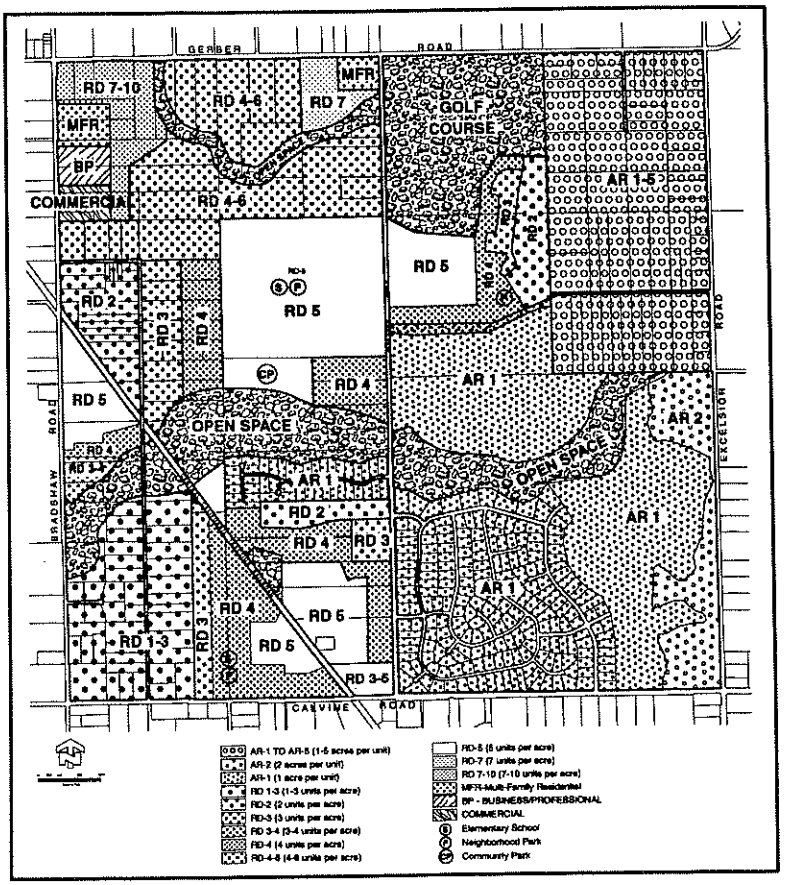
Vineyard Springs Comprehensive Plan

Project Narrative



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VINEYARD SPRINGS COMPREHENSIVE PLAN
PROJECT NARRATIVE

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CHAPTER 1

INTRODUCTION

INTRODUCTION

This section describe the purpose and scope of the Vineyard Springs Comprehensive Plan, and the relationship of the Plan to the policies and procedures contained in the Sacramento County General Plan. This section also describes the key components of the comprehensive planning program; including a discussion on the processes that led to the development of a land use plan for the Vineyard Springs project area.

PURPOSE AND SCOPE OF COMPREHENSIVE PLAN

On August 19, 1994, the Board of Supervisors adopted Resolution #94-1027 supporting a comprehensive approach for the future planning of the Vineyard Urban Growth Area. The adopted resolution provides a policy statement expressing the Board's support of a comprehensive approach to the planning of the Vineyard Urban Growth Area, emphasizing the preparation of a comprehensive level planning program rather than a review of proposals on a project by project basis.

The Vineyard Springs Comprehensive Planning Program was initiated by the Board of Supervisors on March 15, 1995. 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; consistent with the resolution adopted by the Board supporting a comprehensive approach for the future planning of the Vineyard Urban Growth Area.

The Vineyard Springs Comprehensive Plan serves as a policy and regulatory document, with policy direction from the County's General Plan and project development concepts consistent with the General Plan. The Comprehensive Plan provides a complete framework for development of all uses described in the Plan area and includes these components and features:

- Written and graphic descriptions that specify the distribution, location and extent of land uses;
- Policies, design guidelines and development standards which strive to blend the concepts of the General Plan with the dynamics of the local community area; and
- Written and graphic descriptions of the location, extent and cost of public facilities required to serve ultimate development of the Plan area;

PLANNING BACKGROUND

The Vineyard Springs Comprehensive Plan has evolved as a result of a range of public participation from property owners within the Plan area, County staff, local residents, planning advisory council members and representatives of the environmental community. The following outlines the planning background which led to the preparation of the Comprehensive Plan.

Initiation of the Comprehensive Plan

On August 10, 1994, the Board of Supervisors adopted Resolution #94-1027 supporting a comprehensive approach for the future planning of the Vineyard Growth Area. Following the adoption of the resolution, Planning staff collaborated with the participating Vineyard Springs Property Owners Group, and the Vineyard Community Planning Advisory Council (VACPAC), to develop a planning process which would result in the preparation of a Comprehensive Plan for the Vineyard Springs planning area.

On March 15, 1995, the Board adopted Resolution #95-0291 initiating a Comprehensive Planning program for the Vineyard Springs Planning area. The Vineyard Springs Comprehensive Planning program has been developed with the intent to prepare a Land Use Plan which implements, to the extent possible, General Plan policies and concepts within the Vineyard Springs planning area. The Comprehensive Plan addresses overall land use planning and community-wide planning objectives within the area, infrastructure provision and financing strategies.

On April 12, 1995, the Board of Supervisors adopted the Vineyard Springs Comprehensive Plan Guidance Package, (i.e., workprogram and schedule) and executed a funding agreement for the receipt and administration of funding, to prepare a Comprehensive Land Use Plan for the project area. The Guidance Package is a project management tool intended to provide the framework for a collaborative effort between Sacramento County staff, representatives of the VACPAC, the Vineyard Springs property owners and consulting team, in preparation of a planning program to implement a comprehensive land use plan for the Vineyard Springs planning area. This guidance package defines and clarifies the relationships, roles and responsibilities of the various participants in the implementation of a comprehensive planning program, and clearly highlights the expectations and parameters of that effort. The Guidance Package included a listing of planning issues and opportunities pertaining to the preparation of a Comprehensive Land Use Plan. Planning issues and opportunities included:

- The designation of appropriate land uses along the Central California Traction Railroad Corridor in 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 appropriate levels of infrastructure and services to the project area, and adequate domestic water supply, adequate sewage and the definition of a fair and equitable financing mechanism;

- Provide land use design and other technological methods aimed at addressing circulation and air quality impacts;
- Establishment of an appropriate land use interface between proposed urban development and surrounding land uses, including but not limited to the agricultural-residential neighborhood located along Carmencita Avenue;
- Satisfactorily address land use compatibility issues with land use within the vicinity and adjacent to the project boundary;
- Prepare an infrastructure assessment and financing strategy to ensure the adequate delivery and timing of public facilities and services to the project area.

Subcommittee of the VACPAC

Following the initiation of the Vineyard Springs Comprehensive Plan, the Board of Supervisors directed Planning staff to establish a Subcommittee of the Vineyard Community Planning Advisory Council (VACPAC) for the purposes of implementing a special community participation program to help provide local citizens and property owner involvement in the preparation of the Comprehensive Land Use Plan. The following section describes the composition of the VACPAC Subcommittee:

- *Three* members of the Vineyard Community Planning Advisory Council;
- *Two* residents from the surrounding area;
- *Four* non-applicant property owners within the boundaries of the Planning area; including representatives from the home owner associations of Silver Springs, Emerald Creek and Carmencita subdivisions;
- A representative from the Environmental Council of Sacramento;
- *Three* representative from the Vineyard Springs Property Owners Group.

Community Participation Program

Community participation is an integral component of the Vineyard Springs Comprehensive Plan planning process. A special community participation program was implemented to facilitate local citizens and property owner involvement in the preparation of a land use plan for the Vineyard Springs area. Planning staff, the VACPAC Subcommittee and other interested parties met on six separate occasions to consider the preparation of the Plan's guiding principles, land use/circulation strategy, and to discuss issues associated with the preparation of the Plan. Residents in the immediate vicinity of the Plan area were also notified of key meeting dates so their input could be gathered. All meetings were conducted in the evening at the Florin Fire Station, located along Excelsior Road. The following topics were covered during the six meetings of the VACPAC Subcommittee:

- Introduction to the Comprehensive Planning process;
- Participation in a Survey Questionnaire to solicit input from respondents regarding planning and urban development issues;
- Review of planning and urban development issues to form guiding principles to guide the preparation of a land use plan;

- Preparation of diagrams illustrating opportunities and constraints with the planning areas and highliting components associated with infrastructure provision;

- Presentation of technical background for infrastructure provision to the project area, including availability of infrastructure facilities, overview of infrastructure requirements and district master plans for future infrastructure extension and improvement;

- Review of Key General Policies and Urban Design Concepts;

- Preparation of a thematic land use plan; and

- Preparation of a land use plan.

Identification of Guiding Principles

The first series of VACPAC Subcommittee meetings were devoted to the analysis of existing physical condition of the Plan area and discussion on the relationship of the Plan to surrounding development and to the County General Plan. The Subcommittee of the VACPAC identified several guiding principles to assist them in the preparation of a land use plan for the project area. The guiding principles developed by the Subcommittee include:

- Plan, develop and maintain a comprehensive, safe and efficient transportation system.

- Maximize existing modes of transit service, that provide proper connections between the Vineyard Springs area, and to surrounding neighborhoods including direct access to larger market areas throughout the County while minimizing congestion on local streets.

- Reevaluate the Central California railroad corridor for other than its current light rail designation.

- Prepare a Comprehensive Drainage Master Plan to mitigate the threat of flooding within the Vineyard Springs project area.

- Provide and maintain an adequate level of public services to the project area, including water, sewer, parks, schools, police and fire services.

- Prepare an Infrastructure Master Plan and a Capital Improvement Plan, as components of the Comprehensive Plan, to identify facilities required to serve the needs of local residents.

- Encourage joint use planning of public facilities.

- Promote the location of desirable land uses to minimize land use compatibility conflicts, including land use designations that are sensitive to existing small rural parcels.

- 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 combine commercial, civic, cultural and recreational uses in a balanced and compatible manner.

- Plan for the provision of a diversity of housing types to enable citizens from a wide range of economic levels and age groups to live within the area.

- Allow for agricultural residential use as a buffer between urban areas and agricultural or constrained areas such as floodplain and wetland resource areas

- Provide opportunities for open space, recreation and visual relief by planning for parks, recreational trails (i.e., bicycle, jogging and equestrian) and

parkways. Establish a continuous trail that links the area and promote open space and recreation use of the areas creeks and sloughs.

- The natural terrain, drainage & vegetation of the area should be utilized in conjunction with parks, greenbelt and open space; whenever possible, incorporate the preservation of environmentally sensitive resources.

- 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 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 travels.

- Streets, pedestrian paths, equestrian trails 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 site 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 an Infrastructure Financing Plan is adopted, as a component of the Comprehensive Plan program, prior to issuance of building permit.

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

- Maintain the quality of life for current and future residents of the project area by ensuring that a variety of land use types and patterns are provided.

Development of the Land Use Plan

Planning staff worked with the committee members, local property owners and the public during the first series of VACPAC Subcommittee meetings to form a development strategy that would characterize the type and form of development within the planning area. The development strategy was articulated in the form of guiding principles, and a land use plan was developed utilizing the strategy. The VACPAC Subcommittee Preferred Land Use Plan was endorsed by the Subcommittee members on July 20, 1995. The proposed holding capacity of the Plan is 6,561 dwelling units.

The key concept of the Land Use Plan is the identification of a "core/focus" area which features the mixing of higher density residential, commercial and public uses; and surrounded by predominantly low density residential uses. The focus area is located north of Carmencita Avenue, directly east of Bradshaw Road. The land use plan further emphasizes the focus area as the planning area's central place, with an emphasis on the mixture of a variety of land uses.

Residential land uses are proposed as the predominant land use throughout the Vineyard Springs planning area. The land use plan contains approximately 2,041 acres of land designated for residential use. The land use plan proposes either specific zoning type residential categories (i.e., RD 2, RD 3, etc.) or density ranges for areas that have been identified for residential uses. Specific zoning type residential designations are applied to areas owned or controlled by property

owners who intend to immediately develop their properties (i.e. participating property owners); while ranges were assigned to properties owned by individuals who are not financially participating in the process. Density ranges were used to provide flexibility in determining the future type of development.

Other key features of the Plan include:

- The designation of the Spiva Road/MayBelle Lane area for Agricultural-Residential 1-5 uses due to the existing concentration of agricultural-residential type of housing units and in recognition that Excelsior Road represents the edge of the Urban Policy Areas boundary of the General Plan Land Use Diagram.

- A gradual increase in residential land use density for properties located along Carmencita Avenue in order to preserve and protect existing agricultural-residential type housing units along Carmencita Avenue, south of Laguna Creek. The Plan shows properties immediately adjacent to Carmencita Avenue for RD 1-3 type of residential uses, and further recommends for the gradual increase in densities for the two parcels, located east of the Carmencita Avenue area.

- Two sites are designated on the land use plan to accommodate medium density residential development between the densities of eight to twelve units per acre. The first Medium Density Residential designated area is located at the intersection of Bradshaw Road and Gerber Road; while the second site is located south of Gerber Road, west of Vineyard Road.

- Two sites; the first located within the core area, along Bradshaw Road, and the second site, located at the corner of Gerber and Vineyard Roads, are proposed to accommodate higher density residential uses, primarily apartment type multi-family uses. These sites have been identified in strategic locations in response to General Plan policies that promote higher density residential development adjacent to transit opportunity areas

- The land use plan focuses commercial and employment uses along Bradshaw Road:

- The Laguna Creek and Gerber Creek floodplain area is designated for recreation and open space uses.

- Sites are designated for community park, neighborhood parks and schools.

RELATIONSHIP TO THE SACRAMENTO COUNTY GENERAL PLAN

The Vineyard Springs Comprehensive 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 Project Narrative, accompanied by statements describing the degree to which the Land Use Plan achieves consistency.

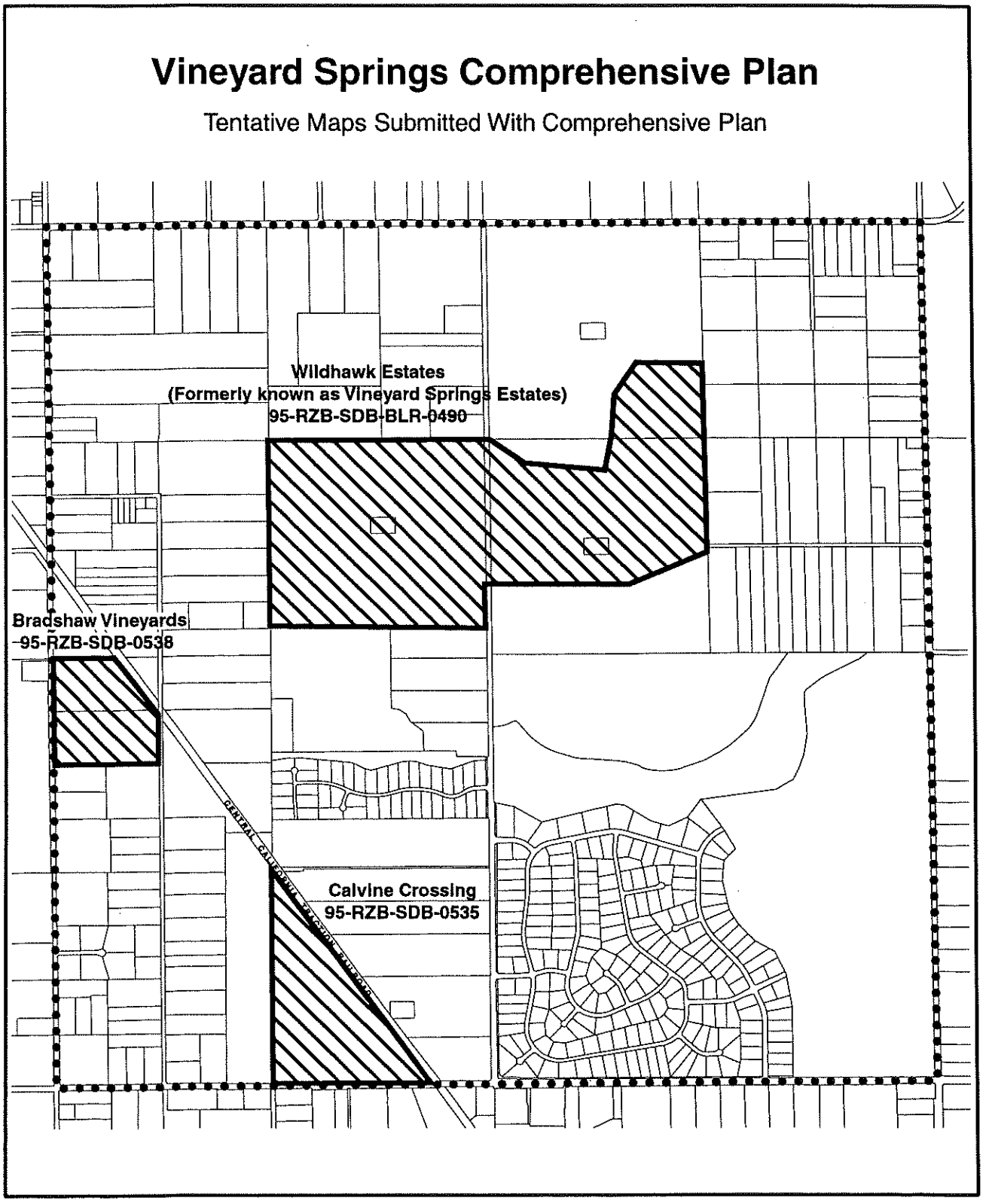
PLAN AREA PROPERTY OWNERSHIP

The Vineyard Springs Comprehensive Plan Property Owners Group is an association of three land developers/home builders organized for the purpose of funding the preparation of the Vineyard Springs Comprehensive Plan. The Property Owners Group entered into an agreement with the County to financially participate in the preparation of the Comprehensive Plan. In accordance with the Comprehensive Plan program, the members of the Property Owners Group could proceed concurrently with the Comprehensive Plan, a private application for a Rezone and tentative Subdivision Map.

As part of the Comprehensive Plan, the property Owners Group filed three private applications for Rezone and tentative Subdivision Maps. The property locations and project control numbers associated with each private application is shown on Figure 1.1.

The Rezone and Tentative Subdivision Map entitlements, as shown in Figures 1.2 through 1.7, comprise Phase I of the development of the Vineyard Springs area. The dwelling unit equivalent of the three projects is 1,221 housing units, or approximately 21 % of the maximum of 5,942 units. Each entitlement request is described next.

Figure 1.1
Vineyard Springs Comprehensive Land Use Plan
Phase 1 Development



1. Bradshaw Vineyards Rezone, Tentative Subdivision Map and Special Development Permit (County Control No. 95-RZB-SDB-SPB- 0538).

   Assessor's Parcel No.: 122-0130-001 and 009

   Location: The property is located on the east side of Bradshaw Road at Vintage Park Drive, in the vineyard community.

Applicant/Engineer:	Owner:	Developer:
Glenn F. Williams Civil Engineering & Surveying 6020 Rutland Drive, Ste. #19 Carmichael, CA 95608	Richland Investment, Inc. c/o Kevin Walker 8904 Rosewood Drive Sacramento, CA 95826	Richland Investment, Inc. 1035 Lakeview Drive Hillsborough, CA 94010

Request:

1. A Rezone from AR-10 and AR-10(F) to RD-5 (23.07± acres), RD-4(6.95± acres) and O(5.88± acres). Figure 2.2 shows proposed zoning amendment request.

2. A Tentative Subdivision Map to divide 23.07± gross acres into 131 single family lots in the RD-5 zone; 6.95± gross acres into 22 single family lots in the RD-4 zone; 5.88± acres into 1 open space lot in the O zone an 4 landscape lots (Figure 2.3)

3. And Exception to Title 22.110.070(e) to exceed the 3:1 lot depth to lot width ratio.

Figure 1.2
Zoning Amendment Request
Bradshaw Vineyards

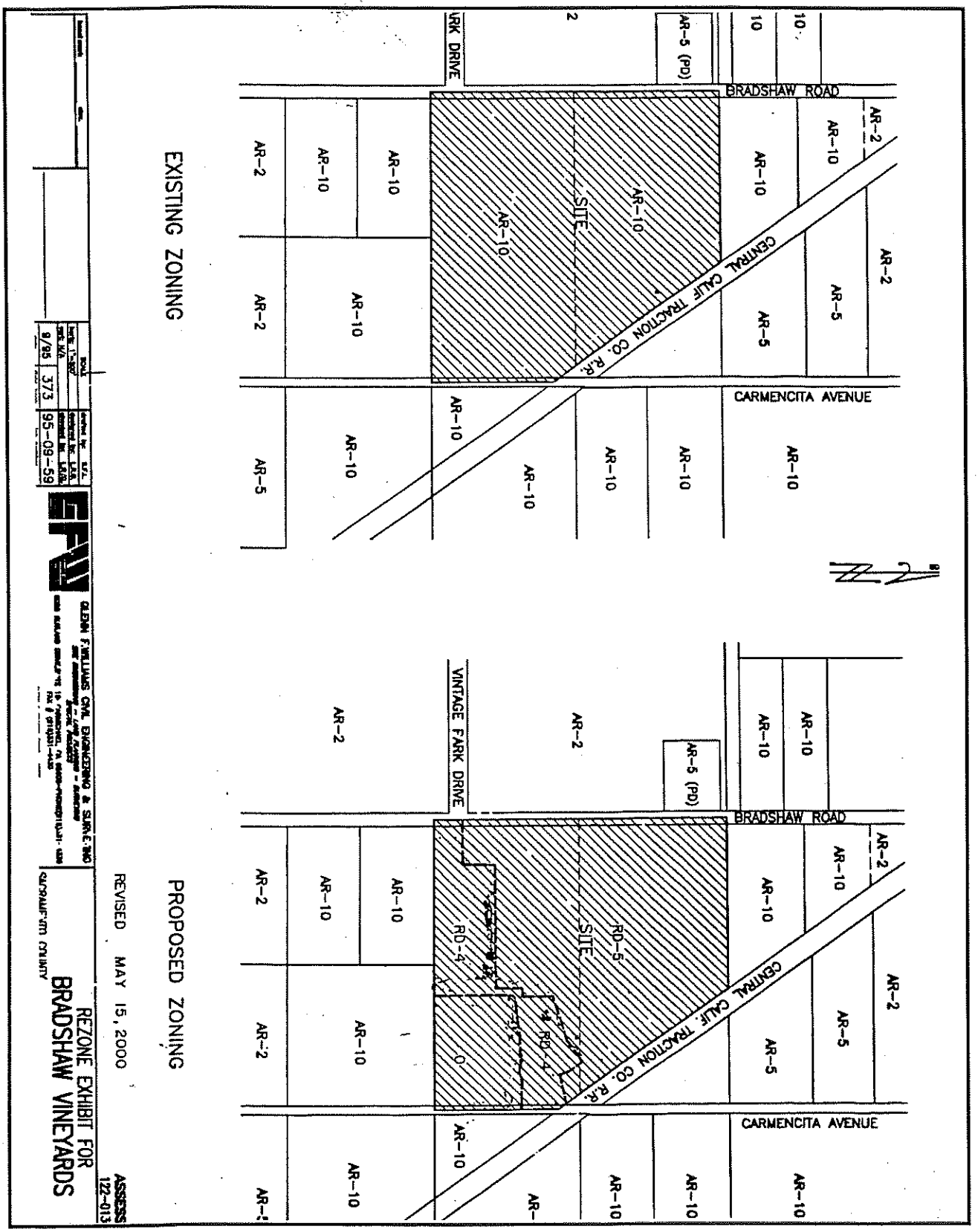
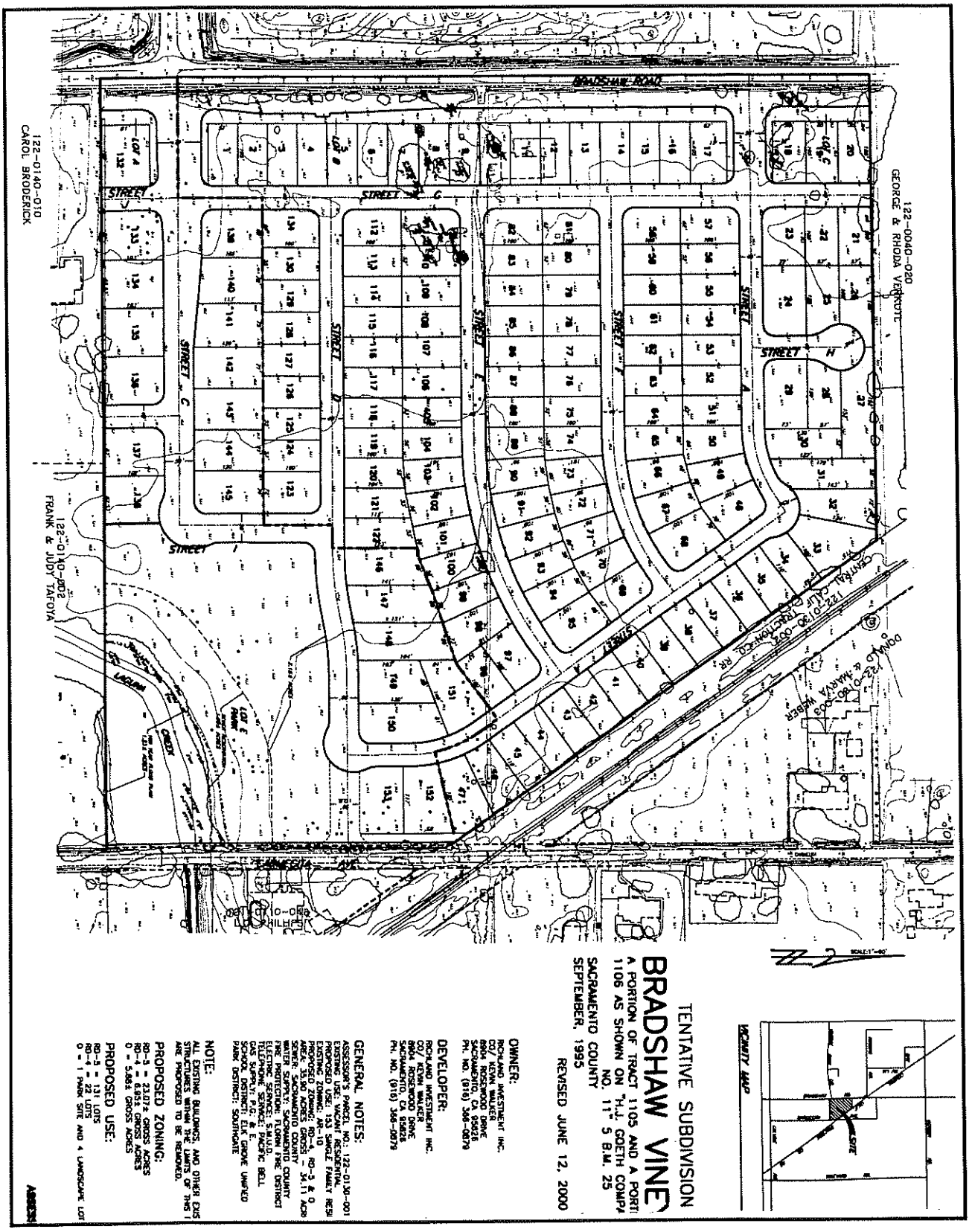


Figure 1.3
Subdivision Map
Bradshaw Vineyards



B. Calvine Crossing Rezone and Tentative Subdivision Map (County Control No. 95-RZB-SDB- 0535).

Assessor's parcel No.: 122-0120-011

Location: The property is located on the north side of Calvine Road, west of the Central California Traction Railroad tracks, in the Vineyard community.

Applicant/Developer:	Engineer:	Owner:
Live Oak Associates III 110 Blue Ravine Road, Ste. 162 Folsom, CA 95630	Donn C. Reiners, Inc. 8915 Folsom Blvd., Ste. B Sacramento, CA 95826	Dean and Danny Hogge 8577 Bader Road Elk Grove, CA 95624

Request:

1. A Rezone from AG-80 to RD-4 (41.4± acres) and RD-5 (19.5± acres). Figure 2.4 shows proposed zoning amendment request.

2. A Tentative Subdivision Map to divide 37.5± gross acres into 102 single family lots in the RD-4 zone; 19.5± gross acres into 98 single family lots in the RD-5 zone; and 3 landscape corridor lots (Figure 2.5).

3. And Exception to Title 22.110.070(e) to exceed the 3:1 lot depth to lot width ratio.

Figure 1.4
Zoning Amendment Request
Calvine Crossing

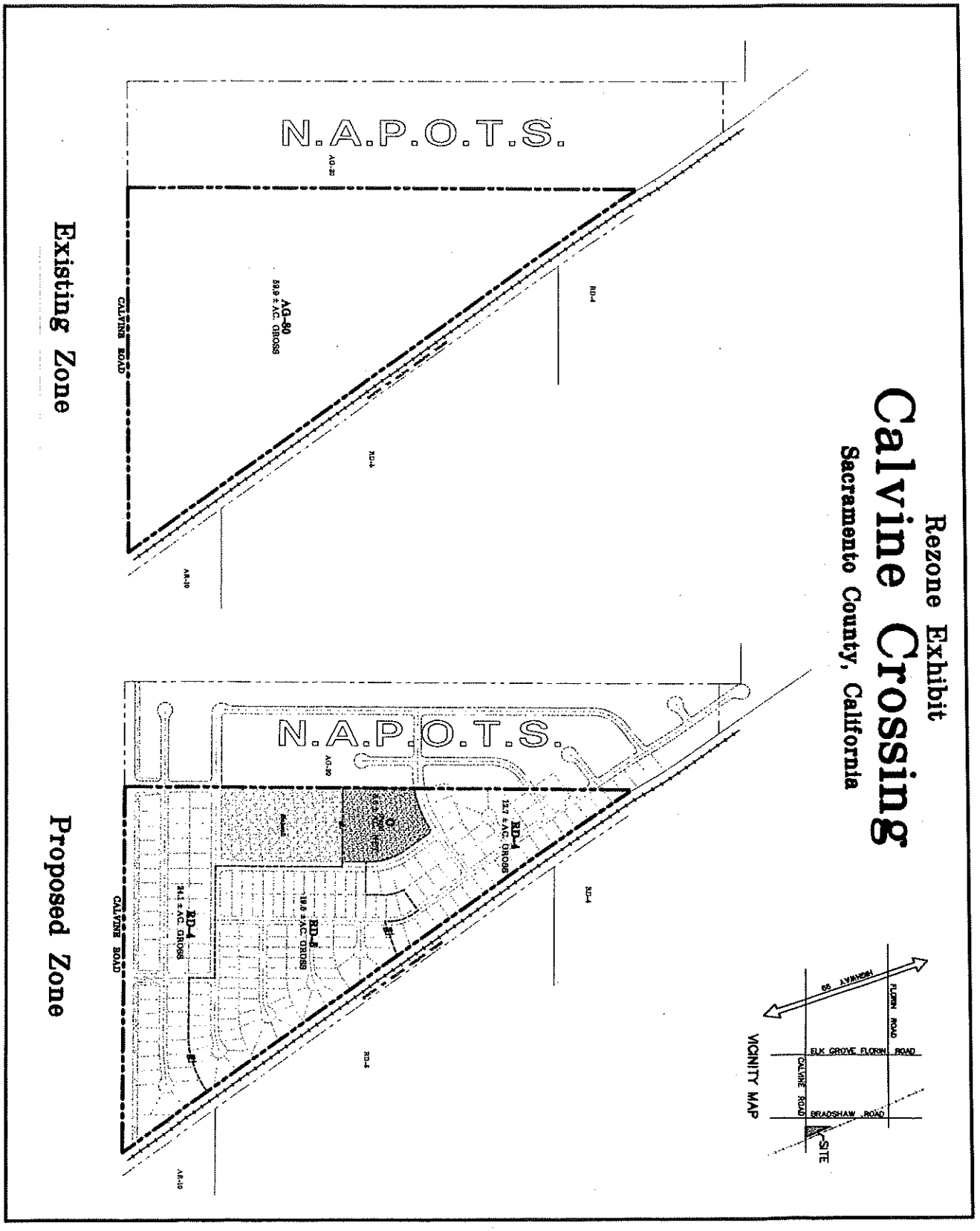
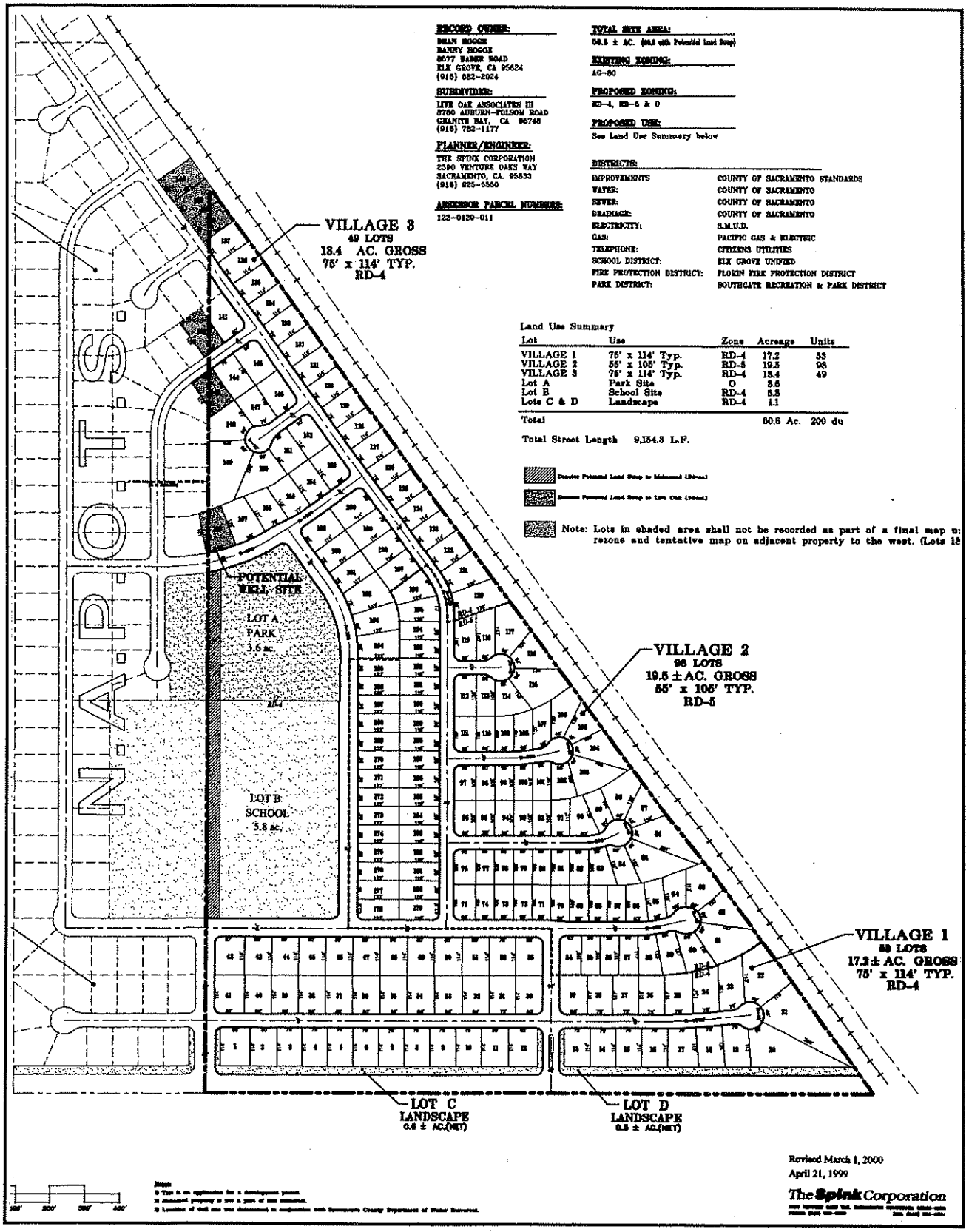


Figure 1.5
Subdivision Map
Calvine Crossing



3. Wildhawk Estates (aka Vineyard Springs Estates) Rezone, Tentative Subdivision Map and Boundary Line Adjustment (95-RZB-SDB-BLR-0490).

Assessor's Parcel No: 122-0050-022, 122-0060-012, 122-0060-009

Location: East and west side of Vineyard Road, north of Laguna Creek, south of Gerber Creek

Applicant:	Engineer:	Owner/Developer:
Alleghany Properties 2150 River Plaza Drive, Ste. 145 Sacramento, CA 95833 Attn: Dave Bugatto	The Spink Corporation 2590 Venture Oaks Way Sacramento, CA 95833 Attn: Tim Denham	JAS Developments 7700 College Town Dr., Suite 113 Sacramento, CA 95826 Attn: Gerry Kamilos

Request:

1. A Rezone from AR-1 to RD-2 (25.3± acres), RD-3 (12.6± acres), RD-4 (43.4± acres), RD-5 (179.8± acres). Figure 2.6 shows proposed zoning amendment request.

2. A Tentative Subdivision Map to create 868 single family units (Figure 2.7).

3. A boundary line adjustment.

Figure 1.6
Zoning Amendment Request
Wildhawk Estates (aka Vineyard Springs Estates)

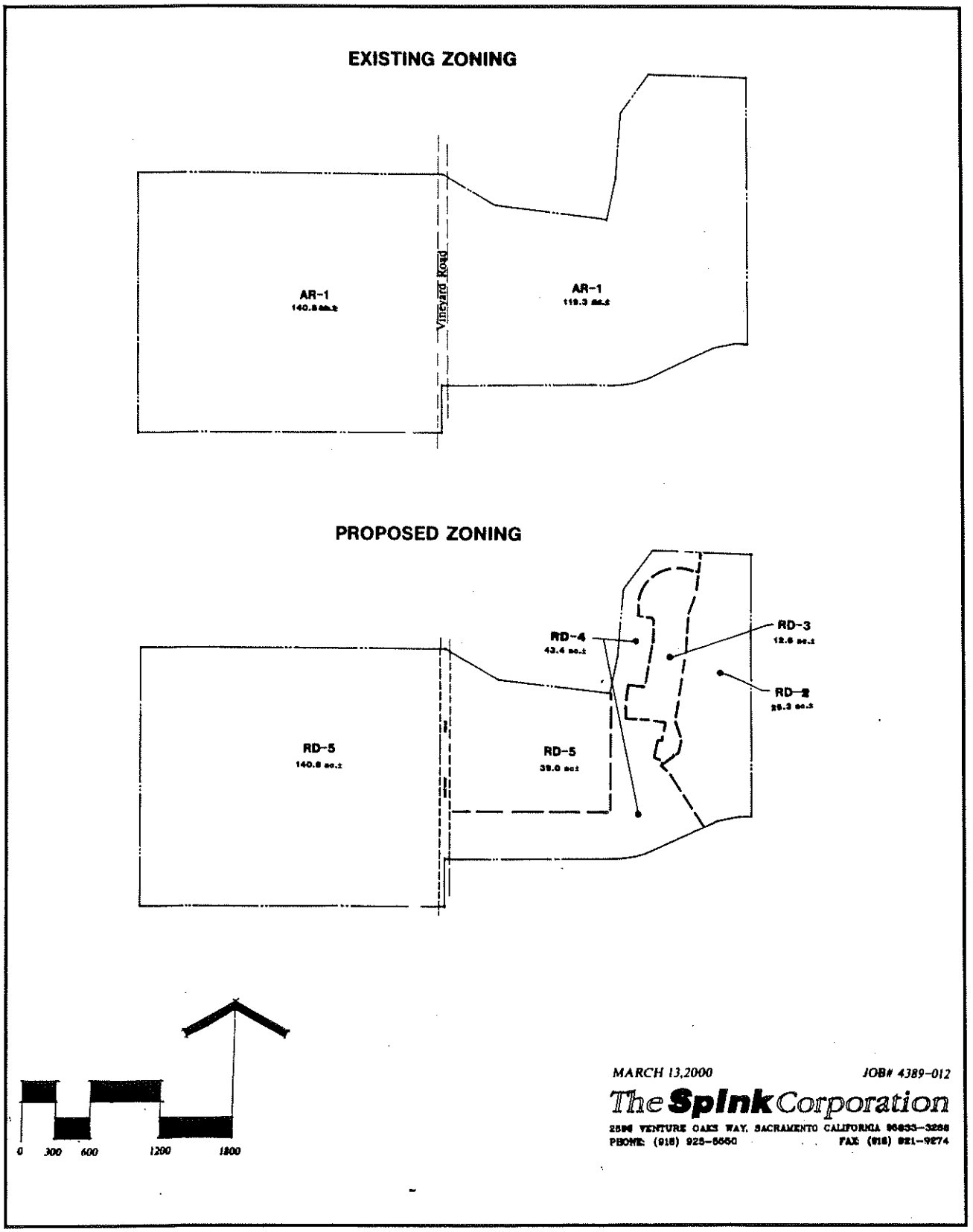
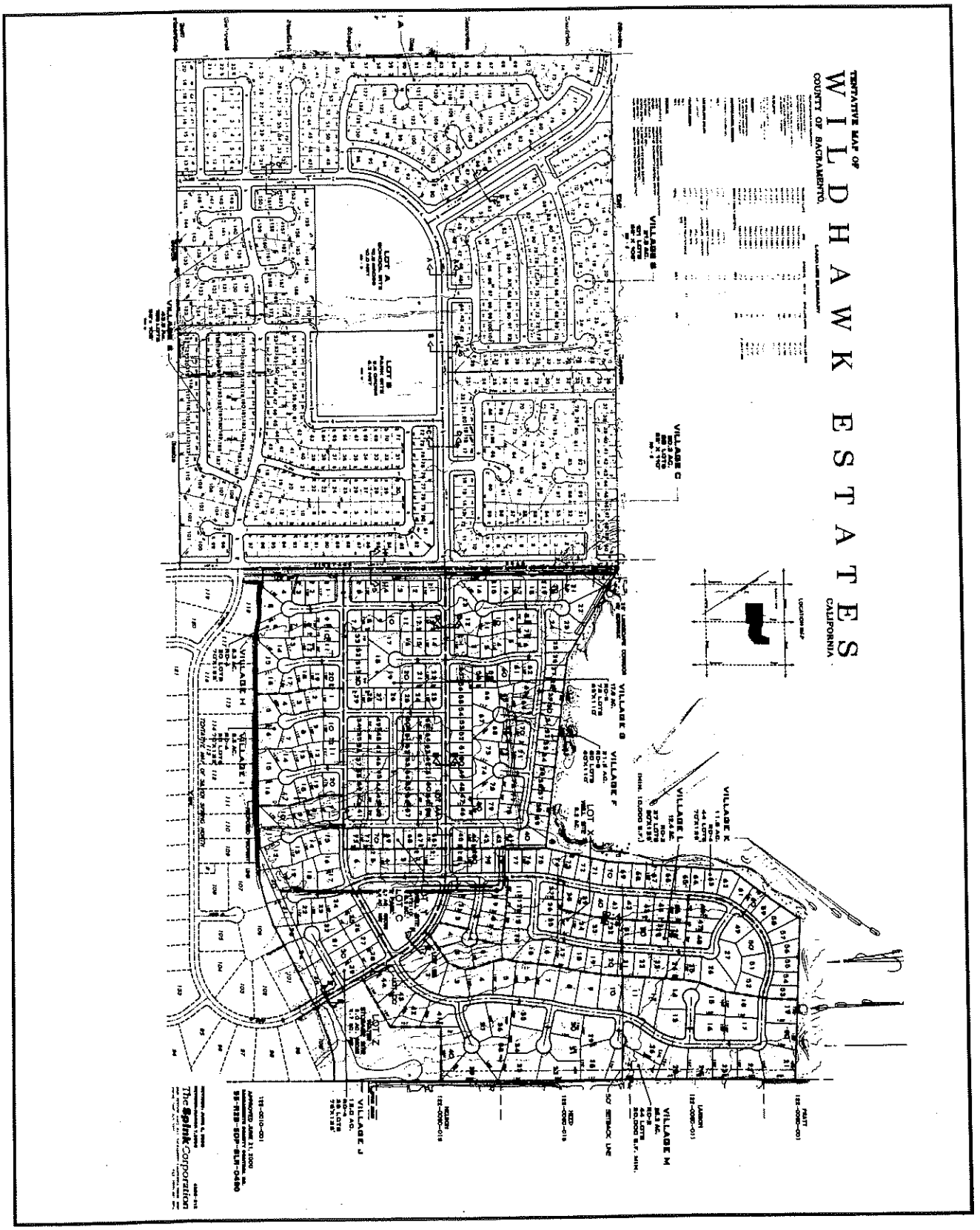


Figure 1.7
Subdivision Map
Wildhawk Estates (aka Vineyard Springs Estates)



CHAPTER 2

POLICY PLAN

GENERAL POLICIES

VS-1 Provide for the orderly development within the Plan area through the use of phasing and implementation measures to ensure the timely delivery of services to new urban land uses with minimal impact to existing land uses.

