 2,910 L.F.)	Yes	$1,300,000
3 2 2	ELDER CREEK REACH 1A - DRAINAGE PARKWAY	On	CHANNEL PARKWAY CONSTR. (APPROX. 5,560 L.F.)	Yes	$132,000
3 2 3	ELDER CREEK REACH 1A (a) - McCOY LANE CROSSING	On	(3) 8'x6' BOX CULVERT CONSTR. w/ HEADWALLS (+/- 40' R/W)	Yes	$152,000
3 2 4	ELDER CREEK REACH 1A (b) - CCTC RR BRIDGE CROSSING	On	CONST. NEW BRIDGE @ ELDER CREEK & CCT RxR CROSSING	Yes	$367,000
3.3	**Elder Creek Reach 1B (Upstream of Florin Rd.)**				
3 3 1	ELDER CREEK REACH 1B - OFF-SITE CHANNEL IMPROV'S	Off	CHANNEL CONSTR. (APPOX. 1,400 L.F.)	Yes	$756,000
3 4	Left Blank For Additions	—	—	—	—
3.5	**Gerber Creek Reach 2A (W. Bndry to Gerber Rd. Crossing No. 4)**				
3 5 1 A	GERBER CREEK REACH 2A (a) - CHANNEL IMPROV'S	On	CHANNEL CONSTR (APPROX. 3,350 L.F.)	Yes	$1,599,000
3 5 1 B	GERBER CREEK REACH 2A (b) - CHANNEL IMPROV'S	On	CHANNEL CONSTR (APPROX. 3,750 L.F.)	Yes	$1,669,000
3 5 2	GERBER CREEK REACH 2A - DRAINAGE PARKWAY	On	CHANNEL PARKWAY CORR. CONSTR. (APPROX. 7,100 L.F.)	Yes	$168,000
3 5 3	GERBER CREEK REACH 2A (a) -PASSALIS LN. CROSSING (WEST)	On	(3) 8'x6' BOX CULVERT CONST. w/ HEADWALLS (56' R/W)	Yes	$167,000
3 5 4	GERBER CREEK REACH 2A (b) -PASSALIS LN. CROSSING (EAST)	On	(3) 8'x6' BOX CULVERT CONSTR. w/ HEADWALLS (56' R/W)	Yes	$167,000
3 5 5	GERBER CREEK REACH 2A (b) - CCTC RR BRIDGE CROSSING	On	CONST. NEW BRIDGE @ ELDER CREEK AND CCTC RxR	Yes	$294,000
3.6	**Gerber Creek Reach 2B (Gerber Rd.Crossing 4 to Crossing 3)**				
3 6 1	GERBER CREEK REACH 2B - OFF-SITE CHANNEL IMPS	Off	CHANNEL CONSTR. (APPROX. 2,030 L.F.)	Yes	$984,000
3.7	**Gerber Creek Reach 2C (Gerber Rd.Crossing 3 to Crossing 2)**				
3 7 1	GERBER CREEK REACH 2C CHANNEL IMPROVEMENTS	On	CHANNEL CONSTR. (APPROX. 3,680 L.F.)	Yes	$1,331,000
3 7 2	GERBER CREEK REACH 2C - DRAINAGE PARKWAY	On	DRAINAGE PARKWAY CORR. CONST. (APPROX. 3,680 L.F.)	Yes	$87,000
3.8	**Arterial Roadway Drainage Crossings** (also identified in Roadway CIP)	Off	Portion of Arterial Roadway Drainage Crossings (Roadway Proj. No. 4.14)	No	$41,000
Subtotal Channel Related Items					**$12,916,000**

Table 10.6-1 Capital Improvement Program Storm Drainage Summary (2 of 2)

NORTH VINEYARD STATION SPECIFIC PLAN
PRELIMINARY DRAINAGE CAPITAL IMPROVEMENT ITEMS SUMMARY

Project Number	Project Name	On-site or Off-site	Project Description	Detail Sheet Linked	Total
Detention Basin Construction					
3 9	DETENTION BASIN E24B (ELDER CREEK REACH 1A (a))	On	3 7 AC WATER QUALITY DETENTION BASIN CONST.	Yes	$545,000
3 10	DETENTION BASIN E26 (ELDER CREEK REACH 1A (b))	On	18 3 AC FLOOD CONTROL/W Q DET. BASIN CONST.	Yes	$2,790,000
3 11	DETENTION BASIN E24A (GERBER CREEK REACH 2A (a))	On	12 AC FLOOD CONTROL/W Q DET. BASIN CONST.	Yes	$1,918,000
3 12	DETENTION BASIN G41 (GERBER CREEK REACH 2A (b))	On	10 6 AC FLOOD CONTROL/W Q DET. BASIN CONST.	Yes	$1,705,000
3 13	DETENTION BASIN G46 (GERBER CREEK REACH 2C)	On	16 AC FLOOD CONTROL/W Q DET. BASIN CONST.	Yes	$2,627,000
3 14	OFFSITE DETENTION BASIN E20 (ELDER CREEK REACH 3)	Off	16 AC OFFSITE FLOOD CONTROL BASIN CONST.	Yes	$2,456,000
Subtotal Detention Basin Construction					**$12,041,000**
Trunk Drainage Serving 30 Acres or More					
3 15	TRUNK DRAINGE, SHED L	On	TRUNK DRAIN FAC. (DISCHARGE TO BASIN E24B)	Yes	$55,000
3 16	TRUNK DRAINGE, SHED H	On	TRUNK DRAIN FAC. (DISCHARGE TO ELDER CREEK, REACH2B)	Yes	$93,000
3 17	TRUNK DRAINGE, SHEDS D & E	On	TRUNK DRAIN FAC. (DISCHARGE TO BASIN E26)	Yes	$739,000
3 18	TRUNK DRAINGE, SHED G	On	TRUNK DRAIN FAC. (DISCHARGE TO BASIN E26)	Yes	$135,000
3 19	TRUNK DRAINGE, SHED K	On	TRUNK DRAIN FAC. (DISCHARGE TO GERBER CREEK, REACH 2A)	Yes	$53,000
3 20	TRUNK DRAINGE, SHED J	On	TRUNK DRAIN FAC. (DISCHARGE TO GERBER CREEK, REACH 2A)	Yes	$44,000
3 21	TRUNK DRAINGE, SHED F	On	TRUNK DRAIN FAC. (DISCHARGE TO GERBER CREEK, REACH 2A)	Yes	$497,000
3 22	TRUNK DRAINGE, SHED C	On	TRUNK DRAIN FAC. (DISCHARGE TO BASIN G46)	Yes	$508,000
3 23	TRUNK DRAINGE, SHEDS A & B	On	TRUNK DRAIN FAC. (DISCHARGE TO BASIN G46)	Yes	$935,000
Subtotal Trunk Drainage Construction					**$3,069,000**
Wetland Mitigation					
3 100	WETLAND MITIGATION–ONSITE	On	Onsite Wetland Mitigation for Drainage Improvements		$2,735,000
3 101	WETLAND MITIGATION–OFFSITE	Off	Offsite Wetland Mitigation for Drainage Improvements		$2,431,000
					$5,166,000
Total Drainage Costs					**$33,182,000**

10.7 WATER

10.7.1 General

Water facilities required to serve the Plan area are presented in Section 9.0, Infrastructure Master Plans, of this document and the Technical Appendix, NVSSP Master Supply and Water Distribution System Report. The Plan area is outside of the existing Zone 40 Boundary and will need to be annexed into Zone 40 of the Sacramento County Water Agency.

The portion of the Specific Plan area located west of Bradshaw Road is within the City of Sacramento American River Place of Use (POU) and will ultimately utilize surface water. For the eastern portion of the Plan area, reliance upon groundwater is foreseen.

Together, the Zone 40 water supply and transmission facilities and the internal distribution mains will be sized to provide adequate domestic water service to all areas of the Specific Plan area.

The water facilities serving the Specific Plan area will be funded Zone 40 of the Sacramento County Water Agency and private development.