VS-2 Provide urban-residential land uses that maintain the quality and character of existing agricultural-residential land uses through the use of appropriate development regulations, design guidelines, or other buffering techniques.

VS-3 Enhance community identity and character by ensuring that the character of development is compatible with surrounding development, and that new development is appropriately designed to fit within its surroundings.

URBAN RESIDENTIAL POLICIES

VS-4 Provide a range of land use densities within newly developing areas to enhance community vitality and create a mix of lot and housing types.

VS-5 Variation of housing types within neighborhoods is encouraged.

VS-6 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 system.

VS-7 Long stretches of backup lots along parkways and drainage/creek corridors should be avoided. The use of front on streets, side yard lotting patterns and open-ended cul-de-sacs are appropriate.

VS-8 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.

VS-9 Provide higher density residential and higher intensity commercial uses proximate and physically related to transit stops along transit corridors in order to minimize vehicle trips and expand the use of alternative modes of transportation.

VS-10 Design of urban-residential areas shall provide future opportunities for development of existing agricultural-residential areas (for example, the Carmencita Avenue area) that are planned for long term urbanization, consistent with the Vineyard Springs Land Use Plan. Examples included sizing on-site infrastructure for additional capacity, street or utility stubs, road easements, or I.O.D.'s.

VS-11 Buffer higher density residential uses (i.e., densities greater than 10 units per acre) from low density residential areas with vegetative screening, open space, or other means that accomplish the same objective.

Urban Residential Design Guidelines

Development within the urban residential areas should incorporate the following design guidelines. Individual development applications shall be reviewed to ensure compliance with stated design guidelines. Where site constraints or other peculiarities can be demonstrated, deviations from these design guidelines may be allowed.

1. Buffering of adjacent agricultural-residential land uses should utilize design schemes which feature larger sized lots, internally focused circulation, use of cul-de-sacs if feasible, back up house orientation, and appropriate setbacks.

2. The following lot and design details are encouraged:

    a. Lot and house designs should emphasize the living space with front popouts, porches, or wide building-to-street orientation.

    b. Lots with a side yard/rear yard configuration are discouraged. Where this configuration is necessary because of lotting pattern design, the side-on lot should incorporate a ten-foot minimum side yard or be limited to a one-story residence. (Note: A split-story house can orient the one-story portion to meet the above requirement.)

    c. Garages should be recessed into the building architecture where lot design permits.

    d. House designs with side entry and limited visibility toward the street are discouraged.

    e. Homes which are adjacent to open space areas should utilize vertical wrought iron or decorative iron fencing to increase visibility and enhance safety of the homeowner.

3. The following features should be incorporated during the design of pedestrian easement:

    a. A twelve foot wide, hard surface, all weather pavement will be installed. Access will be open at both ends to enable unrestricted pursuit by Sheriff's vehicles.

b. Proper curb and signs at both entrances prohibiting parking in front of the passage way. A standard eight inch vertical curb, painted red and signs will discourage most unwanted traffic.

c. Night illumination of 1.5 foot candles minimum maintained along the foot walk. Fixtures will be vandal resistant and have shields to prevent unwanted light directed into adjacent homes.

d. Any homes along the easement will be oriented to face the pathway. An open type of fence shall be installed for visibility. A vertical wrought iron or ornamental iron fence is highly recommended.

e. A funding mechanism and/or CC&R's in place to provide costs for lighting and maintenance, road and fence repair, ad enforcement of parking laws.

Urban Residential Development Criteria

1. Development standards, such as lot area, lot dimensions, and setbacks, are the same as those found in the County Zoning Ordinance.

2. Ancillary second units (i.e., "granny flats" and "carriage homes") may be incorporated into the residential mix in all urban residential areas. Ancillary units are permitted as a matter of right in the initial project application to a maximum of 25% of the total project units. Additional ancillary units beyond 25% may be permitted after filing an application for a Conditional Use Permit and consideration at the appropriate public hearings. Ancillary units are subject to the following criteria:

    - The building design and location is compatible with adjacent homes in the neighborhood;
    - Useable floor area does not exceed 800 sq.ft.;
    - Ancillary units have the same front, side and street yard setback requirements as the primary unit. If attached, the rear yard for an ancillary unit is the same as the primary unit. If detached, ancillary unit separation from the primary unit is governed by the Uniform Building Code and the Uniform Fire Code. Ancillary units can be placed above attached or detached garages; and
    - At least one off-street parking space is to be provided on-site in addition to the two garage spaces and two apron spaces provided for the principle residence.

3. The Plan Area contains approximately 2,129 acres of land designated Residential. A density category (dwelling units per gross acre) is assigned to each Residential designation on the Land Use Diagram. The various assigned density categories are as follows:

Residential	14-22	du/ac.	(highest density)
Residential	7-10	du/ac.	
Residential	7	du/ac.	
Residential	4-6	du/ac.	
Residential	5	du/ac.	
Residential	3-5	du/ac.	
Residential	4	du/ac.	
Residential	3-4	du/ac.	
Residential	3	du/ac.	
Residential	2	du/ac.	
Residential	1-3	du/ac.	
Agricultural -Res	1-5	ac/du.	(lowest density).

Based on the assigned density, dwelling units have been allocated to each property within the Plan Area. In cases where a density range is specified, the mid-point of the range is used for determining dwelling unit allocation, as listed in the table below.

DENSITY FOR DETERMINING DWELLING UNIT ALLOCATION

RESIDENTIAL DENSITY DESIGNATIONS			CORRESPONDING DENSITY FOR ALLOCATION
Residential	14-22	du/gross acres	18 du/gross acres
Residential	7-10	du/gross acres	8.5 du/gross acres
Residential	7	du/gross acres	7du/gross acres
Residential	4-6	du/gross acres	5 du/gross acres
Residential	5	du/gross acres	5 du/gross acres
Residential	3-5	du/gross acres	4 du/gross acres
Residential	4	du/gross acres	4 du/gross acres
Residential	3-4	du/gross acres	3.5 du/gross acres
Residential	3	du/gross acres	3 du/gross acres
Residential	2	du/gross acres	2 du/gross acres
Residential	1-3	du/gross acres	2 du/gross acres
Ag-Residential	1-5	gross acres/du	0.2-1 du/gross acres

The individual property allocations and the total Plan Area allocation of 5,942 dwelling units each represent dwelling unit caps and may not be exceeded without an amendment to the Plan (except as provided for in special cases).

4. Landowners may elect to utilize the concept of "Density Averaging" with any part of their allocation. Density averaging allows for increases to the maximum residential density designation for a portion(s) of any application having a residential allocation, provided the dwelling unit allocation of the entire application does not exceed the total dwelling unit allocation for the property. Density averaging is allowed as a matter of right up to one land use category higher than the specified land use designation or range. If a proposal is greater than one category, the request must be processed as a Special Development Permit with the Board of Supervisors having final review authority.

AGRICULTURAL-RESIDENTIAL POLICIES

VS-12 Recognize and protect the agricultural-residential character of areas designated for Agricultural-Residential uses within the planning area.

VS-13 Recognize the agricultural-residential character of transitional Agricultural-Residential areas, while not precluding long-term phasing to urban uses.

VS-14 Discourage any urban type of residential and commercial development proposals within the Agricultural-Residential designated areas on the Vineyard Springs Land Use Plan.

VS-15 Encourage any conversion proposal of sufficient acreage (i.e., 10 acres or more) within transitioning Agricultural-Residential areas to include a coherent combination of contiguous properties to avoid piecemeal development.

VS-16 Provide access to urbanizing areas so as not to preclude or complicate future circulation patterns.

VS-17 Preserve the residential character of Silver Springs and Emerald Creek neighborhoods by ensuring the buildout consistent with established patterns and the compatibility of adjacent development.

COMMERCIAL POLICIES

VS-18 Buffer residential and agricultural-residential uses from commercial uses with vegetative screening, open space, or other means that accomplish the same objective.

VS-19 The Commercial land uses located along Planning Area arterials and thoroughfares should be accessible by public transportation.

VS-20 Provisions shall be made to accommodate pedestrians along street frontages and through parking areas to reach main building entrances.

VS-21 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.

VS-22 Buildings should be set back a sufficient distance from adjacent single family residential uses to minimize undesirable visual and noise impacts.

VS-23 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.

PUBLIC FACILITY POLICIES

VS-24 Provide the number, type, design, and location of school facilities consistent with the Elk Grove Unified School District's Master Plan.

VS-25 New elementary schools sites should be designated adjacent to existing or proposed neighborhood/community park sites and designed to promote joint use of both facilities.

VS-26 Support efforts to provide the highest level of law enforcement protection for community residents and business owners and patrons to adequately maintain public health and safety needs.

VS-27 Encourage the use of resident-based surveillance and law enforcement notification programs such as Neighborhood Watch.

VS-28 Ensure adequate water flows to serve the Plan area with an adequate level of fire protection.

VS-29 The provision of fire protection services and facilities within the Plan area shall be at a level sufficient to address public health and safety needs.

VS-30 Encourage and promote the recycling of solid waste products for both residential and non-residential users in the Plan area.

VS-31 Ensure that all Plan area residents have equal and adequate access to community library facilities.

VS-32 Whenever possible, park site 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.

VS-33 Parks should be located within the general locations shown on the land use plan. Precise locations will be determined at the time of tentative subdivision map approval for each residential project.

VS-34 Parks and open space areas shall be linked by a pedestrian and bicycle circulation system to the maximum extent possible.

VS-35 Whenever possible, parks should be bordered on at least two sides by streets in order to facilitate public access and surveillance.

VS-36 Park facilities and sites shall be provided in conformance with the Southgate Park and Recreation District Master Plan.

VS-37 Parks shall be designed, and facilities oriented, to minimize noise and visual impacts on adjoining residential lots.

VS-38 Where parks are adjacent to Drainage parkways, the park shall include pedestrian pathways which connect to the pathway in the Parkway.

OPEN SPACE POLICIES

VS-39 Open Space areas should be incorporated into all Plan area projects to the extent feasible.

VS-40 Project adjacent to Open Space areas shall be designed to protect the integrity and function of the Open Space area.

VS-41 Where feasible, pedestrian, bicycle and equestrian trails shall be provided in Open Space areas, with emphasis on trail connections to area-wide systems

VS-42 Streets and other public infrastructure improvements shall be placed to minimize intrusion upon Open Space areas, particularly wetlands.

VS-43 Street and lotting patterns with the Plan area are to integrate the drainage and Open Space corridor into the neighborhood design, creating a series of trails heads and interesting open space vistas along the street.

VS-44 Residential development patterns should place a variety of open-ended cul-de-sacs, front-on streets, and residential lots along the edges of Open Space corridor to the extent practical.

CIRCULATION POLICIES

VS-45 Provide a balanced and efficient transportation system that is linked with land uses.

VS-46 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.

VS-47 Measures shall be included in the design of urban residential development to allow future local street circulation into adjacent agricultural-residential areas.

VS-48 Vehicular access from the urban residential areas into agricultural-residential areas shall be restricted until such time as land uses in those areas are amended and through-vehicular access is determined to be appropriate.

VS-49 Pedestrian/bicycle access and emergency access between the urban-residential and agricultural-residential areas shall be maintained.

VS-50 Plan for the future use of the Central California Traction Railroad corridor as a public transportation right-of-way, including fixed line bus service, or recreational trail uses.

VS-51 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.

VS-52 Transit stops should be provided along the arterials and thoroughfares within the Plan area. All major stops should include a shelter and transit information.

VS-53 Provide bicycle facilities, in conformance with the Sacramento City/County Bikeway Master Plan, as part of all transportation improvements.

VS-54 Require the provision of convenient bicycle parking as a part of new development and at all transit transfer stations and park and ride lots

VS-55 Provide safe and direct pedestrian routes to schools and parks.

VS-56 Support development of a Trails Master Plan to implement pedestrian and equestrian trail programs.

VS-57 Locate a park and ride lot as a joint use facility within the commercial center of the planning area.

VS-58 Provide convenient pedestrian access throughout the plan area. Intersections should be designed to facilitate pedestrian and bicycle facilities.

Circulation Development Criteria

1. Separated sidewalks and landscape corridors shall be incorporated into multilane arterial streets (i.e., 84-foot streets) where adjacent to single family residential land use. Walks should be separated a minimum of four feet from back-of-curb. Joined curb/gutter/sidewalk shall be constructed at street intersections and bus stops.

2. Partial streets adjacent to school, parks, or drainage facilities shall be developed concurrently with construction of the adjacent subdivision. The cost of partial street improvements adjacent to schools and parks beyond centerline shall be reimbursable as defined in the amended Elk Grove/West Vineyard Facilities Financing Plan or other financing mechanism.

3. Internal circulation within the urban-residential areas should incorporate the following design measures.

    a. Street layouts should conform to topography, drainage and vegetation to the extent feasible.

    b. Street layouts should provide multiple access routes within neighborhoods. Designs which create excessive through traffic with residential neighborhoods are discouraged.

    c. Access points along multi-lane arterial streets shall be restricted to locations approved by the County Transportation Division.

    d. Internal streets adjacent to public facilities, including school, parks and open space areas.

    e. Internal streets adjacent to public facilities should include the following design:

        i. School sites shall include minimum 30 foot half streets fronting on at least two sides where feasible.

        ii. Park sites shall include street frontage on two sides where feasible, sufficient to provide adequate access from multiple directions

        iii. Circulation adjacent to drainage facilities shall include open cul-de-sacs, single-loaded linear streets, loop streets, or any combination on at least one side of the drainage facility.

4. Subdivision maps with primary residential or collector streets with anticipated traffic volumes higher than normal should consider including special design treatments to minimize potential nuisance problems with adjacent residential lots. Examples include side-on lots, separated sidewalks, or special driveway designs.

5. Landscape corridors along major roadways should include the following features and incorporate standards described in the Zoning Code except where noted below:

   a. Provide separated sidewalk within the landscape corridor where feasible except near street intersections.

   b. All perimeter masonry wall shall be finished with a graffiti resistant coating or be constructed with an anti-graffiti design. This measure should be coordinated with the long term maintenance entity for landscape corridors.

   c. Additional road right-of-way for intersection widening and bus turn-outs may encroach into the required landscape corridor area.

   d. Wall transitions at intersections may be designed to provide a landscaped project entry. Entry islands may be included consistent with County Transportation Division requirements.

   e. Soundwalls along public street right-of-way and railroad right-of-way shall be of uniform design and material to provide a consistent theme throughout the Plan area. Also promote consistent streetscape landscaping along major roadways and railroad corridors.

      i. Along major streets, at a minimum, soundwalls shall be constructed of split face masonry block, with cap, and pilasters at regular intervals.

      ii. Along the railroad right-of-way, the minimum standard for walls shall be split face masonry block construction.

ENVIRONMENTAL MITIGATION POLICIES

VS-59 No final map shall be recorded until the financing mechanisms recommended in the Vineyard Springs Comprehensive Plan Public Facilities Financing Plan have been implemented and the Elk Grove/West Vineyard Public Facilities Financing Plan Development Fee Program and Chapter 16.82 of the Sacramento County Code have been updated to include the recommended development impact fees for the adopted land uses within the Vineyard Springs Comprehensive Plan. The property owners shall comply with the implementation financing mechanisms recommended in the Vineyard Springs Public Facilities Financing Plan. Final maps may be recorded prior to implementation of the financing mechanisms only if an agreement is entered into between the property owner and the County that guarantees full participation in the financing mechanisms at the discretion of the Administrator of the Public Works Agency

VS-60 Prior to any approval of the project improvement plans, the proposed VSCP Sewer Master Plan shall be revised to clearly indicate how adequate public sewer service will be provided in a timely manner to the currently proposed subdivision map areas and to the remainder of the VSCP area on an interim and/or ultimate basis, to the satisfaction of the Water Quality Division of the Public Works Agency. The Draft VSCP Public Facilities Financing Plan shall also be revised as needed to reflect such revisions to the VSCP Sewer Master Plan.

VS-61 Entitlements for urban development within the VSCP area (i.e., subdivision maps, parcel maps, use permits, building permits, etc.) shall not be granted until agreements and financing for supplemental water supplies are in place, consistent with General Plan Policy CO-20. In compliance with this measure, entitlements may only be granted for:

(1) Areas known to have been subject to prolonged agricultural irrigation (as shown on Plate WS-3 of the FEIR);

(2) Areas for which historic well production data and/or other supporting documentation are provided to the SCWA which satisfactorily demonstrate prolonged irrigated agricultural land uses; or

(3) Areas for which units are available under the CO-20 development cap restriction imposed by the Board of Supervisors and the Board of Directors of the SCWA based upon progress made toward the acquisition of supplemental water supplies.

VS-62 Future development projects shall reserve land for SRCSD within the VSCP area sufficient to provide for future construction of the Laguna Creek and Central System interceptors, consistent with the approved Sacramento Sewerage Expansion Master Plan and to the satisfaction of the Water Quality Division.

VS-63 Developers of the commercial and office portions of the Plan area shall be required to include trip reduction measures within future development applications, to help reduce the project's overall vehicle trip generation and associated congestion on area roadways. Such trip reduction measures may include, but would not be limited to, passenger loading areas for ridesharing vehicles, preferential parking spaces for carpool and vanpool vehicles, carpool matching services, transit waiting shelters, shower and locker facilities for employees who commute by bicycle or walking, and convenient bikeway/pedestrian linkages between the commercial/office areas and adjacent or nearby residential areas and transit stops.

VS-64 With implementation of the following measures, construction activities could occur on up to 36 acres on any one day without exceeding the PM10 significance threshold:

- Maintain grading equipment in optimal running condition;
- Install automatic sprinkler systems on all soil piles;

- Water exposed soil with adequate frequency to keep soil moist at all times;
- Pave all haul roads; and
- Cover loads of all haul/dump trucks securely.

VS-65 Mitigation Measure AI-1(a) of the FEIR shall be limited in application to include only on-road and off-road mobile construction equipment employed in the construction or development of those infrastructure improvements identified in the Vineyard Springs Financing Plan (VSFP), including but not limited to roads, standard utilities (natural gas, water, electricity, etc.), drainage improvements, sewer system or related components, schools, fire stations, and parks. This requirement shall not be stayed, regardless of year, unless otherwise made legally moot by the passage of superseding local, state, or federal air quality laws, rules, or regulations, and shall apply to all developers or contractors operating on-road or off-road construction equipment for the life of the (Vineyard Springs Comprehensive Plan Area) project(s).

Additionally, construction-related emissions shall be reduced by application of AI-1(a) intract subdivision improvements or shall be offset through the application of a twenty-five dollar assessment attached to each residence constructed in the Vineyard Springs Comprehensive Plan Area, due and payable by the developer upon issuance of building permit by the governing authority for the life of the (Vineyard Springs Comprehensive Plan Area) project(s). This $25 amount per residence is a one-time fee to be paid by the developer(s) of residential and commercial structures within the Vineyard Springs Comprehensive Plan Area which shall be used to subsequently assist the Sacramento Metropolitan Air Quality Management District in the acquisition of qualifying low-emission heavy duty vehicles designed to operate regularly in the Vineyard Springs area to the extent possible, and otherwise within the Sacramento air basin. Funds resulting from this mitigation shall be placed by the developer(s) into an escrow account until such time as they are directed by the Sacramento Metropolitan Air Quality Management District to be transferred to the appropriate institution for use. These funds will likely assist the Elk Grove School District in the purchase of low-emission school buses, or assist in the purchase of low-emission refuse vehicles serving the Vineyard Springs area, similarly. Projects for funding may be identified by the developer, the County, or the Sacramento Metropolitan Air Quality Management District, but shall only be chosen to receive Vineyard Springs air quality mitigation fees by the Sacramento Metropolitan Air Quality Management District Air Pollution Control Officer.

VS-66 Comply with the requirements of the Vineyard Springs Comprehensive Plan Air Quality Compliance Plan (AQ-15) to achieve a 15% reduction in emissions.

VS-67 Future noise sensitive 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.

VS-68 Future noise generating land uses proposed for development within the commercial and business/professional portions of the Plan area 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.

VS-69 Implement the proposed VSCP DMP improvements, as described in the Vineyard Springs Comprehensive Plan Drainage Master Plan Report (VSCP DMP) (Spink Corporation, June 1999) and any subsequent amendments to that Report consistent with the adopted Elder/Gerber Creek and Upper Laguna Creek Drainage Master Plans. Detailed plans for the design and construction of all proposed drainage, flood control and water quality improvements, consistent with the VSCP DMP, shall be submitted to the County Water Resources Division (WRD) for review and approval. Construction of the improvements may be phased as described in the VSCP DMP and subject to the approval of the County WRD, so long as the project proponent(s) provide hydrologic/hydraulic analyses which demonstrate that the phased improvements will provide adequate urban flood protection to the proposed on-site development, and will not increase flood risks in downstream areas.

VS-70 In order to mitigate erosion and sediment control problems on the project site, the project shall comply with the County's Land Grading and Erosion Control Ordinance. Additionally, because the project size is more than five acres, a Notice of Intent (NOI) must be filed prior to construction to obtain coverage under the State's General Construction Activity Storm Water Permit. As a condition of the General Permit, a Storm Water Pollution Prevention Plan (SWPPP) must be developed for the project. Permits are issued by the State Water Resources Control Board, which can provide all information necessary to complete and file the necessary documents. Compliance with the General Permit is enforced in the Sacramento area by the Central Valley Regional Water Quality Control Board.

VS-71 Provide stormwater quality source and treatment control measures consistent with Volume 5 of the City/County Drainage Manual. The final design of such source and treatment control measures shall be subject to the approval of the County WRD. On-site source control measures are required for this project in accordance with the latest version of Volume 5 of the City/County Drainage Manual (Manual of Standards for Design of New Development On-Site Storm Water Quality Control Measures). In all cases, source control measures on the improvement plans will include provision of a permanent storm drain message "No Dumping – Flows to Creek" or other approved message at each inlet. As a condition of rezoning and prior to improvement and/or development plan approval, the final design of the proposed on-site source controls will be approved by the County of Sacramento Water Resources Division.

VS-72 Implementation of the proposed VSCP DMP improvements 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 US 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 of the improvement area for potentially occurring special status species.

d) A detailed mitigation plan developed in cooperation with the regulatory resource agencies (US Army Corps of Engineers, US 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 vegetation/tree survey for the improvement area which identifies all riparian habitat and all isolated native trees six-inches dbh (diameter at breast height) or larger.

f) A detailed vegetation/tree replacement planting plan which describes the planting/relocation measures to be implemented to provide in-kind replacement plantings on an inch-for-inch basis for any riparian habitat, for any isolated native oak trees (six inches dbh or larger), and for any isolated non-oak native trees (19 inches dbh or larger), which will be impacted by the proposed improvements.

VS-73 Applicants for future development projects within the Comprehensive Plan area shall submit a wetland delineation of the proposed development area, and shall provide a detailed plan which describes the specific methods to be implemented to mitigate any project impacts upon wetlands such that no net loss in wetland habitat is achieved.

VS-74 Applicants for future development projects within the Comprehensive Plan area shall conduct determinate surveys for potentially occurring special status species within the proposed development area, and shall provide a detailed plan which describes the specific methods to be implemented to mitigate any project impacts upon special status species to a less than significant level. Future development projects located within 500 feet of Laguna or Gerber Creeks are required to consult with the US Fish and Wildlife Service regarding potential impacts to the Giant garter snake pursuant to the Federal Endangered Species Act.

VS-75 Applicants for future development projects within the Comprehensive Plan area shall obtain all necessary US Army Corps of Engineers permits pursuant to Section 404 of the Clean Water Act, all necessary US Fish and Wildlife Service authorizations pursuant to Section 7 or Section 10(a)(1)(b) of the Federal Endangered Species Act, and all necessary California Endangered Species Act permits and Streambed Alteration Agreements from the California Department of Fish and Game pursuant to the Fish and Game Code.

VS-76 Future development projects within the Comprehensive Plan area which result in a loss of Swainson's hawk foraging habitat shall mitigate for such loss by implementing one of the following alternatives:

a) For projects within a one mile radius of an active nest site, the project proponent shall preserve 1.0 acre of similar habitat for each acre lost within a ten mile radius of the project site. For projects within a one to five mile radius of an active nest site, the project proponent shall preserve 0.75 acre of similar habitat for each acre lost within a ten mile radius of the project site. This land shall be protected through fee title or conservation easement (acceptable to the Department of Fish and Game).

b) The project proponent shall enter into 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 provided as evidence of completion of the formal consultation.

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 implementation of one of the measures above, the project proponent may be subject to that program instead.

VS-77 Future development projects located within one mile of an active Swainson's hawk nest site (i.e., the eastern portion of the Plan area along Excelsior Road as shown on Plate BR-7) shall consult with the California Department of Fish and Game (CDFG) prior to development to ensure that no take of Swainson's hawk individuals occur. The CDFG may require such development to conduct preproject surveys to determine the presence or absence of the hawk. If such surveys detect the hawk, the CDFG may impose restrictions on proximate development during the nesting season to ensure that take does not occur.

VS-78 Future development projects within the Comprehensive Plan area shall protect and preserve existing on-site trees to the maximum extent feasible. Consistent with General Plan policies, the removal of any native oak tree measuring 6 inches or greater dbh and the removal of any non-oak native tree (excluding cottonwoods and willows) measuring 19 inches or greater dbh necessary to accommodate future development of Comprehensive Plan land uses shall be mitigated by planting replacement trees (in-kind species on an inch-for-inch basis) within the Comprehensive Plan area.

VS-79 The nesting Cooper's hawk and the potentially nesting Great horned owl observed within the Laguna Creek riparian area are birds of prey protected by Section 3503.5 of the Fish and Game Code. The nesting season for Cooper's hawk ranges from late March until late June, while the nesting season for Great horned owl ranges from mid-February until early May. In order to avoid potential disturbance impacts on the nesting activities of these birds of prey, construction activities shall not occur within 500 feet of the Laguna Creek riparian area between mid-February and late June, unless preconstruction surveys conducted by a qualified biologist confirm that the Cooper's hawk and the Great horned owl are not nesting within the riparian area.

VS-80 Oak trees to be preserved shall be 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 within the dripline is a 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) Any oak trees on the site that require pruning shall be pruned by a certified arborist prior to the start of construction work. All pruning shall be in accordance with American National Standards Institute (ANSI) A300 pruning standards and the International Society of Arboriculture (ISA) "Tree Pruning Guidelines".

c) Temporary protective fencing 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.

d) 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.

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

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

g) 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.

h) No 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 or jacked under the supervision of a certified arborist.

i) The construction of impervious surfaces within the driplines of oak trees shall be stringently minimized. When it is absolutely necessary, a piped aeration system per County standard detail shall be installed under the supervision of a certified arborist.

j) 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.

k) 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. Limited drip irrigation approximately twice per summer is recommended for the understory plants

VS-81 Encourage the retention of important cultural features in the design of future projects.

VS-82 When projects are located in areas of sensitivity for Native American cultural resources, the Native American Heritage Commission and members of the local Native American community shall be contacted.

VS-83 An historic architectural study shall be performed by a qualified, professional architectural historian if previously identified historic structures or buildings are present on the particular parcel subject to development.

This inventory shall comply with NEPA or CEQA requirements and include consultation with the NCIC, Native American groups, and the County Historical Society. The resulting report should 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.

VS-84 In order to reduce potential impacts to previously unidentified cultural resources, a cultural resource field survey shall be performed by a qualified, professional archaeologist on any parcel slated for development and in areas located off-site that are subject to improvements necessary to serve the project (i.e. drainage and other infrastructure) where there is reasonable potential for impacts to cultural resources. This inventory should comply with NEPA or CEQA and include consultation with the NCIC, Native American groups, and the County Historical Society. The resulting report should include at a minimum, a description of the project and background of the history and archaeology of the area, results of the field survey, complete records of any remains found, an analysis of the potential significance of those remains, and recommendations for their preservation and/or mitigation.

VS-85 Should any cultural resources, such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during any development activities, work shall be suspended and the Department of Environmental Review and Assessment shall be immediately notified at (916) 874-7914. At that time, the Department of Environmental Review and Assessment 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, adhere to the guidelines of the Native American Heritage Commission in the treatment and disposition of the remains.

VS-86 The Sacramento County Water Maintenance District shall monitor their water supply wells for contaminants, as required by the California Department of Health Services in accordance with the federal and state Safe Drinking Water Acts and their implementing regulations, to ensure the provision of a safe and potable water supply to the project.

VS-87 Future development proposals on portions of the VSCP area which are known to have supported cattle corral, vineyard or orchard land uses prior to the 1970s, shall implement a soil sampling and analysis program for organochlorine pesticides (i.e., DDT and toxaphene); the soil sampling and analysis program for the vineyard and orchard areas shall also include tests for arsenic and lead.

Those portions of the VSCP area which supported vineyard or orchard land uses prior to the 1970s are identified on Plates TX-2 and TX-3 of the FEIR. Project proponent shall implement a soil sampling and analysis program for organochlorine pesticides (i.e., DDT and toxaphene), arsenic and lead. The soil sampling and analysis program shall be developed by a qualified toxicologist and approved by the County Environmental Management Department - Hazardous Materials Division. The qualified toxicologist

shall conduct a Human Health Risk Assessment to determine whether detected concentrations of the sampled substances fall within acceptable health risk guidelines and, if they do not, the remedial measures which must be implemented to ensure the protection of human health. The Human Health Risk Assessment shall be submitted to EMD for review. Prior to grading or construction activities, the project proponent shall implement any measures required for the remediation of contaminated soils to protect human health.

VS-88 Future development proposals on portions of the VSCP area which are known to have supported vehicular maintenance areas, nursery operations or light industrial operations shall provide a site-specific assessment for hazardous materials, including at least a site walkover and a soil sampling program, which has been approved by the County Environmental Management Department, Hazardous Materials Division.

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.

VS-89 Future development proposals in areas which show evidence of possible hazardous material contamination (i.e., soil discoloration/staining, stressed vegetation, chemical odors, historic burn dumps) shall provide a site-specific assessment for hazardous materials which has been approved by the County Environmental Management Department, Hazardous Materials Division.

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.

VS-90 Prior to development, any existing underground storage tanks (farm tanks) shall be removed as required by the County Environmental Management Department (EMD), Hazardous Materials Division. In addition, EMD may require groundwater and soil investigation for contamination in the tank vicinity.

VS-91 Prior to development, any existing water supply wells and septic systems shall be abandoned as required by the County Environmental Management Department, Environmental Health Division.

VS-92 Prior to demolition of any existing on-site structures, conduct an evaluation of potential asbestos-containing building materials as required by the Sacramento Metropolitan Air Quality Management District.

If asbestos-containing materials are identified, remediation and disposal procedures shall be undertaken by qualified personnel in accordance with all applicable regulations, and in coordination with all applicable agencies.

VS-93 Implementation of the proposed VSCP DMP improvements shall not occur until all necessary permits and/or agreements for the proposed improvements have been obtained from the US Army Corps of Engineers, US Fish and Wildlife Service and California Department of Fish and Game.

VS-94 If an agreement is executed and funds are advanced to the County by any third party for the design, engineering, right-of-way acquisition and related costs for Calvine Road from Bradshaw Road to Vineyard Road, including a water supply transmission main prior to October 31, 2001, condition (a) shall apply. If said agreement is not executed prior to October 31, 2001, then condition (b) shall apply.

a) Prior to the County approving a contract for the construction of Calvine Road from Bradshaw Road to Vineyard Road including a water supply transmission main, the project proponents shall have entered into an agreement (the "VSCP Agreement") and provided to the County monies necessary to fund the difference between 1) the amount advanced to the County by any third party for the design, engineering, right-of-way acquisition and related costs for the Calvine Road Project plus 76% of the VSCP Roadway Development Impact Fees collected from within the Vineyard Springs Comprehensive Plan and 2) the final total cost of design and construction (including CEQA review, right-of-way acquisition and other related costs) of said Calvine Road improvements excluding the water transmission to be funded by Zone 40 of the Sacramento County Water Agency, based upon the following "fair share" amounts which are subject to change if additional rezones are approved within the VSCP area:

- Wildhawk Estates shall pay 71.1 % of the funds to be provided.
- Calvine Crossing shall pay 16.4 % of the funds to be provided.
- Bradshaw Vineyards shall pay 12.5 % of the funds to be provided.

Such fair share payment shall qualify as credits against the VSCP Roadway Development Impact Fees up to 76% of the amount of the fee until such time as $773,360 plus any inflation adjustment has been reimbursed to any third party that advanced $773,360 for the design, engineering, and right-of-way acquisition and related costs for said Calvine Road Improvements. After any third party advancing $773,360 has been fully reimbursed, any additional fair share payment shall qualify as credits against up to 100% of the VSCP Roadway Development Impact Fees. Such fair share payment may alternatively be eligible for reimbursement subject to the provisions for reimbursement included in the implementation development impact fee program for the VSCP Financing Plan.

If the VSCP Agreement and monies are not provided prior to such time that the County is ready to award a contract for the project, no additional building permits will be issued until an agreement is approved or an alternative funding source is in place to fund the project.

b) Prior to October 31, 2001, a contract must be awarded to construct a water transmission main on Calvine Road between Laguna Creek and Vineyard Road. Design and construction of the transmission main will be coordinated through and reimbursed by Zone 40 of the Sacramento County Water Agency. Zone 40 reimbursement may be through a combination of development fee credits and through direct reimbursement, as applicable. The direct reimbursement amount will be the total contract amount plus design costs minus the total dollar amount of development fees credits assigned to the subdivision map constructing the water transmission main. The total dollar amount of development fee credits will be based on the total number of residential units within said map multiplied by the Zone 40 water development fee for a typical residential unit that is effective at the time the agreement is approved (i.e., the current fee is $4,251 per residential unit) not to exceed the total reimbursable amount. If the calculated development fee credits exceed the total reimbursable amount, there will be no direct reimbursement. Reassignment of credits will not be permitted.

   If the contract for the transmission main project is not ready to award within the above stated timeframe, no additional building permits will be issued until the contract is awarded.

VS-95 Drainage master plan improvements shall be required concurrent with development within the Vineyard Springs Comprehensive Plan (VSCP) area, in accordance with the following criteria.

No final map shall be recorded, nor improvement plans approved, until the following criteria are met:

a. Phase I Improvements are required in order for 349 acres within the VSCP to be developed.
   (1) Up to 80% of Phase I area (279 acres) can be developed with no restrictions.
   (2) Prior to exceeding 279 acres: acquire Basin UL45 site.
   (3) Prior to exceeding development of 90% of area (314 acres), begin excavation of UL45, with the contract released for completion of the entire basin (140 AF) to the satisfaction of the Water Resources Division.
   (4) By development of 100% of area (349 acres), complete Basin UL45 (including weir, outlet pipes, etc.)

b. Phase 2 Improvements are required in order for an additional 270 acres to be developed.
   (1) As up to 30% of Phase 2 area (81 acres) develops: acquire Basin UL41 site.
   (2) Prior to exceeding 30% of area (81 acres), begin construction of the channel from Waterman Road to Sheldon Road, and begin excavation of Basin UL41.
   (3) By development of 100% of area (270 acres), complete channel improvements and at least 25 acre feet of Basin UL41 excavation.

   Note: the number of acres allowed to develop between 30% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

c. Phase 3 Improvements are required in order for an additional 172 acres to be developed.
   (1) As up to 25% of Phase 3 area (43 acres) develops, continue excavation of Basin UL41.
   (2) Prior to exceeding 25% of area (43 acres), start construction of the channel from Sheldon Road to the CCT Railroad.
   (3) By development of 100% of area, complete channel improvements and an additional 24 acre feet (total of 49 AF) of Basin UL41.

   Note: the number of acres allowed to develop between 25% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

d. Phase 4 Improvements are required in order for an additional 91 acres to be developed.
   (1) As up to 25% of Phase 4 area (22.75 acres) develops, continue excavation of Basin UL41, and acquire Triangle Rock basin site (if directed by the Board of Supervisors).
   (2) Prior to exceeding 25% of area (22.75 acres), start channel improvements from the CCT Railroad to Vineyard Road, and begin construction of the Triangle Rock basin improvements.
   (3) By development of 100% of area, complete the channel improvements; and additional 16 acre feet (total of 65 AF) of Basin UL41, including all appurtenances (weir, outlet pipes, etc.); and Triangle Rock basin (including weir, pumps, etc.)

   Note: the number of acres allowed to develop between 25% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

e. Phase 5 Improvements are required in order for an additional 166 acres to be developed.
   (1) As up to 25% of Phase 5 area (41.5 acres) develops: acquire Basin G45 site.
   (2) Prior to exceeding 25% of area (41.5 acres), start excavation of Basin G45 (44 AF) and Gerber Creek channel improvements.

(3) By development of 100% of area, complete all improvements.

Note:

(1) The number of acres allowed to develop between 25% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

(2) If development occurs within the Gerber Creek watershed before Phase 4 is completed, only development outside of the FEMA floodplain spill of Laguna Creek to Gerber Creek can occur. The development will be required to construct ultimate Gerber Creek improvements at their time of development.

VS-96 New municipal groundwater wells shall be constructed into the deeper aquifer.

VS-97 Siting of future municipal groundwater wells shall maintain a minimum 800 foot distance between existing private domestic wells to the extent that it is practical and feasible.

CHAPTER 3

PROJECT SETTING

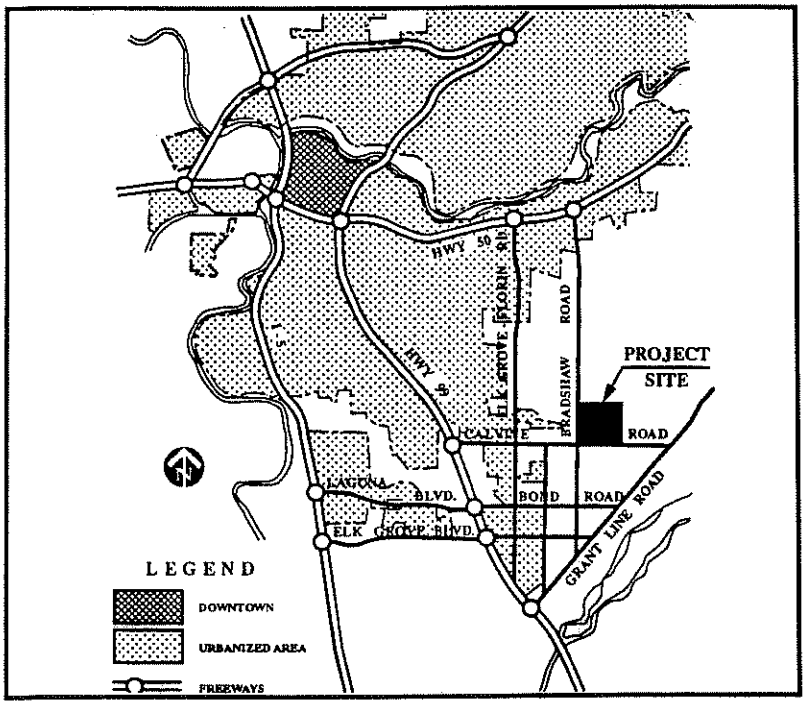
INTRODUCTION

This section identifies the location of the Plan area and provides an overview of the character of the Plan area, including a description of the existing land uses and site conditions.

REGIONAL AND LOCAL SETTING

The Vineyard Springs Comprehensive Plan area is located in south-central Sacramento County, approximately thirteen miles from downtown Sacramento in the Vineyard Community Planning Area. The Plan area is located at the eastern edge of the urbanized portion of the Vintage Park/Churchill Downs area. The Vineyard Springs Planning Area covers approximately 2,560 acres. The area is bounded on the north by Gerber Road; on the east by Excelsior Road; on the south by Calvine Road; and on the west by Bradshaw Road (as shown in Figure 3.1).

Figure 3.1
Vineyard Springs Comprehensive Plan
Project Location



SURROUNDING LAND USES

The Vineyard Springs Comprehensive Plan area is surrounded by a variety of land uses (Figure 3.2). Directly to west of the planning area is the Vintage Park/Churchill Downs area, which is predominantly consisted of single family residential units. The residential density in this newer development is generally 5 to 6 dwelling units per acre. Agricultural-Residential uses are located directly north and south of the planning area; both areas are best characterized as primarily underdeveloped, semi-rural areas containing scattered older residences. The area directly east of the Vineyard Springs Comprehensive Plan area is utilized for agricultural uses, primarily for grazing.

EXISTING LAND USES

The Vineyard Springs Comprehensive Plan area is an agricultural-residential area that is gradually being converted to residential uses. Formerly in vineyards and orchards, most of the agriculture is now irrigated pasture, and is grazed. A few parcels support specialty crops such as ornamental iris. The planning area currently contains four established residential subdivisions. Two of these subdivisions, Maybell/Spiva Lane and Carmencita Avenue, are large lot (2-5 acres) rural subdivision, while the remaining two, Emerald Creek and Silver Springs, are one acre estate lot subdivisions. Two subdivision projects, Laguna Vineyards and Vineyard Crossing, were approved by the Board of Supervisors in 1995 and 1996; however, development has yet to occur. Both project sites are located north of Calvine Road, between Vineyard Road and the Central California Traction Railroad. The Wildhawk Golf Course is currently under construction with a targeted completion date of Fall 1997. This golf course is located at the southeast corner of Gerber and Vineyard Road. These land use are shown in Figure 3.3.

Three quarters of the planning area is remarkably flat, ranging from 60 to 65 feet in elevation. The northeast quadrant and the eastern boundary of the planning area have higher relief and support a vernal pool complex in good condition. Laguna Creek is the primary intermittent drainage crossing the planning area, from northeast to southwest. Gerber Creek dips in and out of the northwestern quarter of the planning area. The creek area supports a limited amount of riparian vegetation, and seasonal wetlands are scattered through the site.

EXISTING SITE CONDITIONS

Wetlands

According to the *Biological and Wetland Assessment*, dated June 1996, prepared by Biota, approximately 103 acres of jurisdictional wetlands were recorded in the Vineyard Springs Comprehensive Plan area. Three wetland habitat types were observed within the planning area: vernal pools; seasonal swales and freshwater marshes; and stock ponds and channelized

Figure 3.2
Vineyard Springs Comprehensive Plan
Surrounding Land Uses

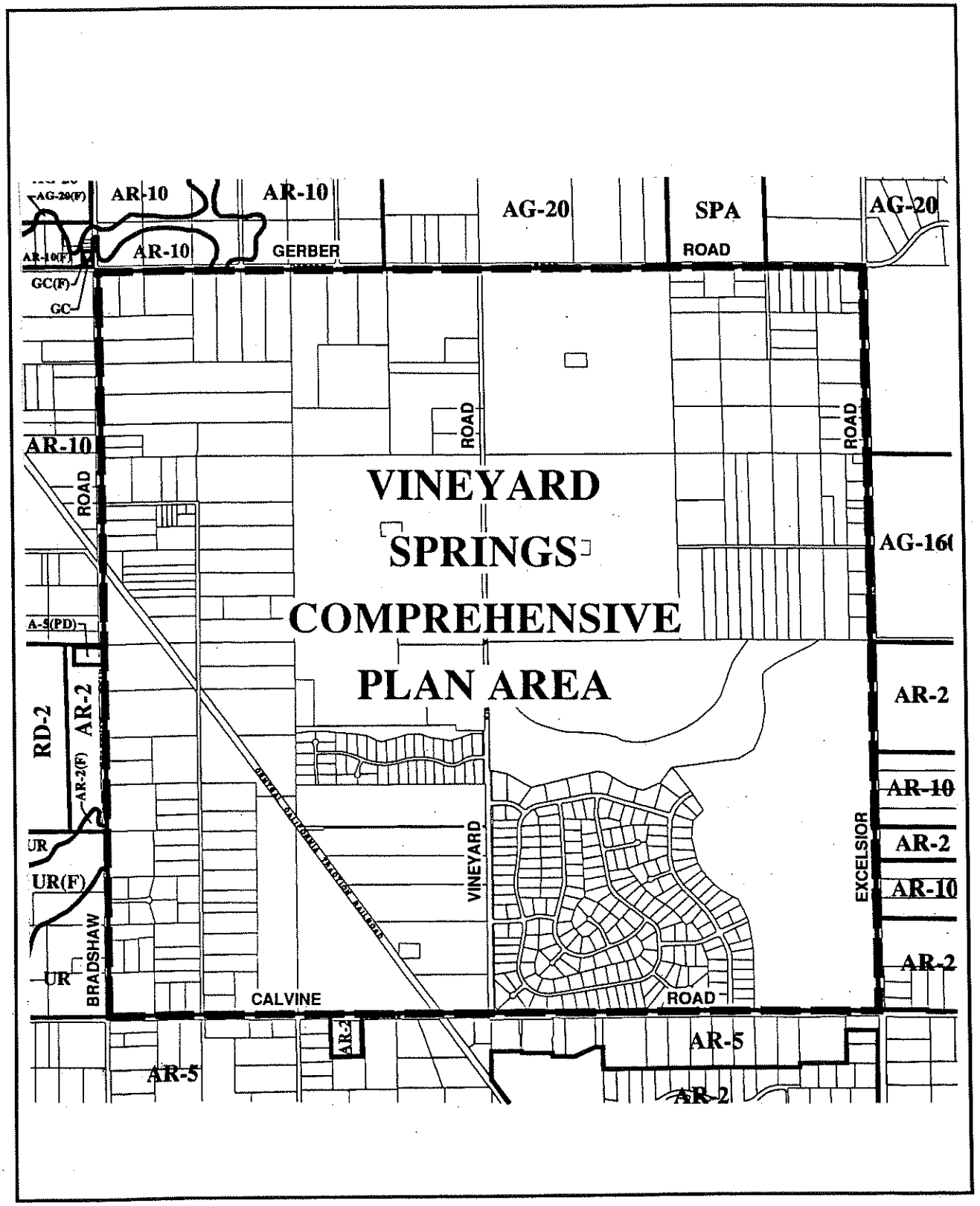
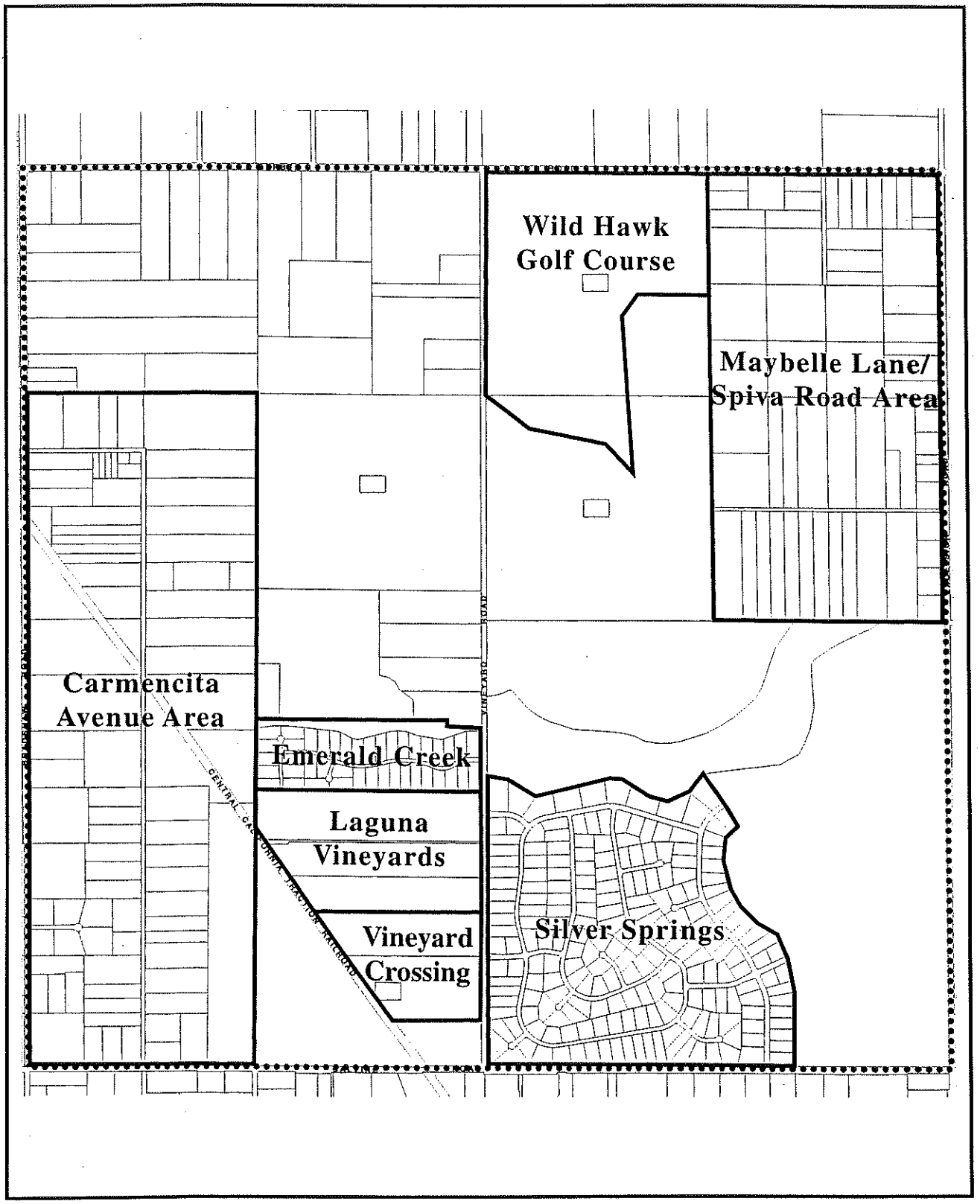


Figure 3.3
Vineyard Springs Comprehensive Plan
Existing Land Uses



drainages. These wetlands are sparsely scattered throughout the planning area; however, the most concentrated area of vernal pools is located in the southeast corner of the area (i.e., east of the Silver Springs Subdivision). Table 3.1, below, summarizes the acreage for jurisdictional wetlands delineated within the Vineyard Springs planning area.

Table 3.1

Delineated Jurisdictional Wetland Acreage Within the Vineyard Springs Area

Jurisdictional Wetland Type	Approximate Acreage
Vernal Pools	86.5
Seasonal Swales and Freshwater Marshes	0.71
Stock Ponds and Channelized Drainages	1.30
Untyped	14.65
Subtotal	**103.16**

Source *Biological and Wetland Assessment: Vineyard Springs Comprehensive Plan Area. Prepared by Biota, June 1996.*

Special Status Plant Species

According to the *Biological and Wetland Assessment*, dated June 1996, prepared by Biota, two special status plant species were encountered during the special status species field survey in 1996. Hoary Navarettia (Navarettia Ericephala), a California Natural Plant Society (CNPS) list 4 species was found in a seasonal wetland northwest of the Calvine Crossing project area; while Sanford's arrowhead, also known as valley sagittaria (Sagittatia sanfordii), was encountered in a stock pond within the Calvine Crossing project area. Sanford's arrowhead is a CNPS list 1B species, and is a federal species of concern. It is an aquatic emergent plant that requires standing or slow moving freshwater in ponds, marshes or ditches. Hoary Navarettia is a small annual, usually found in heavy soil of seasonal wetlands.

Special Status Wildlife Species

Vernal pool tadpole shrimp, Lepidurus packardi, was identified and recorded in ponded depressions adjacent to the Central California Traction Railroad, within the Vineyard Springs area. This species is federally listed as endangered. White-tailed kites and an American kestral were found nesting within the Bradshaw Vineyards project site. White-tailed kite is listed as one of thirteen "Fully Protected Birds" under California Fish and Game Codes. Cooper's hawk was also encountered nesting in the Laguna Creek riparian area; it is a species that is listed as a California Species of Special Concern. Great horned owls and tri-colored blackbirds were

observed within the planning area; however, no suitable nesting habitat could be found. The tri-colored blackbird is a California Species of Special Concern, and a federal species of concern.

Cultural Resources

A Cultural Resources Assessment was prepared by Peak and Associates, Inc., in May of 1996. The following section summarizes information that is contained in the report.

The Vineyard Springs area lies on a flat open plain of the Sacramento Valley with two intermittent water sources present. The land of the Plan has been in agricultural use from the 1850s up to the present day. Generally, farmers first took up the land with first rate soil, with a later wave of settlers selecting the tracts with second rate soil. The soil type, combined with a lack of natural water sources, made the latter useful for dry land cultivation of hay and grain, or for seasonal grazing. Later, with the development of better systems for pumping water and irrigation, the land could be used more intensively for vineyards and small fruit orchards.

Two historic period archeological sites were discovered west of Vineyard Road; however, these resources do not qualify as "important archeological resources" under the California Environmental Quality Act (CEQA). At least thirty structures exist within the plan area that are 50 years old or older and meet the minimum age requirements for consideration as important historic resources. Based upon the initial inspection of these 30 structures, eighteen appear to have retained sufficient integrity of design and use of building materials and, more importantly, represent a recognized style of architecture that may qualify them for consideration as important resources.

CHAPTER 4

LAND USE SUMMARY

INTRODUCTION

This section describes the various land uses specified by the Vineyard Springs Comprehensive Land Use Plan. This section also briefly summarizes the general land use categories designated on the Land Use Plan, including Residential, Commercial and Open Space. Chapters 5 and 6 address in greater detail the planning concepts, policies, development standards, and design guidelines that govern future development within each of these land use categories.
Several factors have influenced the distribution of land uses within the Vineyard Springs Comprehensive Plan. The major influences include key land use related General Plan Policies as discussed throughout this section, the guiding principles adopted by the Subcommittee of the VACPAC (Vineyard Community Planning Advisory Council) and the opportunities and constraints exisitng within the planning area.

SUMMARY OF ACTION REQUIRED

The intent of the Vineyard Springs Comprehensive Plan is to refine the policy direction provided by the General Plan and to supplement the Zoning Map and regulations. Procedurally, adoption of the Vineyard Springs Comprehensive Plan requires a General Plan Amendment and amendment to the Vineyard Community Plan. Additionally, development within the Plan area is subject to subsequent approval of rezone applications, tentative maps, and other discretionary permits as specified by Sacramento County codes and regulations unless amended herein.

General Plan Amendment

Presently, the General Plan Land Use Diagram designates the Vineyard Springs planning area for a variety of uses including Urban Development Area, Transit Oriented Development, Low Density Residential, Agricultural Residential and Recreation uses. Figure 4.1 shows the existing General Plan designations for the project area. Amendments to the General Plan Land Use Diagram are necessary to depict land uses as shown in the Vineyard Springs Comprehensive Plan Land Use Plan. Proposed General Plan land use designations are depicted in Figure 4.2.

Vineyard Community Plan Amendment

The Community Plan designation for the Plan area is to be amended to reflect land use designations that are proposed in the Vineyard Springs Comprehensive Land Use Plan. Proposed Community Plan land use designations are depicted in Figure 4.3.

Figure 4.1
Vineyard Springs Comprehensive Plan
Existing General Plan Designations

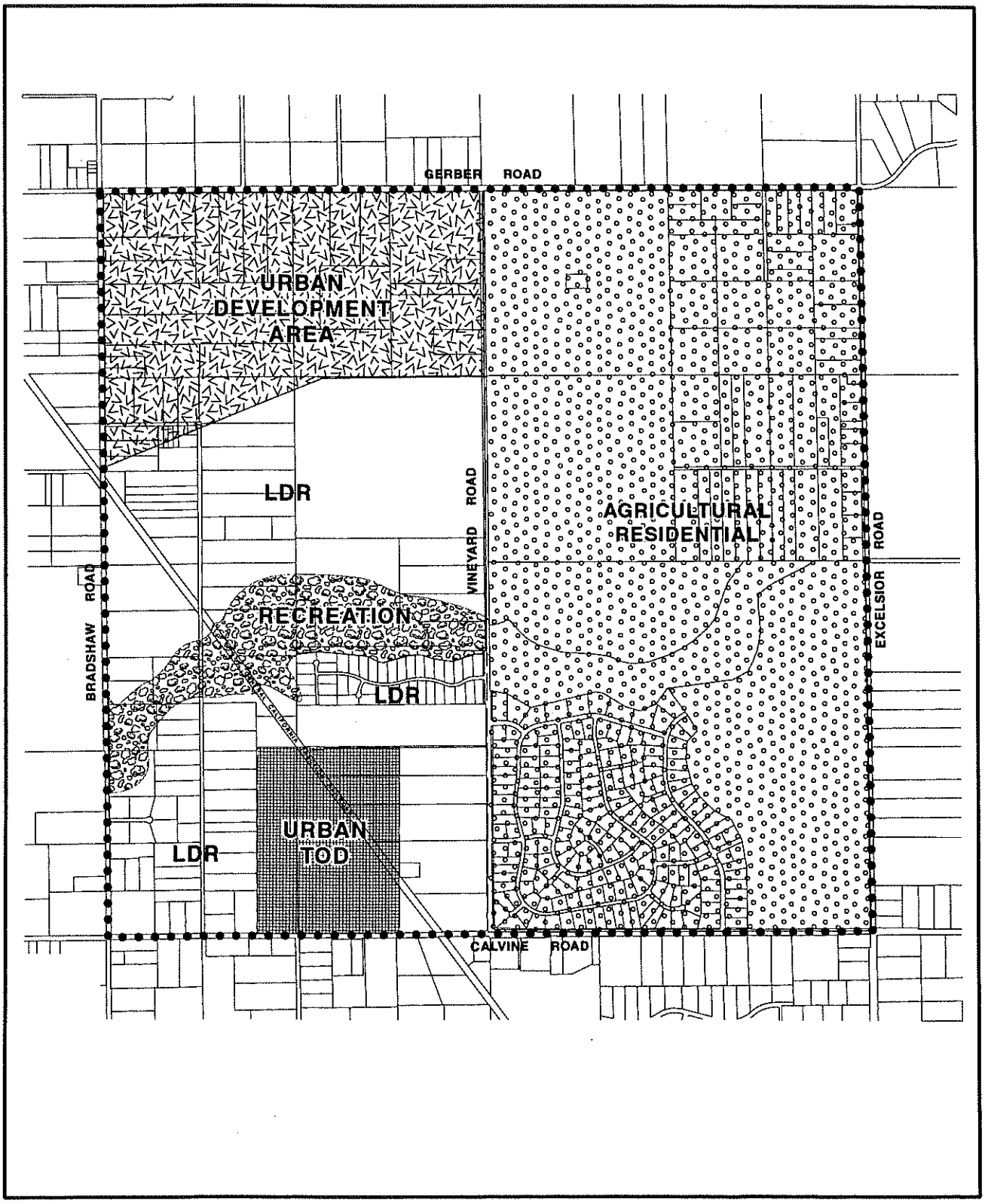


Figure 4.2
Vineyard Springs Comprehensive Plan
Proposed General Plan Designations

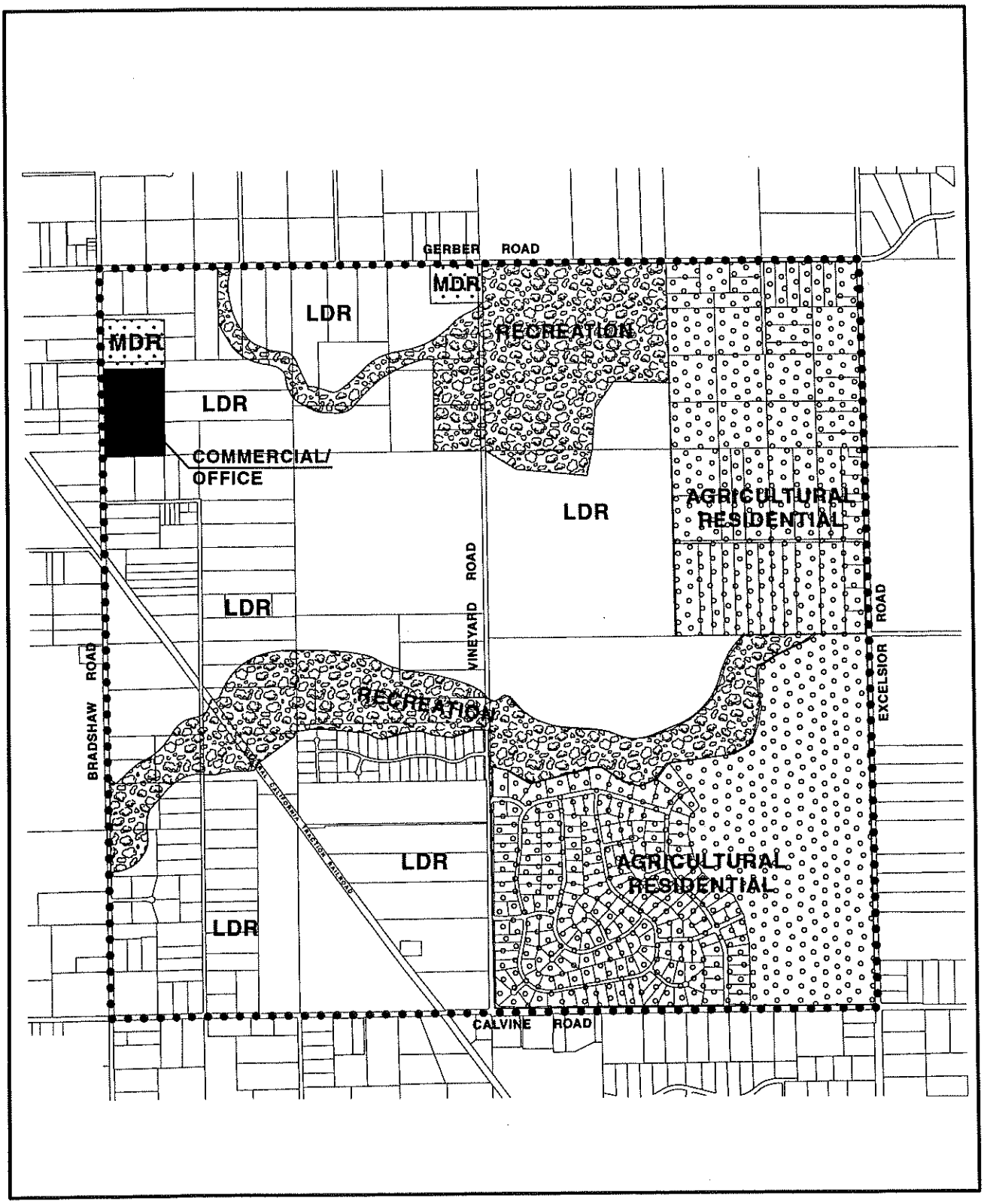
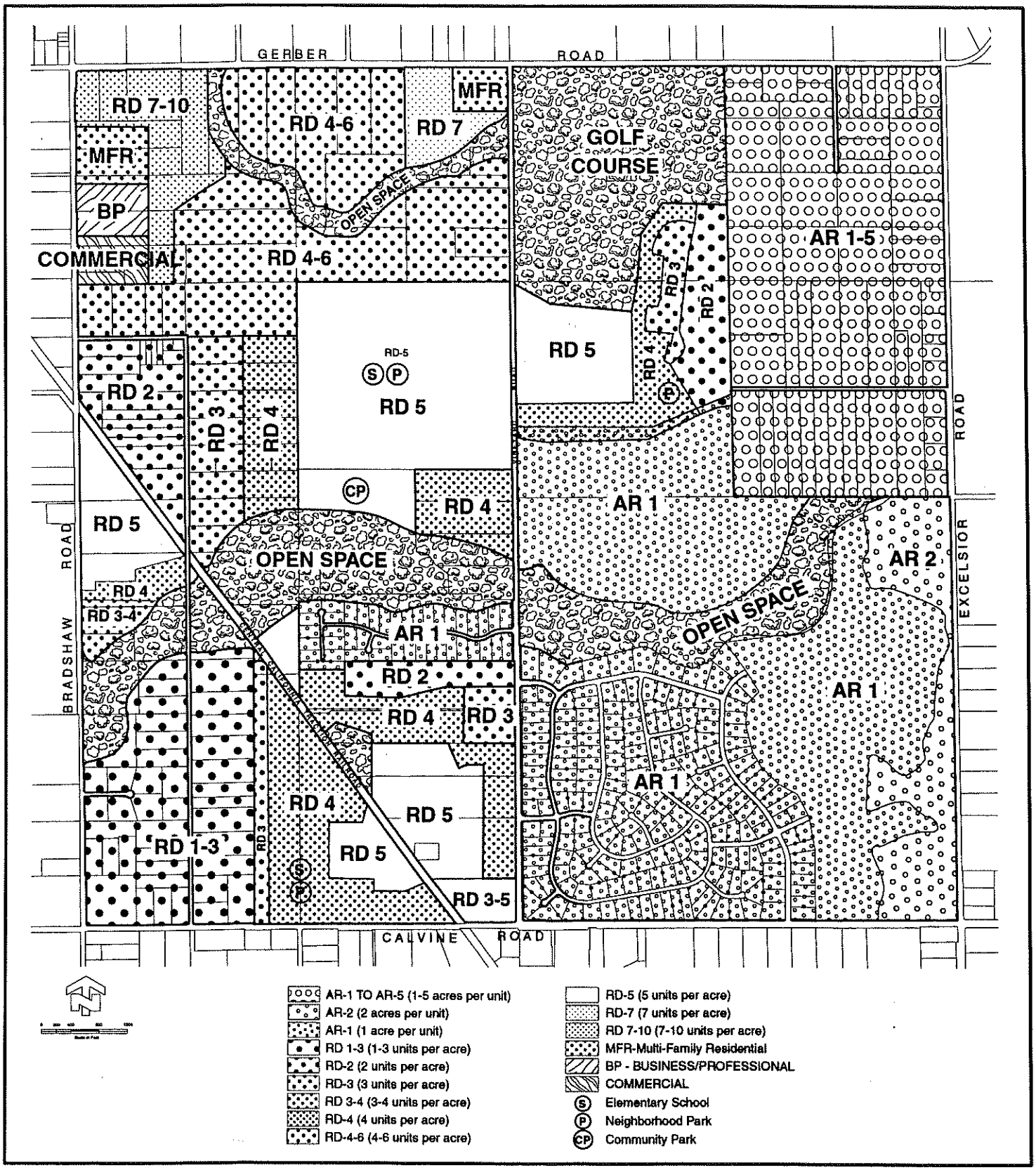


Figure 4.3
Vineyard Springs Comprehensive Plan
Proposed Community Plan Designations



Rezoning

Zone classifications of properties within the Plan area will not change as a result of the adoption of the Comprehensive Land Use Plan. Discretionary actions for rezoning of individual properties will occur through separate rezone applications.

Tentative Maps

Concurrent with the preparation of this Comprehensive Plan, tentative map applications and rezone requests have been filed for the properties shown on Figure 1.1. (Other tentative maps may be filed subsequently.) These properties represent approximately one-half of the total land area designated Residential.

LAND USE SUMMARY

The Vineyard Springs land use plan is depicted in Exhibit 4.4. The land use diagram proposes 18 land use categories, including eleven separate residential categories. Table 4.1 summarizes the acreage and density totals for the various land use categories and provides other supporting information.

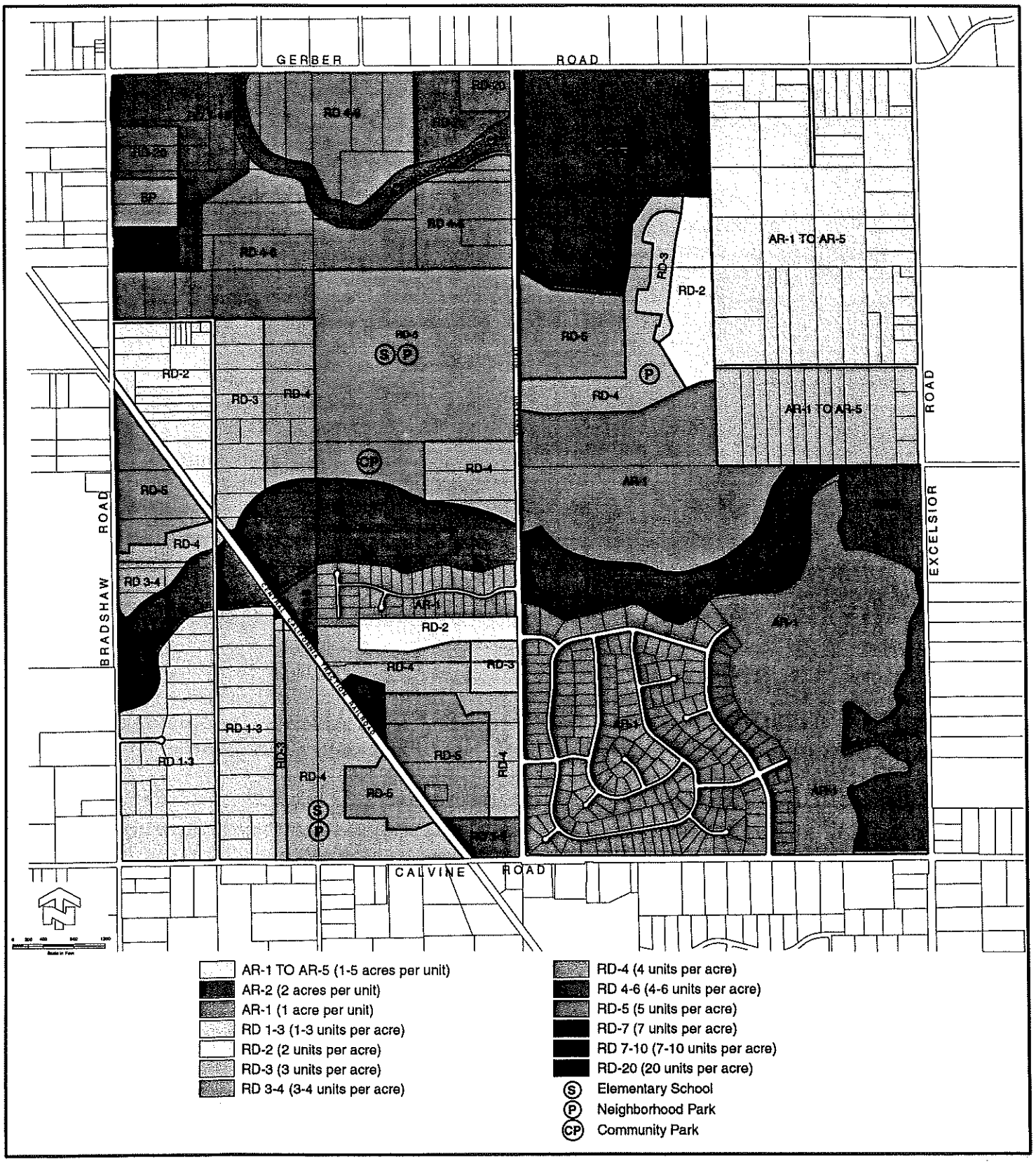
In response to direction contained in the Sacramento County General Plan, the Vineyard Springs land use plan responds to the need for a well-planned, high quality suburban environment in the Vineyard area. The Plan has been prepared following public input, extensive analyses of environmental conditions,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

The Plan provides for the ultimate development of the entire 2,560± acre area, including 5,942 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 "core/focus" area which features the mixing of higher density residential, commercial and public uses; and surrounded by predominantly low density residential uses. The focus area is located north of Carmencita Avenue, directly east of Bradshaw Road. Another important land use component is the Drainage Parkway system. Created within the alignments of Laguna and Gerber 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

Figure 4.4
Vineyard Springs Comprehensive Plan
Land Use Plan



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, pedestrian, 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.
- ✓ Utilization of various buffering techniques to accommodate urban type of uses while preserving and protecting existing agricultural-residential type of housing units primarily along Carmencita Avenue and Spiva Road/MayBelle Lane area.
- ✓ A commercial center at along Bradshaw Road 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 naturalized storm drainage system within Drainage Parkways that is part of a larger, county-wide solution to area-wide flooding. The existing Laguna Creek and Gerber Creek floodplain is designated for open space uses to accommodate recreation facilities.
- ✓ 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.

GENERAL PLAN CONSISTENCY

The Vineyard Springs Comprehensive Land Use Plan provides for the ultimate development of the entire 2,560 acre area, including 5,942 dwelling units in a wide variety range of types and densities, retail commercial and business professional uses for the convenience of local residents. The Plan also identifies parks and open space uses, schools, and all public facilities necessary to support ultimate development at adopted service levels. Plan area land use designations are illustrated on Figure 4.4, Comprehensive Plan Land Use Diagram, Page 4.6, and summarized on Table 4.1, Page 4.7. The character of the Vineyard Springs Comprehensive Land Use Plan complies with General Plan policy LU-11 which specifies, *"Specific Plans and Community Plans for areas within the Urban Service Boundary should provide a balance of employment,*

TABLE 4.1
LAND USE SUMMARY
VINEYARD SPRINGS PLANNING AREA

Land Use Category	Acres	Percentage of Total Planning Area
RESIDENTIAL:		83%
AR 1-5	322	
AR-2	83	
AR-1	582	
RD 2	96	
RD 3	74	
RD 4	208	
RD 5	279	
RD 7	20	
RD 1-3	142	
RD 3-4	15	
RD 3-5	19	
RD 4-6	215	
RD 7-10	52	
MFR (RD 14-22)	22	
Subtotal	2,129	
COMMERCIAL:		1 %
Business/Professional	11	
Limited Commercial	13	
Subtotal	24	
RECREATION/OPEN SPACE:		16 %
Drainage Parkway	237	
Community Park	18	
Golf Course	144	
Other Open Space	8	
Subtotal	407	
TOTAL	**2,560**	**100%**

neighborhood services, and different housing types wherever feasible." The Vineyard Springs Land Use Plan establishes a mix of housing, commercial and public uses to promote a range of living environments and employment opportunties primary to attract and retain a stable and diversified population. The key strategy of the land Use Plan is to encourage expanded opportunties for a diversity of housing and jobs, while retaining the character of established residential neighborhoods within the Plan area.

Another key concept of the Vineyard Springs Land Use Plan is the identification of a "core/focus" area which features the mixing of higher density residential, commercial and public uses; and surrounded by predominantly low density residential uses. The focus area is located north of Carmencita Avenue, directly east of Bradshaw Road. This land use strategy is consistent with the following General Plan policies:

> *LU-27. "The primary concepts in LU-26 should be employed wherever feasible in new urban development."*
>
> *LU-26. "Developments in the areas designated on the Land Use Diagram as Urban or Neighborhood TOD's 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 TOD's 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."*

Many of the planning principles cited in LU-26 have been incorporated into the design of the Vineyard Springs Land Use Plan. The focus/core area is planned to be developed in conformance with the overall goal of advocating density mix and with an arrangement of land uses that are supportive of transit service, encourage pedestrian movement, and are connected to surrounding residential neighborhoods through direct, multiple linkages. The focus area development pattern should be composed of mixed use neighborhoods, with a full range of housing types, primarily higher density housing, and should be concentrated around the transit stop.

Residential land uses are proposed as the predominant land use throughout the Vineyard Springs planning area. The land use plan contains approximately 2,129 acres of land designated for residential use. The land use plan proposes either specific zoning type residential categories (i.e., RD 2, RD 3 etc.) or density ranges for areas that have been identified for residential uses. Specific zoning type residential designations were applied to areas owned or controlled by property owners who intend to immediately develop their properties (i.e. participating property owners); while ranges were assigned to properties owned by individuals who are not financially participating in the process. Density ranges were used to provide flexibility in determining the future type of development.

The residential land use types and densities within the Vineyard Springs Plan area have been meticulously selected with consideration to existing land uses for areas within the Plan area in order to achieve land use compatibility. This approach is consistent with the following General Plan policies

> LU-18. *"Design new development to be compatible with surrounding development." and*
>
> *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 Vineyard Springs Land Use Plan proposes the most intensive single family type residential uses (i.e., RD 5 and RD-7) within the central portion of the planning area, primarily the area north of Laguna Creek and on the both sides of Vineyard Road. Reduced densities are proposed as buffers for locations adjacent to properties designated for RD 5 and RD 7, consistent with concepts of Policies LU-18 and LU-19. Buffer/transition zones are proposed to buffer the intensive residential area proposed within the central portion of the area, as the plan proposes RD 3 and RD 4 residential uses adjacent to the Spiva Road/MayBelle Lane Agricultural-Residential area. The Plan further proposes RD 2, RD 3 and RD 4 type of uses along the Carmencita Road area, north of Laguna Creek, to buffer the existing very low density of housing units within the area from the proposed RD 5 and RD 7 type of development proposed within the central and north central portion of the planning area.

In order to be sensitive to the existing agricultural-residential type housing units along Carmencita Avenue, south of Laguna Creek, the Land Use Plan recommends a gradual increase in residential land use density for properties located in the southwest portion of the planning area. The Plan shows properties immediately adjacent to Carmencita Avenue for RD 1-3 type of residential uses, and further recommends for the gradual increase in densities for the two parcels located east of the Carmencita Avenue area.

The Spiva Road/Maybelle Lane neighborhood, located on the northeast corner of the Vineyard Springs planning area, is designated for Agricultural Residential uses due to the existing concentration of agricultural-residential type of housing units and also in recognition that Excelsior

Road represents the edge of the Urban Policy Area boundary of the General Plan. RD-3 and RD-4 designations have been assigned to the area immediately west of the Spiva Road/MayBelle Lane Agricultural-Residential Area to act as a buffer zone between the agricultural-residential neighborhood and the Vineyard Springs Estates subdivision proposal. The intent of the transitional of buffer zone is to achieve land use compatibility and to ensure that the Agricultural-Residential areas are functionally integrated with other urban uses proposed within the Plan area. This strategy is also consistent with General Plan Policy LU-43, which specifies, *"Community and Specific Plans prepared for urbanizing areas may provide for additional Agricultural-Residential areas provided they are functionally integrated with other urban uses in the context of the Plan".*

The Vineyard Springs Comprehensive Plan also shows the existing Silver Springs and Emerald Creek subdivision areas in the Agricultural-Residential 1 (AR-1) designation. The area surrounding the Silver Springs Subdivision area is also designated AR-1 to allow for future infill Agricultural-Residential housing developments around the existing Silver Springs Subdivision area and along the perimeter of the urban growth area. This strategy is consistent with key concepts of General Plan Policy LU-42, which states, *"Future Agricultural-Residential development shall be limited to existing developed and infill Agricultural-Residential lands designated on the Land Use Diagram and such additional areas adjacent to existing developed lands to act as buffer to new urban areas or as a buffer at the Urban Service Boundary as are consistent with LU-43".*

The Plan addresses the mixed-use provisions of Policy AQ-23 which states, *"Promote mixed-use development to reduce the length and frequency of vehicle trips".* The Plan includes a mixture of land uses and over 22 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 Vineyard Springs Land Use Plan is in compliance with General Plan policy AQ-24, which specifies, *"Provide for increased intensity of development along existing and proposed transit corridors",* since the Plan provides a mixture of activities along major transit routes to augment travel options. A key strategy of the Land Use Plan is to encourage the development of neighborhood type commercial and business professional uses in conjunction with apartments along transit corridors that are compatible with the surrounding area. The Plan proposes the highest intensity land uses (i.e., Commercial and Business Professional uses) and the highest density residential uses (i.e., Multi-Family Residential uses) along Bradshaw and Gerber Roads, and can be easily served by transit.

CHAPTER 5

RESIDENTIAL LAND USE

INTRODUCTION

This section describes most aspects of residential development within the Plan area, including a general discussion on the total dwelling unit allocation for the Vineyard Springs area, the density averaging concept and key residential design concepts. This section also provides a description of each residential category, as proposed in the land use plan, including corresponding design concepts, zoning classifications and development standards.

RESIDENTIAL LAND USE CATEGORIES

The land use plan contains approximately 2,129 acres of land designated for residential use. The land use plan proposes either specific zoning type residential categories (i.e., RD 2, RD 3, etc.) or density ranges for areas that have been identified for residential uses. Specific zoning type residential designations are applied to areas owned or controlled by property owners who intend to immediately develop their properties (i.e. participating property owners); while ranges were assigned to properties owned by individuals who are not financially participating in the process. Density ranges were used to provide flexibility in determining the future type of development. The various assigned density categories and ranges are presented as follows:

Agricultural-Residential	**1-5**	**acres/dwelling unit**	**(lowest density)**
Agricultural-Residential	**2**	**acres/dwelling unit**	
Agricultural-Residential	**1**	**acres/dwelling unit**	
Residential	**2**	**dwelling units/acre**	
Residential	**1-3**	**dwelling units/acre**	
Residential	**3**	**dwelling units/acre**	
Residential	**3-4**	**dwelling units/acre**	
Residential	**4**	**dwelling units/acre**	
Residential	**3-5**	**dwelling units/acre**	
Residential	**5**	**dwelling units/acre**	
Residential	**4-6**	**dwelling units/acre**	
Residential	**6 7**	**dwelling units/acre**	
Medium Density Residential	**7-10**	**dwelling units/acre**	
Multi Family Residential	**14-22**	**dwelling units/acre**	**(highest density)**

RESIDENTIAL DWELLING UNIT ALLOCATION

Based on the assigned density, dwelling units have been allocated to properties within the Plan area. In cases where a density range is specified, the mid-point of the range is used for

determining dwelling unit allocation as listed on Table 5.1. The density of a residential project can be anywhere within the specified range, as long as the average density is acheived. Deviations from the density range and average density are permitted only in accordance with provisions of this Plan. A partial listing of the dwelling unit allocation by individual property ownership appears in Table 5.2. This list only includes properties with development potential, while developed properties have been omitted from the database.

Table 5.1
Residential Land Use Summary

Land Use/ Density Range	Acres	Density Average	Total Units
AR 1-5	322	2.5 ac/unit	129
AR 2	83	2 ac/unit	42
AR1	582	1 ac/unit	582
RD 2	96	2 units/ac	192
RD 3	74	3 units/ac	222
RD 4	208	4 units/ac	834
RD 5	279	5 units/ac	1,396
RD 6 7	20	7 units/ac	140
RD 1-3	142	2 units/ac	284
RD 3-4	15	3.5 units/ac	53
RD 3-5	19	4 units/ac	76
RD 4-6	215	5 units/ac	1,075
MDR (RD 7-10)	52	10 units/ac	520
MFR (RD 14-22)	22	18 units/ac	396
Totals	**2,129**		**5,942**

DENSITY AVERAGING

As a measure to promote housing diversity within the Plan area, landowners may elect to utilize higher densities than those designated on the Vineyard Springs Comprehensive Land Use Plan for a portion of their ownership, provided the dwelling unit allocation of the entire ownership is not exceeded.

Density Averaging shall be limited to a maximum one dwelling unit per acre increase above the residential density designation identified on the land use plan. In cases where identified designation is a range, the one du/ac increase may be applied to the high end of the range (i.e., the maximum allowable density in an area designated on the land use plan as 4 to 6 du/ac would be 7 du/ac). If the proposal is greater than a one dwelling unit per acre increase, a Special Development Permit application is required. An exhibit illustrating and tabulating any proposed Density Averaging is to be submitted to the County concurrent with any corresponding tentative map application.