10.7.2 Facilities and Funding

The facilities listed in the Water CIP are Zone 40 facilities and include regional facilities (which will also serve areas outside the Specific Plan area), off-site improvements, and adjacent or on-site improvements.

The extent of these Zone 40 facilities includes an upgrade and expansion of the existing City of Sacramento system and the construction of transmission mains, booster pumps, wells, storage, treatment facilities, connections to existing systems, and a limited number of distribution mains required to complete the transmission grid as shown on the Water Master Plan.

The Sacramento County Water Agency usually constructs the necessary Zone 40 facilities with funds generated by development fees. In some cases, developers, individually or as a group, may need to fund facilities in advance and then be credited or reimbursed with Zone 40 funds.

The developers will be responsible for funding the distribution mains which will be constructed to serve individual development projects because they are considered an in-tract development cost.

10.7.3 Phasing Considerations

Because of the excessive estimated costs of providing surface water to the Northern Study Area, it is anticipated that initial development will be served by installation of first phase wells and treatment facilities which will become an integral portion of the ultimate system. With connection across Bradshaw Road, this first phase facility could be located west of Bradshaw Road and ultimately provide treated ground water to the east side. The approach is to develop a more localized supply and distribution system which is an increment or component of the larger Master Planned system. If the initial phase of water facilities will become an integral portion of the ultimate water system in accordance with the Water Master Plan, the costs for these facilities will be funded by Zone 40.

Extension of the local distribution systems will be the responsibility of the individual and separate development projects within the Specific Plan Area. This may involve off-site extensions which benefit other fronting properties.

10.8 PARKS AND RECREATION

10.8.1 General

Park and recreation facilities are presented in Sections 6.0 and 8.0 of this document. The Specific Plan area is located within Southgate Recreation and Park District (SRPD) and will dedicate land within the Plan area to meet the five acres per thousand population Quimby Act standard of the District. An Open Space corridor and Parkway with trail systems are planned for the Specific Plan area.

The park and recreation facilities will be funded by a combination of the park and recreation component, the roadway component, the internal roadway component, and the drainage component of the PFFP development fee. Parkland acquisition will occur through the existing SRPD program.

10.8.2 Facilities and Funding

Table 10.8-1 outlines the Park and Recreation CIP. The Plan area includes 76.2 acres of parkland (74.2 acres of which are "Quimby Act" parkland dedication) dispersed throughout the Specific Plan area. In addition, non-park open space and 75.5 acres of drainage parkway (excluding channel acreage) are included.

The facilities listed in the Park and Recreation CIP will be funded by the park and recreation component of the PFFP development fee. The trail system along the drainage corridor is a joint-use facility, serving as a drainage maintenance path and pedestrian/bicycle path. Discussion of the trail system facilities and funding is included in Section 10.2.4 of this report. Arterial roadway frontage improvements at parks, open space, drainage parkway and drainage facilities are included in the Roadway CIP and will be funded by the roadway component of the PFFP development fee. Internal roadway half-street frontage improvements at parks, open space, drainage parkway, and linear parkway are included in the Internal Roadway CIP. SRPD has an existing program for parkland dedication. Parkland acquisition will occur through a combination of dedication or purchase using parkland "in-lieu" fees.

At this time, the entire cost of the community center is included in the Park and Recreation CIP which is funded by the PFFP development fee. Further discussion will determine Plan area's fair share of the community center and possible other funding sources may be identified.

10.8.3 Phasing Considerations

Park development phasing will be under the control of the SRPD. That agency will keep an accounting of development within the area and schedule park improvements to correspond to the level of development. Alternatively, development may front the cost of Park improvements and receive a fee credit or reimbursement agreement. Agreements for developer-fronted improvements will be worked out on a case-by-case basis with SRPD.

The drainage parkway trail system improvements associated with a drainage maintenance path will be constructed at the time that the channel improvements are constructed and will be funded by Sacramento County Drainage fees. The amount of construction of

roadway frontage improvements, for which each project will be responsible, will be determined as each project is processed for tentative map approval.

Table 10.8-1 Capital Improvement Program Parks and Recreation Summary

NORTH VINEYARD STATION SPECIFIC PLAN
PRELIMINARY CAPITAL IMPROVEMENT ITEMS LISTING
Park & Recreation Improvements Listing & Cost Estimate

Project Number	Item	Project Description	On-site or Off-site	Detail Sheet Linked?	Quantity	Unit	Unit Price	Total Estimated Cost
Drainage Parkway Facilities								
DP1	Low Flow Pedestrian / Bicycle Path Crossing	Low Flow Crossing at Elder Creek and CCTC Railroad	On	No	1	Each	$25,000	$25,000
DP2	Elder Creek Reach 1A- (Western SPA Bndry to Florin Rd.)	Drainage Parkway Landscaping Improvements (Assume On-site area only and 6,950 l.f. trail)	On	No	6,950.0	L.F.	$16	$111,000
DP3	Geber Creek Reach 2A- (Confluence w/ Elder Creek to Gerber Rd. Crossi	Drainage Parkway Landscaping Improvements (Assume 8,875 l.f. trail)	On	No	8,875.0	L.F.	$16	$142,000
DP4	Geber Creek Reach 2C - (Gerber Rd. Crossing #3 to #2)	Drainage Parkway Landscaping Improvements (Assume 4,600 l.f. trail)	On	No	4,600.0	L.F.	$16	$74,000
DP5	JOINT USE DRAINAGE PARKWAY PED./BIKE TRAIL	JOINT USE DRAINAGE PARKWAY PED./BIKE PATH (Excludes excavation and aggregate base included in Drainage CIP)	On	Yes	20,425	L.F.	$18	$368,000
DP6	Drainage Parkway Land Acquisition		On	No	20,425.0	AC.	$0	$0
	Total For Drainage Corridor Parkway Costs				**20,425.0**	**Acres**		**$720,000**
Park Development								
P1	Basic Park Improvements (0 acres<Quimby Park Acreage<5 acres)	Site Improvements and Engineering	On	Yes	24.0	AC.	$52,500	$1,260,000
P2	Basic Park Improvements (5 acres<Quimby Park Acreage<10 acres)	Site Improvements and Engineering	On	Yes	43.5	AC.	$43,500	$1,892,000
P3	Basic Park Improvements (10 acres<Quimby Park Acreage)	Site Improvements and Engineering	On	Yes	14.9	AC.	$39,000	$581,000
P4	Tot Lots	Tot Lots	On	No	15	Each	$50,000	$750,000
P5	Community Center	Includes Bldg, Site Improv.'s, Fees, Landscap., Arch. & Eng.	On	No	1	Lump Sum	$1,629,000	$1,629,000
	Total For Park Development				**82.4**	**Acres**		**$6,112,000**
Linear Parkway Development								
P20	Linear Parkway Landscaping	Linear Parkway Landscaping	On	No	1,900.0	L.F.	$16	$30,000
P21	LINEAR PARKWAY PED./BIKE TRAIL	PED./BIKE PATH AT PARKS & LINEAR PARKWAY	On	Yes	1,900	L.F.	$22	$42,000
P22	Linear Parkway Land Acquisition		On	No	1,900.0	AC.	$0	$0
	Total For Linear Parkway Development							**$72,000**
Total Parks and Recreations Facilities								**$6,904,000**

10.9 FIRE PROTECTION

Fire protection facilities are provided in Section 8.0 of this document. The Specific Plan area is currently within Florin Fire Protection District. However, fire protection and emergency services to the Specific Plan area are currently provided by American River Fire Protection District under contract with Florin Fire Protection District. The American River Fire Protection District has indicated that with the development of the Plan area, increased emergency call volume will require the re-opening of Station 52 including a new fire station, engine/water tender, wildland interface engine, and ambulance. The cost for the fire protection facilities is estimated to be $1,795,000, and funding for these facilities will be addressed in the Financing Strategy and the Financing Plan.