Table 5.2 (a)
Dwelling Unit Allocation for Selected Parcels

Parcel Number	Name/Parcel Owner	Total Acreage	Land Use	Dwelling Units	Owner's Total Allocation
122-0010-003	McKenna, Dennis & Joan	9.6	RD 7-10	96	96
122-0010-006	Murphy, James E. & Bonnie J.	9.6	RD 4-6	48	48
122-0010-007	Hamilton, Helen	3.9	RD 7-10	39	39
122-0010-009	Sy, Ly A & Kiu Liu	4.7	RD 7-10	47	47
122-0010-010	Simons, Evelyn	9.9	RD 7-10	45	
			MFR 14-20	96	141
122-0010-011	Lopez, Andres	9.9	RD 7-10	34	
			MFR 14-20	116	150
122-0010-013	R/M Cook Family Living Trust	10.2	RD 4-6	19	19
122-0010-014	R/M Cook Family Living Trust	9.9	RD 4-6	38	38
122-0010-015	Bernier, Howard F. & Janice L.	4.8	RD 7-10	48	48
122-0010-016	Wickham, Robert W. & Darlene D.	2.3	RD 7-10	23	23
122-0010-017	Lauer, Ernie A. & Dona M.	2.5	RD 7-10	25	25
122-0020-001	Hogge, Dean & Pamela	26.8	RD 4-6	47	
			RD 7-10	66	
			MFR 14-20	55	168
122-0020-006	Tran, Stanley Hoann & Linh T.	25.8	RD 4-6	74	
			RD 7-10	30	104
122-0020-008	Hernandez, Ruben G. & Elfida	9.9	RD 4-6	11	
			RD 7-10	31	42
122-0020-009	Silveira, Jose E.	14.3	RD 4-6	72	72
122-0030-002	Pfannenstiel, Joseoph A.	0.4	RD 2	1	1
122-0030-003	Sakaoka, Allan	0.4	RD 2	1	1
122-0030-004	Baker, Charles	0.5	RD 2	1	1
122-0030-005	Lacy, Donald & Karen	0.5	RD 2	1	1
122-0030-006	Souza, Rosa Lee	0.5	RD 2	1	1
122-0030-007	Pask, Robyn L.	0.5	RD 2	1	1
122-0030-008	Tietz, Gerhard W. R.	3.4	RD 2	7	7
122-0030-009	Spithorst, John & Amy	1.0	RD 2	2	2
122-0030-010	Liashenko, Maria	3.8	RD 2	8	8
122-0030-011	Bolling, Frank R. & Patricia A.	3.8	RD 2	8	8
122-0030-012	Wildenhaus, Thomas D. & Frances K.	4.0	RD 2	8	8
122-0030-015	Hay, Nancy Lee	9.9	RD 3	16	
			RD 4	19	35
122-0030-016	Cramer Family Trust	3.1	RD 4-6	15	15
122-0030-018	Thomas, Judy	2.9	RD 4-6	15	15
122-0030-019	Prychodzko, John & Emilia	6.2	RD 4-6	31	31
122-0030-020	Christopher, Fran	5.7	RD 4-6	29	29
122-0030-021	Terada Akihiko	4.9	RD 3	15	15
122-0030-022	Hanrahan, Warren E. & Dorothy M.	5.1	RD 4	20	20
122-0030-023	Kendrick, Leonard & Betsy A.	9.5	RD 4-6	47	47
122-0030-024	Kendrick, Leonard & Betsy A.	9.8	RD 4-6	49	49
122-0040-001	Bolling, Frank R. & Patricia A.	2.0	RD 2	4	4
122-0040-002	Melburg, Sharon	4.9	RD 2	10	10
122-0040-003	Swenson, Charles S. & Carol Y.	2.4	RD 2	5	5
122-0040-004	Bicha, Mark & Karina	2.4	RD 2	5	5
122-0040-005	Goemann, Kathleen A.	2.4	RD 2	5	5
122-0040-006	Wright, Ronald C. Jr. & Barbara J.	2.4	RD 2	5	5
122-0040-007	Skaggs, Carlos L.	9.9	RD 3	16	
			RD 4	19	35
122-0040-008	Kendrick, Leonard & Betsy A.	9.9	RD 3	16	
			RD 4	19	35
122-0040-009	McDowell, Clarence A. & Beulah M.	2.5	RD 4	10	10
122-0040-010	Steven, William R. & Beulah R.	5.0	RD 3	7	
			RD 4	11	18
122-0040-011	Sung, In Je & Ok Hee	2.4	RD 3	7	7
122-0040-012	Duff Partnership LP	9.8	RD 3	14	
			RD 4	17	31
122-0040-018	Gossett, Walter A. & Florence E.	4.9	RD 2	10	10
122-0040-019	Strong, Michael A. & Thelma B.	4.7	RD 2	10	10
122-0040-020	Finder-Levine, Anne	5.2	RD 5	26	26
122-0040-022	Cypress Missionary	4.5	RD 5	23	23
122-0050-001	Walker, Burl & Beatrice	4.0	RD 4-6	13	13
122-0050-004	Ahuzas, Charles H. & Mary B.	5.0	RD 4-6	18	18
122-0050-005	Baker, Mickey	4.6	RD 4-6	23	23
122-0050-006	Konvalin, Laurence H. & Leta M.	20.4	RD 4-6	102	102
122-0050-007	Janzen, Rande & Barbara	5.0	RD 4-6	25	25
122-0050-008	Work, Joseph & Thelma Mae	5.0	RD 4-6	25	25
122-0050-009	Neff, Kenneth	20.0	RD 4-6	96	96
122-0050-014	Lees Tiffany Trust	19.9	RD-4-6	100	100
122-0050-017	Cordano, Michael	9.9	RD-4-6	50	50
122-0050-018	Cordano, Lena & Michael	9.9	RD-4-6	50	50
122-0050-019	Pudge, Kenneth E.	8.8	MFR 14-20	158	158

Parcel Number	Name/Parcel Owner	Total Acreage	Land Use	Dwelling Units	Owner's Total Allocation
122-0050-020	Real Rodolfo C. Del/Maria O.	9.4	RD 7	66	66
122-0050-021	Walker, Burl & Beatrice	16.3	RD 7	70	70
122-0050-022	Vineyard Springs Estates LLC	138.8	RD-5	694	694
122-0050-023	Barnes, Harley M. & Shirley A.	10.0	RD 4-6	28	28
122-0050-024	Barnes, Michael Eugene & Kelly	10.0	RD 4-6	38	38
122-0060-012	Vineyard Springs Estates LLC	122.4	RD 2	51	
			RD 3	38	
			RD 4	174	
			RD 5	205	468
122-0070-002	Iovieno, Aldo P.	2.1	AR 1-5	1	1
122-0070-003	Noah, Norbert & Helen	2.4	AR 1-5	1	1
122-0070-004	Babbitt, Ralph & Rhonda	2.4	AR 1-5	1	1
122-0070-005	Pfannenstriel, Paul P.	2.4	AR 1-5	1	1
122-0070-006	Pfannenstriel, Paul P.	2.4	AR 1-5	1	1
122-0070-007	Pfannenstriel, Paul P.	2.4	AR 1-5	1	1
122-0070-008	Benedetti, Eddie & Joan	3.5	AR 1-5	1	1
122-0070-009	Zamarripa, Antonio M. & Rose A.	0.9	AR 1-5	1	1
122-0070-010	Andreatta, David C. & Teresa C.	4.9	AR 1-5	2	2
122-0070-011	Domich, John P. & Katherine K.	4.9	AR 1-5	2	2
122-0070-012	Hedman, Michael & Laurie	2.4	AR 1-5	1	1
122-0070-013	Valley, Gregory & Janice	3.7	AR 1-5	1	1
122-0070-014	Grisham, Fannie P.	3.7	AR 1-5	1	1
122-0070-017	Parker, Ruth L.	9.5	AR 1-5	4	4
122-0070-020	Hunter, Barbara Maye	2.9	AR 1-5	1	1
122-0070-021	Munoz, Ricardo & Tomasa	6.8	AR 1-5	3	3
122-0070-023	Holliday, Jeff & Lynn Caffott	3.0	AR 1-5	1	1
122-0070-024	Halliday, Stephen & Katharyne	2.0	AR 1-5	1	1
122-0070-025	Jacobus, Eldon L. & Jacqueline K.	1.9	AR 1-5	1	1
122-0070-027	Wong, Ronald S. & Letha B.	4.0	AR 1-5	2	2
122-0070-028	Tupikov, Andrey & Zhawna	3.2	AR 1-5	1	1
122-0070-029	Morgan, James C. & Barbara A.	2.2	AR 1-5	1	1
122-0070-030	Elisa Ann Clark Revocable Living Tr	2.1	AR 1-5	1	1
122-0080-001	Pratt, Doris Trust	9.5	AR 1-5	4	4
122-0080-002	Bowles, Marvin S. & Hamilton	10.0	AR 1-5	4	4
122-0080-003	Hedman, Michael & Laurie	10.0	AR 1-5	4	4
122-0080-004	Franci, Barbara & George G.	4.9	AR 1-5	2	2
122-0080-005	Nguyen, Hanh & Thuy	4.9	AR 1-5	2	2
122-0080-006	Watkins, James R. & Arlene H.	2.2	AR 1-5	1	1
122-0080-007	American River Fire District	4.4	AR 1-5	2	2
122-0080-008	Swindell, Charles	2.5	AR 1-5	1	1
122-0080-009	Hemm, Robert & Betty	10.0	AR 1-5	4	4
122-0080-010	Somerby, Ronald & Zarang	10.0	AR 1-5	4	4
122-0080-011	Larson, Jacqueline A.	8.9	AR 1-5	4	4
122-0090-003	Treaster Zoette	4.9	AR 1-5	2	2
122-0090-004	Bradshaw, George J. & Joyce A.	4.9	AR 1-5	2	2
122-0090-005	Bryant, James G. & Grace	9.8	AR 1-5	4	4
122-0090-010	Valdez, Je J. & Carla L.	0.6	AR 1-5	1	1
122-0090-011	Woodward, Colleen	2.1	AR 1-5	1	1
122-0090-012	Briggs, Jack Eugene	1.8	AR 1-5	1	1
122-0090-013	Perkins, William & Alice L.	0.8	AR 1-5	1	1
122-0090-014	Moron, Alfonsa & Frances	1.4	AR 1-5	1	1
122-0090-015	Miller, Orlin & Shirely R.	2.2	AR 1-5	1	1
122-0090-018	Need, George H. & Sandra	10.0	AR 1-5	4	4
122-0090-019	Nelson, Thomas A. & Sylvia S.	9.7	AR 1-5	4	4
122-0090-021	Curry, Janet Living Trust	4.8	AR 1-5	2	2
122-0090-022	Curry, Robert J.	4.9	AR 1-5	2	2
122-0090-023	Zwolinski, Jon A. & Jeana	4.8	AR 1-5	2	2
122-0090-024	Malone, Pamela M.	4.8	AR 1-5	2	2
122-0090-025	Ross, Dennis R.	5.0	AR 1-5	2	2
122-0090-026	Parker, Willard & Sandra	5.0	AR 1-5	2	2
122-0100-001	Parvin, Donald & Beth	10.0	AR 1-5	4	4
122-0100-002	Muckey, Mark & Susan	5.0	AR 1-5	2	2
122-0100-003	Parvin, Esther Trust	5.0	AR 1-5	2	2
122-0100-004	Etheridge, Dorothy M.	5.0	AR 1-5	2	2
122-0100-005	Narayan, Sarojini	5.0	AR 1-5	2	2
122-0100-006	Smith, Orman & Alice	5.0	AR 1-5	2	2
122-0100-007	Country Mansion	5.0	AR 1-5	2	2
122-0100-010	Edison, Rose & Carolyn	5.0	AR 1-5	2	2
122-0100-011	Newman, William & Helen	9.8	AR 1-5	4	4
122-0100-012	Parvin, Donald & Beth	9.8	AR 1-5	4	4
122-0100-014	Celli, Albert & Georgie	2.0	AR 1-5	1	1
122-0100-015	Tyler, Barbara	2.0	AR 1-5	1	1
122-0100-016	Tyler, Barbara	2.0	AR 1-5	1	1

Parcel Number	Name/Parcel Owner	Total Acreage	Land Use	Dwelling Units	Owner's Total Allocation
122-0100-017	Parvin Trust	2.0	AR 1-5	1	1
122-0100-018	Smith, Orman & Alice	5.0	AR 1-5	1	1
122-0110-019	Calvine 1100	85.1	AR 2	43	43
122-0120-008	County of Sacramento	17.9	RD 4	36	
			RD 5	45	81
122-0120-010	AKT Development Corporation	1.4	RD-5	7	7
122-0120-011	Hogge, Danny & Dean	59.9	RD 4	161	
			RD 5	98	259
122-0120-014	Banks, Veron	11.0	RD 4	44	44
122-0120-015	Westfall, Darrell & Linda	11.0	RD 4	44	44
122-0120-016	Hillemeyer, Walter & Evelyn	10.0	RD 4	17	17
122-0120-018	Simonsma, Timothy & Barbara	10.0	RD 3-5	40	40
122-0120-019	SHF Properties Inc	20.5	RD 4	10	
			RD 5	90	100
122-0120-020	SHF Properties Inc	20.2	RD 4	29	
			RD 5	65	94
122-0120-026	SHF Properties Inc	18.2	RD 3	19	
			RD 4	48	67
122-0120-027	SHF Properties Inc	4.6	RD 3	11	
			RD 4	4	15
122-0120-029	US Home Corporation	0.6	RD 4	3	3
122-0120-032	Ramirez, Carlos	0.6	RD 4	3	3
122-0130-001	Richland Investment Inc	15.4	RD 5	77	77
122-0130-003	Webber, Donald & Marva	2.2	RD 2	4	4
122-0130-008	McCoy, Laura	2.3	RD 5	2	2
122-0130-009	Richland Investment Inc	18.7	RD 5	90	90
122-0130-010	Bitancor, Homer & Rosemary	9.6	RD 3	11	11
122-0130-011	Edwards, David B.	10.1	RD 3	11	
			RD 4	11	22
122-0140-002	Margaryan, Andranik	9.5	RD 3-4	1	
			RD 1-3	1	2
122-0140-003	Palmer, Gary & Patricia	11.4	RD 1-3	5	
			RD 3	3	
			RD 4	1	9
122-0140-005	Palmer, Gary & Patricia	9.0	RD 3-5	25	25
122-0140-006	Mohamed, Joseph Sr.	0.2	RD 3-5	1	1
122-0140-009	Lister, Sam & Henrietta	4.7	RD 3-4	8	8
122-0140-010	Armenian Christian Culture	4.7	RD 3-4	17	17
122-0140-011	Brewer, Thelma	7.1	RD 1-3	14	14
122-0140-012	Schools, Jacqueline & B. Oakes	5.0	RD 1-3	10	10
122-0140-014	Terada, Akihiko	3.1	RD 1-3	4	4
122-0140-015	Terada, Akihiko	3.1	RD 1-3	6	6

Parcel Number	Name/Parcel Owner	Total Acreage	Land Use	Dwelling Units	Owner's Total Allocation
122-0140-016	Terada, Akihiko	3.1	RD 1-3	6	6
122-0150-001	Mohamed, Joseph & Sirley	40.8	RD 3	28	
			RD 4	126	154
122-0160-002	Knowles, David & Ann Mary	4.7	RD 1-3	9	9
122-0160-003	Garcia, Ralph & Louise	5.2	RD 1-3	10	10
122-0160-004	Kernan Family Trust	5.2	RD 1-3	10	10
122-0160-005	Pace, Monte & Veronica	2.9	RD 1-3	6	6
122-0160-006	Mertz, Lester & Barbara	2.0	RD 1-3	4	4
122-0160-007	Mundon, Lynne	1.8	RD 1-3	4	4
122-0160-008	Franson, Wayne & Claudia	2.7	RD 1-3	5	5
122-0160-012	Olsen, Michael	2.0	RD 1-3	4	4
122-0160-014	Holtzer, Robert & Jeanice	2.2	RD 1-3	4	4
122-0160-016	Hatley, Douglas & Betty	2.7	RD 1-3	5	5
122-0160-017	Michael, Linda A	2.0	RD 1-3	4	4
122-0160-018	Darling, Barbara A	2.2	RD 1-3	4	4
122-0160-019	Kresha, Clarence & Margaret	2.7	RD 1-3	5	5
122-0160-020	Ornelas, Leslie & Margaret	10.0	RD 1-3	8	8
122-0160-021	Yoder, Ira & Gene Family Trust	3.1	RD 1-3	6	6
122-0160-022	Ekberg, Steven, Mrlin & Jean	3.1	RD 1-3	6	6
122-0160-023	Cornejo, Rene & Jeanette	3.1	RD 1-3	6	6
122-0170-002	Harris, David Family Rev Trust	2.2	RD 1-3	4	4
122-0170-003	Turner Family Trust	2.3	RD 1-3	5	5
122-0170-004	Fain Family Trust	2.3	RD 1-3	5	5
122-0170-005	Dominguez Family Trust	2.3	RD 1-3	5	5
122-0170-006	Fong, Felix L	2.3	RD 1-3	5	5
122-0170-010	Harp Family Trust	2.3	RD 1-3	5	5
122-0170-011	Schultz, Pauline E	8.9	RD 1-3	18	18
122-0170-013	Scortia, Adriane & Ovidiu	4.2	RD 1-3	8	8
122-0170-014	Blanton, Jeff & Laura	3.2	RD 1-3	6	6
122-0170-015	Lutz Family Trust	2.6	RD 1-3	5	5
122-0170-016	Folan, Sheila & Mary	4.3	RD 1-3	9	9
122-0170-017	Davis, James & Sylma	2.3	RD 1-3	5	5
122-0170-018	Sandoval, Mike	2.3	RD 1-3	5	5
122-0170-019	Thornsberry, S.K. & Wanda	2.3	RD 1-3	5	5
122-0170-020	Worland, Mack & Deborah	5.0	RD 1-3	10	10
122-0170-021	Oliver, James & Verona	5.0	RD 1-3	10	10
122-0170-022	Harris, Johan & Nora Lee Trust	3.0	RD 1-3	6	6
122-0170-023	Gomes, Frank & Jeannie	2.1	RD 1-3	4	4
122-0170-024	Fredricks, Clifford	2.2	RD 1-3	4	4

GENERAL NOTE: This table only represents a partial listing of properties that exist with the Vineyard Springs planning area. This list generally includes properties with development potential; while developed properties have been omitted from the database.

Area and dwelling unit figures shown for parcels have been rounded off in this table. As a result, some numbers may not precisely total, however, the Total Allocation shown above are based on full (un-rounded) numbers and are therefore correct.

FOOTNOTES: (1) Property ownership information and acreages are based on information available at the time of the Comprehensive Plan preparation (Summer of 95).

(2) All allocations are rounded to the nearest whole number

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

> *"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-17."*

RESIDENTIAL CONCEPT

Residential land uses are proposed as the predominant land use throughout the Vineyard Springs planning area. Approximately 2,129 acres of land is designated for this use. Residential uses are divided into four categories of densities and uses: Agricultural-Residential, Low Density Residential (RD1-6), Medium Density Residential (RD7 and RD 7-10) and Multi-Family Residential uses. The residential character of the Plan was developed in accordance with Policy HE-3, contained in the Housing Element which advocates for the provision of a variety of housing types and opportunities.

> *HE-3. Promote the development of a 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 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.

Agricultural-Residential Uses

Approximately 322 acres of land, located in the northeast corner of the Vineyard Springs planning area, is designated for Agricultural Residential uses. The Agricultural Residential 1-5 category is assigned for the Spiva Road/MayBelle Lane are due to the existing concentration of agricultural-residential type of housing units and also in recognition that Excelsior Road represents the edge of the Urban Policy Areas boundary of the General Plan Land Use Diagram. Low Density Residential designations (i.e., RD-2 and RD-3) have been assigned to the area immediately west of the Spiva Road/MayBelle Lane Agricultural-Residential Area to act as a buffer zone between the agricultural-residential neighborhood and the Wildhawk Estates subdivision proposal. The intent of the transitional or buffer zone is to achieve land use compatibility and to ensure that the Agricultural-Residential areas are functionally integrated with other urban uses proposed within the Plan area. The Vineyard Springs Comprehensive Plan also shows the existing Silver Springs and Emerald Creek subdivision areas in the Agricultural-Residential 1 (AR-1) designation. The area

surrounding the Silver Springs Subdivision area is also designated AR-1 to allow for future infill Agricultural-Residential housing developments around the existing Silver Springs Subdivision area and along the perimeter of the urban growth area.

Zone Classifications

Zone classifications proposed by individual development applications may exceed the density assigned by the Land Use Plan so long as it complies with the density averaging provisions of the Comprehensive Plan. Given the range of residential densities assigned by the Land Use Plan and the provisions for density averaging, the following zone classifications may by applied by rezone action to properties designated Agricultural- Residential.

AR-5 Agricultural-Residential Land Use Zone
AR-2 Agricultural-Residential Land Use Zone
AR-1 Agricultural-Residential Land Use Zone

Development Standards

The development standards for areas designated Agricultural-Residential as shown on the Vineyard Springs Land Use Plan are contained in Title III, Chapter 5, Article 1 of the Sacramento County Zoning Ordinance.

Low Density Residential (RD-1 to RD-6)

A significant portion of the planning area is proposed for residential uses between the densities of one to six units per gross acre. Approximately 1,048 acres of land is designated for this use. The land use plan identifies either specific zoning type residential categories (i.e., RD 2, RD 3, RD-4, and RD-5) or density ranges (RD 1-3, RD 3-4, RD 3-5 and RD 4-6) for areas that have been recommended for residential uses. The Plan proposes the most intensive single family type residential uses (i.e., RD 5) within the central portion of the planning area, primarily the area north of Laguna Creek and on the both sides of Vineyard Road. Reduced densities are proposed as buffers for locations adjacent to properties designated for RD-5. Buffer/transition zones are proposed to buffer the intensive residential area proposed within the central portion of the area; as the plan proposes RD 3 and RD 4 residential uses adjacent to the Spiva Road/MayBelle Lane Agricultural-Residential area. The Plan further proposes RD 2, RD 3 and RD 4 uses along the Carmencita Road area, north of Laguna Creek, to buffer the existing very low density of housing units within the area from the proposed RD 5 type of development proposed within the central portion of the planning area.

In order to be sensitive to the existing agricultural-residential type housing units along Carmencita Avenue, south of Laguna Creek, the Land Use Plan recommends a gradual increase in residential land use density for properties located in the southwest portion of the planning area. The Plan shows properties immediately adjacent to Carmencita Avenue, for RD 1-3 type of residential uses, and further recommends for the gradual increase in densities for the two parcels located east of the Carmencita Avenue area. The property immediately adjacent to the Carmencita area is designated

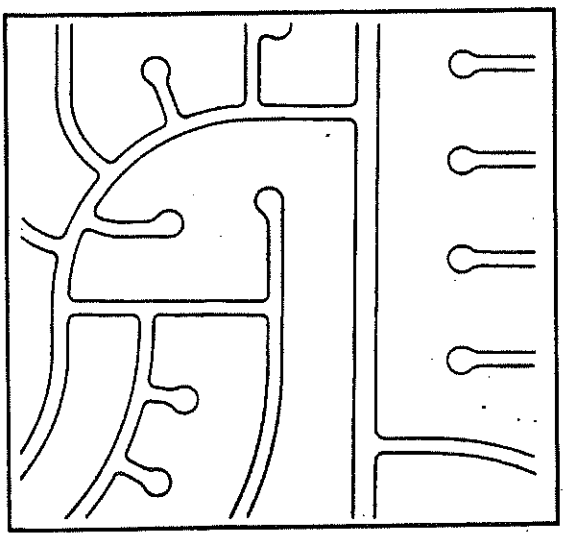
for RD 3 to RD 4 uses, while the parcel north of Calvine, immediately west of the Central California Traction Railroad line, is designated for RD 4 and RD 5 uses.

Neighborhood Design

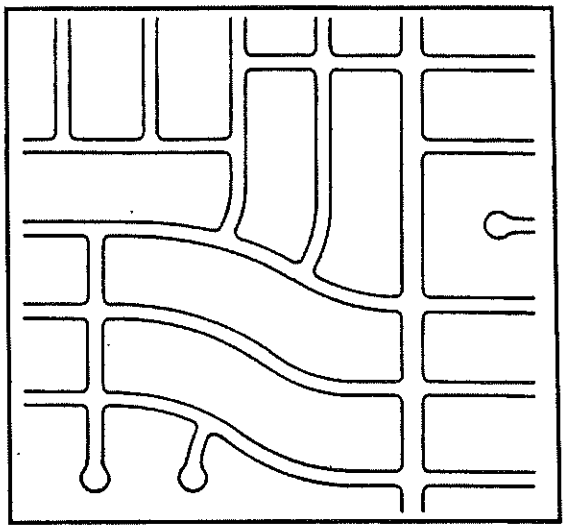
Internal to the Plan area, residentially designated lands are generally organized into neighborhoods by the primary street system illustrated on the Circulation Plan. The primary streets are designed to function as two-lane pedestrian-oriented connector streets, rather than typical higher-speed suburban collectors streets. The primary street pattern is simple in design and interconnected to provide multiple access routes, converging at activity areas like neighborhood commercial centers, parks, and schools.

The minor street network to be established with future tentative maps should also be simple in design, avoiding excessive winding roads and large numbers of cul-de-sacs, as conceptually illustrated in Figure 5.1. The minor street network should provide multiple access points to primary streets and to the high traffic volume perimeter arterial streets.

Figure 5.1
Street Design Illustration



excessive winding and dead-end streets discouraged



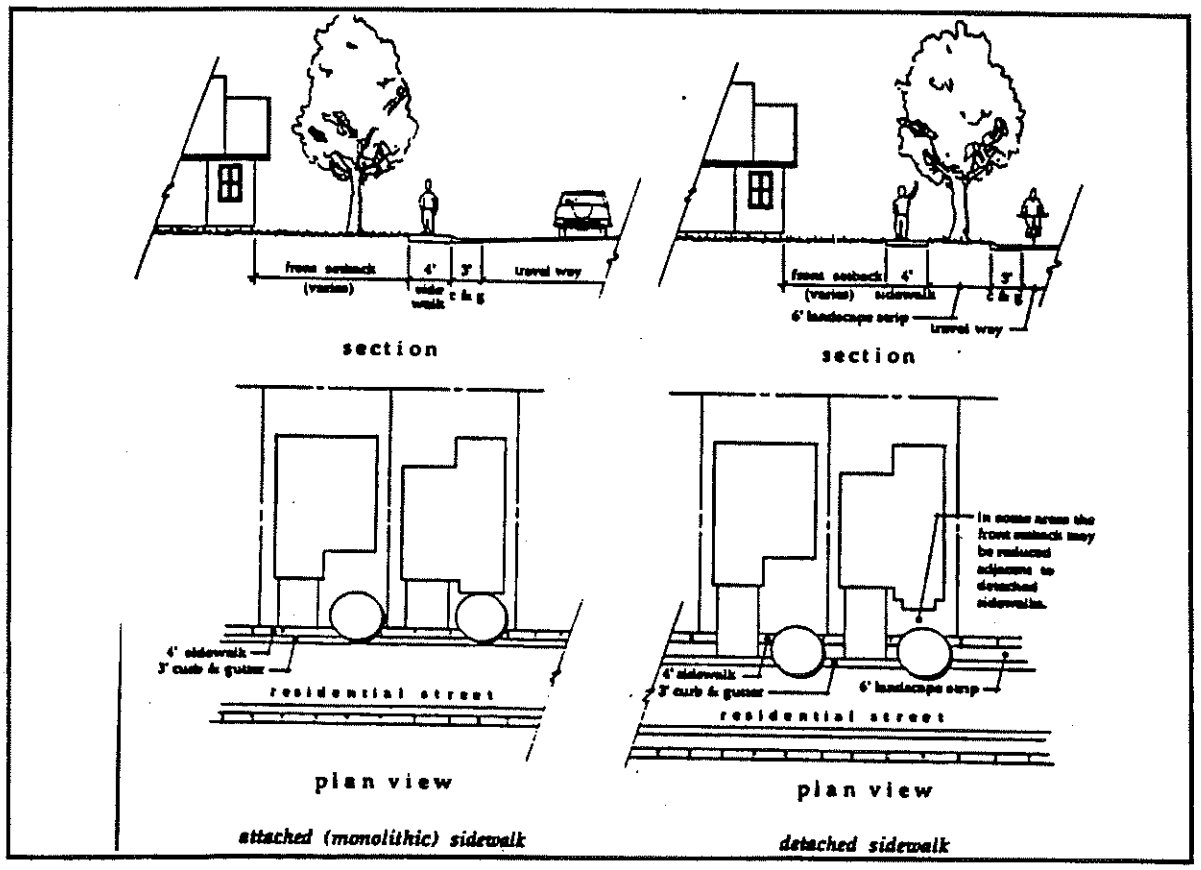
interconnected, multiple route streets encouraged

The design of the primary and minor street network for the planning area is consistent with Policy LU-13 of the Land Use Element which specifies that, *"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."*

Single-family lots are permitted to front on most streets, including main connector streets. Exceptions to this fronting policy are perimeter arterial street frontages, street frontages with

medians, entry island locations, and those portions of main connector street frontages where localized traffic densities or traffic patterns may inhibit safe access to individual lot driveways. Sidewalks are to be provided along both sides of all public streets. (See Figure 5.2.) Detached sidewalks (sidewalks separated from the curb by a landscape strip) are to be utilized along perimeter arterial streets and along those main connection streets as indicated on the Transportation Plan. The pedestrian/bicycle paths within the power transmission corridor and stream corridors may also serve as sidewalks for adjacent streets in some locations, eliminating duplication of walkways. Detached sidewalks are optional on all other residential streets.

Figure 5.2
Sidewalk Illustration



Zone Classifications

Zone classifications proposed by individual development applications may exceed the density assigned by the Vineyard Springs Land Use Plan so long as it complies with the density averaging provisions of the Comprehensive Plan. Given the range of residential densities assigned by the Land Use Plan and the provisions for density averaging, the following zone classifications may by applied by rezone action to properties designated Low Density Residential (i.e., properties that are designated between the density range of one to six units per acre) within the Plan area.

RD-1 Residential Land Use Zone
RD-2 Residential Land Use Zone
RD-3 Residential Land Use Zone
RD-4 Residential Land Use Zone
RD-5 Residential Land Use Zone
RD-7 Residential Land Use Zone

Permitted Uses

Uses permitted within areas designated as Low Density Residential (RD 1-6) as shown on Vineyard Springs Land Use Plan 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 Title III, Chapter 1, Article 1 of the Sacramento County Zoning Ordinance for the RD-1 through RD-7[1] zone classifications, subject to the special conditions specified and contained therein. Notwithstanding, the permitted uses associated with the zoning on property in existence when the Plan is adopted remains in effect until the property is rezoned. Additional uses shall include:

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 the designated 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 5.3.
- 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/location are compatible with adjacent homes in the neighborhood.

Figure 5.3 provides an illustration of possible spatial relationships of ancillary units to primary dwellings.

Development Standards

The development standards for areas designated RD-1 to RD-6 as shown on the Vineyard Springs Land Use Plan are contained in Title III, Chapter 5, Article 1 of the Sacramento County Zoning Ordinance, except where modified by development standards provisions found in Table 5.3. Figure 5.4 provides an illustration of setback requirements for single family residential development between the ranges of 3 to 6 units per acre.

[1] The County Zoning Code does not contain a RD-6 zoning classification. Properties within the Vineyard Springs area that have been designated for RD-6 uses will be subject to provisions and permitted uses under the RD-7 zoning classification.

Table 5.3
Single Family Residential
Development Standards

Vineyard Springs Land Use Plan Designations	RD-2, RD-3, RD 1-3		RD 3-4		RD-4, RD-5, RD 6 & RD 4-6		
Zoning Designation	RD-1[12] RD-2[12]	RD-3	RD-3	RD-4	RD-4	RD-5	RD-6
Lot Dim. (min.)							
Area (sq. ft.)/[1]		9,000	9,000	7,000	7,000	5,200	4,500
Area, Corner (sq. ft.)/[1]		9,000	9,000	7,000	7,000	6,000	5,000
Width		65'	65'	60'	60'	52'	50'
Pub. Street Frontage/[2]		55'	55'	50'	50'	45'	40'
Width, Corner/[2]		70'	70'	65'	65'	60'	58'
Depth/[3]		110'	110'	100'	100'	95'	85'
Bldg. Setbacks (min.)							
Front, Living Area/[4,5]		20'	20'	20'	20'	15'/[6]	15'/[6]
Front, Porch/[5]		20'	20'	20'	20'	15'/[6]	15'/[6]
Front, Garage/[7]		20'	20'	20'	20'	20'/[8]	20'/[8]
Side, Interior/[4]		5'	5'	5'/[9]	5'/[9]	5'/[9]	5'/[9]
Side, Total Bldg. Sep./[9]		15'	15'	10'	10'	10'	10'
Rear, Living Area/[4]		20'	20'	20'	20'	15'	10'
Rear, Ancillary Unit/[10]		5'	5'	5'	5'	5'	5'
Detached Garage/[11]		5'	5'	5'	5'	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 5.5).

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.

11/ Side and rear dimension.

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

Figure 5.3
Conceptual Ancillary Dwelling Unit Designs

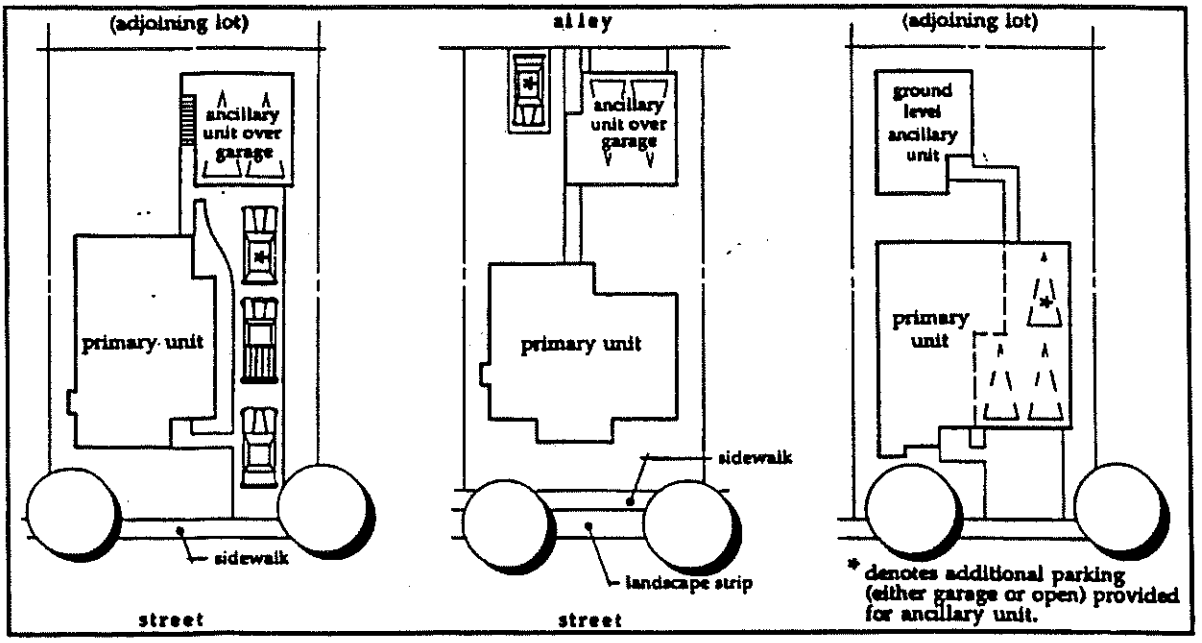


Figure 5.4
Setback Illustration (for Table 5.2)

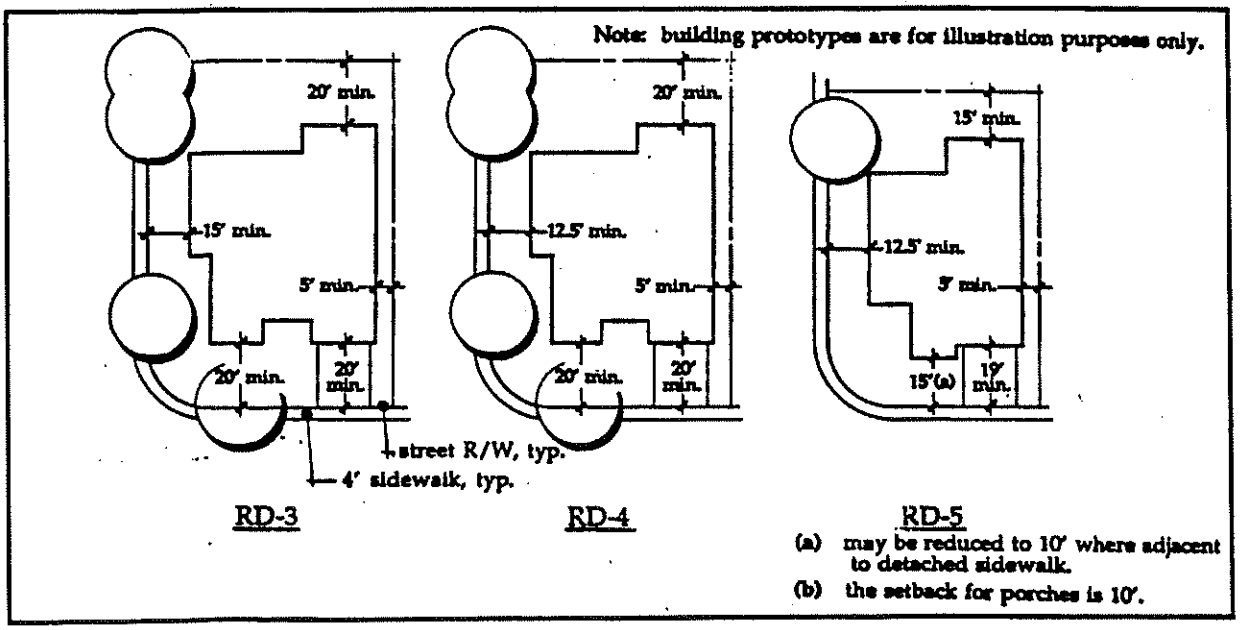
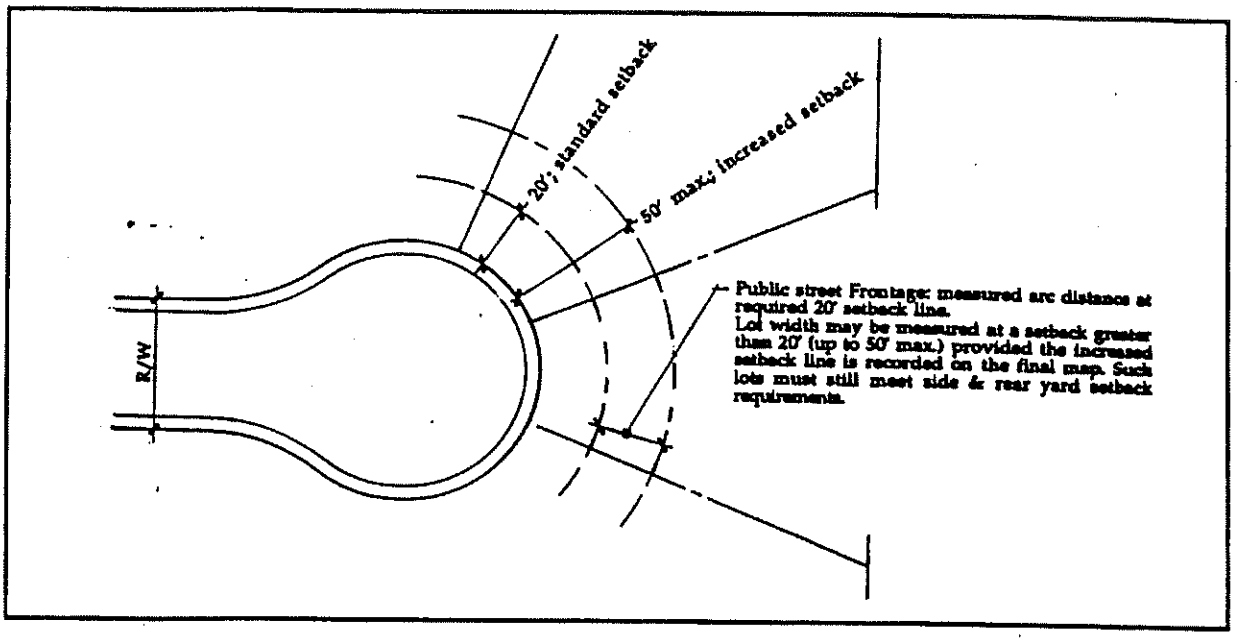


Figure 5.5
Width & Frontage Dimensions for Curved Frontage (for Table 5.3)



Medium Density Residential (RD 7 and RD 7-10)

The Medium Density Residential (RD 7 and RD 7-10) land use category provides for residential densities ranging from 7 to 10 dwelling units per acre, with a fixed count density of 8.5 dwelling units per acre (net). The Vineyard Springs Land Use Plan designates two sites for medium density residential uses; the first site is located at the intersection of Bradshaw Road and Gerber Road (RD 7-10), while the second site is proposed to be located south of Gerber Road, west of Vineyard Road (RD 7). These sites have been identified in strategic locations in response to General Plan policies that promote higher density residential development adjacent to transit opportunity areas. At the lower end of the density range, the RD 7-10 category is intended primarily for development of zero-lot line single family residences, small lot single family units with detached garages, half-plexes, and various entry level dwelling types. Figures 5.6 and 5.7 provide graphic illustrations of medium density residential site design. At the higher end of the density range, the RD 7-10 category will provide for the development of multi-plexes, condominium and townhouse dwelling units.

Neighborhood Design

The neighborhood design concepts for properties designated for medium density residential (RD 7 and RD 7-10) use are similar to those concepts that are advocated for areas designated for low density residential (RD 1-6). Within sites that are designated RD 7 and RD 7-10, the primary streets are designed to function as two-lane pedestrian-oriented connector streets and

interconnected to provide multiple access routes, converging at activity areas like neighborhood commercial centers, parks, and schools.

Figure 5.6
Conceptual Small Lot Housing Designs

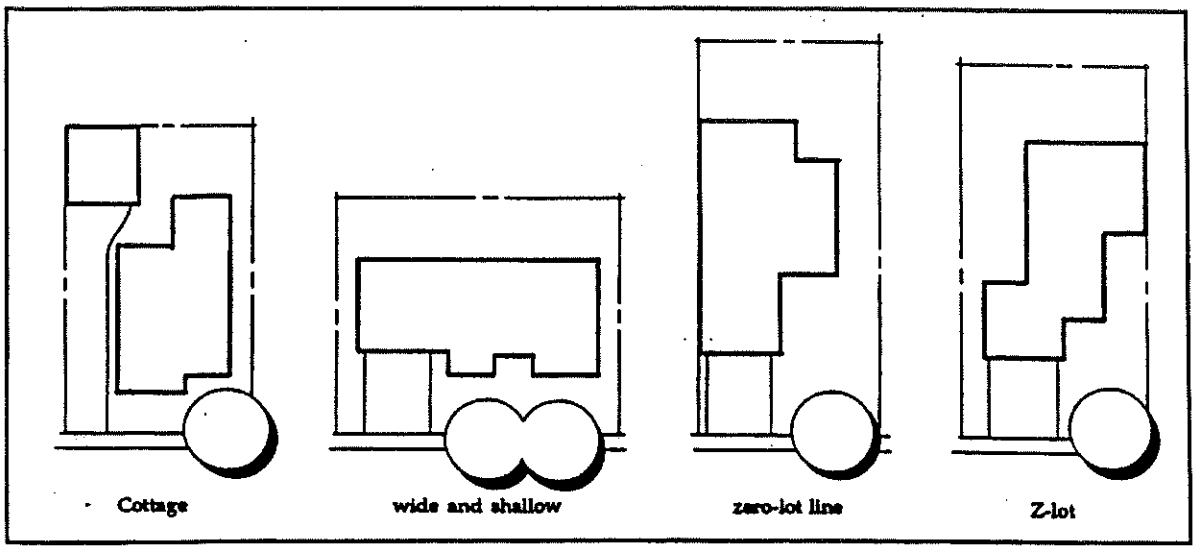
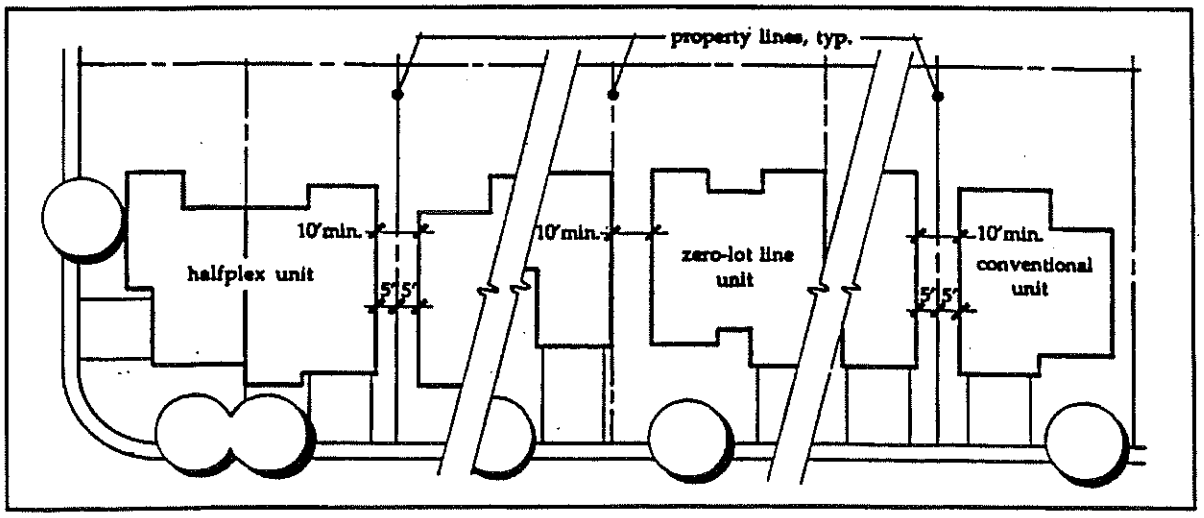


Figure 5.7
Conceptual Medium Density Residential
Building Separation Illustrations



The minor street network to be established with future tentative maps should also be simple in design, avoiding excessive winding roads and large numbers of cul-de-sacs, as conceptually illustrated in Figure 5.1. The minor street network should provide multiple access points to

primary streets and to the high traffic volume perimeter arterial streets. Sidewalks are to be provided along both sides of all public streets.

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 Rd 7 and RD 7-10 Land Use Designation. However, actions to re-classify those properties to a classification other than that which is allowed by he Plan are prohibited.

The Zone Classifications that may be applied by rezoned action to properties within the Plan designated for medium density residential uses (i.e., RD 7 and RD 7-10 on the land use plan) are: RD-7 and RD-10. The (F) combining zone classification must be applied to property that is subject to flooding.

Development Standards

Any aspect of a development proposal not specifically addressed by the development standards contained in this section shall be subject to provisions of the Sacramento County Zoning Code. Whenever a conflict arises between the Zoning Code and Development Standards set forth herein the Development Standards in this Comprehensive Plan shall take precedence.

Table 5.4 correlates Comprehensive Plan land use designations as shown on the Vineyard Springs Comprehensive Land Use Plan to land use zones in the Sacramento County Code. Below each land use designation are lot dimension and building setback requirements applicable to that land use category. Figure 5.8 provides an illustration of setback requirements applicable to RD 7 and RD 7-10 development.

Figure 5.8
Medium Density Residential Setback Illustration

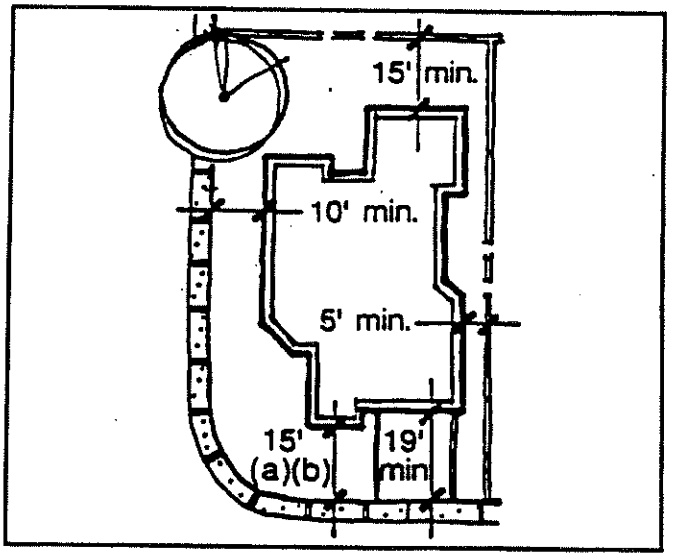


Table 5.4
Medium Density Residential
Development Standards

	Medium Density Residential Uses	
Comprehensive Plan Land Use	**RD 7 and RD/7-~~12~~ 10**	
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 5.5).

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.

11/ Side and rear dimension.

Permitted Uses

Uses permitted within areas designated as medium density residential (RD7 and RD 7-10) as shown on the land use plan 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 Title II, 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 the 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 dwelling units within the RD 7 and RD 7-10 areas are subject to the same design criteria recommended for Low Density Residential area (RD 1-6).