10.10 LIBRARY

Library facilities are described in Section 8.0 of this document. The Sacramento Public Library Master Plan, accepted by the County Board of Supervisors in August of 1990, calls for the construction of an Elk Grove Regional Library at the intersection of Elk Grove Boulevard and Williamson Road. The Sacramento Public Library regards this planned library as a community library for the immediate area (including Plan area) and a regional library for the entire south county area. The regional portion of this facility was estimated in the EGWV PFFP to be 50 percent of the total costs.

The Plan area's fair share of the cost of the regional library is about 16.2 percent of the build-out population to be served by the community portion of the regional library. Funding for the Plan area's fair share, $896,000, will be addressed in the Financing Strategy and the Financing Plan.

10.11 LAW ENFORCEMENT

Law enforcement facilities are described in Section 8.0 of this document. Sacramento County Sheriff provides law enforcement services to the Plan area and the California Highway Patrol provides traffic enforcement. The Plan area is located within Sheriff's Department District 7. No Sheriff substations are proposed for construction within the Specific Plan area. Therefore, specific Sheriff capital improvements for this Specific Plan were not identified. Sheriff services will be provided from capital improvement facilities previously constructed.

10.12 SCHOOLS

School facilities are described in Section 8.0 of this document. The Specific Plan area is located within the Elk Grove Unified School District, (EGUSD). As requested by Elk Grove Unified School District, two elementary school sites are identified within the Specific Plan area to serve new development. The District will accommodate middle and high school students in existing or new facilities located outside the Specific Plan area. The total cost for school facilities is estimated to be $67,712,000. The EGUSD's existing funding programs include 49 percent funding from development impact fees and 44 percent funding from the State School Building Program. The State School Building Program relies upon the issuance of statewide school facilities bonds. If bonds are not approved, the EGUSD will immediately review their financial plan and investigate alternatives. The remaining 7 percent has been funded with the EGUSD Mello Roos

District, however, there are no bond proceeds allocated to NVS Specific Plan schools. The EGUSD is currently examining options to make up this funding gap.

10.13 PUBLIC UTILITIES (DRY UTILITIES)

Dry Utilities facilities are described in Section 9.0 of this document. Electrical, telephone, natural gas, and cable television facilities are not part of the Capital Improvement Program. Standard development practices for extension of these facilities to serve individual separate development projects within the Specific Plan area will be utilized.

SECTION 11.0
IMPLEMENTATION

This section describes mechanisms for implementing the Specific Plan, and should be consulted whenever there is a question concerning how the Plan functions. The topics addressed in this section are:

- Plan review and administrative procedures,
- Use of development agreements,
- Plan admendment procedures,
- Enforcement mechanisms and processes, and
- Relationship of the Specific Plan to mitigation monitoring adopted in the Specific Plan EIR.

11.1 PLAN REVIEW PROCEDURES

11.1.1 Planning Department Review

The Specific Plan represents the "master plan" for the North Vineyard Station Plan area. Subsequent to adoption of the Specific Plan, individual project applications will be reviewed to determine consistency with the Specific Plan and other regulatory documents.

Development applications will be submitted directly to the Planning Department. The Planning Department will conduct an initial review of the application for completeness and consistency with the adopted Specific Plan. The Planning Department will then forward the project application to the Department of Environmental Review and Assessment (DERA) which then reviews the application from an environmental perspective.

Both reviews must be completed within thirty days of receipt of the application. The applicant will be advised by DERA of any application deficiencies that must be rectified to deem the application complete. If the applicant feels that an amendment to the Specific Plan is warranted an amendment to the Specific Plan may be requested. The request must provide adequate justification. For specific amendment procedures, refer to the Amendment Procedures described in Section 11.3 below.

11.1.2 Environmental Review

In addition to project consistency with an adopted Specific Plan, any individual project application will be reviewed by DERA to determine if the necessary information has been provided to determine consistency with California Environmental Quality Act (CEQA)

requirements. The Environmental Impact Report (EIR) prepared for the North Vineyard Station Specific Plan will serve as the "master" environmental assessment document for development within the Plan area. Individual project applications will be reviewed for strict consistency with the Specific Plan EIR. If strict consistency is determined and the project meets the criteria established in Section 15182 of the CEQA guidelines, DERA may determine that a separate environmental document is not required and other appropriate environmental documentation would be prepared. In all other cases, DERA shall process the application for preparation of an environmental document pursuant to established procedures.

In some cases, individual project applications may require additional environmental information beyond what was provided for the Specific Plan environmental document. For example, a more detailed wetlands delineation may be required for an individual project application. Upon review of this additional information, DERA will make a determination as to whether or not the more detailed information provides evidence that the proposed individual project will cause more significant environmental impacts beyond the scope originally anticipated during the master program analysis. If DERA determines that there would be environmental impacts beyond the scope of the original study, further environmental review and a separate environmental document may be required. Conversely, DERA may make a determination that the additional information does not raise new environmental issues and is within the scope of the original study, then an EIR will not be required and a Negative Declaration or reference to a prior document will be used to meet CEQA requirements.

Applications such as tentative maps, commercial or industrial development plans, use permits, variances and the like, will be reviewed using established Planning Department procedures. Special consideration should be given to the review of commercial and industrial development plans, particularly with respect to consistency with the overall design theme set forth in the Specific Plan design guidelines, and with General Plan goals and objectives.

The foregoing discussion details the initial project review and environmental review submittal procedures. Projects submitted for consideration will be reviewed for consistency with any development standards, design guidelines, mitigation measures and other applicable conditions of approval which were adopted as part of the Specific Plan.

11.2 DEVELOPMENT AGREEMENTS

Subject to the provisions of this Specific Plan, the property owners and the County may execute Development Agreements in accordance with Government Code and local ordinance. The Development Agreements will set forth the infrastructure improvements, public dedication requirements, landscaping amenities, and other contributions to be made by a property owner in return for guarantees by the County that certain land uses and densities in effect at the time of execution of the agreement will not be modified.

11.3 AMENDMENT PROCEDURES

Large project specific plans are adopted in a dynamic development environment, often with lengthy buildout horizons. Situations may arise where amendments to the adopted Specific Plan can be considered because of changing circumstances beyond the control of the Specific Plan. Additionally, because of unforeseen circumstances, some design

guidelines or development standards may not be feasible on a particular parcel. In these situations, the procedures listed below will be followed to amend the adopted Specific Plan.

11.3.1 Applicants

Typically, amendments to a Specific Plan will be requested by property owners. There may also be circumstances where the County may wish to request an amendment to the Plan. For example, the County may propose an amendment to the Plan to address shifting land use patterns outside the Plan area or changing demographics.

Applications for amendments submitted by property owners shall be accompanied by a Specific Plan processing fee to be determined by the County Board of Supervisors. This fee would be in addition to existing fees for accompanying development applications.

11.3.2 Scope of Amendment

Amendments to an adopted Specific Plan should be categorized as either minor or major. This determination is to be made by the Planning Director or his/her designee. Those amendments considered major will be processed as set forth in Section 11.3.3 Minor amendments can be reviewed and acted upon by the Planning Director with no Planning Commission or Board review, unless appealed by the applicant. Section 11.3.4 of this Plan sets forth the procedures for minor amendment review. Amendments to the Specific Plan can include, but are not limited to, changing land use designations, design criteria, development standards or policies. The Planning Director shall determine the limits and acceptability of any proposed amendment to the Specific Plan.

11.3.3 Major Amendments

Applications for major amendments to the adopted Specific Plan shall conform to the requirements set forth in the Specific Plan Ordinance and Procedures and Preparation Guide, Chapter 21.14 of the Sacramento County Code. The materials and documents necessary to process a major amendment application should be consistent with those outlined in the Specific Plan Ordinance (Chapter 21.14 of the Sacramento County Code), Section 21.14.060. A detailed justification statement shall be submitted which explains in detail why an amendment to the Specific Plan is warranted. All requirements of CEQA will be applicable.

The Specific Plan processing fee, as previously mentioned, shall be submitted to cover all processing costs. Major amendments require Board of Supervisors approval, with a recommendation forwarded by the Policy Planning Commission.

A major amendment to the Plan is required when:

- A new type of land use not specifically discussed in this Specific Plan is introduced.

- Significant changes to the distribution of land uses or other changes affecting land use which may substantially affect the key planning concepts set forth in this Specific Plan.

- Significant changes to the street circulation system that would substantially alter the land use or circulation concepts set forth in this Specific Plan.
- Changes to design guidelines and/or development standards which, if adopted, would substantially change the physical character of the Plan area as envisioned by the Specific Plan.
- Any change to the Plan which could significantly increase environmental impacts.

11.3.4 Minor Amendments

An amendment to the Plan is considered minor when it is determined that the amendment does not have a significant impact on the character of the Plan. Minor amendments to the Plan specifically include the application and development standards (e.g., setbacks, lot size, frontage) within the Plan and the interpretation and implementing of design guidelines. Minor amendments may be addressed administratively, or may require public notification, hearings, and approval by an appropriate authority.

Minor Amendment - Administrative

The Planning Director has the authority to grant a minor amendment to the Plan as an administrative matter. The Director's authority extends to the review of the initial project only, and is valid up until the issuance of the first building permit for any parcel that is created consistent with the Specific Plan.

Minor Amendment - Formal Review

After issuance of the first building permit for a parcel, a minor amendment to the Plan shall be subject to the review and approval of the Zoning Administrator. Property developers who desire to process a proposal for a minor amendment shall submit the appropriate application to the Planning Department. The submittal shall include:

- A detailed description of the requested amendment,
- A justification statement,
- Application processing fee, and
- Specific Plan Amendment processing fee.

Decisions of the Planning Director and Zoning Administrator may be appealed to the appropriate review authority in accordance with standard appeal procedures.

11.4 ENFORCEMENT

The Specific Plan includes a considerable number of development regulations and environmental mitigation measures. Assurances must be made that adequate enforcement mechanisms are in place to ensure that all adopted regulations and mitigation measures are adhered to. If a field inspection is conducted and a particular requirement has not been satisfactorily completed, or site development activities have been undertaken that are not

performed as mandated in the Specific Plan and EIR, County staff may ensure completion or correction of the development activity through actions including, but not limited to, the following:

- Meeting with the project proponent to negotiate timing or corrective action in the context of established Sacramento County Planning Department Zoning Enforcement procedures.
- Issuance of a stop work order which will not be lifted until signed by the County.
- Apply the measures of any County enforcement ordinances based upon the police power to protect the public's health, safety and welfare.
- Require performance bonds for landscaping, tree preservation, wetland preservation, or other items determined appropriate by County staff.
- Revocation of use permits or other similar actions may occur if violations are discovered by County staff.
- Denial of subsequent approvals necessary to complete and occupy the project may be recommended by County staff.
- Initiation of any enforcement or penalty provisions in applicable development agreements will be carried out by County staff.
- Request for legal action by the County Counsel's office.

Sacramento County currently has an established code enforcement program to ensure that adequate and proper investigations of land use violations take place. As with any other development with conditions of approval and/or mitigation measures, complaints of violations of any Specific Plan requirements will be investigated consistent with established procedures and due process. Complaints of violations will be referred to the Sacramento County Planning Department's Zoning Enforcement Section for any violation of adopted Specific Plan regulations or associated approvals. Many of the more drastic foregoing remedies would be considered only if repeated attempts to rectify any violations go unheeded.

11.5 MITIGATION MONITORING

The California Environmental Quality Act requires all state and local agencies to establish reporting and monitoring programs for projects approved by a public agency whenever approval involves adoption of either a mitigated negative declaration or specified environmental findings related to environmental impact reports. For Sacramento County, the appropriate department for establishing and maintaining this program is the Department of Environmental Review and Assessment.

The Mitigation Monitoring and Reporting Program (MMRP) is intended to satisfy the requirements of CEQA as they relate to the final Environmental Impact Report for the North Vineyard Station Specific Plan, prepared by DERA. This monitoring program is

intended to be used by County staff and the project developers in ensuring compliance with adopted mitigation measures during project implementation.

Monitoring and documenting the implementation of mitigation measures will be coordinated by DERA staff. DERA staff will monitor mitigation implementation as outlined in the recorded MMRP for the North Vineyard Station Specific Plan.

11.6 NVSSP MMRP

Pursuant to Section 21081.6 of the Public Resources Code and Chapter 20.02 of the Sacramento County Code, the following Mitigation Monitoring and Reporting Program has been established for this Specific Plan area. The purpose of this program is to assure diligent and good faith compliance with the Mitigation Measures which have been recommended in the environmental document, and adopted as part of the project or made conditions of project approval, in order to avoid or mitigate potentially significant effects on the environment.

All public improvement and private development projects within the plan area will be subject to an MMRP compliance review by DERA staff during the initial CEQA review period to determine which, if any, of the following adopted mitigation measures are applicable to the proposed project.

Hydrology & Flooding Mitigation Measures:

HY-6 Implementation of the proposed NVSSP Drainage Master Plan (DMP) improvements, including construction of Detention Basin E20 and construction of a mitigating solution for the existing Gerber Creek overflow condition upstream of the Specific Plan area, shall not occur until the following items have been submitted to the Sacramento County Board of Supervisors for review and approval.

(a) A wetland delineation for the improvement area verified by the U.S. Army Corps of Engineers.

(b) A detailed mitigation plan for wetlands to be impacted by the proposed improvements which specifically describes the measures which will be implemented to achieve no net loss in wetland habitat acreage and values.

(c) Determinate surveys for the improvement area for potentially occurring special status species.

(d) A detailed mitigation plan developed in cooperation with the regulatory resource agencies (U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and California Department of Fish and Game) which is designed to reduce impacts of the proposed improvements on any special status species identified in the determinate surveys to a less than significant level.

(e) A tree survey for the improvement area which identifies all native trees six-inches dbh (diameter at breast height) or larger.

(f) A detailed tree replacement planting plan which describes the tree plantings/relocation measures to be implemented to provide in-kind replacement plantings on an inch-for-inch basis for any native trees six-inches dbh or larger which will be impacted by the proposed improvements.

HY-7. Implementation of the proposed NVSSP DMP improvements, including construction of Detention Basin E20 and construction of a mitigating solution for the existing Gerber Creek overflow condition upstream of the Specific Plan area, shall not occur until all necessary permits and/or agreements for the proposed improvements have been obtained from the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and California Department of Fish and Game.

Biological Mitigation Measures:

BR-1. If off-site mitigation is adopted by the Board of Supervisors, an Off-site Mitigation Plan for each development will be required as described below.

Off-site Mitigation Plan. In consultation within the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service, an Off-site Wetland Mitigation Plan shall be prepared for each development project within the Specific Plan area. All vernal pools and seasonal wetlands shall be mitigated off-site at an agency approved mitigation bank or other property approved by the regulatory agencies. The Plan shall incorporate the following components.

a. A detailed wetland delineation verified by the U.S. Army Corps of Engineers;

b. The location of the wetland creation site(s) and the acquisition site(s);

c. A detailed map of the wetland creation site(s) showing the acreage, distribution and type of wetlands to be created;

d. Vernal pool and seasonal wetlands compensation at ratios sufficient to ensure no net loss of vernal pool and seasonal wetlands acreage, values, and functions. The mitigation ratio for each wetland type shall be specified. Compensation vernal pools and seasonal wetlands shall:

be supported primarily by direct rainfall, and shall be designed to

meet or exceed the hydrophytic conditions and operating functions of the existing vernal pools and seasonal wetlands proposed for impact.

mitigate the loss of special-status species 'habitat, including fairy shrimp, as required by the U.S. Fish and Wildlife Service. For every acre

of fairy shrimp habitat impacted, the applicant shall construct one acre of new habitat and purchase two acres of fairy shrimp habitat preservation credits at an agency approved mitigation bank.

e. A wetland monitoring and maintenance program prepared according to the requirements of the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

Monitoring: Monitoring shall be designed to determine that sufficient water is available to produce the required periods of inundation and subsequent soil saturation to support a desired biological community. In addition, the monitoring shall determine the need for remedial action in the form of pool modification, including excavation, fill, and/or modification of hydrologic connections, required to improve the pool water balance. Specific performance standards for determining success of the created wetlands shall be proposed. Monitoring shall occur for at least 5 years, or as required by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

Short-term monitoring requirements will be established by the Corps Section 404 permit authorization. If the Corps, in consultation with the USFWS, the U. S. Environmental Protection Agency, and the CDFG, determines that wetland development is successful at the end of the prescribed monitoring period (normally 5 years), no further monitoring will be required. Should short-term monitoring indicate that performance standards are not met, plan modifications will be submitted to the Corps for approval. Approved modifications shall be implemented and monitoring will continue until success criteria are met.