Multi-Family Residential (MFR)

The Multi-family Residential (MFR) land use category provides for residential densities ranging from 14 to 22 dwelling units per acre, with a fixed count density of 18 dwelling units per acre (net). This category is intended primarily for apartment and condominium developments. The Vineyard Springs Land Use Plan designates a total of 22 acres for future multi-family residential development; it is anticipated that the two sites will accommodate approximately 396 units. The two MFR designated sites, the first located within the core area, along Bradshaw Road; and the second site, located at the corner of Gerber and Vineyard Roads, will be easily served with transit facilities associated with Bradshaw and Gerber Roads. The proximity of multi-family residential sites to public transit achieves consistency with Housing Element Policy HE-6, which specifies:

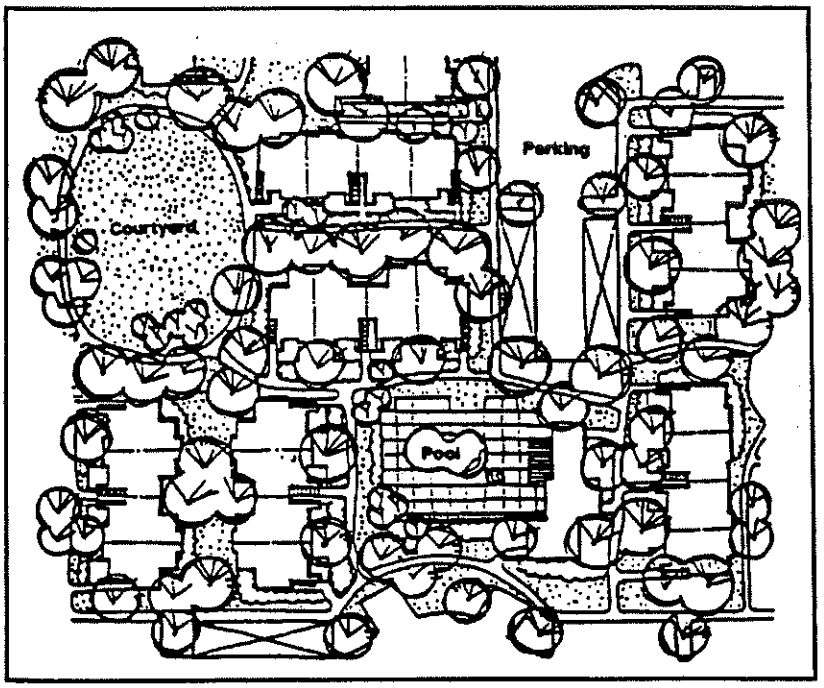
> *Policy HE-6. Support development proposals that seek to locate new market rate multi-family uses at strategic locations within transportation corridors and at transit stops and stations, or at other strategically located reuse and underdeveloped sites.*

Figure 5.9 provides an illustration of a typical Multi Family Residential development.

Development Standards

The development standards for areas designated Multi-family Residential as shown in Vineyard Springs Land Use Plan are contained in Title III, Chapter 5, Article 2 of the Sacramento County Zoning Ordinance.

Figure 5.9
Multi-Family Residential Design Concept



Permitted Uses

Permitted uses within areas designated as Multi-Family Residential as shown on the Vineyard Springs Land Use Plan 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 Title II, 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.

GENERAL POLICIES

VS-1 Provide for the orderly development within the Plan area through the use of phasing and implementation measures to ensure the timely delivery of services to new urban land uses with minimal impact to existing land uses.

VS-2 Provide urban-residential land uses that maintain the quality and character of existing agricultural-residential land uses through the use of appropriate development regulations, design guidelines, or other buffering techniques.

VS-3 Enhance community identity and character by ensuring that the character of development is compatible with surrounding development, and that new development is appropriately designed to fit within its surroundings.

URBAN RESIDENTIAL POLICIES

VS-4 Provide a range of land use densities within newly developing areas to enhance community vitality and create a mix of lot and housing types.

VS-5 Variation of housing types within neighborhoods is encouraged.

VS-6 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 system.

VS-7 Long stretches of backup lots along parkways and drainage/creek corridors should be avoided. The use of front on streets, side yard lotting patterns and open-ended cul-de-sacs are appropriate.

VS-8 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.

VS-9 Provide higher density residential and higher intensity commercial uses proximate and physically related to transit stops along transit corridors in order to minimize vehicle trips and expand the use of alternative modes of transportation.

VS-10 Design of urban-residential areas shall provide future opportunities for development of existing agricultural-residential areas (for example, the Carmencita Avenue area) that are planned for long term urbanization, consistent with the Vineyard Springs Land Use Plan. Examples included sizing on-site infrastructure for additional capacity, street or utility stubs, road easements, or I.O.D.'s.

VS-11 Buffer higher density residential uses (i.e., densities greater than 10 units per acre) from low density residential areas with vegetative screening, open space, or other means that accomplish the same objective.

Urban Residential Design Guidelines

Development within the urban residential areas should incorporate the following design guidelines. Individual development applications shall be reviewed to ensure compliance with stated design guidelines. Where site constraints or other peculiarities can be demonstrated, deviations from these design guidelines may be allowed.

1. Buffering of adjacent agricultural-residential land uses should utilize design schemes which feature larger sized lots, internally focused circulation, use of cul-de-sacs if feasible, back up house orientation, and appropriate setbacks.

2. The following lot and design details are encouraged:

   a. Lot and house designs should emphasize the living space with front popouts, porches, or wide building-to-street orientation.
   b. Lots with a side yard/rear yard configuration are discouraged. Where this configuration is necessary because of lotting pattern design, the side-on lot should incorporate a ten-foot minimum side yard or be limited to a one-story residence. (Note: A split-story house can orient the one-story portion to meet the above requirement.)
   c. Garages should be recessed into the building architecture where lot design permits.
   d. House designs with side entry and limited visibility toward the street are discouraged.
   e. Homes which are adjacent to open space areas should utilize vertical wrought iron or decorative iron fencing to increase visibility and enhance safety of the homeowner.

3. The following features should be incorporated during the design of pedestrian easements:

   a. A twelve foot wide, hard surface, all weather pavement will be installed. Access will be open at both ends to enable unrestricted pursuit by Sheriff's vehicles.
   b. Proper curb and signs at both entrances prohibiting parking in front of the passage way. A standard eight inch vertical curb, painted red, and signs will discourage most unwanted traffic.
   c. Night illumination of 1.5 foot candles minimum maintained along the foot walk. Fixtures will be vandal resistant and have shields to prevent unwanted light directed into adjacent homes.
   d. Any homes along the easement will be oriented to face the pathway. An open type of fence shall be installed for visibility. A vertical wrought iron or ornamental iron fence is highly recommended.
   e. A funding mechanism and/or CC&R's in place to provide costs for lighting and maintenance, road and fence repair, and enforcement of parking laws.

Urban Residential Development Criteria

1. Development standards, such as lot area, lot dimensions, and setbacks, are the same as those found in the County Zoning Ordinance.

2. Ancillary second units (i.e., "granny flats" and "carriage homes") may be incorporated into the residential mix in all urban residential areas. Ancillary units are permitted as a matter of right in the initial project application to a maximum of 25% of the total project units. Additional ancillary units beyond 25% may be permitted after filing an application for a Conditional Use Permit and consideration at the appropriate public hearings. Ancillary units are subject to the following criteria:

    - The building design and location is compatible with adjacent homes in the neighborhood;
    - Useable floor area does not exceed 800 sq.ft.;
    - Ancillary units have the same front, side and street yard setback requirements as the primary unit. If attached, the rear yard for an ancillary unit is the same as the primary unit. If detached, ancillary unit separation from the primary unit is governed by the Uniform Building Code and the Uniform Fire Code. Ancillary units can be placed above attached or detached garages; and
    - At least one off-street parking space is to be provided on-site in addition to the two garage spaces and two apron spaces provided for the principal residence.

3. The Plan Area contains approximately 2,129 acres of land designated Residential. A density category (dwelling units per gross acre) is assigned to each Residential designation on the Land Use Diagram. The various assigned density categories are as follows:

Residential	14-22	du/ac.	(highest density)
Residential	7-10	du/ac.	
Residential	7	du/ac.	
Residential	4-6	du/ac.	
Residential	5	du/ac.	
Residential	3-5	du/ac.	
Residential	4	du/ac.	
Residential	3-4	du/ac.	
Residential	3	du/ac.	
Residential	2	du/ac.	
Residential	1-3	du/ac.	

Agricultural -Residential 1-5 ac/du. (lowest density).

Based on the assigned density, dwelling units have been allocated to each property within the Plan Area. In cases where a density range is specified, the mid-point of the range is used for determining dwelling unit allocation, as listed in the table below.

DENSITY FOR DETERMINING DWELLING UNIT ALLOCATION

RESIDENTIAL DENSITY DESIGNATIONS			CORRESPONDING DENSITY FOR ALLOCATION
Residential	14-22	du/gross acres	18 du/gross acres
Residential	7-10	du/gross acres	8.5 du/gross acres
Residential	7	du/gross acres	7 du/gross acres
Residential	4-6	du/gross acres	5 du/gross acres
Residential	5	du/gross acres	5 du/gross acres
Residential	3-5	du/gross acres	4 du/gross acres
Residential	4	du/gross acres	4 du/gross acres
Residential	3-4	du/gross acres	3.5 du/gross acres
Residential	3	du/gross acres	3 du/gross acres
Residential	2	du/gross acres	2 du/gross acres
Residential	1-3	du/gross acres	2 du/gross acres
Residential	1-5	gross acres/du	0.2-1 du/gross acres

The individual property allocations and the total Plan Area allocation of 5,942 dwelling units each represent dwelling unit caps and may not be exceeded without an amendment to the Plan (except as provided for in special cases).

4. Landowners may elect to utilize the concept of "Density Averaging" with any part of their allocation. Density averaging allows for increases to the maximum residential density designation for a portion(s) of any application having a residential allocation, provided the dwelling unit allocation of the entire application does not exceed the total dwelling unit allocation for the property. Density averaging is allowed as a matter of right up to one land use category higher than the specified land use designation or range. If a proposal is greater than one category, the request must be processed as a Special Development Permit with the Board of Supervisors having final review authority.

AGRICULTURAL-RESIDENTIAL POLICIES

VS-12 Recognize and protect the agricultural-residential character of areas designated for Agricultural-Residential uses within the planning area.

VS-13 Recognize the agricultural-residential character of transitional Agricultural-Residential areas, while not precluding long-term phasing to urban uses.

VS-14 Discourage any urban type of residential and commercial development proposals within the Agricultural-Residential designated areas on the Vineyard Springs Land Use Plan.

VS-15 Encourage any conversion proposal of sufficient acreage (i.e., 10 acres or more) within transitioning Agricultural-Residential areas to include a coherent combination of contiguous properties to avoid piecemeal development.

VS-16 Provide access to urbanizing areas so as not to preclude or complicate future circulation patterns.

VS-17 Preserve the residential character of Silver Springs and Emerald Creek neighborhoods by ensuring the buildout consistent with established patterns and the compatibility of adjacent development.

CHAPTER 6

COMMERCIAL LAND USE

INTRODUCTION

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

COMMERCIAL CONCEPT

The Vineyard Springs Land Use 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 of the total land within the planning area to commercial uses.

The Plan area contains two commercially designated areas; these designations represent a neighborhood shopping area and a business/professional office area. The two commercial areas may provide a concentration and mix of shops and offices to meet the daily shopping and service needs of Plan area residents. By virtue of their location and design, the commercial areas help establish local community identity. The small convenience center provides a much more limited shopping option for residents and for employees of businesses located in the central and southern portions of the Plan area. 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."

As graphically depicted in the Land Use Plan, the two commercial areas in the Plan are distinct and relatively compact, and non is linear in design. The design and placement of commercial is therefore consistent with the following General Plan policy:

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

Table 6.1

Commercial Land Use Summary

Commercial Category	Acreage
Limited Commercial	13
Business Professional	11
Total	24

NEIGHBORHOOD LIMITED COMMERCIAL (LC)

TheVineyard Springs Neighborhood Limited Commercial (LC) area is located on Bradshaw Road, south of Gerber Road. The 13 acre (area approximate) site is accessed from Bradshaw Road and from a cross connector street internal to the Plan area. The site is surrounded by lands designated residential within the Plan area.

The 13± acre commercial site could be anchored by a small convenience grocery store, with the balance of the complex occupied with convenience retail stores and services (e.g., beauty shops, video stores, delis, or dry cleaners). Outdoor cafes or similar uses that enliven the commercial area with pedestrian activity are encouraged. A limited amount of local-serving office uses (e.g., accountants, lawyers, or doctors) may be included.

The overall site design should create a comfortable environment for pedestrians and provide good access for automobile users. The 13± acre site is planned for anchor tenant(s) oriented to a main parking facility; consequently, provisions should be made for safe and convenient pedestrian access through the parking lot. Additionally, portions of the anchor tenant complex should front along the public street to provide for easy access into the center from nearby residential neighborhoods and from transit stops. An example of the neighborhood commercial development is illustrated in Figure 6.1.

To promote pedestrian interaction between the neighborhood commercial center and surrounding residential land uses, pedestrian access points are established at strategic locations along the neighborhood center perimeter. The pedestrian access points should be enhanced architecturally and with landscaping to invite pedestrian usage. On both commercial sites, where pedestrian access points occur along the site perimeter, breaks between buildings should be incorporated into building design to accommodate pedestrian linkages. Overall site design should accommodate open spaces, plazas, and other interesting spaces along pedestrian routes.

Zone Classifications

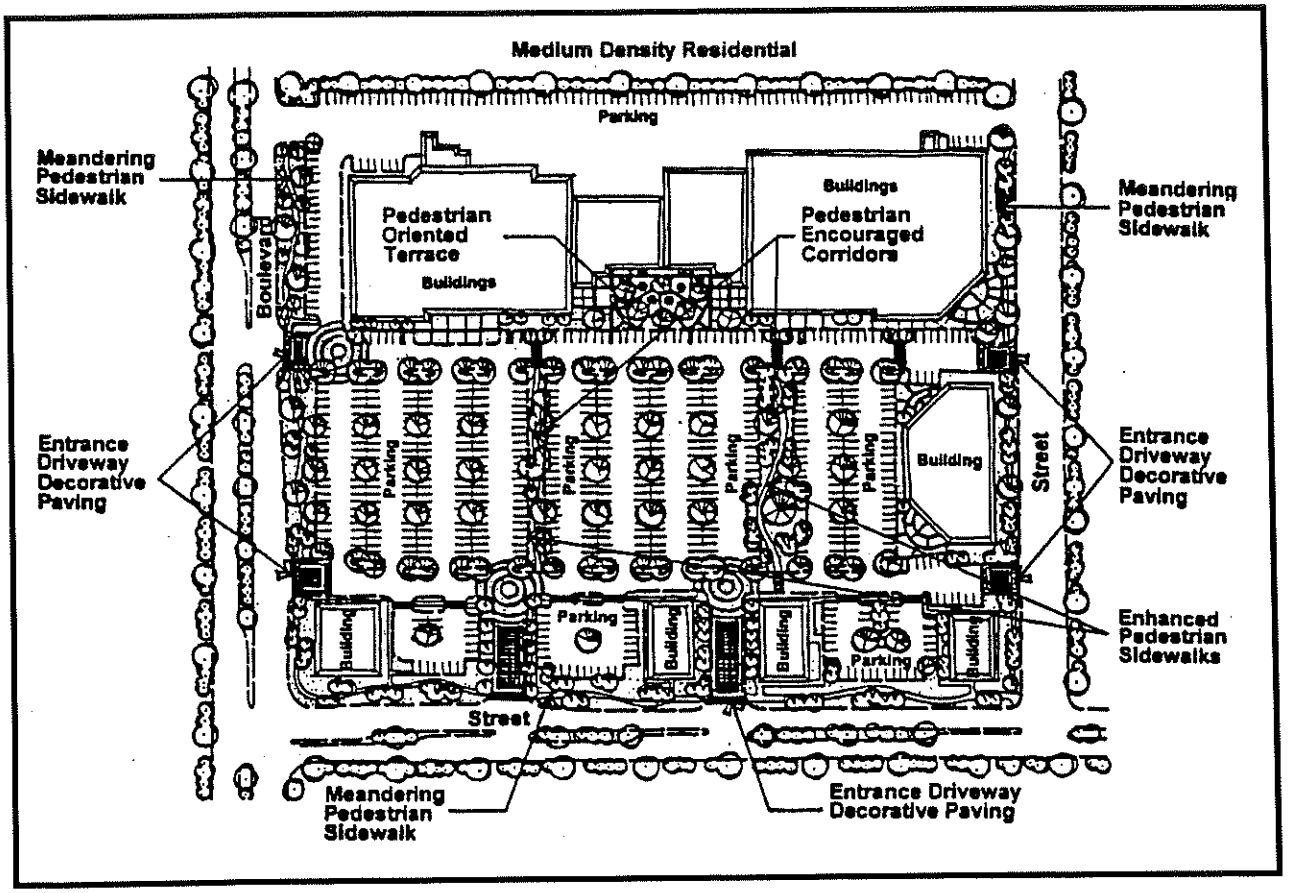
The Zone Classification on property within the Plan area, and in existence on the date this Plan is adopted, are consistent with the Limited Commercial Zone Classification. However, actions to reclassify those properties to a classification other then that which is allowed by the Plan are prohobited.

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

Development Standards

The development standards for areas designated Limited Commercial (LC) on Figure 4.4 are described in Chapter 15, Article 2 and Article 5 of the Sacramento County Zoning Ordinance.

Figure 6.1
Commercial Land Use Concept



Permitted Uses

Permitted uses with areas designated as Limited Commercial (LC) as shown on Figure 4.4 are those that area permitted in accordance with the zoning for 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 Limted Commercial (LC) Zone classification, subject to the special conditions specified and contained therein. Notwithsatnding, 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 park and ride lots are permitted where sufficient parking spaces are available.

BUSINESS/PROFESSIONAL

A site for Business/professional use is provided within the Plan area at a scale which is consistent with the needs of the community. Large office complexes are not envisioned; however, uses such as a doctor or dentist office, real estate, insurance accountant are needed to provided services to future residents. The Business/Professional site is located with the core area in close proximity to transit facilities, high density residential uses and surrounding commercial use.

Zone Classifications

The Zone Classification 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 reclassify those properties to a classification other then that which is allowed by the Plan are prohobited.

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

Development Standards

The development standards for areas designated Business Professional (BP) on Figure 4.4 are described in Chapter 15, Article 2 and Article 5 of the Sacramento County Zoning Ordinance.

Permitted Uses

Permitted uses with areas designated as Business Professional (BP) as shown on Figure 4.4 are those that area permitted in accordance with the zoning for 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. Notwithsatnding, 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 park and ride lots are permitted where sufficient parking spaces are available.

COMMERCIAL POLICIES

VS-18 Buffer residential and agricultural-residential uses from commercial uses with vegetative screening, open space, or other means that accomplish the same objective.

VS-19 The Commercial land uses located along Planning Area arterials and thoroughfares should be accessible by public transportation.

VS-20 Provisions shall be made to accommodate pedestrians along street frontages and through parking areas to reach main building entrances.

VS-21 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.

VS-22 Buildings should be set back a sufficient distance from adjacent single family residential uses to minimize undesirable visual and noise impacts.

VS-23 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.

CHAPTER 7

PUBLIC SERVICES AND FACILITIES

INTRODUCTION

This section describes 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, and parks. Each service includes descriptions of existing facilities, service standards, and impacts development will have on service. In some instances, proposed facilities within the Plan area are described.

SCHOOL FACILITIES

Introduction

This section describes the existing, applicable school facilities in the area, service standards, development impacts upon school facilities, and planned facilities provisions. A project-specific policy section is also included. A discussion of school funding is included in the Financing Plan.

Existing Conditions

The Vineyard Springs Comprehensive Plan area falls within the Elk Grove Unified School District (EGUSD) boundaries that cover a significant portion of south Sacramento County. Listed in Table 7.1 are current district statistics:

Table 7.1
Enrollment/Existing and Planned Schools

	Total Enrollment (Spring 1997)	No. of Schools (Existing and Planned through 2000)
Elementary Schools (K-6)	20,570	32
Middle Schools (7-8)	5,772	6
Senior High Schools (9-12)	10,534	6
Special Programs	911	4
TOTAL	37,787	

EGUSD increases the efficiency of many of its elementary and junior high schools by instituting a year-round school system. This system allows maximum student populations to be increased by up to 20%, thereby reducing the number of required schools.

Each school within the EGUSD has its own attendance boundaries. Currently, students in the Plan area attend Arthur Butler and Pleasant Grove Elementary, Joseph Kerr Middle School, and Elk Grove High School. District boundaries for individual schools are periodically changed to adjust for changing student populations and adequate space within a given school boundary is not assured. According to EGUSD representatives, it is premature to predict the attendance boundaries of the schools that would ultimately serve the Plan area, as the boundaries would be predicated upon ultimate development of the area. Nevertheless, it is almost certain the middle and senior high school attendance boundaries will extend beyond the Plan area. The same may be true for elementary schools as well.

The school district must consider many factors when selecting a site for new schools. Factors pertinent to the Plan area include circulation system, density of proposed developments, existing wetlands, and flood plains. The California Department of Education (CDE) must review and approve all new school sites regardless of the funding source (Education Code 39000-39007 and Code of Regulations, Title 5, Education 14000-14046).

Service Standards

The Elk Grove School District plans for school facilities based on its facilities Master Plan. The number, type and location of school facilities to serve the Plan area are determined subject to the criteria and standards set forth in the Master Plan. Student generation yields are estimated based on the number of proposed dwelling units against which factors are applied. The number of required schools are then calculated based on these student generation yields. The locations of required schools are then determined based on criteria set forth in the facilities Master Plan.

Development Impacts and Provisions

The estimated number of students generated by the development of the Plan area is based on generation rates provided by the school district. The generation rates are based on Plan area's most recent census data. The Vineyard Springs Comprehensive Land Use Plan proposes a maximum of 5,942 dwelling units. Table 7.2 shows the estimated student populations that will result from development of the Comprehensive Plan.

Table 7.2
Estimated Student Generation

		Elementary		Middle		Senior High	
	Dwelling Units	Factor	Students	Factor	Students	Factor	Students
Single Family	5,546	0.3872	2,147.41	0.1088	603.40	0.1786	990.52
Multi Family	396	0.3249	128.66	0.0755	29.90	0.1053	41.70
Total Number of Students:			2,276.07		633.30		1,032.22

Required School Facilities

To determine the number of schools necessary to support the number of students generated by the Plan area, the EGUSD employs maximum student capacities for each school level. The requirements are based on both impacted (9-month) and year-round school capacities as follows:

Table 7.3
Maximum Student Capacities

School Type	Impacted Size	Year-Round Capacity
Elementary (K-6)	850	1,060
Middle (7-8)	1,200	1,500
Senior High (9-12)	2,200	N/A

Note: High Schools do not use the year-round schedule.

On the basis of the foregoing student generation rates and school capacities, the following numbers of schools per student level are needed to serve the Plan area:

Table 7.4
Required and Proposed Schools

Elementary			**Middle**			**Senior High**		
Required		Proposed	Required		Proposed	Required		Proposed
9-Mo.	Yr. Rnd		9-Mo.	Yr. Rnd		9-Mo.	Yr. Rnd	
2.67	**2.15**	**2**	**0.53**	**0.42**	**0**	**0.47**	**N/A**	

On the basis of the criteria supplied by the EGUSD, the Plan area requires two elementary school sites. Middle school and senior high school sites are not required to be shown on the Land Use Plan. Other factors outside the control of this Comprehensive Plan, such as student populations in surrounding areas, may influence the number and type of schools ultimately required to serve the Plan area.

School Locations

The EGUSD has requested that one school site be located in the south half of the Plan area, west of Vineyard Road and one in the north half, within the limits of the Wildhawk Estates Subdivision. Figure 7.1 shows the proposed locations of the three required elementary schools. By locating the schools on either side of Laguna Creek, students will not necessarily have to cross the proposed Laguna Creek corridor to access their school. Bussing of students to the

elementary schools is not anticipated as the proposed schools are within the District's walking distance thresholds.

The proposed school sites will be approximately ten acres in size, thus conforming to the District's minimum site acreage requirement for elementary schools. Each school will also be located adjacent to neighborhood parks, consistent with the County's joint use policies pertaining to shared facilities.

The School component of the Vineyard Springs Comprehensive Plan achieves several policies that are contained in the Public Facilities Element of the General Plan pertaining to the siting of schools. The Comprehensive Plan achieves the intent of Policy PF-28 which specifies that *"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* and Policy PF-33 which specifies *"New schools should link with planned bikeways, pedestrian paths wherever possible."*

By their nature, schools are often a focal point of a neighborhood because they provide opportunities for group meeting space, recreational facilities, entertainment programs, and other activities. The proposed elementary schools, because of their strategic locations in the Plan area, will provide focal points. Both of the proposed school sites are located adjacent to parks providing joint use opportunities. The school sites are also interconnected to the Plan's bicycle network that provides opportunities to directly access the many branches of the trail system, including green spaces, as well as on-street paths.

The school component of the Vineyard Springs Comprehensive Plan also achieves the intent of Policy PF-29 which specifies that *"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."* The proposed school sites are located such that all residences in the Plan area are within an approximate one mile walk of one of the school sites.

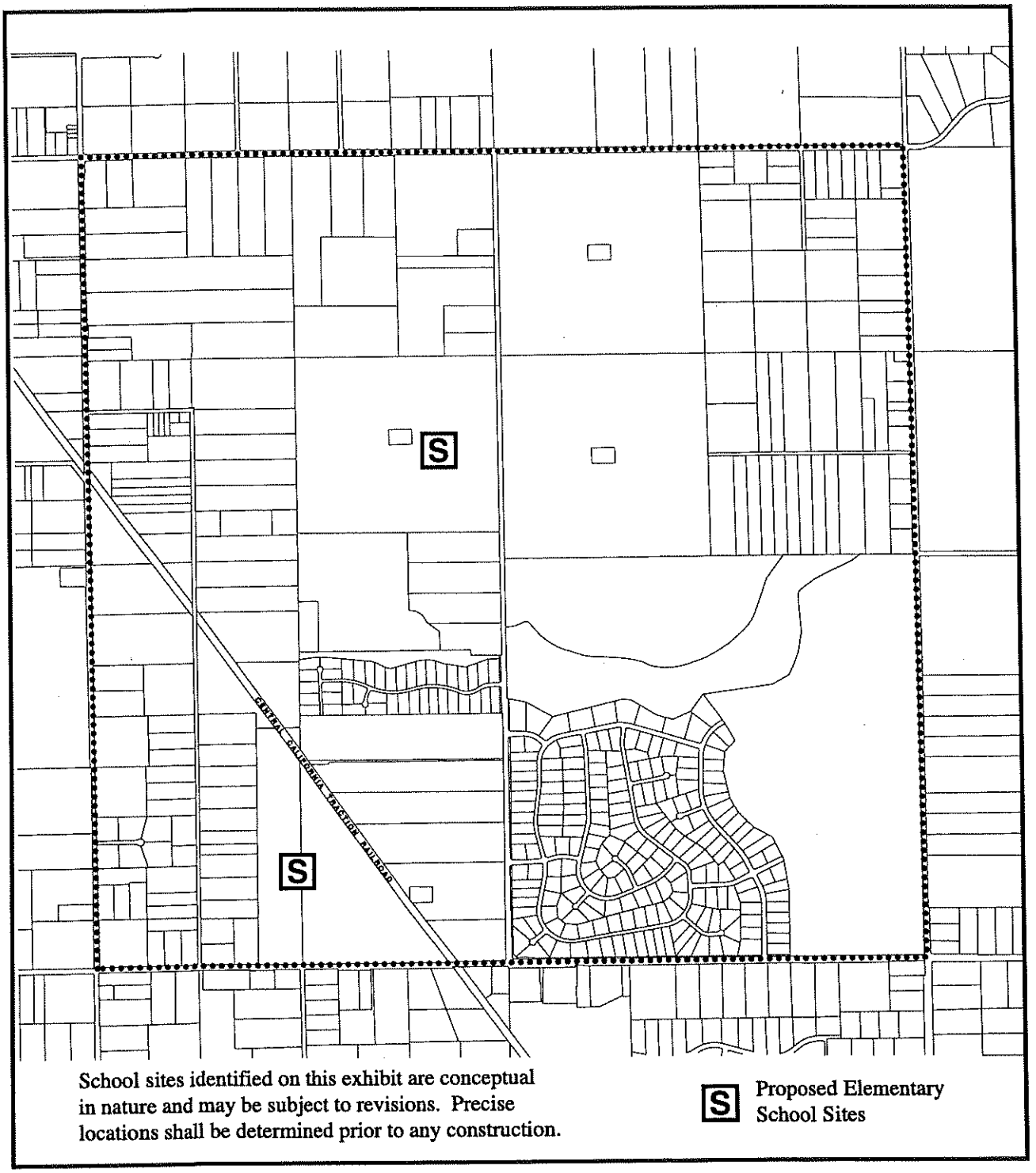
The Comprehensive Plan also meets General Plan Policy PF-30:

"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 school sites are located adjacent to neighborhood parks, varying in size. The principle of joint use of facilities will be taken into account when the designs of the facilities are ultimately prepared.

The designation and identification of potential school sites on the Vineyard Springs Comprehensive Land Use Plan is consistent with General Plan Policy PF-37 which specifies that *"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."* Adequate

Figure 7.1
Proposed School Sites



facilities and sites have been reserved to meet the needs of the EGUSD since representatives of the EGUSD were periodically consulted throughout the planning process. Finally, the school component of the Comprehensive Plan is also consistent with Policy PF-38 which specifies that *"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."* The number, type and location of the proposed school sites were determined based upon close cooperation with the EGUSD and its Master Plan. The applicable school location policies in the General Plan were taken into account in the siting of the school facilities. At the Comprehensive Plan level, though, proposed locations are typically shown schematically unless located within an area that is part of a jointly submitted tentative map as in the case of the elementary school site located within the Wildhawk Estates site. The Vineyard Springs Public Facilities Financing Plan provides a detailed discussion of the school funding issue.

Conclusion

The senior and junior high school students generated by development within the Plan area can be accommodated by off-site school facilities. The number of elementary school students generated by the Plan area requires the location of two schools within the Plan area, which are to be provided. The locations of the schools were determined through consultation with school district officials consistent with the district Master Plan.

Policies

VS-24 Provide the number, type, design, and location of school facilities consistent with the Elk Grove Unified School District's Master Plan.

VS-25 New elementary school sites should be designated adjacent to existing or proposed neighborhood or community park sites and designed to promote joint use of both facilities.

LAW ENFORCEMENT SERVICES

Introduction

This section provides an overview of the existing conditions, policies and service standards pertaining to law enforcement services. This analysis will also identify potential impacts upon law enforcement resources caused by project development.

Existing Conditions

The Plan area is located in the Sheriff's Department's District 7, which encompasses approximately 535 square miles out of a total of 880 square miles in the entire unincorporated County. In the unincorporated area of the County, law enforcement services are provided by the

Sacramento County Sheriff's Department. Traffic-related enforcement services are provided by the California Highway Patrol. The Plan area will be served by both law enforcement agencies.

A Sheriff's "processing" center is located within the Marketplace 99 shopping center located at Bond Road and East Stockton Boulevard. The processing center is staffed with a lieutenant, three community-oriented policing officers and volunteers. This office is available for residents of District 7 to file complaints, report suspicious activities, and ask law enforcement questions of a general nature.

In April of 1994, the Sheriff's Department's South Station facility was completed. This facility is located at the southwest corner of Bond and Waterman Roads and replaces the facility located at the Rio Cosumnes Correctional facility near Bruceville and Lambert Roads. The Rio Cosumnes facility will continue to provide booking facilities. The South Station provides briefing space for officers and patrol car fueling and maintenance. There are no inmates booked or housed at this facility. Because of its location near the Plan area, a significant law enforcement presence is available.

The completion of the South Station facility is consistent with General Plan Policy PF-58 which states *"Plan and develop law enforcement facilities in keeping with overall needs and the distribution of growth."*

Service Standards

The Sheriff's Department currently has a staffing goal of one officer per thousand residents. The approximate population of District 7 is 50,000 residents. Therefore, to adequately serve District 7, approximately fifty officers are required. According to Sheriff's Department representatives, in 1994, there were insufficient patrol officers to meet the Department's service standard on a County-wide basis, including District 7.

Development Impacts and Provisions

Using a factor of 2.5 residents per proposed household, the Vineyards Springs project would generate approximately 14,855 new residents, based on a dwelling unit yield of 5,942. Based on the Sheriff's Department service standard of one officer per thousand residents, full buildout of the project would result in the need for 14.8 new officers. Because of the uncertainty that Sheriff's Department patrol officer service standards will be achieved and that there are no new major facilities planned to serve District 7, particular attention is being given to designing the Vineyard Springs area 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

> *PF-60. Design neighborhoods and buildings in a manner that prevents crime and provides security and safety for people and property, when feasible.*

The Land Use Plan has been designed with safety considerations in mind. The design layout ensures that residents and law enforcement personnel have unobstructed surveillance opportunities into Park and Open Space areas. Pedestrian areas will be well-lighted and designed in such a manner as to maximize the safety of pedestrians. Buildings will be designed and sighted to provide a safe environment. The Sheriff's Department will be forwarded all future development plans for review to ensure that plans are designed in a manner that addresses safety concerns. Additionally, Neighborhood Watch programs will be encouraged and put in place as neighborhoods develop.

Conclusion

Although law enforcement service is available to serve the Plan area, staffing will not meet service standard levels. To assist in reducing crime levels and reduce the strain on law enforcement resources, the Plan area has been designed with safety as a prime consideration. Development plans will be reviewed by Sheriff's Department representatives to ensure that proposals address safety concerns.

Policies

VS-26 Support efforts to provide the highest level of law enforcement protection for community residents and business owners and patrons to adequately maintain public health and safety needs.

VS-27 Encourage the use of resident-based surveillance and law enforcement notification programs such as Neighborhood Watch.

FIRE PROTECTION SERVICE

Introduction

This section describes fire protection services available to the Plan area. Included in this section are descriptions of existing conditions, applicable service standards, and probable impact of Plan implementation, and policies.

Existing Conditions

The Plan are is within the service boundary of the Florin Fire 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. The Plan area is within the service boundaries of the American River Fire District. Currently, emergency calls from within the Plan area are handled by Station 50, and Station 55. There are four fire stations near the Plan area that are anticipated to provide emergency response. These stations are:

• Existing Station 50	8880 Gerber Road
• Existing Station 55	7776 Excelsior Road, south of Gerber Road
• Existing Station 52 (currently closed)	Elder Creek Rd, east of Bradshaw Road
• Proposed Station	Bradshaw Road near Vintage Park Road

The Plan area will receive initial emergency response from Station 55. However, many emergencies within the Plan area will require multiple pieces of fire apparatus and associated personnel for proper response. Specifically, any structure fire within the Plan area will require the response of Stations 55, 50, 52, and the future station. If any of these stations are committed to other emergencies, service could come from the Laguna Creek, Laguna West, Florin, or Wilton Fire Stations.

Service Standards

The American River Fire District utilizes response time standards to determine fire station and staffing needs. The current response time standard is 5 minutes, made up of 1 minute reaction time and 4 minutes driving time. The District's Master Plan utilized this response time standard to determine adequate levels of resources and facilities. The Master Plan furthermore incorporates the latest development master plans to determine present and future needs for fire facilities and equipment to serve the increased demand placed on the Fire District by new construction and development.

Development Impacts and Provisions

Assumptions regarding urban development within the boundaries of the Vineyard Springs Comprehensive Plan were taken into account during the development of the District's Master Plan. Project development can be accommodated by the four facilities identified in the Master Plan. The Master Plan proposes one fire station reopening and one new station to be constructed west of Bradshaw Road to supplement the existing fire station just west of Excelsior Road.

The to be reopened facility identified in the Master Plan is an existing fire station that is proposed to be reopened as part of the North Vineyard Station Specific Plan.

The new facility to be constructed on Bradshaw Road, south of Parkview Road, will provide responsive service to the Elk Grove/West Vineyard area. The time frame for the construction of this station is not identified yet as funding for this station is subject to receipt of an adequate level of construction fees. Station 55 will provide initial service to the Plan area and will obtain support from Stations 50, 52 and the yet unnamed station on fire responses.

The existing and proposed fire stations will meet "normal service demands" for the Plan area. The Fire District has stated that the number of proposed dwelling units is within the capacity of the fire stations proposed in the facilities Master Plan. The proposed Plan would not alter the District's regional station needs. A facilities funding discussion is provided in the Financing Plan which is part of the Comprehensive Plan.

Conclusion

The existing and planned facilities identified in the Master Plan will be provided to serve the Plan area and surrounding properties with an adequate level of fire protection. The Land Use Plan was designed with the input of the Fire District to ensure that the design and land use distribution meets the needs of the District.

Policies

VS-28 Ensure adequate water flows to serve the Plan area with an adequate level of fire protection.

VS-29 The provision of fire protection services and facilities within the Plan area shall be at a level sufficient to address public health and safety needs.

SOLID WASTE DISPOSAL SERVICE

Introduction

This section describes the existing solid waste disposal facilities which would serve development in the Plan are, Plan-specific policies, and service standards. A discussion of project impacts and provisions is also included.

Existing Conditions

Solid waste generated by current residents of the entire Vineyard Springs Comprehensive Plan service area is collected by the County of Sacramento Waste Management Recycling Division. Solid waste generated by the residences is transported to the Kiefer Landfill, a County-owned and operated facility near the intersection of Grant Line Road and Kiefer Boulevard. Curbside recycling, green waste collection services, and an annual neighborhood clean-up program will also be provided for residents in the Plan area upon development.

Service Standards

Once developed, the Plan area will be provided automated refuse collection service for all residential accounts, identical to what is provided in the rest of the County. The automated collection system utilizes specialized collection trucks. One solid waste collection truck can service approximately 800± households per day. Each household will receive a solid waste container and recycling containers from the County.

Commercial and industrial accounts will be required to seek service from one of the private refuse hauling companies that service commercial and industrial waste generators in the unincorporated area of the County.

Development Impacts and Provisions

The Vineyard Springs Comprehensive Plan includes a maximum of 5,942 dwelling units which result in a need for two collection trucks and 5,942 sets of refuse and recycling containers to serve the Plan area. Funding for this equipment will be offset by user fees. Capacity currently exists at the Kiefer Landfill to accommodate solid waste generated by residents and commercial and industrial users in the Plan area.

Conclusion

Excess capacity currently exists at the County landfill to accommodate solid waste generated by residents and commercial and industrial users in the Plan area. The landfill has enough excess capacity to last well into the next century. New collection trucks and waste containers for the Plan area will be funded through user fees.

Policies

VS-30 Encourage and promote the recycling of solid waste products for both residential and non-residential users in the Plan area.

LIBRARY FACILITIES

Introduction

This section identifies existing library facilities, describes service standards to determine adequate facilities to serve the Plan area, and provides an overview of development impacts and facilities provision. Project-specific policies are also provided.

Existing Conditions

Library facilities in Vineyard community are administered by the Sacramento Public Library Department. Residents of the Vineyard currently have access to two "Neighborhood Branch" library facilities; the Elk Grove Branch library located at 8962 Elk Grove Boulevard and the Southgate Library, which is located on 65th Street, one block south of Florin Mall Drive.

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 dependent on the size of the population a facility is intended to serve.

Development Impacts and Provisions

The Library Master Plan does not include any future library facilities within the Plan area boundaries. A combined "regional" and "community" library facility is planned at the intersection of Elk Grove Boulevard and Williamson Drive, which will replace the existing neighborhood facility. This facility will provide library services for the entire Elk Grove community.

The adopted Elk Grove/West Vineyard Public Facilities Financing program provides for a development fee-based program to fund library facilities. A more detailed discussion of the Development Fee Program is included in the Financing Plan. The development fees collected as part of this Plan will be solely to fund the community portion of the planned library facility. The anticipated timetable for completion of the new regional/community facility is dependent upon an adequate level of funding; therefore, no construction date has been set at this time.

Conclusion

The Library Master Plan does not include any future library facilities within the Plan area boundaries; however, a combined regional and community library facility is planned at the intersection of Elk Grove Boulevard and Williamson Drive. Construction of the regional and community facility is dependent upon an adequate level of funding which has not been secured at this time.

Policies

VS-31 Ensure that all Plan area residents have equal and adequate access to community library facilities.

PARKS

Introduction

The Southgate Recreation and Park District is the local governing body for park facilities. The District has assisted in the formulation of the Land Use Diagram by providing direction on the general location of park facilities in the Comprehensive Plan. The District encompasses 52 square miles and is bounded by Calvine Road on the south, Grant Line Road to the east, Jackson Highway on the north, and Sacramento city limits to the west, just beyond Highway 99.

Existing Conditions

Currently, no parks exist within the Plan area boundaries. The District's Master Plan does identify several planned park facilities within and for areas adjacent to the Vineyard Springs planning area (See Figure 7.2). Development constraints, such as flood plains, wetlands, railroad

easements, and endangered species foraging habitat have been identified on the District's Master Plan as well.

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 74.25 acres of park land will be required for dedication to the Southgate Recreation and Park District, as illustrated in Table 7.5.

Table 7.5
Parkland Dedication Requirement

Dwelling Units in Plan	Population Per Dwelling Unit	Plan Area Population	Parkland Dedication Std.	Parkland Required
5,942	2.5	14,885	5 ac./1000 pop.	74.25

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 (also called Tot Lot)**

  Size: 1.5 - 2.5 acres

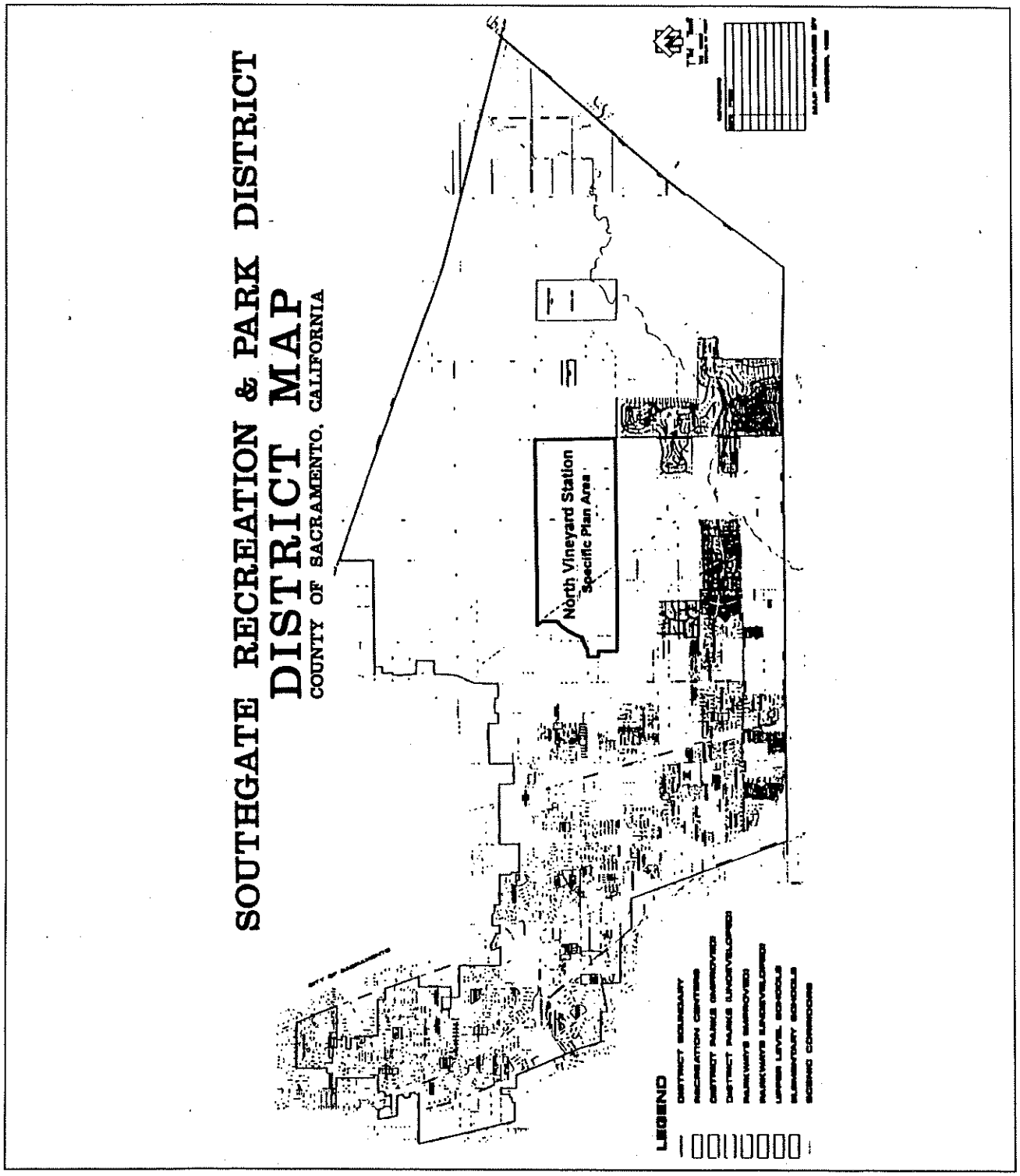
  Use: Provides small park area imbedded within residential neighborhoods. Oriented towards child/family playground, etc.

- **Neighborhood Park**

  Size: 5 - 10 acres

  Use: Provides neighborhood recreation. Facilities may include ballfields, picnic area, tennis courts, basketball courts, and limited parking.