Maintenance: A mechanism satisfactory to the Corps shall be formed to fund long-term maintenance of compensation areas to assure that the wetlands are maintained in a natural state. Long-term maintenance shall include restricted recreational use, erosion control, and maintenance trails, or other similar structures.

At the time the applicant obtains a permit to impact wetlands, alternative strategies may have been adopted to mitigate for wetland impacts. The above measures do not preclude the implementation of these new alternatives. The final acreage of offsite mitigation will be determined by the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service when specific development projects are permitted by those agencies.

BR-2. If the On-site Wetland Preserve is approved, an On-site Wetland Preservation Plan shall be prepared that preserves at least 200 contiguous acres as a wetland preserve east of Bradshaw Road. Preservation shall focus on those wetlands with the highest habitat values. A map showing the wetland preserve boundaries shall be prepared, including the rationale for the preserve boundaries. The plan shall address all aspects of wetland preservation including buffering of incompatible land uses, access, maintenance, monitoring, and mitigation banking. The required Plan shall be submitted to the Sacramento County Department of Environmental Review and Assessment,

U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and California Department of Fish and Game for approval prior to its implementation..

All vernal pools and seasonal wetlands outside the preserve area shall be mitigated offsite at an agency approved mitigation bank to the satisfaction of the U.S. Army Corps of Engineers and the U.S. Fish and Wildlife Service.

BR-3. A Wetland Mitigation Plan for Elder and Gerber Creeks shall be prepared and incorporated into the Specific Plan. This plan shall address phasing of channel modifications, establishment of wetlands (i.e., passive, active, combination), species composition, maintenance and monitoring. The plan shall require channel bottom and bank materials to be substantially the same as comparable natural streams. Natural arrays of riffles, runs and pools shall be incorporated into the design of the creek channels. The required Plan shall be submitted to the Sacramento County Department of Environmental Review and Assessment, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service and California Department of Fish and Game for approval prior to its implementation.

BR-4. Prior to the approval of Improvement Plans or Building Permits, whichever occurs first, implement one of the following options to mitigate for the loss of 1,595± acres of Swainson's hawk foraging habitat:

a. The project proponent shall preserve 0.50 acre of similar habitat for each acre lost within a 10-mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the California Department of Fish and Game);

b. The project proponent shall enter in the formal consultation with the California Department of Fish and Game pursuant to Section 2081 of the California Fish and Game Code.. A California Endangered Species Act (CESA) Memorandum of Understanding (MOU) and Management Agreement shall be completed prior to issuance of any building permits for the site.

c. The project proponent shall submit payment of a Swainson's hawk impact mitigation fee per acre impacted to the Department of Planning and Community Development in the amount as set forth in Chapter 16.130 of the Sacramento County Code as such may be amended from time to time and to the extent that said Chapter remains in effect.

d. Should the County Board of Supervisors adopt a Swainson's hawk mitigation policy/program (which may include a mitigation fee) prior to the implementation of one of the measures above, the project proponent may be subject to that program instead.

Note: Actual habitat loss will occur when rezones and related land use entitlements are granted. Implementation of this mitigation measure will occur on a project -by-project basis with each rezone application.

BR-5. Using protocol acceptable to the regulatory agencies with authority over these species, determinate surveys for potentially-occurring special-status species or their habitat shall be conducted prior to development and permitting within the Specific Plan area. If any of the species or their habitat are indicated, project/plan-specific mitigation measures shall be developed in consultation with Sacramento County, the California Department of Fish and Game, and/or the U.S. Fish and Wildlife Service to mitigate those impacts to less than significant levels, if possible. The mitigation plan(s) developed for species or habitat preservation shall emphasize a multi-species approach, to the maximum extent possible.

Where impacts include taking of a federally-listed species, a Section 10, Incidental Take permit, or a Biological Opinion resulting from Section 7 Consultation with another federal agency shall be obtained, and permit conditions implemented.

Where impacts include taking of a California-listed species, a Section 2081 Management Agreement shall be negotiated with the California Department of Fish and Game, and conditions of that management agreement implemented.

BR-6. In conjunction within the required Wetland Mitigation Plan for the creeks, a Drainage Parkway Plan for Elder and Gerber Creeks shall be prepared. This plan shall provide the following information:

a. A map that depicts the configuration of the creek corridors, including overall width, low-flow channel width, bank slopes, and buffer widths;

b. The location of all trails, bikeways, maintenance roads and channel access points, street crossings, water quality basins and other structures within the corridors;

c. Designations of all lands uses, including recreation (passive or active), mitigation, natural area, water quality, storm water detention, etc.;

d. Policies addressing public access into the corridors, including limitations on use;

e. A policy statement requiring the use native plants within the corridor, including a planting palette of acceptable species;

f. Maintenance and monitoring requirements for the creek channels and mitigation areas;

g. An appropriate funding mechanism to establish, operate and maintain the creek corridors, and;

h. All requirements of State and Federal regulatory agencies pertaining to the preservation and management of special status species.

If the proposed project is approved, the corridor width shall be in substantial compliance with that proposed in the Specific Plan (150 to 420 feet). Adoption of the Alternative Drainage Corridor Policies would increase the corridor width to 600 feet. Widths of this alternative may be reduced based on unavoidable physical constraints, however, the minimum width shall be 150 feet on each side of the drainage channel bottom. These alternatives are not intended to preclude other alternatives for the drainage parkway corridors. Such changes may involve combinations of different channel widths, corridor configurations and policies. The Drainage Parkway Plan shall be submitted to the Sacramento County Board of Supervisors for approval, prior to approval of development of the Specific Plan area.

SECTION 12.0
APPENDICES

RESIDENTIAL DWELLING UNIT ALLOCATION

The following reports were prepared as components of the North Vineyard Station Specific Plan. These reports are included in the Environmental Impact Report prepared for the North Vineyard Station Specific plan project and can also be obtained as separate documents from the Sacramento County Planning & Community Development Department.