Figure 7.2
SRPD Park Facilities Master Plan



- **Community Park**

  Size: 12 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 may also own and maintain 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.

Development Impacts and Provisions

Parks are an important element of the Vineyard Springs Comprehensive Plan. Along with Open Space Corridors along Gerber Creek and Laguna Creek, the many park sites provide for a variety of passive and active recreational opportunities. The parks within the Plan area have been planned considering the needs of both the residents of the Plan Area and the surrounding community. The Plan designates several sites to accommodate many different types of parks, ranging from neighborhood parks, which are typically used by people living close by, to a large community park which are intended for use by the entire Vineyard community.

Due to the large open space corridor along Gerber Creek and Laguna Creek, there is a potential to link proposed parks sites to this recreational amenity by means of an extensive trail and bike path system. Although the primary purpose of parks is for recreational uses, they have been planned with aesthetic and safety considerations in mind as well. Parks included within the Comprehensive Plan area will provide a desirable community ambiance and most will be located at prominent places where they will serve as visual amenities and attractive destinations.

Parks have been evenly distributed throughout the Plan to allow for easy access from all residential areas. Figure 7.3 shows the location of the proposed parks included in the Plan. Based on a dwelling unit yield of 5,942 units there will be approximately 74.25 acres of park required to be dedicated. The final park acreage total in the Plan area is dependent on, and will vary with, the details of each subdivision. A primary consideration in the layout of the parks is that most residences will be within one-quarter mile of a park. In addition, the Park District provided the following direction concerning the placement of parks:

- When possible, parks should be located along creeks or adjacent to open spaces;
- Neighborhood parks should be placed next to schools to allow for joint use of facilities;

- Parks should be easily accessible, but should not be surrounded on all sides by streets.

At the comprehensive planning level only those parks located within concurrently running tentatively mapped subdivisions are being sized. The park sizes and locations identified on Figure 7.3 were established with direction from the Southgate Recreation and Park District. Parks will be constructed in the general locations shown on the land use plan. Precise location and type of facility (mini park, tot lot or neighborhood park, etc.) will be determined at the time of tentative map approval for each residential project.

Because there are many property owners within the Plan, it is not practical for each property to dedicate park land. In addition, small parcels would not yield enough park dedication land to create usable parks. As a result, it will be necessary for some properties to dedicate park land and for others to pay in-lieu fees. More discussion of park dedication, in-lieu fees, and park funding issues is included in the Financing Plan.

Policies

VS-32 Whenever possible, park site 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.

VS-33 Parks should be located within the general locations shown on the land use plan. Precise locations will be determined at the time of tentative subdivision map approval for each residential project.

VS-34 Parks and open space areas shall be linked by a pedestrian and bicycle circulation system to the maximum extent possible.

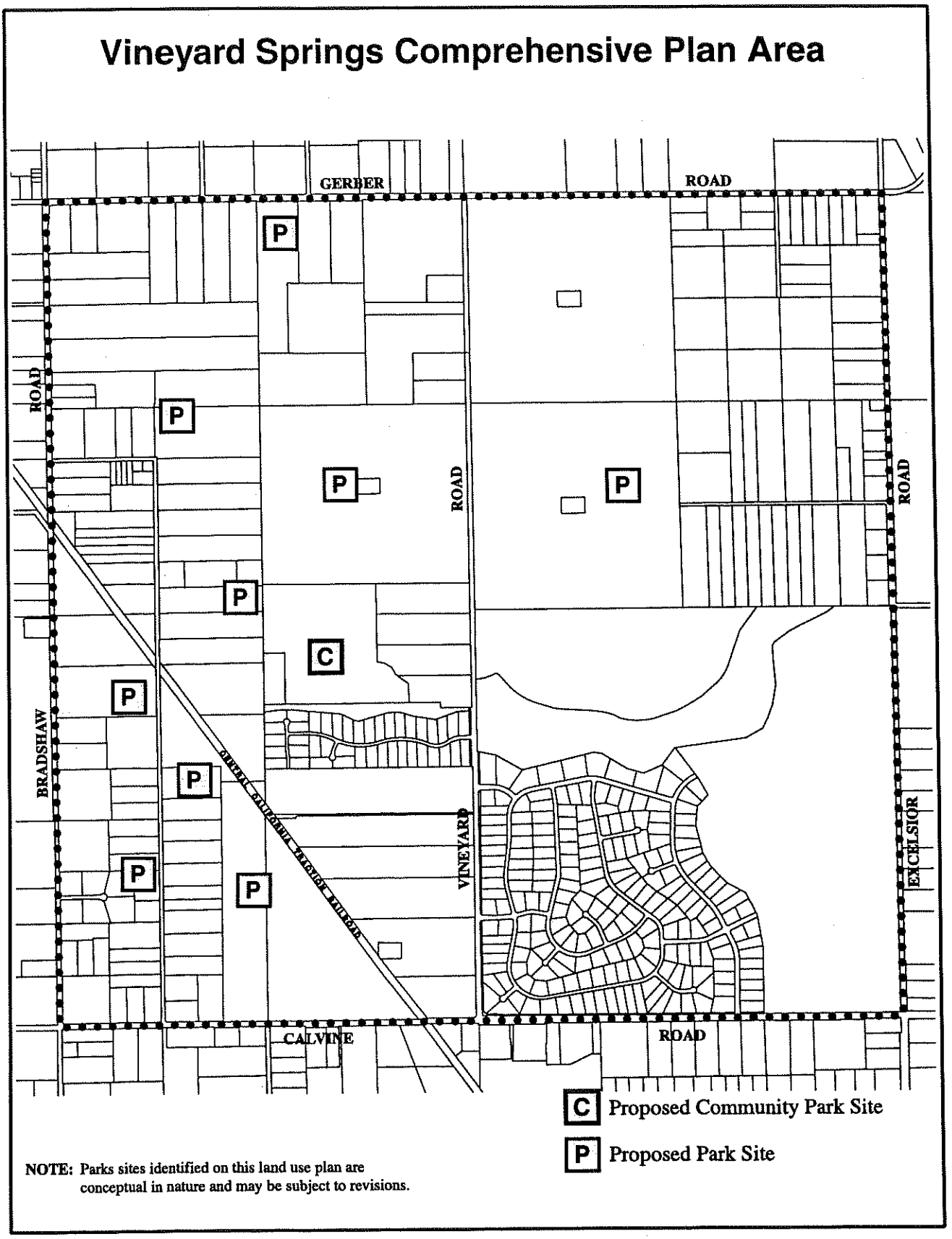
VS-35 Whenever possible, parks should be bordered on at least two sides by streets in order to facilitate public access and surveillance.

VS-36 Park facilities and sites shall be provided in conformance with the Southgate Park and Recreation District Master Plan.

VS-37 Parks shall be designed, and facilities oriented, to minimize noise and visual impacts on adjoining residential lots.

VS-38 Where parks are adjacent to Drainage parkways, the park shall include pedestrian pathways which connect to the pathway in the Parkway.

Figure 7.3
Park Sites Plan



OPEN SPACE

The Vineyard Springs Land Use Plan identifies several areas for open space uses. The Open Space designation ("O" designation on the Land Use Plan) includes environmentally constrained area, namely the drainage corridors, the open space corridor adjacent to creeks, the existing Wild Hawk Golf Course, wetlands preservation area and community park site. Figure 7.4 identifies the open space areas. Drainage and open space corridors are to be linked where possible to form an interconnected open space resource, enhanced with landscaping, and made accessible to area residents via an extensive trail and sidewalk system.

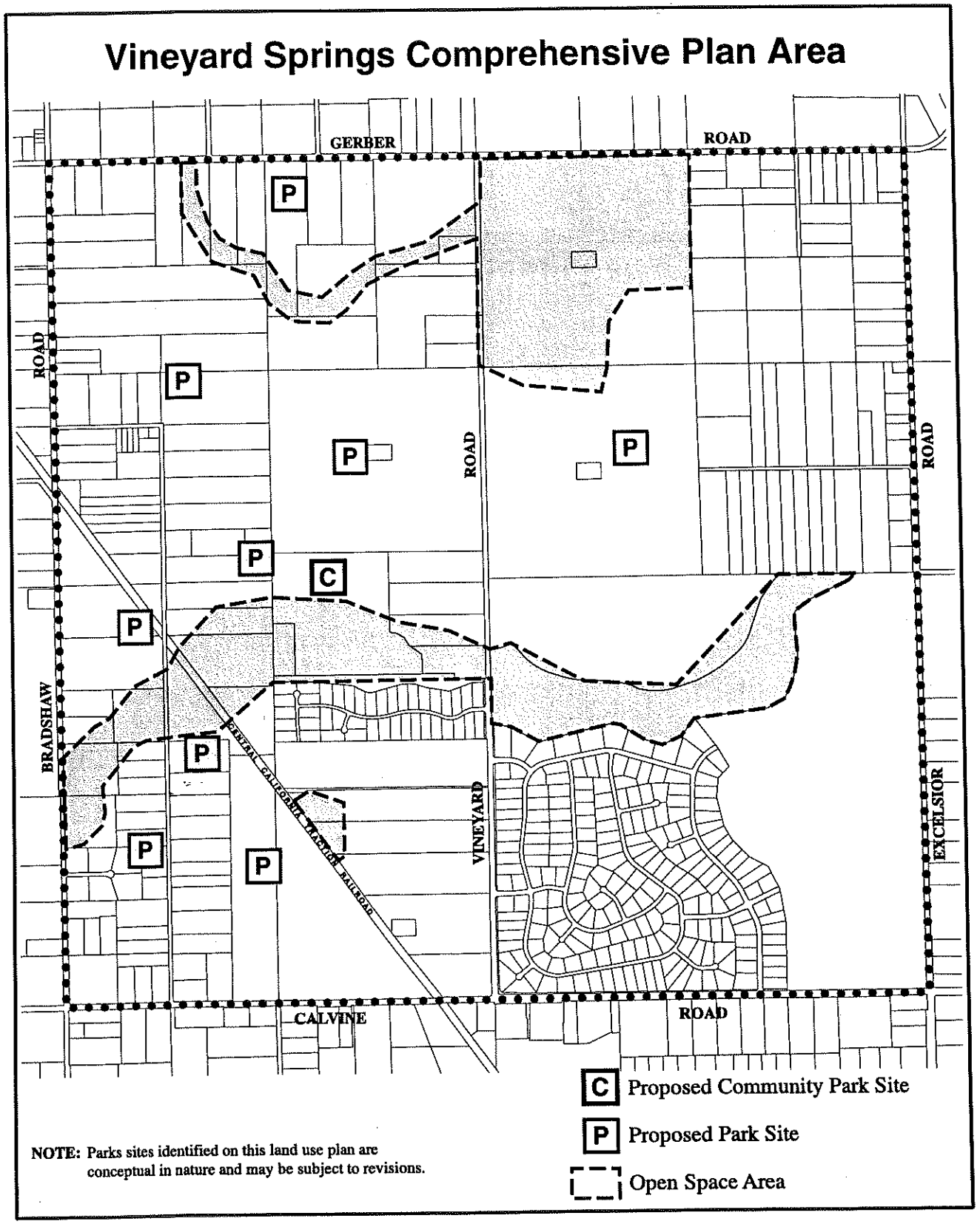
Drainage/Open Space Corridor

Two creeks, Laguna Creek and Gerber Creek, flows through the Vineyard Springs planning area. The Vineyard Springs Drainage Master Plan recommends the reconstruction of both creeks as natural appearing riparian channels to improve local drainage and flood control. An Open Space corridor is proposed adjacent to both creeks for open space and passive recreation activities. The open space corridor is intended to supplement the meandering low flow channel and side slopes for drainage flood control and open space uses. Figure 7.5 presents a conceptual illustration of the drainage /open space area. A channel maintenance road along one bank of both Gerber and Laguna Creeks may double as a pedestrian and bicycle trail. The opposite bank of Laguna Creek may contain a parallel equestrian trail. The pedestrian/bicycle trail will be connected to other Plan area trail and sidewalks to form an interconnected local circuit. Both the pedestrian/bicycle trail and the equestrian trail can be connected to other similar off-site regional trail systems. Street and lotting patterns with the Plan area are to integrate the drainage and open space corridor into the neighborhood design, creating a series of trails heads and interesting open space vistas along the street. Residential development patterns should place a variety of open-ended cul-de-sacs, front-on streets, and residential lots along the edges of greenways to the extend practical. However, long stretches of back-up lots should be discouraged. Homeowners safety issues, such as policing and emergency vehicle access into the corridors, can be more satisfactorily addresses with proper interface design. Consistent with General Plan policies, frontage streets are to be placed along at least one side of Plan area drainage/open space corridor at any given location, unless limited by planning constraints (see Figure 7.6). The provision of frontage streets will permit views into the open space and access to trails within the naturalized channels. Where front-on streets occur, green edge landscaping along the street is to be done in a manner consistent with general Plan policy.

Storm Water Detention Basins

The Vineyard Springs Drainage Master Plan recommends the construction of detention basins within the planing area for the primary purpose of intercepting and detaining peak stormwater flows conveyed within the drainage channels. For aesthetics, the basins are to be constructed in free-form shapes, rounded and contoured with varying side slope pitches. Seasonal rain water may sustain wetland and aquatic plants within the basins. These facilities should be

Figure 7.4
Open Space Plan



Conceptual Drainage Parkway Design

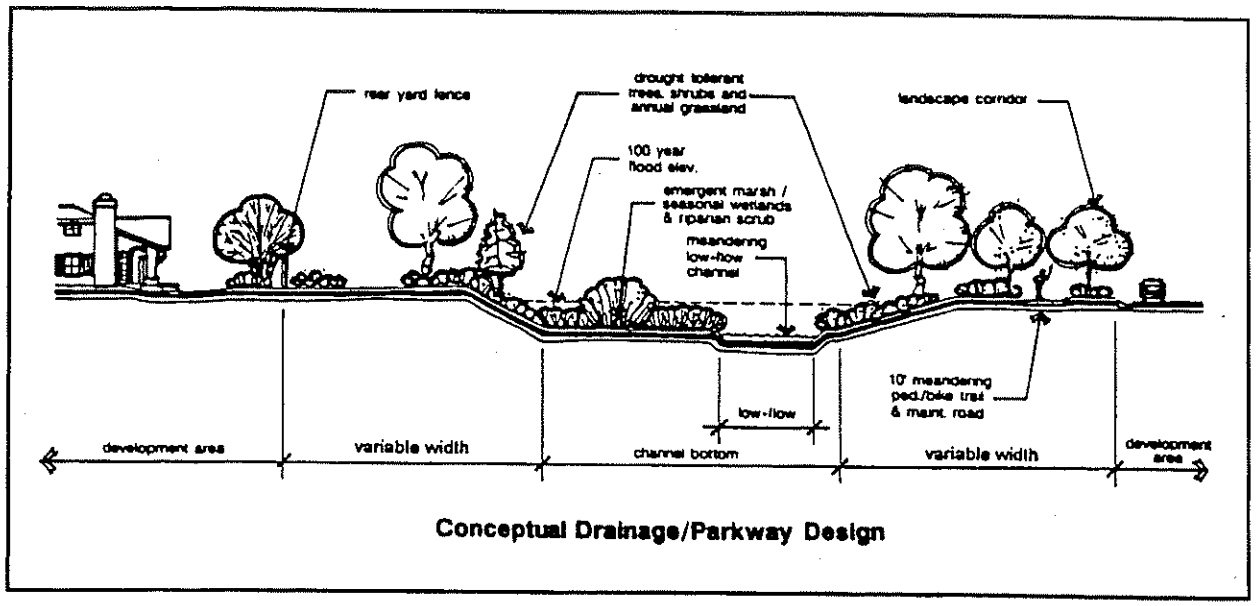
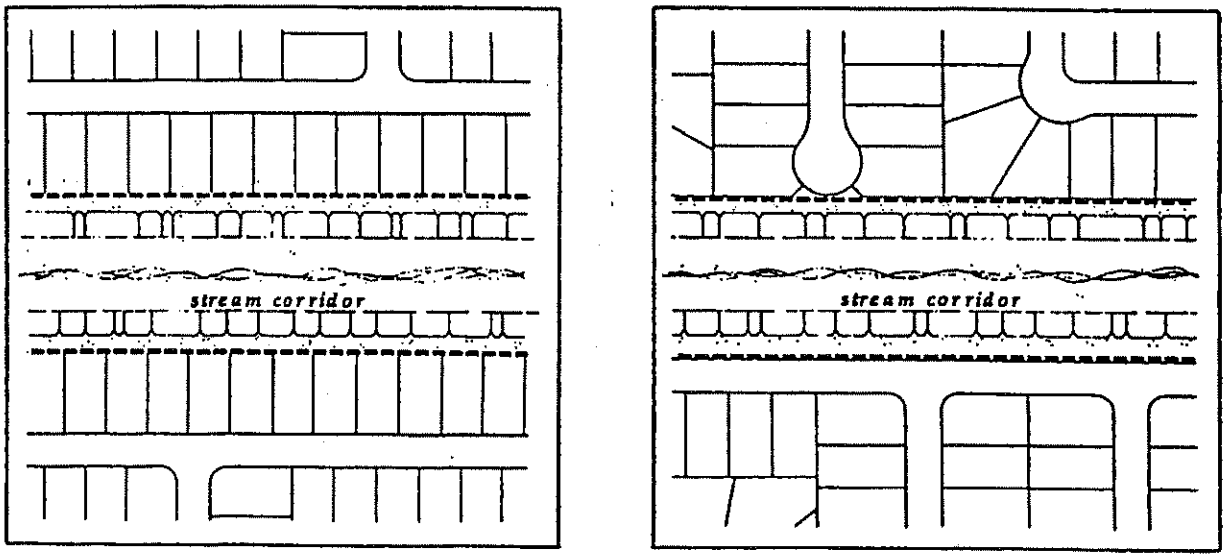


Figure 7.6
Lotting and Street Pattern Along Drainage/Opens Space



complementary to the network of open space. Their design should encourage some active or passive use during periods when no floodwaters are present. Detention basins will be purchased and maintained by the County Water Resources Division to ensure proper function, however, the Southgate Recreation and Park District may enter into joint-use agreements with the County that would permit the development of certain recreation facilities.

Wild Hawk Golf Course

The existing Wild Hawk Golf Course (approximately 144 acres) has been incorporated into the Comprehensive Land Use Plan as an important recreation and open space component. Measures will be taken to ensure that proposed land uses on the perimeter of the golf course are compatible with the course.

Community Scale Park

An 18 acre park site is proposed within the planning area to accommodate large scale recreational facilities. This park site is located along the north side of the Laguna Creek Open Space corridor. The strategic positioning of the park near the Laguna Creek drainage/open space corridor creates additional passive open space for park and also allows convenient access to pedestrian and bicycle trails within the channel. The park site has an underlying designation of RD-5 (single family designation). The approach was recommended to provide an option for the affected property owner to either develop the property for single family residential or to have the site be acquired by the Southgate Recreation and Park District for recreational use purposes. If the property owner choose to develop the property for single family residential use, the Park District will identify an alternative site within the Vineyard Springs planning area.

Open Space Land Use Classification

Land Use Classifications

The appropriate future land use classifications for lands designated Open Space ("O" on the Vineyard Springs Land Use Plan) are as follows:

Designation	**Land Use Classification**
Open Space ("O") for Drainage/ Open Space Corridor along Elder and Gerber Creeks	Recreation (O) Category
Community Park Designation ("CP") for Community Park site adjacent to the Laguna Creek Open Space area	RD-5 Residential Land Use Zone
Open Space ("O") for Wild Hawk Golf Course	Recreation (O) Category
Schools ("S" designation)	Residential Land Use Zone to be compatible with surrounding uses

Parks ("P" designation)	Residential Land Use Zone to be compatible with surrounding uses

Policies

VS-39 Open Space areas should be incorporated into all Plan area projects to the extent feasible.

VS-40 Project adjacent to Open Space areas shall be designed to protect the integrity and function of the Open Space area.

VS-41 Where feasible, pedestrian, bicycle and equestrian trails shall be provided in Open Space areas, with emphasis on trail connections to area-wide systems

VS-42 Streets and other public infrastructure improvements shall be placed to minimize intrusion upon Open Space areas, particularly wetlands.

VS-43 Street and lotting patterns with the Plan area are to integrate the drainage and Open Space corridor into the neighborhood design, creating a series of trails heads and interesting open space vistas along the street.

VS-44 Residential development patterns should place a variety of open-ended cul-de-sacs, front-on streets, and residential lots along the edges of Open Space corridor to the extent practical.

CHAPTER 8

CIRCULATION AND AIR QUALITY

CIRCULATION

This section describes the roadway, bicycle, pedestrian, and transit elements of the Vineyard Springs planning area. This section begins by providing a description of all existing transportation facilities within the planning area. Also included in this chapter is a discussion of service standars used in analyzing existing and projected conditions; and in developing the project's circulation system and off-site improvements. This chapter also provides a detailed description of the major on and off-site transportation improvements planned to accommodate future development. The final section of this chapter identifies transportation related policies unique to the planning area which supplement the policies of the General Plan. The intent of these policies is to assure that the overall goals of the General Plan are achieved through the planning area.

TRANSPORATION STUDY AREA

The traffic analysis prepared by CCS Planning and Engineering, Inc. (CCS) evaluated the impacts of the proposed Comprehensive Plan on 27 external intersections, 14 internal/perimeter intersections (total of 41 intersections), 13 external roadways and 17 internal roadway segments (total of 30 roadways). The study area evaluated external roadways segment that extends north to Jackson Road and south to Sheldon Road and Grant Line Road.

EXISTING CONDITIONS

This section describes the existing transportation system in the vicinity of the Vineyard Springs Comprehensive Plan area including roadway, transit, bicycle and pedestrian facilities. Many of the study area roadways are currently classified as rural and are predominantly two-lane roadways with minimal shoulders (0-4 feet).

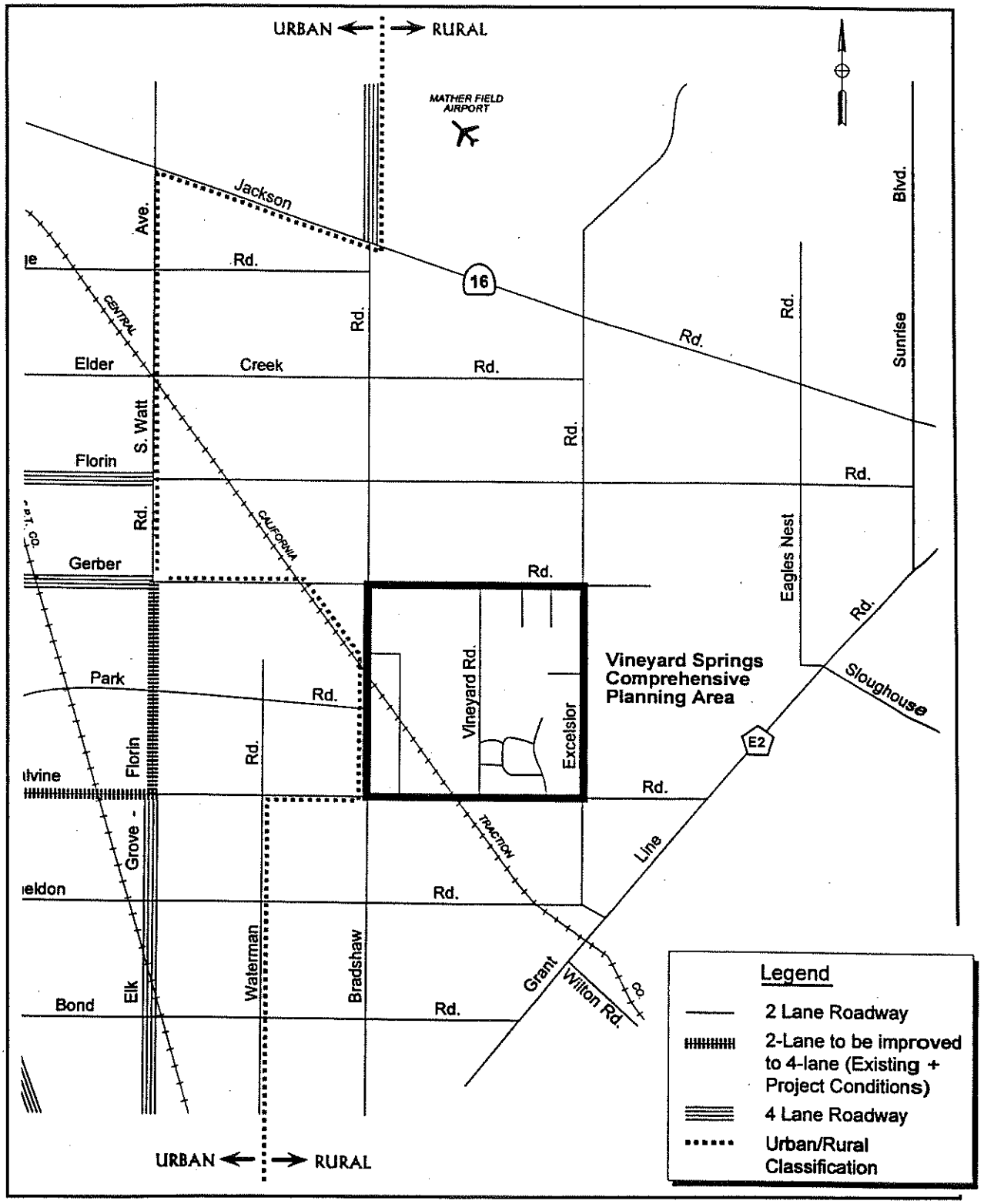
Existing Roadway Network

Figure 8.1 depicts the existing roadway system within and the area surrounding the Vineyard Springs Comprehensive Plan area. As shown on the exhibit, Bradshaw Road provides direct access to US Highway 50, while Florin Road provides direct connection to Highway 99.

1. Regional Access

   Bradshaw Road - Bradshaw Road is currently a two-lane rural arterial road providing north-south access to the Plan area. Bradshaw Road provides interregional access between

Figure 8.1
Existing Roadway System



Grant Line Road to the south and Route 16 and U.S. 50 to the north, and forms the western planning area border, providing direct access to the Plan area. Bradshaw Road generally has two 12 foot travel lanes with 5 foot paved shoulders which also serve as bike lanes.

Calvine Road - Calvine Road is currently a two-lane urban/rural roadway in the study area. Calvine is classified an urban roadway within the study area between SR 99 and Bradshaw Road and classified a rural roadway between Bradshaw Road and Grant Line Road. Calvine Road provides interregional east-west access to the Plan area accessing Grant Line Road to the east and SR 99 to the west and forms the southern planning area border, providing direct access to the Plan area. Calvine Road varies in width in the area. Near Grant Line Road, Calvine Road has 10 foot travel lanes with soft shoulders. Near Polo Crosse, Calvine widens to one 14-foot lane with a 5-foot shoulder on the north side and a 12-foot travel lane with a 2-foot paved shoulder on the southern side. To the west, Calvine Road generally returns to two 10-foot travel lanes with soft shoulders except at improved intersection locations.

Gerber Road - Gerber Road is currently a two-lane roadway in the study area and is classified as an urban roadway between SR 99 and the California Traction Railroad Tracks to the east, before it meets Bradshaw Road. Gerber Road is classified as a rural roadway between the California Traction Railroad Tracks and Excelsior Road to the east. Gerber Road provides interregional east-west access to the Plan area accessing Excelsior Road to the east and SR 99 to the west and forms the northern planning area border, providing direct access to the Plan area. Gerber Road varies in width and has two, 10 to 12 foot travel lanes with soft shoulders.

Excelsior Road - Excelsior Road is currently a two-lane rural roadway in the study area. Excelsior Road provides interregional north-south access to the Plan area by connecting the area to Grant Line Road to the south and SR 16 (Jackson Road) to the north. Excelsior Road forms the eastern border of the Plan area. Excelsior Road has two 9 foot travel lanes with no shoulders. The speed limit along Excelsior Road is posted at 55 miles per hour.

2. Local Access

Vintage Park Drive - Vintage Park Drive is currently a two-lane, urban classified, roadway running east-west, providing access to Elk Grove-Florin Road to the west and terminating at Bradshaw Road on the east. In the newly developed area west of Bradshaw Road, Vintage Park Drive widens to a 70 foot widen section which would accommodate 4 lanes when restriped in the future. However, at its intersection at Bradshaw Road, Vintage Park Road is a narrow two-lane substandard roadway, with 10-foot travel lanes and no shoulders.

Vineyard Road - Vineyard Road is a two-lane rural roadway providing direct access to the interior of the Plan area. Vineyard Road runs through the middle of the Planning area, connecting Gerber Road on the north with Calvine Road to the south. Vineyard Road has two 10-foot travel lanes with no shoulders north of the recently developed Silver Springs

area, and has 14 to 17-foot travel lanes with soft shoulders near its intersection with Calvine Road to the south.

Carmencita Road - Carmencita Road is a two-lane rural road which generally travels north south within the Plan area. This roadway currently serves as access to an established neighborhood in the southwest quadrant of the Plan area. Carmencita Road has two travel lanes with soft shoulders. Carmencita Road lies entirely within the Plan area.

Mabel Lane - Mabel Lane is currently a substandard two-lane dirt road which provides very limited north-south access within the Plan area. This roadway currently provides access to some homes in the northeast quadrant of the Plan area. Mabel Lane lies entirely within the Plan area.

Caprilli Road - Caprilli Road is currently a two-lane roadway, which extend easterly from Vineyard Road into Silver Springs. Caprilli Road has 12-foot travel lanes and on-street parking. This roadway currently provides access to the new development homes. Caprilli Road lies entirely within the Plan area.

Savona Road - Savona Road is currently a two-lane roadway which extends to the east from Vineyard Road into Silver Springs. Savona Road has 12-foot travel lanes and on-street parking. Savona Road lies entirely within the Plan area.

Polo Crosse Road - Polo Crosse Road is a two-lane roadway which extends north from Calvine Road into the new development of Silver Springs. Polo Crosse has 12-foot travel lanes and on-street parking. Polo Crosse lies entirely within the Plan area.

3. Existing Roadway Volumes and Service Standards

A. Levels of Service

Levels of Service (LOS) is a term used to describe the quality of traffic operations on a roadway. Letters ranging from A to F denote Levels of Service, with A describing freeflowing conditions, and F describing congested conditions. The County of Sacramento has a level of Service standard of E or better for urban roadways and LOS D or better for rural roadways. A description of roadway operating conditions at each service level is provided in Table 8.1 below:

B. Existing Traffic Volumes

Existing Average Daily Traffic (ADT) volumes were obtained from 24-hour automatic counts taken by CCS Planning and Engineering, Inc. in June 1996 and data obtained from the County of Sacramento. ADT traffic volumes, based on field surveys conducted in June 1996, are shown in Figure 8.2. Table 8.2 shows the existing traffic volumes and service levels on the roadway segment analyzed in the traffic study.

Table 8.1
Levels of Service Definitions

Level of Service	Conditions
LOS A	Conditions of free flow; speed is controlled by driver's desires, speed limits, or physical roadway conditions.
LOS B	Conditions of stable flow; operating speeds beginning to be restricted; little or no restrictions on maneuverability from other vehicles
LOS C	Conditions of stable flow; and maneuverability more closely restricted; occasionally backups behind left-turning vehicles at intersections.
LOS D	Conditions approach unstable flow; tolerable speeds can be maintained, but temporary restrictions may cause extensive delays; little freedom to maneuver, comfort and convenience low; at intersection, some motorist, especially those making left turns, may wait through one or more signal changes.
LOS E	Conditions approach capacity; unstable flow with stoppages of momentary duration; maneuverability severely limited.
LOS F	Forces low conditions; stoppages for long periods; low operating speeds.

An analysis of the existing average daily traffic analysis and levels of service, as shown in Table 8.2, indicates that the following roadways are currently operating at an unacceptable levels of service:

- Elk Grove-Florin Road (South Watt Avenue): SR 16 (Jackson Road) to Fruitridge
- Elk Grove-Florin Road (South Watt Avenue): Gerber Road to Calvine Road
- Bradshaw Road: SR 16 (Jackson Highway) to Florin Road
- Calvine Road: Power Inn Road to Elk Grove-Florin Road

Figure 8.2
Traffic Volume Exhibit

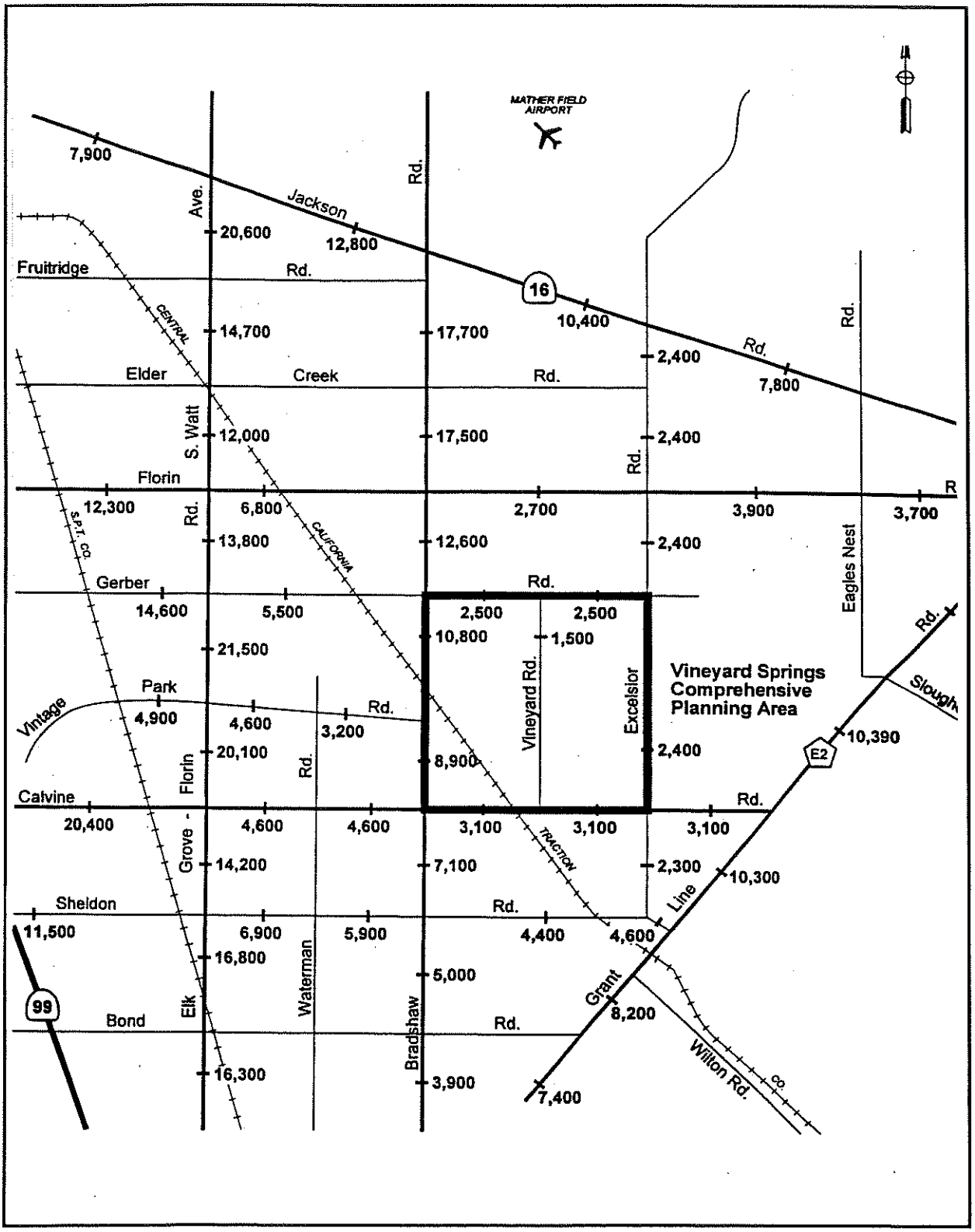


Table 8.2
Existing Conditions
Roadway levels of Service

Roadway	Existing - No Project					
	Existing ADT	Lanes	Urban/ Rural	(1) Capacity	V/C Ratio	LOS
Jackson Road (SR 16)						
Power Inn to Elk Grove Florin	7,900	2	U	18,000	0.44	A
Elk Grove Florin to Bradshaw	12,800	2	U	18,000	0.71	C
Bradshaw to Excelsior	10,400	2	R	18,000	0.58	A
Excelsior to Sunrise	7,800	2	R	18,000	0.43	A
Sunrise to Grant Line	12,100	2	R	18,000	0.67	B
Grant Line Road						
Sunrise to Eagles Nest	10,600	2	R	18,000	0.59	A
Eagle Nest to Calvine	10,390	2	R	18,000	0.58	A
Calvine to Sheldon	10,300	2	R	18,000	0.57	A
Sheldon to Bond	8,200	2	R	18,000	0.46	A
Bond to Elk Grove	7,400	2	R	18,000	0.41	A
S. Watt Avenue/ Elk Grove Florin						
Jackson to Fruitridge	20,600	2	U	20,000	1.03	F
Fruitridge to Elder Creek	14,700	2	U	18,000	0.82	D
Elder Creek to Florin	12,000	2	U	18,000	0.67	B
Florin to Gerber	13,800	2	U	18,000	0.77	C
Gerber to Vintage Park	21,500	2*	U	18,000	1.19	F
Vintage Park to Calvine	20,100	2*	U	18,000	1.12	F
Calvine to Sheldon	14,200	4	U	36,000	0.39	A
Sheldon to Bond	16,800	4	U	36,000	0.47	A
Bond to Elk Grove	16,300	4	U	36,000	0.45	A
Bradshaw Road						
Jackson to Elder Creek	17,700	2	R	18,000	0.98	E
Elder Creek to Florin	17,500	2	R	18,000	0.97	E
Florin to Gerber	12,600	2	R	18,000	0.70	B
Gerber to Carmencita	10,800	2	R	18,000	0.60	A
Carmencita to Vintage Park	10,800	2	R/U	18,000	0.60	A
Vintage Park to Calvine	8,900	2	U	18,000	0.49	A
Calvine to Sheldon	7,100	2	R	18,000	0.39	A
Sheldon to Bond	5,000	2	R	18,000	0.28	A
Bond to Elk Grove	3,900	2	R	18,000	0.22	A
Elk Grove to Grant Line	2,100	2	R	18,000	0.12	A
Vineyard Road						
Gerber to Savona	1,500	2	R	15,000	0.10	A
Savona to Caprilli	460	2	R	15,000	0.03	A
Caprilli to Calvine	480	2	R	15,000	0.03	A
Excelsior Road						
Jackson to Elder Creek	2,400	2	R	15,000	0.16	A
Elder Creek to Flron	2,400	2	R	15,000	0.16	A
Florin to Gerber	2,400	2	R	15,000	0.16	A
Gerber to Calvine	2,400	2	R	15,000	0.16	A
Calvine to Sheldon	2,300	2	R	15,000	0.15	A

Notes: (1) = Capacities (and resulting V/C ratios and LOS) not presented for local streets
* = Without planned improvements

Unacceptable Levels of Service

Table 8.2 (continued)
Existing Conditions
Roadway levels of Service

Roadway	Existing - No Project					
	Existing ADT	Lanes	Urban/ Rural	(1) Capacity	V/C Ratio	LOS
Florin Road						
Power Inn to Elk Grove Florin	12,300	4	U	36,000	0.34	A
Elk Grove Florin to Bradshaw	6,800	2	R	15,000	0.45	A
Bradshaw to Excelsior	2,700	2	R	15,000	0.18	A
Excelsior to Eagle Nest	3,900	2	R	15,000	0.26	A
Eagle Nest to Sunrise	3,700	2	R	15,000	0.25	A
Gerber Road						
Power Inn to Elk Grove Florin	14,600	4	U	36,000	0.41	A
Elk Grove Flroin to Bradshaw	5,500	2	U/R	18,000	0.31	A
Bradshaw to Vineyard	2,500	2	R	18,000	0.14	A
Vineyard to Mabel	2,500	2	R	18,000	0.14	A
Mable to Excelsior	2,500	2	R	18,000	0.14	A
Vintage Park Drive						
West of Elk Grove Florin	4,900	2	U	18,000	0.27	A
Elk Grove Florin to Waterman	4,600	2	U	18,000	0.26	A
Waterman to Bradshaw	3,200	2	U	18,000	0.18	A
Calvine Road						
Power Inn to Elk Grove Florin	20,400	2*	U	18,000	1.13	F
Elk Grove Florin to Waterman	4,600	2	U	18,000	0.26	A
Waterman to Bradshaw	4,600	2	U	15,000	0.31	A
Bradshaw to Carmencita	3,100	2	R	15,000	0.21	A
Carmencita to Vineyard	3,100	2	R	15,000	0.21	A
Vineyard to Polo Crosse West	3,100	2	R	15,000	0.21	A
Polo Crosse West to Excelsior	3,100	2	R	15,000	0.21	A
Excelsior to Grant Line	3,100	2	R	15,000	0.21	A
Sheldon Road						
Power Inn to Elk Grove Florin	11,500	2	U	18,000	0.64	B
Elk Grove Florin to Waterman	6,900	2	U	18,000	0.38	A
Waterman to Bradshaw	5,900	2	R	18,000	0.33	A
Bradshaw to Excelsior	4,400	2	R	18,000	0.24	A
Excelsior to Grant Line	4,600	2	R	18,000	0.26	A
Carmencita Avenue						
Bradshaw to RR	400	2	R	---	---	--
RR to Calvine	270	2	R	---	---	--
Savona Drive						
East of Vineyard	1,010	2	R	---	---	--
Caprilli Drive						
East of Vineyard	430	2	R	---	---	--
Polo Crosse Avenue West						
North of calvine	380	2	R	---	---	--

Notes: (1) = Capacities (and resulting V/C ratios and LOS) not presented for local streets
* = Without planned improvements

Unacceptable Levels of Service

3. Existing Intersection Volumes and Service Levels

A. Level of Service

Signalized Intersections. Level of service criteria for signalized intersections are shown in Table 8.3. 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 standard.

Table 8.3
Signalized Intersection Level of Service

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

Unsignalized Intersection. For those intersection that are Unsignalized, two methodologies were used to analyze operating conditions. The criteria for level of service at two-stop sign-controlled intersections are shown in Table 8.4, and level of service criteria for all-way stop-controlled intersections are shown in Table 8.5. As with signalized intersection, the County standards define LOS "F" as unacceptable.

Table 8.4
Level of Service for Unsignalized Intersections with Two-way Stop Control

Level of Service	Interpretation	Reserve Capacity
A	Little of no delay	≥400
B	Short Traffic Delays	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

Table 8.5
Level of Service Characteristics for an
Unsignalized Intersections with All-way Stop Control

Level of Service	Interpretation	Reserve Capacity
A	Little of 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

B. Existing Traffic Volumes

Level of service analyses for existing conditions were performed for 32 existing study intersections. Table 8.6 provides a summary of results of these intersection level of service analyses. The results of the existing intersection level of service analyses indicate that the following intersections are currently operating at unacceptable levels of service:

- Florin Road/Elk Grove-Florin Road: LOS F during the PM peak Hour
- Gerber Road/Elk Grove-Florin Road: LOS F during the PM Peak Hour

4. Bus and Rail Transit Service

The Vineyard Springs Comprehensive plan area is not currently served by either bus or rail transit service. The closet regular bus service is located in the vicinity of SR 99 and the Bond Road/Elk Grove-Florin Road intersection. There has been closer service to the Florin area, Route 57, however, it was discontinued three years ago per Sacramento Regional Transit (RT). Figure 8.3 shows existing transit facilities in the study area.

5. Bicycle and Pedestrian Circulation

The study area has two existing designated bikeways. One bikeway is on Bradshaw Road running along its entire length in the study area and the second bikeway is on Elk Grove-Florin Road extending from Calvine Road to SR 99 and beyond to the north. On other roadways, bicyclist must ride in the roadway and share travel lanes with vehicular traffic. Also, as there are few roadways in the study area with adequate shoulders and relatively high (55 mph) roadway speeds, bicycle rider safety is a legitimate concern to bicyclists in the area. Figure 8.3 also shows existing bikeway facilities in the study area.

Except adjacent to recently developed areas within the Vineyard Springs study area, area roadways do not have sidewalks that would provide for pedestrian circulation.