GEOTECHNICAL REPORT

PRELIMINARY DRAINAGE STUDY

BIOTIC ASSESSMENT

TREE SURVEY

NOISE STUDY

CULTURAL RESOURCES ASSESSMENT

PHASE ONE ENVIRONMENTAL SITE ASSESSMENT

ALTERNATIVE LAND USE PLAN DESCRIPTION

WETLANDS MITIGATION PLAN

TRANSPORTATION ANALYSIS

RIGHT-OF-WAY LANDSCAPING LIST

SANITARY SEWER STUDY

DRAINAGE STUDY

WATER STUDY

NOISE STUDY

NORTH VINEYARD STATION HOLDING CAPACITY

10/15/98

APN #	OWNER	LANDUSE	ACRES	DENSITY	UNITS
65-052-01	HARTMAN	MDR 7-12	0.53	10	5.30
65-052-01 Total			**0.53**		**5.30**
65-052-02	NO. VINEYARD INV.	MDR 7-12	3.77	10	37.70
65-052-02	NO. VINEYARD INV.	SFR 4-7	17.44	6	104.64
65-052-02	NO. VINEYARD INV.	SFR 4-7	0.37	6	2.22
65-052-02 Total			**21.58**		**144.56**
65-052-04	NO. VINEYARD INV.	SFR 3-5	1.68	5	8.40
65-052-04	NO. VINEYARD INV.	SFR 3-5	34.03	5	170.15
65-052-04 Total			**35.71**		**178.55**
65-080-05	PACE	SFR 3-5	1.06	5	5.30
65-080-05	PACE	SFR 3-5	0.02	5	0.10
65-080-05 Total			**1.08**		**5.40**
65-080-06	KARRER	SFR 3-5	1.74	5	8.70
65-080-06	KARRER	SFR 3-5	0.01	5	0.05
65-080-06 Total			**1.75**		**8.75**
65-080-18	JORDAN	SFR 3-5	9.74	5	48.70
65-080-18 Total			**9.74**		**48.70**
65-080-27	SIMMONS	SFR 3-5	4.26	5	21.30
65-080-27	SIMMONS	SFR 3-5	1.44	5	7.20
65-080-27 Total			**5.70**		**28.50**
65-080-29	JOHN NICOLICI TRUST	SFR 3-5	8.28	5	41.40
65-080-29 Total			**8.28**		**41.40**
65-080-32	VINCENT	SFR 3-5	4.36	5	21.80
65-080-32 Total			**4.36**		**21.80**
65-080-34	THOMAS	SFR 3-5	0.79	5	3.95
65-080-34 Total			**0.79**		**3.95**
65-080-40	GRUBBS	SFR 3-5	0.01	5	0.05
65-080-40	GRUBBS	SFR 3-5	1.79	5	8.95
65-080-40 Total			**1.80**		**9.00**
65-080-42	BALDWIN	SFR 3-5	3.08	5	15.40
65-080-42 Total			**3.08**		**15.40**
65-080-43	GALVIN TRUST	SFR 3-5	2.26	5	11.30
65-080-43 Total			**2.26**		**11.30**
65-080-44	WILKES	SFR 3-5	1.26	5	6.30
65-080-44	WILKES	SFR 3-5	1.16	5	5.80
65-080-44	WILKES	SFR 3-5	2.08	5	10.40
65-080-44 Total			**4.50**		**22.50**
65-080-45	GRANDY	SFR 3-5	0.52	5	2.60
65-080-45	GRANDY	SFR 3-5	0.25	5	1.25
65-080-45	GRANDY	SFR 3-5	0.03	5	0.15
65-080-45 Total			**0.80**		**4.00**
65-080-48	LOPEZ	SFR 3-5	1.74	5	8.70
65-080-48	LOPEZ	SFR 3-5	0.52	5	2.60
65-080-48	LOPEZ	SFR 3-5	0.08	5	0.40
65-080-48 Total			**2.34**		**11.70**
65-080-49	LOZANO	SFR 3-5	1.17	5	5.85
65-080-49	LOZANO	SFR 3-5	1.29	5	6.45
65-080-49 Total			**2.46**		**12.30**
65-080-57	DIPIETRO	SFR 4-7	6.95	6	41.70
65-080-57 Total			**6.95**		**41.70**

NORTH VINEYARD STATION HOLDING CAPACITY

10/15/98

APN #	OWNER	LANDUSE	ACRES	DENSITY	UNITS
65-080-62	TEXIERA	SFR 3-5	2.12	5	10.60
65-080-62	TEXIERA	SFR 3-5	0.24	5	1.20
65-080-62	TEXIERA	SFR 4-7	0.09	6	0.54
65-080-62 Total			**2.45**		**12.34**
65-080-63	TATEYAMA	SFR 4-7	0.42	6	2.52
65-080-63	TATEYAMA	SFR 4-7	1.27	6	7.62
65-080-63 Total			**1.69**		**10.14**
65-080-64	SHAW	SFR 3-5	2.31	5	11.55
65-080-64	SHAW	SFR 3-5	1.10	5	5.50
65-080-64 Total			**3.41**		**17.05**
65-080-68	PHILLIPS	SFR 1-3	2.41	2	4.82
65-080-68 Total			**2.41**		**4.82**
65-080-70	GALVEZ	SFR 3-5	7.30	5	36.50
65-080-70	GALVEZ	SFR 3-5	5.40	5	27.00
65-080-70	GALVEZ	SFR 3-5	0.56	5	2.80
65-080-70 Total			**13.26**		**66.30**
65-080-71	ALEXANDER	SFR 3-5	0.90	5	4.50
65-080-71	ALEXANDER	SFR 3-5	1.73	5	8.65
65-080-71 Total			**2.63**		**13.15**
65-080-76	ALVARADO	SFR 3-5	1.94	5	9.70
65-080-76	ALVARADO	SFR 3-5	5.04	5	25.20
65-080-76 Total			**6.98**		**34.90**
65-080-77	BIUNDO	SFR 3-5	9.14	5	45.70
65-080-77	BIUNDO	SFR 3-5	0.01	5	0.05
65-080-77 Total			**9.15**		**45.75**
65-080-79	NO. VINEYARD INV.	SFR 3-5	6.78	5	33.90
65-080-79	NO. VINEYARD INV.	SFR 3-5	12.50	5	62.50
65-080-79	NO. VINEYARD INV.	SFR 4-7	1.18	6	7.08
65-080-79	NO. VINEYARD INV.	SFR 4-7	4.80	6	28.80
65-080-79 Total			**25.26**		**132.28**
65-080-80	MILHOUS	SFR 3-5	6.30	5	31.50
65-080-80	MILHOUS	SFR 3-5	2.53	5	12.65
65-080-80	MILHOUS	SFR 3-5	1.80	5	9.00
65-080-80	MILHOUS	SFR 4-7	1.72	6	10.32
65-080-80 Total			**12.35**		**63.47**
66-070-02	LESLIE	SFR 3-5	1.88	5	9.40
66-070-02	LESLIE	SFR 3-5	0.23	5	1.15
66-070-02	LESLIE	SFR 4-7	8.75	6	52.50
66-070-02 Total			**10.86**		**63.05**
66-070-03	WULF	MFR 12-22	14.66	18	263.88
66-070-03	WULF	SFR 3-5	5.58	5	27.90
66-070-03	WULF	SFR 3-5	10.77	5	53.85
66-070-03 Total			**31.01**		**345.63**
66-070-04	MORVAI	SFR 4-7	1.55	6	9.30
66-070-04 Total			**1.55**		**9.30**
66-070-05	MORVAI	SFR 4-7	0.22	6	1.32
66-070-05 Total			**0.22**		**1.32**
66-070-06	MORVAI	SFR 3-5	3.37	5	16.85
66-070-06	MORVAI	SFR 4-7	11.65	6	69.90
66-070-06 Total			**15.02**		**86.75**
66-070-07	FLOWERS	SFR 3-5	4.56	5	22.80
66-070-07 Total			**4.56**		**22.80**