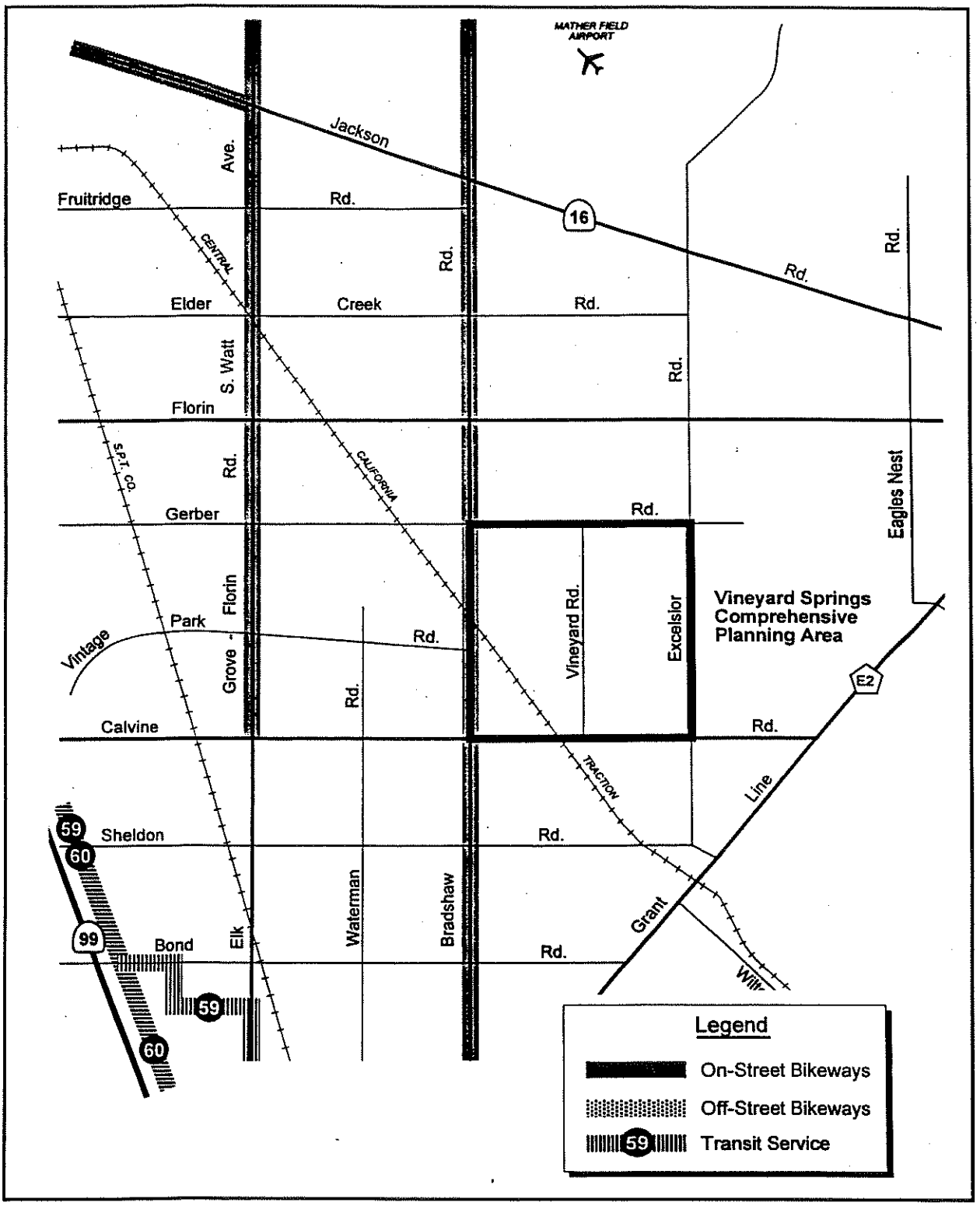
Table 8.6
Existing Condition
Intersection levels of Service

Intersection	Control	Urban/ Rural	Existing - No Project			
			Signalized		Unsignalized	
			AM Peak Hr Hour LOS (V/C)	PM Peak Hour LOS (V/C)	AM Peak Hour Overall LOS (Delay)	PM Peak Hour Overall LOS (Delay)
Florin / Elk Grove Florin (*)	4-Way Stop	U			D (28.7)	**F (48.0)**
Florin / Bradshaw	Signalized	R	D (0.81)	C (0.76)		
Florin / Excelsior	4-Way Stop	R			B (5.1)	A (3.1)
Florin / Eagles Nest	Minor Stop	R			A (0.9)	A (0.4)
Florin / Sunrise	Minor Stop	R			A (2.2)	B (5.4)
Gerber / Elk Grove Florin (*)	Signalized	U	E (0.96)	**F (1.12)**		
Gerber / Bradshaw	Signalized	R	C (0.75)	B (0.61)		
Gerber / Vineyard	Minor Stop	R			A (1.3)	A (0.6)
Gerber / Excelsior	Minor Stop	R			A (1.5)	A (1.1)
Vintage Park / Elk Grove Florin	Signalized	U	A (0.48)	A (0.41)		
Vintage Park / Waterman	Minor Stop	U			A (0.7)	A (0.8)
Vintage Park / Bradshaw	Minor Stop	U			A (4.4)	A (0.9)
Calvine / Elk Grove Florin	Signalized	U	A (0.39)	A (0.48)		
Calvine / Waterman	Minor Stop	U			A (0.7)	A (0.7)
Calvine / Bradshaw	4-Way Stop	U			C (13.2)	C (11.4)
Calvine / Vineyard	Minor Stop	R			A (0.4)	A (1.4)
Calvine / Excelsior	4-Way Stop	R			A (3.6)	A (2.6)
Calvine / Grant Line	Minor Stop	R			A (2.7)	A (0.9)
Sheldon / Elk Grove Florin	Signalized	U	A (0.45)	A (0.43)		
Sheldon / Waterman	4-Way Stop	U			B (5.6)	A (4.7)
Sheldon / Bradshaw	4-Way Stop	R			B (7.3)	B (8.2)
Sheldon / Excelsior	Minor Stop	R			A (0.7)	A (2.0)
Sheldon / Grantline	Minor Stop	R			A (2.4)	A (2.2)
SR 16 / Bradshaw	Signalized	U	C (0.76)	B (0.65)		
SR 16 / Excelsior	Minor Stop	R			A (2.5)	A (1.1)
Vineyard / Savona	Minor Stop	R			A (1.9)	A (1.0)
Vineyard / Caprilli	Minor Stop	R			A (1.6)	A (0.5)
Bradshaw / Carmencita	Minor Stop	R			A (0.3)	A (0.1)
Calvine / Carmencita	Minor Stop	R			A (0.1)	A (0.1)
Gerber / Mabel	Minor Stop	R			A (0.1)	A (0.1)

Notes: (*) = Before Planned Improvements

Unacceptable Level of Service

Figure 8.3
Existing Transit & Bicycle Facilities



DEVELOPMENT IMPACTS/IMPROVEMENTS (ON-SITE FACILITIES)

Planned Internal/Perimeter Roadway and Intersection Improvements

This section describes proposed transportation improvements required to accommodate development within the Plan area. The roadway system has been designed in accordance with anticipated traffic volumes and travel demands of Plan land uses. Figure 8.4 shows the primarily internal circulation system for the planning area. The four roadways (Calvine, Bradshaw, Gerber and Excelsior) which surround the project area are major roadways that serve to move people in out of the planning area. Calvine and Bradshaw Roads are planned as a six-lane roadway; which will include a 96-foot right-of-way and a 25-foot wide landscape corridor on each side of the right-of way. The 96-foot right-of-way will include the following features:

- *68-foot travel lane (6 lanes)*
- *14-foot landscape median*
- *4-foot Class II bicycle lane*
- *3-foot curb and gutter*

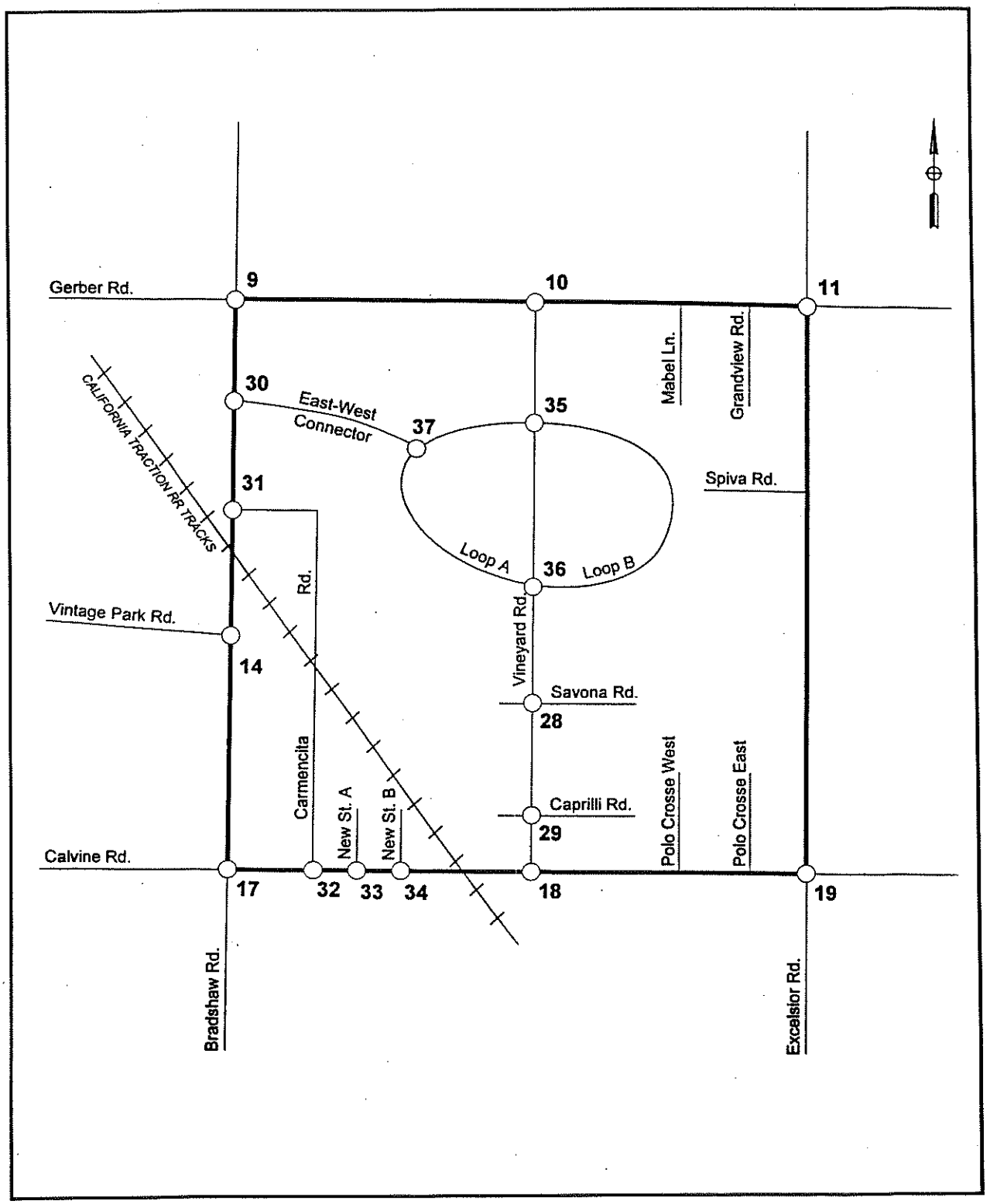
Both Gerber and Excelsior Road will be upgraded to a 4-lane facility; with the following dimensions: a 72-foot right-of-way and a 25-foot foot wide landscape corridor on each side of the right-of way. The 72-foot right-of-way will include the following features:

- *68-foot travel lane (6 lanes)*
- *14-foot landscape median*
- *4-foot Class II bicycle lane*
- *3-foot curb and gutter*

Figures 8.5 and 8.6 present a cross section of a four-lane and six-lane facility. Vineyard Road is planned to be improved to a 3-lane facility. Vineyard road will function as an internal roadway that will collect traffic from within the central portion of the planning area and move it to the north on to Gerber Road or south to Calvine Road. Within the central portion of the planning area, north of Laguna Creek, a loop type roadway (see Figure 8.4) is planned as part of the JAS Wildhawk Estates subdivision map project (Control No. #95-0450). This loop roadway intersects Vineyard Road; therefore functioning as a collector to move traffic from the internal portion of the planning area on to Vineyard Road. The Vineyard Springs circulation plan also proposes an East-West Connector to direct traffic from the loop roadway on to Bradshaw Road. This East-West Roadway is planned as a 3-lane collector (2 lanes with a center two-way left turn lane) with no front-on or side access. A 3-lane collector street with a 56-foot right-of-way will include the following features:

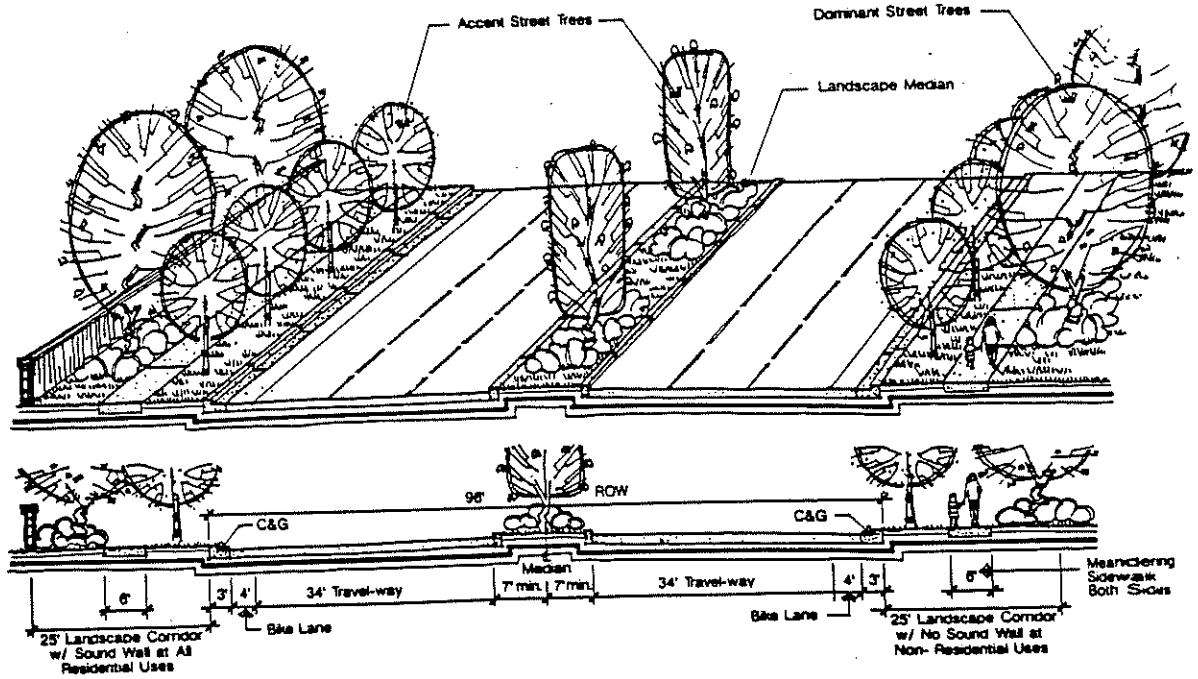
- *30-foot wide travel way (2 lanes)*
- *12-foot wide center left turn lane*
- *3-foot curb and gutter*
- *6-foot sidewalk*

Figure 8.4
Internal Roadway Network

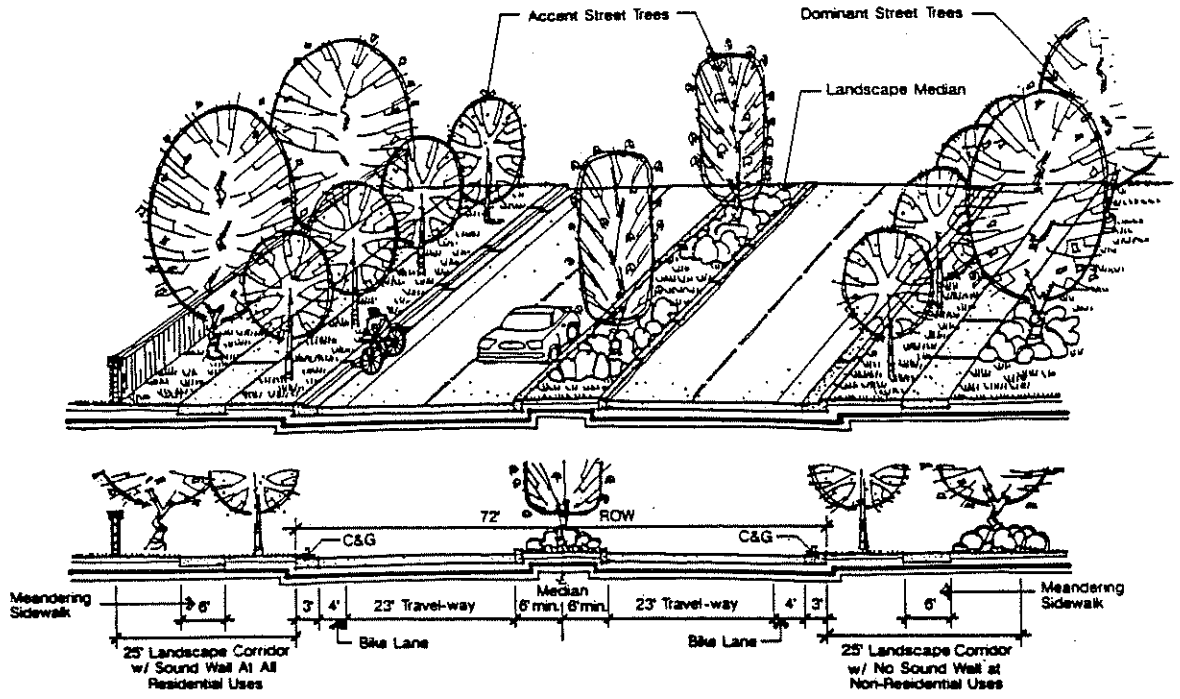


Figures 8.5 and 8.6
Cross Section of an Arterial and Thoroughfare

Thoroughfare Street Section



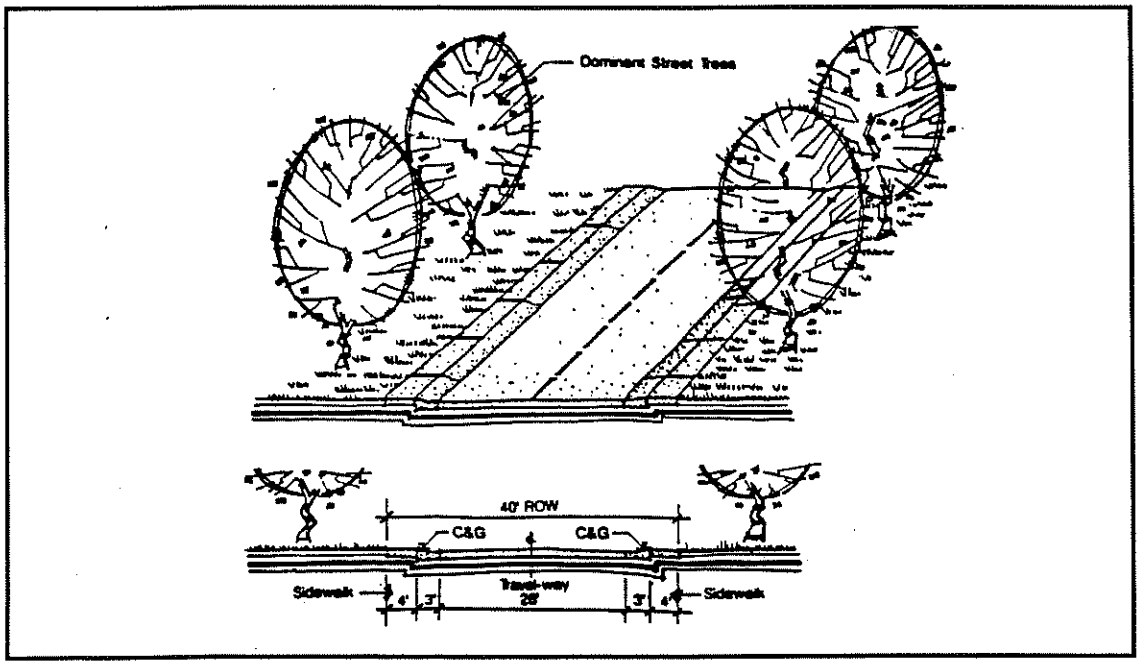
Arterial Street Section



Additional roadways will be needed to serve the individual developments within the planning area. The location of residential street are not identified on the Land Use Plan. Rather, such streets will be designated on individual development plans (particularly tentative subdivision maps) submitted following the adoption of the Comprehensive Plan. Most of these roadways will be minor residential streets (40-feet right-of-way), which provides for sidewalk and parking. As illustrated in Figure 8.7, 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 8.7
Cross Section for a Residential Street



Roadways will be dedicated to the County of Sacramento as public right-of-way. Along certain streets, right-of-way for landscape corridors may be granted to the Southgate Park and Recreation District. Within the landscape corridor, the District will maintain the soundwalls, landscaping, irrigation systems, and detached sidewalks. Figure 8.8 shows the project generated daily traffic volumes on the internal roadway network. Vineyard Road will carry approximately 8,850 project trips near Calvine road and 6,630 near Gerber Road; while Bradshaw Road will carry 50,650 project trips per day near Calvine Road and 46,180 trips per day near Gerber Road. The project trips are based under the cumulative plus project scenario.

Figure 8.8
Project Generated Traffic Volumes

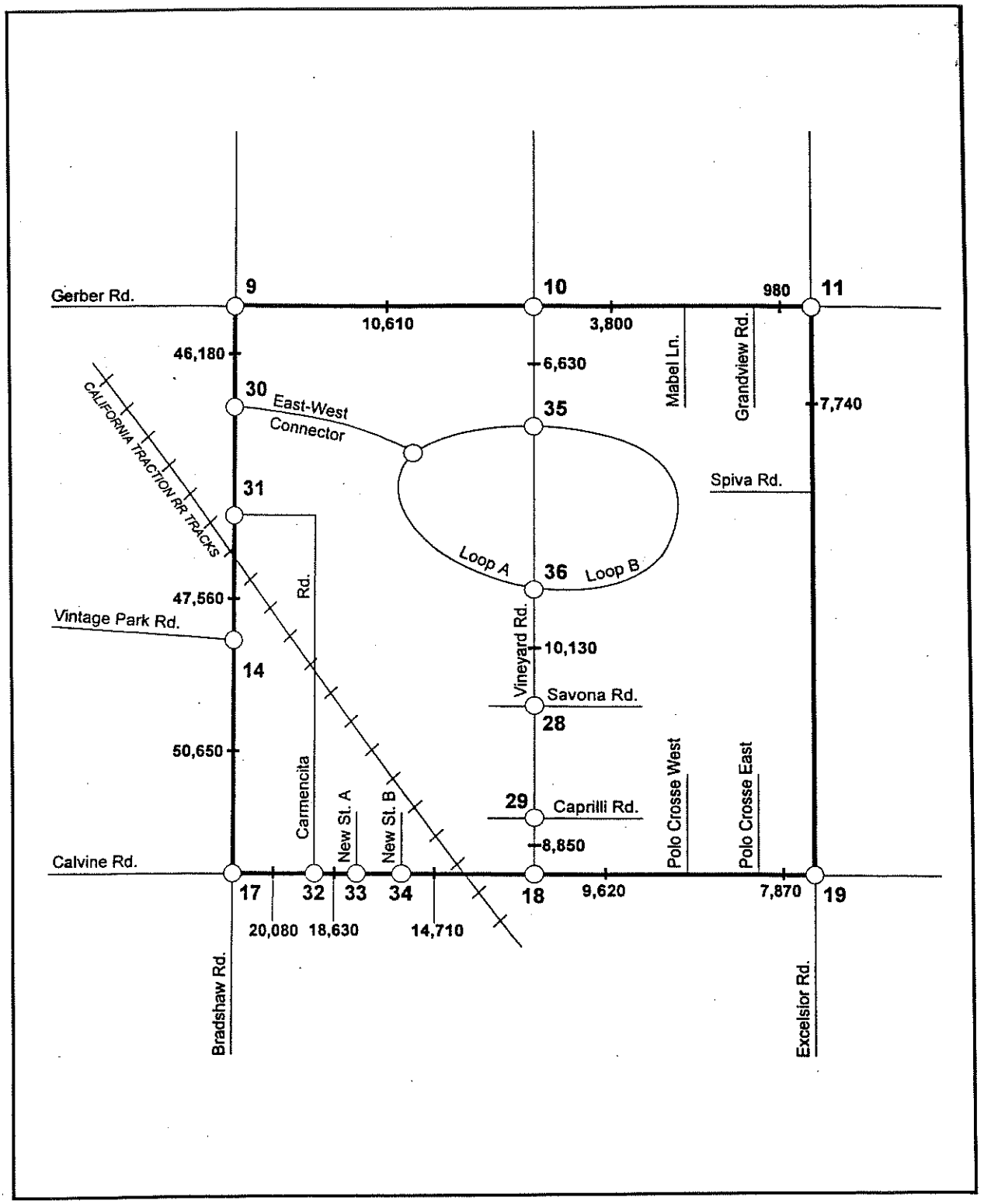


Figure 8.9 shows the location of all on-site intersections which may require signalization. The intersections are spaced (approximately one-quarter mile minimum) to allow for signalization, and in most cases they will require a signal. The financing plan should provide for signals at these locations, but the actual implementation should not occur until they are warranted. In some cases, a signal may never be warranted, but this determination can only be made through monitoring of the actual conditions that develop.

Public Transit

The Vineyard Springs Comprehensive Plan area is not currently served by either bus or rail transit service. The current Sacramento Regional Transit's Transit Master Plan, 20 year Plan shows light rail transit planned to be extended down through the planning area along the Central California Traction Company railroad right-of-way. Sacramento Regional Transit (RT) has indicated that given the low density development planned for this area it is unlikely that light rail will be extended in the next 20 years along this designated right-of-way. However, the railroad right-of-way could be utilized for an exclusive busway. RT has also indicated that transit service to the area will be at best, hourly or limited peak period weekday bus service may be provided along one arterial such as Bradshaw or Calvine Roads, and only if adequate capital and operating funds are available.

The fundamental design concepts for the project are intended to enhance transit access and promote ridership. Higher density residential areas and commercial uses are clustered around locations planned to be served by transit (i.e. Bradshaw Road and Gerber Road). Park and ride facilities are planned to be provided in conjunction with parking for commercial uses.

Bicycle and Pedestrian Circulation

The 2010 Sacramento City/County Bikeway Master Plan, August 1991, indicates that by 2010 there will be a number of designated bikeways in the Vineyard Springs Comprehensive Plan vicinity. Figure 8.10 shows the locations of the proposed bikeways in the Comprehensive Plan area. Bikeways are planned for almost every roadway in the Plan area as well as a number off-street bikeways as well. Off-street bikeways can be provided within the drainage/open space area. Off-street bikeways in drainage/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. Within the drainage/open space area, the 10-foot wide pedestrian/bicycle facility is also used as a maintenance road. 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.

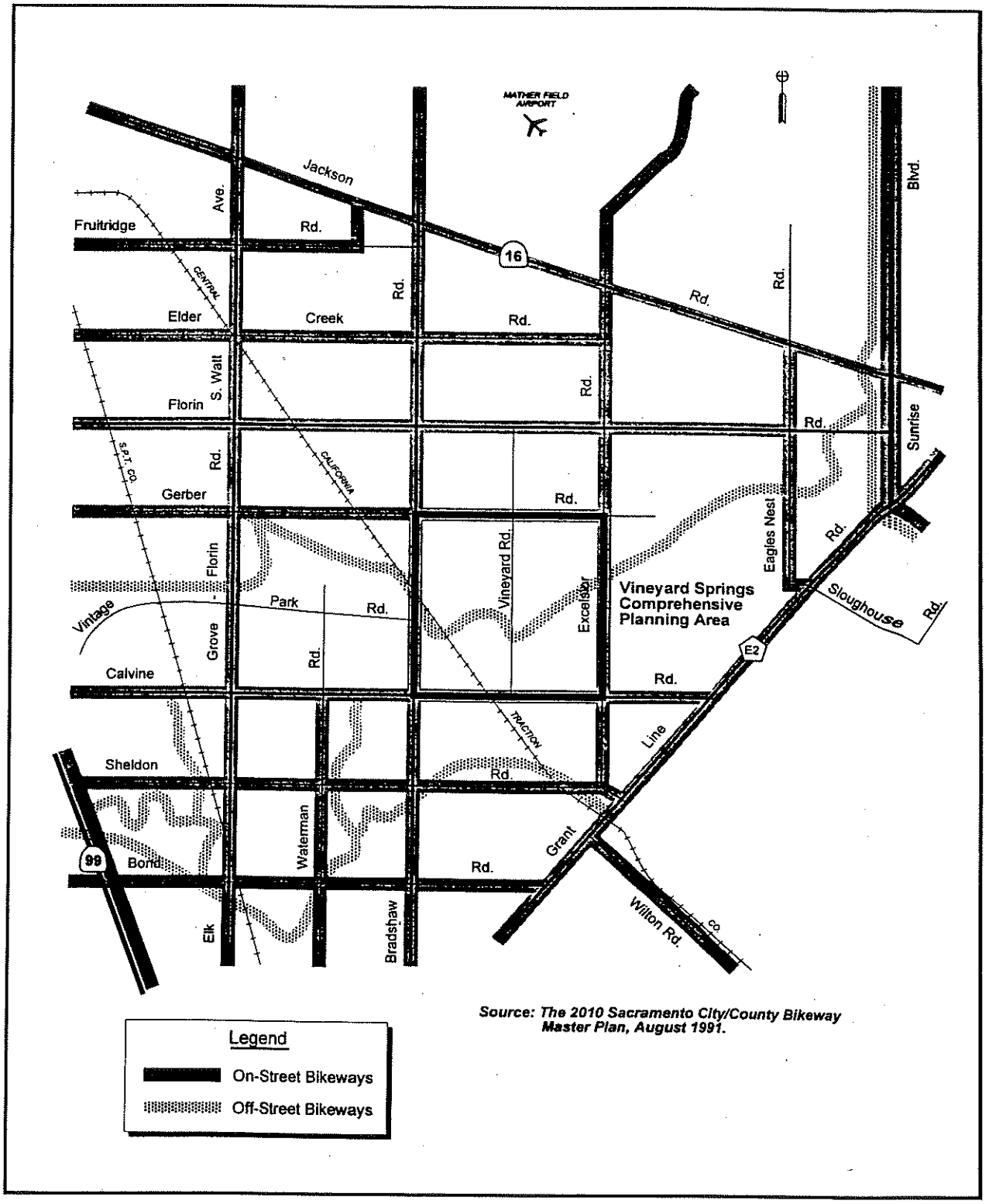
In addition, area roadways currently do not have sidewalks that would provide for pedestrian circulation. However, as development occurs in the area, sidewalks and trails will be constructed as required by the County as part of the approval processes to provide for improved pedestrian

Figure 8.9
Proposed Signals

Intersection Location	Proposed Improvements
Florin / Elk Grove Florin	Signalized
Florin / Bradshaw	Signalized
Florin / Vineyard	Signalized
Florin / Excelsior	Signalized*
Florin / Eagles Nest	Signalized*
Florin / Sunrise	Signalized
Gerber / Elk Grove Florin	Signalized
Gerber / Waterman	Signalized
Gerber / Bradshaw	Signalized
Gerber / Vineyard	Signalized
Gerber / Excelsior	Minor Stop
Vintage / Elk Grove Florin	Signalized
Vintage Park / Waterman	Signalized
Vintage Park / Bradshaw	Signalized
Calvine / Elk Grove Florin	Signalized
Calvine / Waterman	Signalized
Calvine / Bradshaw	Signalized
Calvine / Vineyard	Signalized
Calvine / Excelsior	Signalized
Calvine / Grant Line	Signalized
Sheldon / Elk Grove Florin	Signalized
Sheldon / Waterman	Signalized
Sheldon / Bradshaw	Signalized
Sheldon / Excelsior	Signalized*
Sheldon / Grantline	Signalized
SR 16 / Bradshaw	Signalized
SR 16 / Excelsior	Signalized
Vineyard / Savona	Minor Stop
Vineyard / Caprilli	Minor Stop
Bradshaw / East-West Connector	Signalized*
Bradshaw / Carmencita	Signalized*
Calvine / Carmencita	Minor Stop
Calvine / New Street A	Signalized*
Calvine / New Street B	Minor Stop
Vineyard / Loop A/B North	Signalized*
Vineyard / Loop A/B South	Signalized*
Connector / Loop A	Minor Stop

* Improvements per mitigation measures

Figure 8.10
Proposed Bikeways



Source: The 2010 Sacramento City/County Bikeway Master Plan, August 1991.

circulation in the project vicinity. Included are 6-foot wide pedestrian pathways within the landscape corridor of arterials and thoroughfare streets and 4-foot wide sidewalks within the right-of-ways of all residential streets. It is anticipated that all roadways are improved in accordance to County standards, sidewalks will be constructed at the same time. Also, development within the Vineyard Springs area will provide sidewalks along its internal street system to encourage walking by residents to services within the planning area.

DEVELOPMENT IMPACTS/IMPROVEMENTS (OFF-SITE)

The traffic study prepared for the Plan area has determined the extent of circulation improvements required beyond the Plan area to maintain consistency with adopted County policies. Table 8.7 identifies planned off-site roadway improvements. Several of these off-site roadway improvements will be provided by various funding sources including future developments within the Vineyard Springs planning area, development outside the Vineyard Springs planning area (Vineyard Urban Growth Area including the North Vineyard Station Specific Plan area), Measure A funds, Elk Grove-West Vineyard Financing Plan, etc.

Cumulative (No Project) Conditions

Cumulative traffic condition, or the future no project condition, presents traffic conditions expected in 2010, without the development of the Vineyard Springs planning area according to densities shown on the land use plan. The cumulative condition is used as a future baseline to compare cumulative plus project condition, which will identify long term project impacts. In the cumulative condition, all study roadways and intersections are classified as urban and improvements identified in the Sacramento County General Plan are assumed to be constructed.

All of the study roadways will operate at acceptable levels of service except for the following roadways segment as shown in Table 8.8.

- Elk Grove-Florin Road (S. Watt Ave.): between Fruitridge Road and Gerber Road
- Bradshaw Road: between SR 16 (Jackson Road) and Florin Road
- Calvine Road: between Power Inn Road and Elk Grove-Florin Road
- Sheldon Road: between Power Inn Road and Elk Grove-Road

All of the study intersections will operate at acceptable levels except for the following roadway as shown on Table 8.9

- Florin Road/Elk Grove-Florin Road
- Florin Road/Bradshaw Road
- Florin Road/Excelsior Road
- Florin Road/Eagles Nest Road
- Gerber Road/Elk Grove-Florin Road
- Vintage Park Road/Elk Grove-Florin Road
- Jackson Highway/Bradshaw Road
- Jackson Highway/Excelsior Road

Table 8.7
PLANNED ROADWAY IMPROVEMENTS

Roadway	Current Lanes	Planned Lanes
Jackson Road (SR16)		
Power Inn to Elk Grove-Florin	2	6
Elk Grove Florin to Bradshaw	2	6
Bradshaw to Excelsior	2	6
Excelsior to Sunrise	2	4
Sunrise to Grant Line	2	4
Grant Line Road		
Sunrise to Eagles Nest	2	2
Eagles Nest to Calvine	2	2
Calvine to Sheldon	2	2
Sheldon to Bond	2	2
Bond to Elk Grove	2	2
S Watt Avenue/Elk Grove Florin		
Jackson to Fruitridge	2	6
Fruitridge to Elder Creek	2	6
Florin to Gerber	2	6
Gerber to Vintage Park	2	6
Vintage Park to Calvine	2	6
Calvine to Sheldon	2	6
Sheldon to Bond	2	6
Bond to Elk Grove	2	6
Bradshaw Road		
Jackson to Elder Creek	2	6
Elder Creek to Florin	2	6
Florin to Gerber	2	6
Gerber to East-West Connector	2	6
East-West to Carmencita	2	6
Carmencita to Vintage Park	2	6
Vintage Park to Calvine	2	6
Calvine to Sheldon	2	4
Sheldon to Bond	2	4
Bond to Elk Grove	2	4
Elk Grove to Grant Line	2	4

Roadway	Current Lanes	Planned Lanes
Excelsior Road		
Jackson to Elder creek	2	2
Elder Creek to Florin	2	2
Florin to Gerber	2	2
Gerber to Calvine	2	2
Calvine to Sheldon	2	2
Florin Road		
Power Inn to Elk Grove Florin	4	6
Elk Grove Florin to Waterman	2	6
Waterman to Bradshaw	2	6
Bradshaw to Vineyard	2	6
Vineyard to Excelsior	2	4
Excelsior to Eagles Nest	2	2
Eagles nest to Sunrise	2	2
Gerber Road		
Power Inn to Elk Grove Florin	4	4
Elk Grove Florin to Waterman	2	4
Waterman to Bradshaw	2	4
Bradshaw to Vineyard	2	4
Vineyard to Mabel	2	2
Mabel to Excelsior	2	2
Vintage Park Drive		
West of Elk Grove-Florin	2	4
Elk Grove-Florin to Waterman	2	4
Waterman to Bradshaw	2	4
Calvine Road		
Power Inn to Elk Grove Florin	2	6
Elk Grove Florin to Waterman	2	6
Waterman to Bradshaw	2	6
Bradshaw to Carmencita	2	6
Excelsior to Grant Line	2	6

Table 8.8
Cumulative No Project & Cumulative With Project
Roadway Levels of Service

Roadway	Cumulative - No Project						Cumulative Plus Project		
	Cumulative ADT	Lanes	Capacity	V/C Ratio	LOS		Total Cumulative Project Trips	V/C Ratio	LOS
Jackson Road (SR 16)									
Power Inn to Elk Grove Florin	30,920	6	54,000	0.57	A		31,170	0.58	A
Elk Grove Florin to Bradshaw	12,800	6	54,000	0.54	A		29,490	0.55	A
Bradshaw to Excelsior	10,400	4	36,000	0.53	A		18,860	0.52	A
Excelsior to Sunrise	7,800	4	36,000	0.53	A		19,040	0.53	A
Sunrise to Grant Line	12,100	4	36,000	0.51	A		18,380	0.51	A
Grant Line Road									
Sunrise to Eagles Nest	12,700	2	18,000	0.71	C		12,800	0.71	C
Eagle Nest to Calvine	15,240	2	18,000	0.85	D		15,930	0.89	D
Calvine to Sheldon	12,230	2	18,000	0.68	B		12,690	0.71	C
Sheldon to Bond	17,130	2	18,000	0.95	E		17,160	0.95	E
Bond to Elk Grove	13,190	2	18,000	0.73	C		16,930	0.94	E
S. Watt / Elk Grove Florin									
Jackson to Fruitridge	44,900	6	60,000	0.75	C		44,970	0.75	C
Fruitridge to Elder Creek	55,430	6	54,000	1.03	F		55,540	1.03	F
Elder Creek to Florin	55,590	6	54,000	1.03	F		55,060	1.02	F
Florin to Gerber	54,530	6	54,000	1.01	F		54,260	1.00	F
Gerber to Vintage Park	52,290	6	54,000	0.97	E		52,230	0.97	E
Vintage Park to Calvine	35,100	6	54,000	0.65	B		36,140	0.67	B
Calvine to Sheldon	45,600	6	54,000	0.84	D		44,430	0.82	D
Sheldon to Bond	41,800	6	54,000	0.77	C		41,470	0.77	C
Bond to Elk Grove	21,680	6	54,000	0.40	A		21,580	0.40	A
Bradshaw Road									
Jackson to Elder Creek	56,610	6	54,000	1.05	F		56,250	1.04	F
Elder Creek to Florin	58,930	6	54,000	1.09	F		59,950	1.11	F
Florin to Gerber	51,710	6	54,000	0.96	E		53,350	0.99	E
Gerber to East West Connector	42,870	6	54,000	0.79	C		46,180	0.86	D
Connector to Carmencita	44,860	6	54,000	0.83	D		47,560	0.88	D
Carmencita to Vintage Parks	44,860	6	54,000	0.83	D		47,560	0.88	D
Vintage Park to Calvine	47,530	6	54,000	0.88	D		50,650	0.94	E
Calvine to Sheldon	34,690	4	36,000	0.96	E		33,190	0.92	E
Sheldon to Bond	31,040	4	36,000	0.86	D		28,120	0.78	C
Bond to Elk Grove	32,410	4	36,000	0.90	E		33,300	0.93	E
Elk Grove to Grant Line	19,050	4	36,000	0.53	A		19,540	0.54	A
Vineyard Road									
Florin to Gerber	7,600	4	36,000	0.21	A		10,780	0.30	A
Gerber to Loop A & B North	5,020	2	18,000	0.28	A		6,630	0.37	A
Loop A/B North to A/B South	5,630	2	18,000	0.31	A		10,130	0.56	A
Loop A & B South to Savona	5,630	2	18,000	0.31	A		10,130	0.56	A
Savona to Caprilli	5,630	2	18,000	0.31	A		8,850	0.49	A
Caprilli to Calvine	5,630	2	18,000	0.31	A		8,850	0.49	A

Notes: (1) = Capacities (and resulting V/C ratios and LOS) not presented for local streets

Significant Impact

Table 8.8 (continued)
Cumulative No Project & Cumulative With Project
Roadway levels of Service

Roadway	Cumulative - No Project					Cumulative Plus Project		
	CumulativeA DT	Lanes	Capacity	V/C Ratio	LOS	Total Cumulative Project Trips	V/C Ratio	LOS
Excelsior Road								
Jackson to Elder Creek	16,210	2	18,000	0.90	E	17,500	0.97	E
Elder Creek to Florin	11,000	2	18,000	0.61	B	12,540	0.70	B
Florin to Gerber	7,540	2	18,000	0.42	A	8,590	0.48	A
Gerber to Calvine	5,910	2	18,000	0.33	A	7,740	0.43	A
Calvine to Sheldon	7,100	2	18,000	0.39	A	7.9300	0.44	A
Florin Road								
Power Inn to Elk Grove Florin	40,340	6	54,000	0.75	C	45,500	0.84	D
Elk Grove Florin to Waterman	48,930	6	54,000	0.91	E	48,310	0.89	D
Waterman to Bradshaw	28,550	6	54,000	0.53	A	31,630	0.59	A
Bradshaw to Vineyard	20,980	6	54,000	0.39	A	22,380	0.41	A
Vineyard to Excelsior	15,510	4	36,000	0.43	A	17,310	0.48	A
Excelsior tp Eagles Nest	13,160	2	18,000	0.73	C	13,400	0.74	C
Eagles Nest to Sunrise	9,080	2	18,000	0.50	A	9,800	0.54	A
Gerber Road								
Power Inn to Elk Grove Florin	32,310	$	36,000	0.90	D	33,670	0.94	E
Elk Grove Florin to Waterman	30,020	$	36,000	0.83	D	30,720	0.85	FD
Waterman to Bradshaw	24,990	4	36,000	0.69	B	27,040	0.75	C
Bradshaw to Vineyard	7,220	4	36,000	0.20	A	10,610	0.29	A
Vineyard to Mabel	1,700	2	18,000	0.09	A	3,800	0.21	A
Mabel to Excelsior	1,660	2	18,000	0.09	A	980	0.05	A
Vintage Park Drive								
west of Elk-Grove Florin	6,730	4	36,000	0.19	A	6,900	0.19	A
Elk Grove Florin to Waterman	20,440	4	36,000	0.57	A	22,160	0.62	A
Waterman to Bradshaw	11,380	4	36,000	0.32	A	13,920	0.39	A
Calvine Road								
Power Inn to Elk Grove Florin	54,260	6	54,000	1.00	F	55,980	1.04	F
Elk Grove Florin to Waterman	40,420	6	54,000	0.76	C	41,790	0.77	C
Waterman to Bradshaw	35,550	6	54,000	0.66	B	36,620	0.68	B
Bradshaw to Carmencita	12,880	6	54,000	0.24	A	20,080	0.37	A
Carmencita to New Street A	12,880	6	54,000	0.24	A	18,630	0.35	A
New Street A to New Street B	12,880	6	54,000	0.24	A	18,630	0.35	A
New Street b to Vineyard	11,270	6	54,000	0.21	A	14,710	0.27	A
Vineyard to Polo Cross West	9,230	6	54,000	0.17	A	9,620	0.18	A
Polo Crosse West to P C East	9,230	6	54,000	0.17	A	8,360	0.15	A
Polo Crosse East to Excelsior	7,910	6	54,000	0.15	A	7,870	0.15	A
Excelsior to Grant Line	4,190	6	54,000	0.08	A	4,470	0.08	A
Sheldon Road								
Power Inn to Elk Grove Florin	41,575	4	36,000	1.15	F	41,660	1.16	F
Elk grove Florin to Waterman	26,040	4	36,000	0.72	C	26,690	0.74	C
Waterman to Bradshaw	17,500	4	36,000	0.49	A	18,740	0.52	A
Bradshaw to Excelsior	6,190	2	18,000	0.34	A	7,010	0.39	A
Excelsior to Grant Line	10,320	2	18,000	0.57	A	11,970	0.67	B

Notes: (1) = Capacities (and resulting V/C ratios and LOS) not presented for local streets

Significant Impact

Table 8.9
Cumulative No Project & Cumulative With Project
Intersection Level of Service

		Cumulative - No Project				Cumulative Plus Project (w/standard geometrics)				Cumulative Plus Project (w/ existing mitigation) *	
		Signalized		Unsignalized		Signalized		Unsignalized		Signalized	
		AM Pk Hr LOS (V/C)	PM Pk HR LOS (V/C)	AM Pk Hr Overall LOS (Delay)	PM Pk Hr Overall LOS (Delay)	AM Pk Hr LOS (V/C)	PM Pk HR LOS (V/C)	AM Pk Hr Overall LOS (Delay)	PM Pk Hr Overall LOS (Delay)	AM Pk Hr LOS (V/C)	PM Pk HR LOS (V/C)
Florin / Elk Grove Florin	Signalized	F (1.29)	F (1.015)			F (1.30)	F (1.0625)				
Florin / Bradshaw	Signalized	F (1.20)	E (0.95)			F (1.22)	E (0.98)			F (1.22)	E (0.98)
Florin / Vineyard	Signalized	C (0.71)	D (0.89)			C (0.73)	F (1.17)				
Florin / Excelsior	4-Way Stop			F (431.4)	F (669.0)			F (600.6)	F (ovrflw)	F (1.04)	F (1.22)
Florin / Eagles Nest	Minor Stop			F (342.5)	F (ovrflw)			F (ovrflw)	F (ovrflw)		
Florin / Sunrise	Signalized	C (0.79)	C (0.71)			D (0.83)	C (0.74)				
Gerber / Elk Grove Florin	Signalized	F (1.19)	F (1.11)			F (1.20)	F (1.11)				
Gerber / Waterman	Signalized	B (0.63)	C (0.78)			C (0.70)	C (0.74)				
Gerber / Bradshaw	Signalized	C (0.80)	C (0.80)			D (0.85)	D (0.88)				
Gerber / Vineyard	Signalized	A (0.59)	A (0.45)			C (0.76)	B (0.60)				
Gerber / Excelsior	Minor Stop			A (3.6)	A (0.3)			A (4.6)	A (1.2)		
Vintage / Elk Grove Florin	Signalized	F (1.04)	B (0.68)			F (1.05)	C (0.71)				
Vintage Park / Waterman	Signalized	A (0.60)	A (0.55)			B (0.63)	A (0.60)				
Vintage Park / Bradshaw	Signalized	A (0.59)	B (0.63)			C (0.75)	D (0.82)				
Calvine / Elk Grove Florin	Signalized	C (0.72)	B (0.67)			C (0.73)	C (0.71)				
Calvine / Waterman	Signalized	B (0.61)	B (0.68)			B (0.63)	C (0.72)				
Calvine / Bradshaw	Signalized	D (0.88)	C (0.71)			E (0.93)	D (0.80)				
Calvine / Vineyard	Signalized	C (0.75)	C (0.71)			C (0.76)	D (0.81)				
Calvine / Excelsior	Signalized	A (0.42)	A (0.45)			A (0.45)	A (0.51)				
Calvine / Grant Line	Signalized	B (0.66)	A (0.58)			B (0.67)	A (0.59)				
Sheldon / Elk Grove Florin	Signalized	D (0.86)	E (0.96)			D (0.87)	E (0.98)				
Sheldon / Waterman	Signalized	C (0.74)	B (0.69)			C (0.75)	C (0.73)				
Sheldon / Bradshaw	Signalized	A (0.58)	B (0.60)			A (0.60)	B (0.62)				
Sheldon / Excelsior	Minor Stop			A (0.9)	A (11.5)			A (1.3)	F (49.4)		
Sheldon / Grantline	Signalized	C (0.80)	E (0.92)			C (0.82)	E (0.97)				
SR 16 / Bradshaw	Signalized	F (1.02)	E (1.00)			F (1.05)	F (1.01)				
SR 16 / Excelsior	Signalized	F (1.39)	F (1.43)			F (1.42)	F (1.60)				
Vineyard / Savona	Minor Stop			A (0.8)	A (0.3)			D (20.5)	D (24.7)		
Vineyard / Caprilli	Minor Stop			A (0.3)	A (0.1)			A (2.8)	A (3.3)		
Bradshaw/Connector	Minor Stop							F (ovrflw)	F (ovrflw)	F (1.04)	E (0.98)
Bradshaw / Carmencita	Minor Stop			A (0.4)	A (0.8)			F (ovrflw)	F (ovrflw		
Calvine / Carmencita	Minor Stop			A (0.1)	A (0.3)			E (42.7)	F (95.4)		
Calvine / New Street A	Minor Stop							F (84.5)	F (266.1)		
Calvine / New Street B	Minor Stop							A (1.3)	C (18.2)		
Vineyard / Loop A/B North	Minor Stop							F (ovrflw)	F (ovrflw)		
Vineyard / Loop A/B South	Minor Stop							F (48.3)	F (140.0)		
Connector / Loop A	Minor Stop							A (2.6)	B (6.7)		

Notes: All intersections classified as "Urban" for Cumulative Conditions

* = Cumulative plus Project with Existing plus Project mitigation measures implemented

Significant Impact

Cumulative With Project Condition

1. Roadways

   The development of the Vineyard Springs planning area as proposed by the Comprehensive Land Use Plan would neither significantly impact roadways which would be operating at acceptable levels of service nor significantly aggravate roadways which would already be operating at unacceptable levels of service. Table 8.8 compares the cumulative (no project) condition to cumulative with project condition.