NORTH VINEYARD STATION HOLDING CAPACITY

10/15/98

APN #	OWNER	LANDUSE	ACRES	DENSITY	UNITS
66-070-08	MORVAI	SFR 3-5	3.83	5	19.15
66-070-08	MORVAI	SFR 3-5	20.88	5	104.40
66-070-08	MORVAI	SFR 4-7	6.92	6	41.52
66-070-08 Total			**31.63**		**165.07**
66-070-09	WOO	SFR 3-5	18.82	5	94.10
66-070-09	WOO	SFR 3-5	11.84	5	59.20
66-070-09	WOO	SFR 4-7	2.75	6	16.50
66-070-09	WOO	SFR 4-7	0.01	6	0.06
66-070-09 Total			**33.42**		**169.86**
66-070-13	MARTIN	SFR 4-7	3.89	6	23.34
66-070-13 Total			**3.89**		**23.34**
66-070-16	CHAPMAN	SFR 4-7	0.67	6	4.02
66-070-16 Total			**0.67**		**4.02**
66-070-17	JOHNSON	SFR 4-7	9.14	6	54.84
66-070-17 Total			**9.14**		**54.84**
66-070-18	SEALE	SFR 3-5	8.12	5	40.60
66-070-18	SEALE	SFR 3-5	0.06	5	0.30
66-070-18 Total			**8.18**		**40.90**
66-070-19	MORVAI	SFR 3-5	8.31	5	41.55
66-070-19 Total			**8.31**		**41.55**
66-070-20	MUNZO TRUST	SFR 3-5	1.31	5	6.55
66-070-20 Total			**1.31**		**6.55**
66-070-21	SMITH	EXISTING RESIDENTIAL	0.23	0.23	1.00
66-070-21 Total			**0.23**		**1.00**
66-070-25	ANAYA	EXISTING RESIDENTIAL	1.35	1.35	1.00
66-070-25 Total			**1.35**		**1.00**
66-070-26	TAYLOR	EXISTING RESIDENTIAL	0.81	0.81	1.00
66-070-26 Total			**0.81**		**1.00**
66-070-28	BOND	EXISTING RESIDENTIAL	0.27	0.27	1.00
66-070-28 Total			**0.27**		**1.00**
66-070-30	WILKENS	EXISTING RESIDENTIAL	0.29	0.29	1.00
66-070-30 Total			**0.29**		**1.00**
66-070-32	LAWSON	EXISTING RESIDENTIAL	0.63	0.63	1.00
66-070-32 Total			**0.63**		**1.00**
66-070-33	WEBER	MFR 12-22	15.86	18	285.48
66-070-33	WEBER	SFR 3-5	0.31	5	1.55
66-070-33	WEBER	SFR 4-7	4.53	6	27.18
66-070-33 Total			**20.70**		**314.21**
66-070-35	ARES	EXISTING RESIDENTIAL	0.23	0.23	1.00
66-070-35 Total			**0.23**		**1.00**
66-070-36	MARRAN	EXISTING RESIDENTIAL	0.24	0.24	1.00
66-070-36 Total			**0.24**		**1.00**
66-070-38	CLARK	EXISTING RESIDENTIAL	0.44	0.44	1.00
66-070-38 Total			**0.44**		**1.00**
66-070-39	LAMPHERE TRUST	EXISTING RESIDENTIAL	0.41	0.41	1.00
66-070-39 Total			**0.41**		**1.00**
66-070-40	NORIEGA	EXISTING RESIDENTIAL	0.43	0.43	1.00
66-070-40 Total			**0.43**		**1.00**
66-070-41	PATTERSON	EXISTING RESIDENTIAL	0.26	0.26	1.00
66-070-41 Total			**0.26**		**1.00**
66-070-42	TODD	EXISTING RESIDENTIAL	0.25	0.25	1.00
66-070-42 Total			**0.25**		**1.00**

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66-070-43	BARCELO TRUST	SFR 4-7	2.60	6	15.60
66-070-43 Total			**2.60**		**15.60**
66-070-44	MUNZO TRUST	SFR 3-5	4.44	5	22.20
66-070-44	MUNZO TRUST	SFR 3-5	0.44	5	2.20
66-070-44	MUNZO TRUST	SFR 4-7	0.32	6	1.92
66-070-44	MUNZO TRUST	SFR 4-7	2.11	6	12.66
66-070-44 Total			**7.31**		**38.98**
66-070-45	MUNOZ TRUST	SFR 3-5	3.42	5	17.10
66-070-45	MUNOZ TRUST	SFR 3-5	5.50	5	27.50
66-070-45 Total			**8.92**		**44.60**
66-070-46	KASSIS	SFR 3-5	1.61	5	8.05
66-070-46	KASSIS	SFR 3-5	0.21	5	1.05
66-070-46	KASSIS	SFR 3-5	0.44	5	2.20
66-070-46	KASSIS	SFR 3-5	1.00	5	5.00
66-070-46 Total			**3.26**		**16.30**
66-080-01	DAVIS	SFR 1-3	1.22	2	2.44
66-080-01	DAVIS	SFR 3-5	0.29	5	1.45
66-080-01	DAVIS	SFR 3-5	1.10	5	5.50
66-080-01	DAVIS	SFR 3-5	0.92	5	4.60
66-080-01	DAVIS	SFR 3-5	3.76	5	18.80
66-080-01	DAVIS	SFR 4-7	1.10	6	6.60
66-080-01	DAVIS	SFR 4-7	1.58	6	9.48
66-080-01 Total			**9.97**		**48.87**
66-080-02	DAVIS	SFR 3-5	0.12	5	0.60
66-080-02 Total			**0.12**		**0.60**
66-080-03	MENSCH	SFR 3-5	1.91	5	9.55
66-080-03	MENSCH	SFR 3-5	7.73	5	38.65
66-080-03 Total			**9.64**		**48.20**
66-080-04	POINTE VINEYARD	SFR 3-5	21.61	5	108.05
66-080-04 Total			**21.61**		**108.05**
66-080-06	POINTE VINEYARD	SFR 4-7	38.67	6	232.02
66-080-06 Total			**38.67**		**232.02**
66-080-07	FREDERICK	MDR 7-12	7.35	10	73.50
66-080-07	FREDERICK	SFR 4-7	5.01	6	30.06
66-080-07 Total			**12.36**		**103.56**
66-080-09	LYNN	SFR 1-3	9.79	2	19.58
66-080-09 Total			**9.79**		**19.58**
66-080-13	POINTE VINEYARD	SFR 3-5	8.61	5	43.05
66-080-13	POINTE VINEYARD	SFR 3-5	33.68	5	168.40
66-080-13	POINTE VINEYARD	SFR 3-5	25.48	5	127.40
66-080-13	POINTE VINEYARD	SFR 3-5	21.01	5	105.05
66-080-13	POINTE VINEYARD	SFR 4-7	0.02	6	0.12
66-080-13 Total			**88.80**		**444.02**
66-080-15	WALLACE	SFR 1-3	2.44	2	4.88
66-080-15 Total			**2.44**		**4.88**
66-080-16	MENSCH	SFR 1-3	6.18	2	12.36
66-080-16	MENSCH	SFR 1-3	3.46	2	6.92
66-080-16	MENSCH	SFR 3-5	3.13	5	15.65
66-080-16	MENSCH	SFR 3-5	2.29	5	11.45
66-080-16	MENSCH	SFR 3-5	1.64	5	8.20
66-080-16 Total			**16.70**		**54.58**

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66-080-17	TENNISON	SFR 1-3	2.53	2	5.06
66-080-17 Total			**2.53**		**5.06**
66-090-04	LAYNE	SFR 3-5	0.10	5	0.50
66-090-04 Total			**0.10**		**0.50**
66-090-05	LAYNE	SFR 3-5	1.67	5	8.35
66-090-05 Total			**1.67**		**8.35**
66-090-08	LINARDOS	SFR 3-5	0.88	5	4.40
66-090-08 Total			**0.88**		**4.40**
66-090-09	DARR	SFR 3-5	0.83	5	4.15
66-090-09 Total			**0.83**		**4.15**
66-090-10	MARTIN	SFR 4-7	1.32	6	7.92
66-090-10 Total			**1.32**		**7.92**
66-090-11	CLARK	SFR 4-7	1.18	6	7.08
66-090-11 Total			**1.18**		**7.08**
66-090-13	CAMPBELL	SFR 3-5	0.10	5	0.50
66-090-13 Total			**0.10**		**0.50**
66-090-14	CAMPBELL	SFR 3-5	0.11	5	0.55
66-090-14 Total			**0.11**		**0.55**
66-090-15	CAMPBELL	SFR 3-5	0.09	5	0.45
66-090-15 Total			**0.09**		**0.45**
66-090-18	HAMMERSLEY	SFR 3-5	0.55	5	2.75
66-090-18	HAMMERSLEY	SFR 4-7	0.21	6	1.26
66-090-18 Total			**0.76**		**4.01**
66-090-19	SIBAL	SFR 3-5	0.96	5	4.80
66-090-19	SIBAL	SFR 4-7	0.01	6	0.06
66-090-19 Total			**0.97**		**4.86**
66-090-20	CAMPBELL	SFR 3-5	2.57	5	12.85
66-090-20 Total			**2.57**		**12.85**
66-100-03	FLORIN INV.	SFR 3-5	13.44	5	67.20
66-100-03	FLORIN INV.	SFR 3-5	25.83	5	129.15
66-100-03 Total			**39.27**		**196.35**
66-100-04	MURATA	SFR 3-5	0.94	5	4.70
66-100-04 Total			**0.94**		**4.70**
66-100-05	SACA	SFR 3-5	12.31	5	61.55
66-100-05	SACA	SFR 3-5	15.10	5	75.50
66-100-05 Total			**27.41**		**137.05**
66-100-06	OSHIRO	SFR 1-3	13.38	2	26.76
66-100-06	OSHIRO	SFR 1-3	16.27	2	32.54
66-100-06	OSHIRO	SFR 1-3	1.12	2	2.24
66-100-06	OSHIRO	SFR 1-3	2.02	2	4.04
66-100-06 Total			**32.79**		**65.58**
66-100-16	BYRUM	SFR 1-3	2.11	2	4.22
66-100-16 Total			**2.11**		**4.22**
66-100-17	ZIERDEN	SFR 1-3	5.15	2	10.30
66-100-17 Total			**5.15**		**10.30**
66-100-19	SACA	SFR 1-3	13.11	2	26.22
66-100-19	SACA	SFR 1-3	6.13	2	12.26
66-100-19 Total			**19.24**		**38.48**
66-100-20	SACA	SFR 1-3	13.70	2	27.40
66-100-20	SACA	SFR 1-3	4.38	2	8.76
66-100-20	SACA	SFR 1-3	0.06	2	0.12
66-100-20 Total			**18.14**		**36.28**

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66-100-21	SACA	SFR 1-3	0.11	2	0.22
66-100-21	SACA	SFR 1-3	6.23	2	12.46
66-100-21	SACA	SFR 1-3	12.29	2	24.58
66-100-21 Total			**18.63**		**37.26**
66-100-29	ROBERTSON	SFR 1-3	5.21	2	10.42
66-100-29 Total			**5.21**		**10.42**
66-100-30	SHORT	SFR 1-3	2.59	2	5.18
66-100-30 Total			**2.59**		**5.18**
66-100-31	ADAIR TRUST	SFR 1-3	2.58	2	5.16
66-100-31 Total			**2.58**		**5.16**
66-100-33	ORTEGA	MDR 7-12	2.69	10	26.90
66-100-33 Total			**2.69**		**26.90**
66-100-34	GARCIA	SFR 4-7	4.80	6	28.80
66-100-34 Total			**4.80**		**28.80**
66-100-35	GDR TRUST	MDR 7-12	4.38	10	43.80
66-100-35 Total			**4.38**		**43.80**
66-100-36	RICCI	SFR 4-7	5.39	6	32.34
66-100-36 Total			**5.39**		**32.34**
66-100-46	LAMPA	SFR 1-3	19.86	2	39.72
66-100-46 Total			**19.86**		**39.72**
66-100-47	LAMPA	SFR 1-3	19.95	2	39.90
66-100-47	LAMPA	SFR 1-3	0.35	2	0.70
66-100-47 Total			**20.30**		**40.60**
66-100-50	BERRY	SFR 1-3	20.07	2	40.14
66-100-50 Total			**20.07**		**40.14**
66-100-51	WARGO	SFR 1-3	16.34	2	32.68
66-100-51 Total			**16.34**		**32.68**
66-100-57	PATTON	SFR 4-7	5.94	6	35.64
66-100-57 Total			**5.94**		**35.64**
66-100-60	DIAS	SFR 4-7	1.59	6	9.54
66-100-60 Total			**1.59**		**9.54**
66-100-61	HAYNES	SFR 4-7	3.70	6	22.20
66-100-61	HAYNES	SFR 4-7	3.14	6	18.84
66-100-61 Total			**6.84**		**41.04**
66-100-62	ASTON TRUST	SFR 3-5	1.93	5	9.65
66-100-62	ASTON TRUST	SFR 4-7	4.53	6	27.18
66-100-62	ASTON TRUST	SFR 4-7	14.01	6	84.06
66-100-62 Total			**20.47**		**120.89**
66-100-72	SACA	SFR 3-5	13.23	5	66.15
66-100-72	SACA	SFR 3-5	13.27	5	66.35
66-100-72	SACA	SFR 3-5	13.43	5	67.15
66-100-72	SACA	SFR 4-7	0.03	6	0.18
66-100-72	SACA	SFR 4-7	0.01	6	0.06
66-100-72 Total			**39.97**		**199.89**
66-110-01	COUREY	SFR 4-7	8.87	6	53.22
66-110-01 Total			**8.87**		**53.22**
66-110-02	SANGHERA	SFR 4-7	0.30	6	1.80
66-110-02	SANGHERA	SFR 4-7	7.53	6	45.18
66-110-02 Total			**7.83**		**46.98**
66-110-03	MASSOUD	SFR 3-5	2.89	5	14.45
66-110-03 Total			**2.89**		**14.45**

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66-110-04	CHO PAN HOON	SFR 3-5	7.03	5	35.15
66-110-04 Total			**7.03**		**35.15**
66-110-05	TYRELL	SFR 1-3	0.26	2	0.52
66-110-05	TYRELL	SFR 1-3	4.81	2	9.62
66-110-05	TYRELL	SFR 4-7	0.14	6	0.84
66-110-05	TYRELL	SFR 4-7	2.57	6	15.42
66-110-05 Total			**7.78**		**26.40**
66-110-06	LYONS EXPRESS'	SFR 1-3	6.20	2	12.40
66-110-06	LYONS EXPRESS'	SFR 4-7	3.57	6	21.42
66-110-06 Total			**9.77**		**33.82**
66-110-07	LAW	SFR 3-5	1.23	5	6.15
66-110-07 Total			**1.23**		**6.15**
66-110-08	LAW	SFR 3-5	0.02	5	0.10
66-110-08 Total			**0.02**		**0.10**
66-110-09	LAW	SFR 3-5	1.90	5	9.50
66-110-09 Total			**1.90**		**9.50**
66-110-10	E. BRADSHAW/GERBER ASSOC.	SFR 3-5	8.82	5	44.10
66-110-10 Total			**8.82**		**44.10**
66-110-11	E. BRADSHAW/GERBER ASSOC.	SFR 3-5	10.30	5	51.50
66-110-11 Total			**10.30**		**51.50**
66-110-12	E. BRADSHAW/GERBER ASSOC.	SFR 3-5	10.14	5	50.70
66-110-12 Total			**10.14**		**50.70**
66-110-13	CASTELLANO	SFR 1-3	0.05	2	0.10
66-110-13	CASTELLANO	SFR 3-5	9.74	5	48.70
66-110-13 Total			**9.79**		**48.80**
66-110-14	KALAS	SFR 3-5	10.38	5	51.90
66-110-14 Total			**10.38**		**51.90**
66-110-15	BUCHAJCZUK	SFR 3-5	10.34	5	51.70
66-110-15 Total			**10.34**		**51.70**
66-110-16	MAMARIL	SFR 3-5	9.06	5	45.30
66-110-16 Total			**9.06**		**45.30**
66-110-17	MALTESE	SFR 1-3	8.99	2	17.98
66-110-17 Total			**8.99**		**17.98**
66-110-18	LARSON	SFR 1-3	10.18	2	20.36
66-110-18 Total			**10.18**		**20.36**
66-110-19	APOSTOL	SFR 1-3	10.51	2	21.02
66-110-19 Total			**10.51**		**21.02**
66-110-20	KAMBUROV	SFR 1-3	9.82	2	19.64
66-110-20 Total			**9.82**		**19.64**
66-110-24	MURPHY	MFR 12-22	7.21	18	129.78
66-110-24	MURPHY	SFR 1-3	21.46	2	42.92
66-110-24	MURPHY	SFR 3-5	0.05	5	0.25
66-110-24	MURPHY	SFR 3-5	0.04	5	0.20
66-110-24	MURPHY	SFR 3-5	9.86	5	49.30
66-110-24	MURPHY	SFR 4-7	0.03	6	0.18
66-110-24 Total			**38.65**		**222.63**
Grand Total			**1,161.91**		**5,732.08**