   Although a number of roadways will be operating at an unacceptable LOS F under the cumulative condition, the full development as proposed on the Vineyard Springs land Use Plan will not significantly aggravate their operation per the County's *Traffic Impact Guidelines.*

2. Intersection

   The development of the Vineyard Springs planning area, as proposed by the Comprehensive Land Use Plan, will significantly impact intersection which would be operating at acceptable levels of service and deteriorate intersections which would be operating at unacceptable levels of service.

   The following intersections (as shown in Table 8.9), which would be operating at acceptable levels of service under the Cumulative (no Project) condition, would deteriorate to unacceptable levels:

   - Florin Road/Vineyard Road
   - Sheldon Road/Excelsior Road
   - Bradshaw Road/Carmencita Road
   - Calvine Road/Carmencita Road
   - Bradshaw Road/East-West Connector Road
   - Calvine Road/New Street A
   - Vineyard Road/Loop A & B North
   - Vineyard Road/Loop A & B South

   The following intersections, which would be operating at unacceptable levels of service under the Cumulative (No Project) condition, will be further aggravate with the development of the Vineyard Springs Comprehensive plan:

   - Florin Road/Excelsior Road
   - Florin Road/Eagles Nest Road
   - SR 16 (Jackson Road)/Bradshaw Road
   - SR 16 (Jackson Road)/Excelsior Road

3. Mitigation

No mitigations are recommended since no roadway segments will be significantly impacted by the development of the Vineyard Springs planning area. The following is a generalized description of recommended mitigation measures to mitigate the impacts on intersections as a result of the implementation of the Vineyard Springs land use plan:

Intersection	Recommended Mitigation Measures
Florin Road/Vineyard Road	Improve lane geometrics
Florin Road/Excelsior Road	Signalize and add standard lane geometrics (as part of existing plus project) with additional lane geometric improvements (as part of cumulative plus project mitigation).
Florin Road/Eagles Nest Road	Signalize and add standards lane geometrics
Sheldon Road/Excelsior Road	Signalize and improve lane geometrics
SR 16 (Jackson Road)/Bradshaw Road	Improve lane geometrics, including triple northbound lefts
SR 16 (Jackson Road)/Bradshaw Road	Improve lane geometric
Bradshaw Road and Carmencita	Signalize
Bradshaw Road/East-West Connector	Signalize and improve lane geometrics (as part of existing plus project mitigation) with additional lane geometric improvement (as part of cumulative plus project mitigation)
Calvine Road/New Street A	Signalize
Vineyard Road/Loop A & B North	Signalize and improve lane geometric
Vineyard Road/Loop A & B South	Signalize and improve lane geometric

CIRCULATION POLICIES

VS-45 Provide a balanced and efficient transportation system that is linked with land uses.

VS-46 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.

VS-47 Measures shall be included in the design of urban residential development to allow future local street circulation into adjacent agricultural-residential areas.

VS-48 Vehicular access from the urban residential areas into agricultural-residential areas shall be restricted until such time as land uses in those areas are amended and through-vehicular access is determined to be appropriate.

VS-49 Pedestrian/bicycle access and emergency access between the urban-residential and agricultural-residential areas shall be maintained.

VS-50 Plan for the future use of the Central California Traction Railroad corridor as a public transportation right-of-way, including fixed line bus service, or recreational trail uses.

VS-51 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.

VS-52 Transit stops should be provided along the arterials and thoroughfares within the Plan area. All major stops should include a shelter and transit information.

VS-53 Provide bicycle facilities, in conformance with the Sacramento City/County Bikeway Master Plan, as part of all transportation improvements.

VS-54 Require the provision of convenient bicycle parking as a part of new development and at all transit transfer stations and park and ride lots

VS-55 Provide safe and direct pedestrian routes to schools and parks.

VS-56 Support development of a Trails Master Plan to implement pedestrian and equestrian trail programs.

VS-57 Locate a park and ride lot as a joint use facility within the commercial center of the planning area.

VS-58 Provide convenient pedestrian access throughout the plan area. Intersections should be designed to facilitate pedestrian and bicycle facilities.

Circulation Development Criteria

1. Separated sidewalks and landscape corridors shall be incorporated into multilane arterial streets (i.e., 84-foot streets) where adjacent to single family residential land use. Walks should be separated a minimum of four feet from back-of-curb. Joined curb/gutter/sidewalk shall be constructed at street intersections and bus stops.

2. Partial streets adjacent to school, parks, or drainage facilities shall be developed concurrently with construction of the adjacent subdivision. The cost of partial street improvements adjacent to schools and parks beyond centerline shall be reimbursable as defined in the amended Elk Grove/West Vineyard Facilities Financing Plan or other financing mechanism.

3. Internal circulation within the urban-residential areas should incorporate the following design measures.

    a. Street layouts should conform to topography, drainage and vegetation to the extent feasible.

    b. Street layouts should provide multiple access routes within neighborhoods. Designs which create excessive through traffic with residential neighborhoods are discouraged.

    c. Access points along multi-lane arterial streets shall be restricted to locations approved by the County Transportation Division.

    d. Internal streets adjacent to public facilities, including school, parks and open space areas.

    e. Internal streets adjacent to public facilities should include the following design:

        i. School sites shall include minimum 30 foot half streets fronting on at least two sides where feasible.

        ii. Park sites shall include street frontage on two sides where feasible, sufficient to provide adequate access from multiple directions

        iii. Circulation adjacent to drainage facilities shall include open cul-de-sacs, single-loaded linear streets, loop streets, or any combination on at least one side of the drainage facility.

4. Subdivision maps with primary residential or collector streets with anticipated traffic volumes higher than normal should consider including special design treatments to minimize potential nuisance problems with adjacent residential lots. Examples include side-on lots, separated sidewalks, or special driveway designs.

5. Landscape corridors along major roadways should include the following features and incorporate standards described in the Zoning Code except where noted below:

    a. Provide separated sidewalk within the landscape corridor where feasible except near street intersections.

    b. All perimeter masonry wall shall be finished with a graffiti resistant coating or be constructed with an anti-graffiti design. This measure should be coordinated with the long term maintenance entity for landscape corridors.

    c. Additional road right-of-way for intersection widening and bus turn-outs may encroach into the required landscape corridor area.

d. Wall transitions at intersections may be designed to provide a landscaped project entry. Entry islands may be included consistent with County Transportation Division requirements.

e. Soundwalls along public street right-of-way and railroad right-of-way shall be of uniform design and material to provide a consistent theme throughout the Plan area. Also, promote consistent streetscape landscaping along major roadways and railroad corridors.

   i. Along major streets, at a minimum, soundwalls shall be constructed of split face masonry block, with cap, and pilasters at regular intervals.

   ii. Along the railroad right-of-way, the minimum standard for walls shall be split face masonry block construction.

VINEYARD SPRINGS COMPREHENSIVE PLAN AQ-15 COMPLIANCE PLAN

The Vineyard Springs Comprehensive Plan project is the first project in the County of Sacramento to submit a formal Air Quality Plan to comply with the AQ-15 General Plan requirement to achieve a 15% reduction in air pollution emissions. This Plan fulfills the requirements of AQ-15 using a combination of measures required of the developers (10.5%) throughout the project and a list of optional measures (4.5%) from which builders may choose the most appropriate ones to include in their project. The many choices available to builders provide flexibility for the three individual developments (and future developments) to make the best use of emission reduction measures.

As seen on the Air Quality Compliance Form, the required measures include items which incentivize residents to bicycle or walk when running errands, telecommute to work, and barbecue with clean fuels. Many of these measures are originally designed into the Vineyard Springs Comprehensive Plan and show a commitment to planning and implementing connectivity for pedestrian and bicyclists. Optional measures provide the flexibility to install energy efficient equipment, offer complimentary cordless electric lawnmowers to each homeowner, etc.

BACKGROUND ON SACRAMENTO AIR QUALITY

Sacramento County is not in compliance with standards set forth in either the Federal or State Clean Air Acts and has the sixth worst air quality in the nation[1]. The region must meet Federal standards for ozone air pollution by 2005. Internal combustion engines in mobile sources such as cars, light-duty and heavy-duty trucks, and off-road vehicles are major sources of ozone (O_3) precursors. These precursors include reactive organic gases (ROG) and oxides of nitrogen (NOx).

Reducing the number of automobile trips and other air quality impacts resulting from development is an important component of improving the overall air quality in the Sacramento region. To reduce air quality pollution resulting from development in Sacramento County, the General Plan AQ-15 requirement was put forth. The measure requires a 15% reduction in emissions associated with projects. The compliance of largely residential projects such as the Vineyard Springs Comprehensive Plan with AQ-15 is an important component to cleaning up Sacramento air for a healthier economy and lifestyle.

REQUIRED MEASURES

The following sections explain the air quality friendly measures which will be required by this Plan. The Master Developer is committed to ensuring implementation of these measures. The measures are guided by design guidelines from the Vineyard Springs Comprehensive Plan.

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1 Environmental Protection Agency, 1999.

Site Design

Vineyard Springs Comprehensive Plan is a mixed use community with a core/focus area of residential development surrounded by retail uses, office uses, public facilities, and open space. All of these land uses will be connected through dedicated separate, safe, and convenient pedestrian and bicycle pathways. Residents will be encouraged to walk or bicycle to the complementary land uses throughout the project.

The neighborhoods are also focal points for residents with parks, schools, and civic uses within 1/4 mile of homes, throughout the majority of the development. The close proximity of these uses to homes along with an integrated pedestrian and bikeway network will allow residents to travel more easily to local destinations without needing an automobile. As shown on the Land Use Plan, parks are sprinkled throughout the development and a school is shown in the center of the Plan area.

Bicycle Access

On-street Bikeways: Vineyard Springs Comprehensive Plan will have a network of off-street and on-street bicycle pathways. The four perimeter roadways (Gerber Road, Calvine Road, Excelsior Road, and Bradshaw Road) are currently identified as rural roads on the Sacramento Area Bikeways Map, but are scheduled for planned improvements. Calvine Road and Bradshaw Road are planned as six-lane thoroughfares with Class II bicycle lanes. Gerber Road and Excelsior Road are planned as four-lane roadways with Class II bicycle lanes.

Off-street Bikeways: The project is also providing Class I bicycle paths and connections to surrounding Class I bikeways and Class II on-street bikeways. The first bicycle trail will run east-west within the Laguna Creek open space/parkway area as shown on the Site Plan and County of Sacramento 2010 Bikeway Master Plan Map. This trail will connect to the future Lower Laguna Creek and Upper Laguna Creek trail systems (located west and east of the Vineyard Springs Comprehensive Plan area). The Laguna Creek off-street bikeway will connect with Folsom South Canal, which connects with the American River Bicycle Trail at Hazel Avenue. Folsom South Canal also connects with the Cosumnes River to the south.

The second trail will parallel Gerber Creek within the Vineyard Springs Comprehensive Plan area, as shown on the Site Plan. This trail will connect with the Gerber Creek trail system (north of Gerber Road) in the Vineyard Station Specific Plan area. The Gerber Creek system will eventually connect with the Elder Creek bicycle trail system.

The regional connectivity provided by the two trails will help incentivize residents of the south County use bicycles during their commute trips, recreationally, or to complete personal errands. The Class I bicycle facilities will consist of a 10-foot wide paved pathway and a 2-foot wide shoulder.

Funding and land acquisition for this segment of the pathway will come from a variety of Plan sources including development fees, and Financing Plan mechanisms. Funding for the segment of the Class I pathway is collected as the Vineyard Springs Comprehensive Plan area is built out.

The Southgate Park and Recreation District will construct the joint use trail system and landscaping from park fee proceeds after sufficient development has occurred so that large stretches of the trail can be constructed at one time. Barring unforseen change in the marketplace for homes in the Plan area, all homesites should be absorbed between 2010-2015.

Prior to funding availability from Vineyard Springs Comprehensive Plan area, the Southgate Park and Recreation District will construct approximately 1.25 miles of the Laguna Creek off-street bicycle trail by December 2000. The segment is east of the Central California Traction Company railroad line and west of Excelsior Road.[2]

Transit Access

Currently the project is not served by transit, either by buses or light rail. Express bus service is available via a park and ride lot near Highway 99 at Calvine Road and East Stockton Boulevard. Residents of the project would be able to drive to the lots then take Regional Transit into their workplaces in Sacramento or access light rail at one of the transit centers.

As seen on the Transportation Corridors map, future light rail and bus service is planned in the Vineyard Springs Comprehensive Plan area. This service is part of Regional Transit's 20 Year Master Plan.

Expiration of Plan

This Air Quality Plan shall continue to be implemented by the applicant until all homesites have been purchased and all apartments leased. If lots are purchased for the purpose of resale, the current owner shall be responsible for full implementation of this Plan.

Electric Vehicle Charging

Installation of electric vehicle charging connections by homebuilders in the Vineyard Springs Comprehensive Plan area will be mandatory. These wiring connections will allow homeowners, in concert with the Sacramento Municipal Utility District to easily install the appropriate type and voltage of charging facility directly into the home's garage.

Fiber Optic Wiring

Telecommuting is defined as working out of one's home or a local business center, one or more days during the workweek, rather than working from the company office. Telecommuting has proven benefits not only for the environment (less traffic congestion, etc.), but to the employee (no commute time), and the employer (higher employee morale, and reduction in absenteeism and sick days).

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2 C. Goss, Southgate Recreation and Park District. September 24, 1999.

Residents choosing to telecommute will result in automobile trips that will be entirely eliminated, thereby reducing both traffic congestion and automobile emissions. Subdivisions in the Vineyard Springs Comprehensive Plan will have state-of-the-art wiring technologies, such as fiber optic wiring, or conduit for fiber, installed to facilitate telecommuting.

Natural Gas Lines/Electrical Outlets

Vineyard Springs Comprehensive Plan homesites will have natural gas lines or electrical outlets to all single family homes' backyards to encourage use of natural gas or electric barbecues. Electric outlets will also encourage use of electric landscaping equipment (such as weed eaters or lawn mowers).

Natural gas is a cleaner burning fuel than charcoal briquettes and may be used in place of a typical charcoal barbecue if the gas line is provided. If the resident does use a charcoal grill, then an electric chimney starter may be used to heat the coals rather than dousing them with lighter fluid, which emits a high amount of air pollutants.

Street Routing

Street patterns in the Vineyard Springs Comprehensive Plan area must incorporate multiple access points and direct street routing. Such routing discourages bottlenecks at intersections by dispersing vehicles to multiple access points to arterials such as Vineyard Road, Calvine Road, Bradshaw Road, Gerber Road, and Excelsior Road. For instance, Bradshaw Vineyards residents can use one of three access points (two along Bradshaw Road and one at Carmencita Avenue) to enter and exit the subdivision. Direct street routing within a subdivision also helps minimize driving distances, resulting air pollutants, and traffic congestion.

High Density Uses

High density residential or employment uses will be sited within 1/4 mile of existing or planned transit service. As shown on the Transportation Corridors Map, bus service is planned along Calvine Road and Bradshaw Road. Light Rail service is also planned to run through the development. Provision of transit service is planned within Regional Transit's 20 Year Transit Master Plan.

BUILDER MENU OF MEASURES

The following flexible set of measures are provided for the builder(s) to choose from. Measures totaling 4.5% will need to be chosen by the builder to meet the requirements of AQ-15. Builders must submit a letter to the County of Sacramento Planning Department stating which optional measures are being implemented. This letter must be submitted by the time building permits are requested.

Bicycle Storage

Sacramento County Zoning Code requires there to be 1 bicycle parking space for every 5 apartments in complexes over 50 units large. Class I and Class II bicycle storage facilities will be provided to all homes without garages and an additional 20% will be provided over the required facilities, at apartments and other commercial sites.

T-1 Service

Homebuilders will offer homebuyers prewiring for T-1 service or similar data service. This service allows high speed transmission of data through a fiber optic line. This service when teamed with fiber optic wiring enhances telecommuters' efficiency and ease of working. T-1 service is 54 times the speed of a typical dial up home computer modem.

Lowest Emitting Furnaces

Vineyard Springs Comprehensive Plan builders will install low nitrogen oxide (NOx) emitting and/or high efficiency furnaces in homes, condominiums or apartments with an energy factor of at least 0.80.

Water Heaters

Vineyard Springs Comprehensive Plan builders will install low nitrogen oxide (NOx) emitting and/or high efficiency water heaters in homes, condominiums or apartments. Using standards which mirror Sacramento Municipal Utility District's Advantage Home program, the homes will have energy efficient water heaters installed with a 0.60 energy factor along with pipe insulation and R-12 blankets.

Residential Shading

Residential collector streets will be shaded to reduce the heat generated by the sun's energy hitting the asphalt. Two trees will be required on each lot. One must be placed in the front yard and oriented to shade the sidewalk. The second may be placed anywhere on the lot to shade the home from the afternoon sun. In this manner, pedestrian activity is encouraged while the home's energy efficiency is enhanced.

Advantage Home Program

Builders will exceed Title 24 energy standards in effect at the time of building permit approval by 25% for cooling energy, or comply with SMUD Advantage Home (Tier II) energy Standards. This program sets forth standards for energy efficient equipment and helps builders locate equipment vendors.

Setback

Setback distances between homes, apartments or non-residential buildings and existing or planned transit service may be minimized to encourage pedestrian and bicyclist activity.

Fireplace

In order to reduce particulate matter (PM 10), builders may install low-emitting, EPA-certified fireplaces, fireplace inserts and/or wood stoves. Installation of natural gas fireplaces will also fulfill this requirement.

EPA certified fireplaces burn cleaner that traditional wood burning fireplaces. Natural gas fireplaces also emit far less particulate matter than traditional wood burning fireplace. Particulate matter pollution is especially problematic during the winter, when the pollutants are easily suspended in wet, foggy air. Particulate matter irritates lung tissue, making breathing more difficult for Sacramento Valley residents.

Air Conditioners

An ozone destruction catalyst may be installed on residential or non-residential air conditioners to reduce the amount of ozone released into the air.

Catalyst technology involves placing a "cap" on air conditioner units or coating condenser coils with the catalyst. Either way, the catalyst converts ozone to oxygen as it (catalyst) comes into contact with air running through the air conditioner.

The amount of ozone destroyed depends upon the size of the air conditioning unit and the length of running time.

Energy Star Roofs

Energy Star roofs may be installed on residential or non-residential buildings to reduce the ambient temperature of the building and the amount of energy needed to heat and cool the building. Contact the California Environmental Protection Agency for more information about the Energy Star roofing standards.

Solar Power Systems

Solar power systems may be installed at homesites, including solar pool heating.

Transportation Management Systems

TMAs are private, nonprofit organizations run by a voluntary Board of Directors with typically a small staff. They help businesses, developers, building owners, local government representatives, and others work together to collectively establish policies, programs and services to address local transportation problems. The key to TMAs lies in the synergism of multiple groups banding together to address and accomplish more than any employer, building operator, developer, or resident could do alone.

The following is a listing of possible services that a TMA may provide:

- Shuttle programs
- Carpool & vanpool matching
- Parking management programs
- Transit pass or ticket sales
- Emergency ride home programs
- Enhanced bicycle facilities
- Sponsored vanpools
- Transit advocacy
- Information on local issues
- Teleworking
- Training
- Marketing programs
- Work hour management
- Newsletter

The businesses in the Vineyard Springs Comprehensive Plan project may join the nearest Transportation Management Association.

Parking Reduction

Non-residential projects in Vineyard Springs Comprehensive Plan may reduce (to less than code) the amount of parking provided on-site in order to encourage use of transit, bicycling, carpooling, etc.

Office:	25% reduction
Medical office:	8% reduction
Commercial:	5% reduction
Industrial:	10% reduction
Additional:	10-20% reduction (if located along transit station)

Minimum Parking

Non-residential projects in Vineyard Springs Comprehensive Plan may provide the minimum amount of automobile parking allowed by code to encourage use of transit, bicycling, carpooling, etc.

Cordless Electric Lawn Mowers

Small engines found in gas-powered lawn mowers are a significant source of smog. These engines emit high levels of carbon monoxide, volatile organic compounds and nitrogen oxides, producing up to 5% of the nation's air pollution. In fact, a conventional lawn mower pollutes as much in an hour as 40 late model cars. Cordless electric mowers offer many benefits--they are easy to start and require no gas, oil, tune-ups or spark plugs, making them a bargain to maintain. Cordless electric mowers also offer another big benefit--noise levels about half those of their gas-powered counterparts. A cordless electric lawnmower may be provided by the builder(s) to each residential home buyer desiring to use an electric lawnmower.

Landscaping

Most small-engine landscape maintenance equipment is very 'dirty' in an air quality context. These small internal combustion engines often have very high pollutant emissions. Since landscaping companies use the equipment almost continuously throughout a workday, the cumulative impacts of these machines becomes a moderate source of the air pollutants in the Sacramento Valley.

Builders may contract with commercial landscapers who operate with equipment that complies with the most recent California Air Resources Board certification standards, or standards adopted no more than three years prior to date of use. This option is not applicable for individual homesites. It is instead intended for larger landscaped areas such as apartment complexes, landscaped areas along roadways, or areas around monument signage.

Information on Electric Lawn Mowers/Landscaping Equipment

Many people want to help clean up the air but do not want to give up their car; choosing to use electric landscaping equipment instead of gasoline powered equipment is a great way to help clean up the air. Emission benefits will be realized if residents choose to use electric landscaping equipment such as lawn mowers instead of gas powered mowers. Noise pollution is reduced as levels of noise for electric mowers is about half that of gas mowers.

The builder(s) of Vineyard Springs Comprehensive Plan may provide information on the benefits of owning an electric lawn mower. For example, a typical 3.5 horsepower gas mower can emit the same amount of pollution in one hour as a new car driven 340 miles; users of gasoline powered equipment inadvertently spill 17 million gallons of fuel each year while refilling their power equipment which is more petroleum than spilled by the Exxon Valdez in the Gulf of Alaska[3].

Vineyard Springs Comprehensive Plan builders may also provide information on any incentives such as the current Sacramento Metropolitan Air Quality Management District's lawn mower rebate program (residents turn in their used gas powered mower for a discount on an electric mower).

Information on Electric Vehicles

Homeowners will have built in access to easy hookup of electric vehicle charging facilities because electric connections will be already be wired into homes. Providing information about how to obtain the vehicles is the next step in increasing the number of electric vehicles in the area.

Vineyard Springs Comprehensive Plan builders may provide information to residents on electric vehicles such as: purchase incentive opportunities such as the one currently offered by the Sacramento Air Quality Management District ($5,000 incentive); and make, model, battery distance, and cost (this could be obtained from local automobile dealerships).

Complimentary Bicycle

Builders in the Vineyard Spring Comprehensive Plan area may provide the opportunity to receive either a complimentary bicycle or electric bicycle retrofit kit to each residential buyer.

CONCLUSION

The Vineyard Springs Comprehensive Plan project meets the AQ-15 requirements as set forth by the County of Sacramento through it's site design, use state of the art wiring and energy efficient equipment, and other measures which encourage the use of bicycling and pedestrian travel. Emissions related to the indirect sources within the project will be reduced by 15%.

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3 Sacramento Metropolitan Air Quality Management District, March 1999

The participation by residential builders and developers in cleaner air efforts is critical to addressing Sacramento's air pollution problems. Projects such as the Vineyard Springs Comprehensive Plan (which prepare and implement a formal AQ-15 Plan such as this one) are part of the solution to cleaning up Sacramento's air.

AIR QUALITY INFORMATION CONTACTS

This AQ-15 Plan references required and optional measures such as installing energy efficient equipment, joining a Transportation Management Association, and providing information about electric lawn mowers and vehicles. Agencies listed should be contacted for obtain information about the measures.

American Lung Association Sacramento Emigrant Trails chapter
909-12th Street
Sacramento, California 95814
Phone: (916) 444-5864 (LUNG) or (800) LUNG-USA
Fax: (916) 444-6661
Email: staff@alaset.org
Website: http://www.alaset.org
--Information about air pollution's effects is available.

California Environmental Protection Agency
Website: http://www.calepa.ca.gov/
--Information about Energy Star products

Power Inn Business & Transportation Association
3801 Power Inn Road
Sacramento, CA 95826
Phone: (916) 453-8888
Fax: (916) 448-5305
--This is the currently the Transportation Management Association closest to the Vineyard Springs Comprehensive Plan area.

Regional Transit (RT)
P.O. Box 2110
Sacramento, California 95812-2110
Customer Relations Phone: (916) 321-2850 or (916) 321-2877 (BUSS)
Customer Relations Fax: (916) 444-0502
Website: http://www.sacrt.com
--System maps, pocket timetables, and the Bikes-on-Board brochure may be presented to homeowners or apartment renters for appropriate bus routes.

Sacramento Area Council of Government (SACOG)
3000 S Street, Suite 300
Sacramento, California 95816-7056
Phone: (916) 264-2264

Fax: (916) 457-3299
Website: http://www.sacog.org.
--Information about the 1-800-COMMUTE program and rideshare matching may be presented to homeowners or apartment renters.

Sacramento Metropolitan Air Quality Management District (SMAQMD)
777 12th Street, 3rd Floor
Sacramento, CA 95814-1908
Community Education Phone: (916) 874-4848
Website: http://www.airquality.org
--Information about manufacturers or distributors of bicycle lockers and cordless electric lawnmowers.

Sacramento Municipal Utility District (SMUD)
6201 S Street
Sacramento, California 95819
Marketing Department Phone: (916) 732-5486
Marketing Department Fax: (916) 732-6839
--Information about SMUD's Electric Vehicle Program.

Table 8.10
Vineyard Springs AQ-15 Compliance Form

Air Quality Mitigation Measures	Mitigation Benefits
Required Measures (Master Developer and Builders)	**10.50%**
Multiple and direct street routing**	2.50%
High density residential or employment uses within 1/4 mile of planned transit**	1.50%
Separate, safe, and convenient bicycle and pedestrian paths**	2.50%
Neighborhood as a focal point with parks, school and civic uses within 1/4 mile**	0.50%
Project within 1/2 mile of Class I bike lane & provides connections**	1.00%
Access to Park and Ride lots and future transit service**	0.50%
Electric vehicle charging facilities to all single family homes	1.00%
Fiber optic wiring and connections or conduits	0.50%
Natural gas connection or electric outlet in single family home backyards	0.50%
Builder Menu of Measures*	**4.50%**
Bicycle parking to homes without garages	0.50%
Additional 20% of required Class I and Class II bicycle parking at apartments	0.50%
Install lowest emitting commercially available furnaces in houses and apartments	0.50%
Install lowest emitting commercially available water heaters in houses and apartments	0.50%
Exceed Title 24 energy standards in effect at the time of building permit approval by 25% for cooling energy, or comply with SMUD Advantage Home (Tier II) energy standards	1.00%
T-1 lines brought to apartments and/or homes	0.50%
Shading along residential collector streets	0.50%
Setback distance is minimized between development and planned transit, bicycle, or pedestrian corridor(s)	1.00%
Setback distance is minimized between development and existing transit, bicycle, or pedestrian corridor(s)	1.50%
Install low-emitting, EPA-certified fireplaces, fireplace inserts, and/or wood stoves	1.00%
Install ozone destruction catalyst on air conditioning systems	0.50% to 1.50%
Install Energy Star Roof	0.50%
Provide solar power systems, including solar pool heating	0.50%
Businesses join nearest Transportation Management Association	2.50%
Provide parking reduction at non-residential sites	2.50%
Provide minimum amount of automobile parking required at non-residential sites	1.00%
Provide complimentary cordless electric lawnmower to each home buyer	2.00%
Contract only with commercial landscapers who operate with equipment that complies with most recent California Air Resources Board certification standards or standards adopted no more than 3 years prior to date of use	2.00%
Provide information on electric vehicles and benefits of cordless electric garden equipment to each residential buyer	0.50%
Provide either a complimentary bicycle or electric bicycle retrofit kit to each residential buyer	0.50%
TOTAL POINTS	**15.00%**

VINEYARD SPRINGS COMPREHENSIVE PLAN
Project Name:

Applicant Name

Applicant Signature Date

Approved By:

Sacramento County Planning Department Date

*Builder chooses measures equaling 4.50% in addition to implementing "Required Measures."

**Measure is designed into the project via the approved Vineyard Springs Comprehensive Plan.

CHAPTER 9

INFRASTRUCTURE MASTER PLAN

WATER SUPPLY AND DISTRIBUTION

Existing Facilities

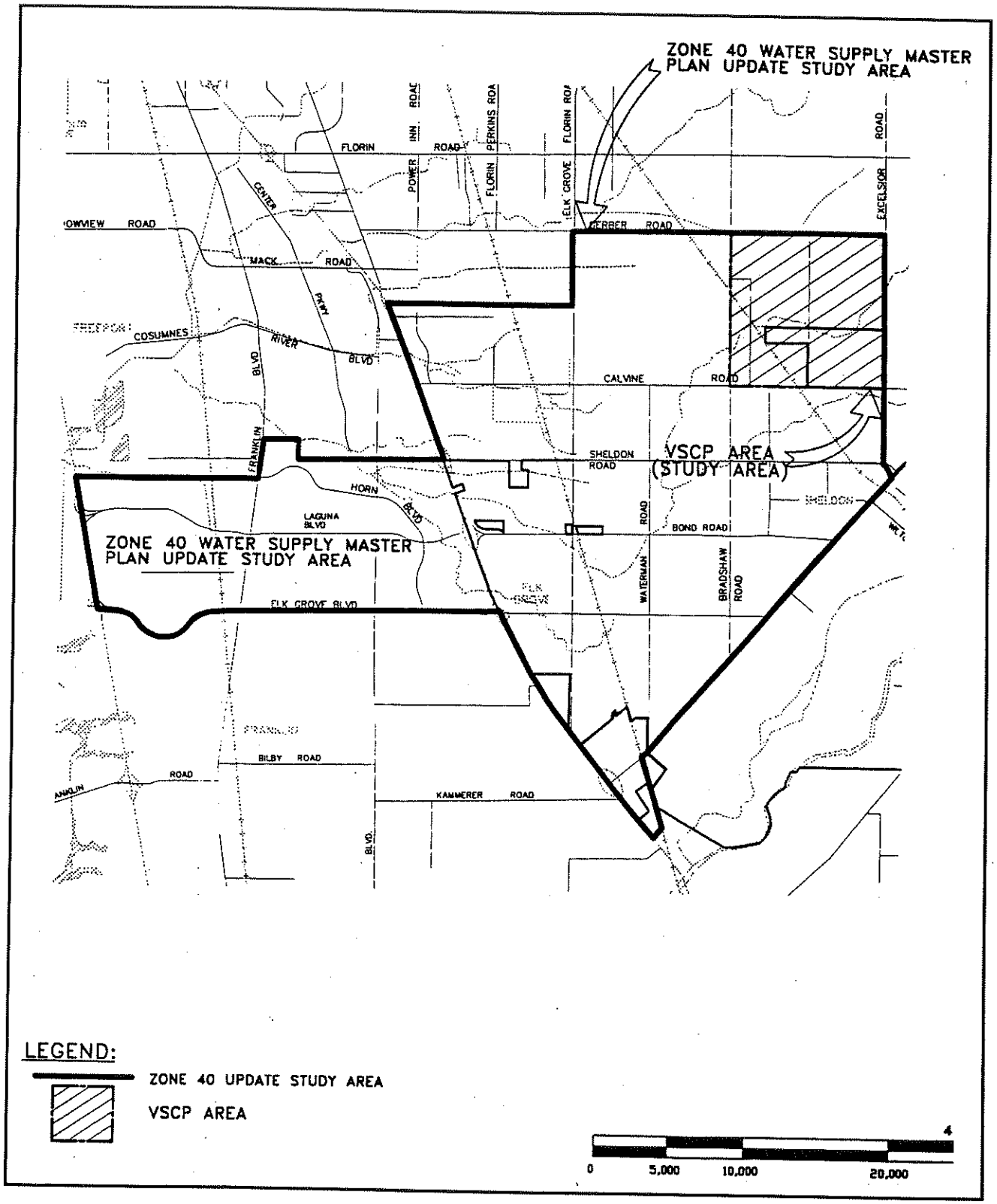
The Vineyard Springs Comprehensive Plan is located in the Zone 40 area and is part of the Vineyard System. The Zone 40 Study Area consistent with the urban service boundary established by the 1993 Sacramento County General Plan (see Figure 9.1). The planning area currently obtains water service from two major agencies: the Sacramento County Water Agency (SCWA) and Sacramento County Water Maintenance District (SCWMD). SCWA serves as a water wholesaler, providing supply to SCWMD, who in turn retails the water to customers in the plan area.

Zone 40 of the SCWA was formed to plan, acquire, construct, operate, and maintain the facilities needed to provide for the conjunctive use of groundwater and surface water within the influence area of the South Sacramento Groundwater Basin. Once the planned facilities have been constructed and accepted by SCWA, they will be operated and maintained by SCWMD.

The SCWA, a non-profit agency, is governed by the Agency's Board of Directors who are the Board Members of the Sacramento County Board of Supervisors (Board). SCWA's powers allow the entity to function as a purveyor within the State of California, and the Agency may construct, operate, and maintain public water facilities. The SCWA may contract with the Federal Government, the State, and the U.S. Bureau of Reclamation with respect to the purchase, sale, transfer, or acquisition of water or water rights. The SCWA is responsible for the development and implementation of a Water Management Plan for Zone 40. This zone was created for the purpose of constructing facilities for the production, transmission, distribution, conservation, and sale of groundwater and surface water for the present and future beneficial use of customers within the zone.

Historically, groundwater, pumped by private wells, has been used to meet the domestic and irrigation demands of existing users in the Plan Area. A survey of existing water use was completed by Sacramento County Water Resources Department (SCWRD) in the Evaluation of Groundwater Impacts Study for the VSCP area to determine pre-project (existing) demands. This study revealed that existing use is approximately 1,664 feet/yr. over 72 acres of irrigated land, 114 acres of active recreational land and for 385 Agricultural-Residential (AR) units, including the Country Creek Estates and the Emerald Creek Subdivisions.

Figure 9.1
Zone 40 Study Area



Country Creek Estates and Emerald Creek are served by SCWMD and are located in the southern region of the VSCP area. These subdivisions are presently served by two shallow municipal wells. Both of these wells are connected directly to the distribution system, and water pumped by these wells is not treated. This system consists of mains and appurtenances and is not connected to other Zone 40 facilities (see Figure 9.2).

The Country Creek Estates (CCE) water system is located entirely within Zone 40 and SCWMD services areas (see Figure 9. 3). Projects located outside of SCWMD's CCE service area will be required to annex into the Zone 40 and SCWMD service areas. The existing Calvine Road Satellite Treatment Facility is located just south of Calvine Road at the intersection of Vineyard Road. This facility consists of a well, pumping station, and a 300,000-gallon storage reservoir. Other SCWMD facilities are located in the region and consist of supply, treatment, storage facilities, and pipelines.

The existing system is adequately sized to serve the needs of existing customers in the Plan Area. Some additional capacity is remaining in the system.

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-I 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.

Figure 9.2
Existing Water Supply Facilities

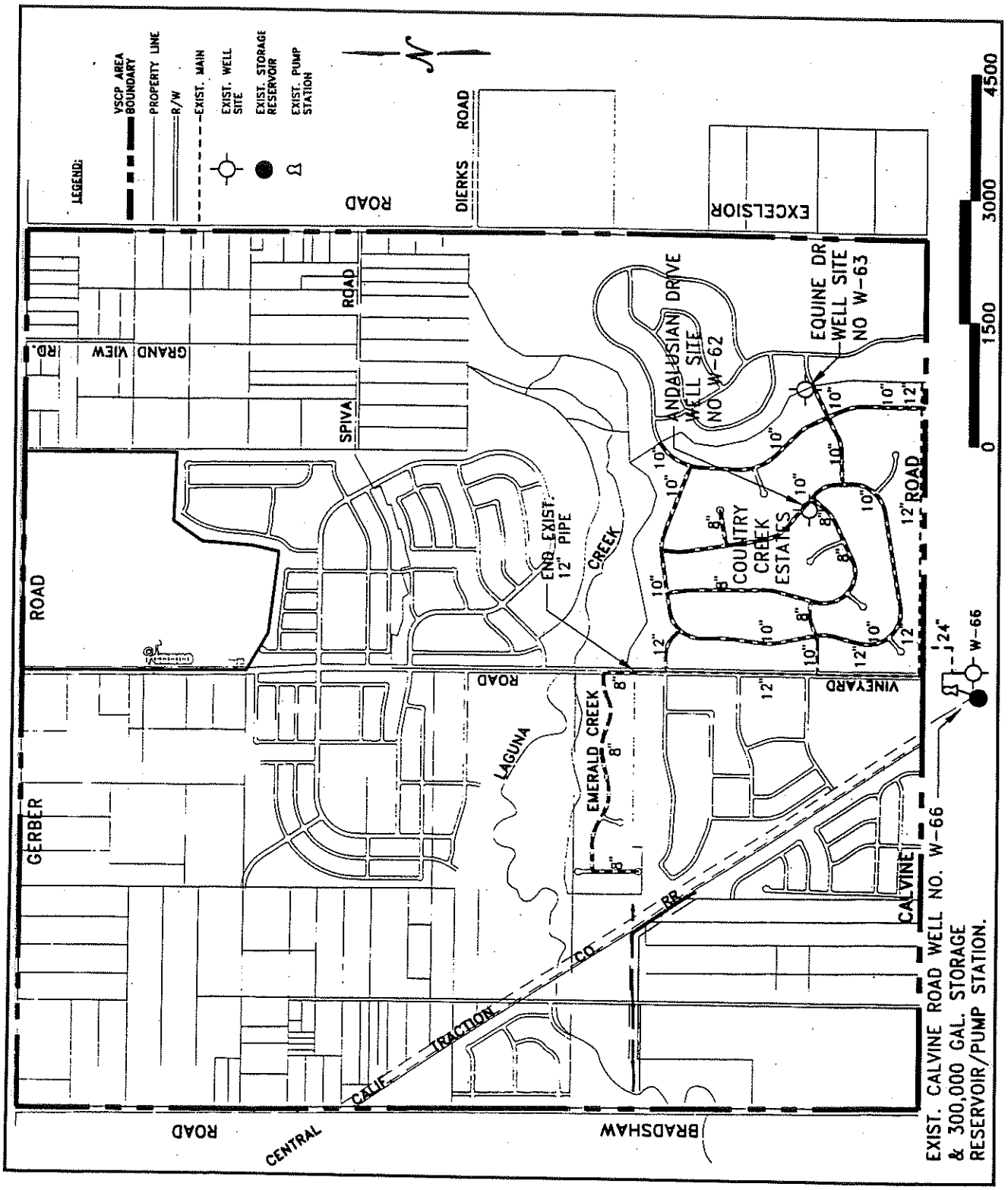
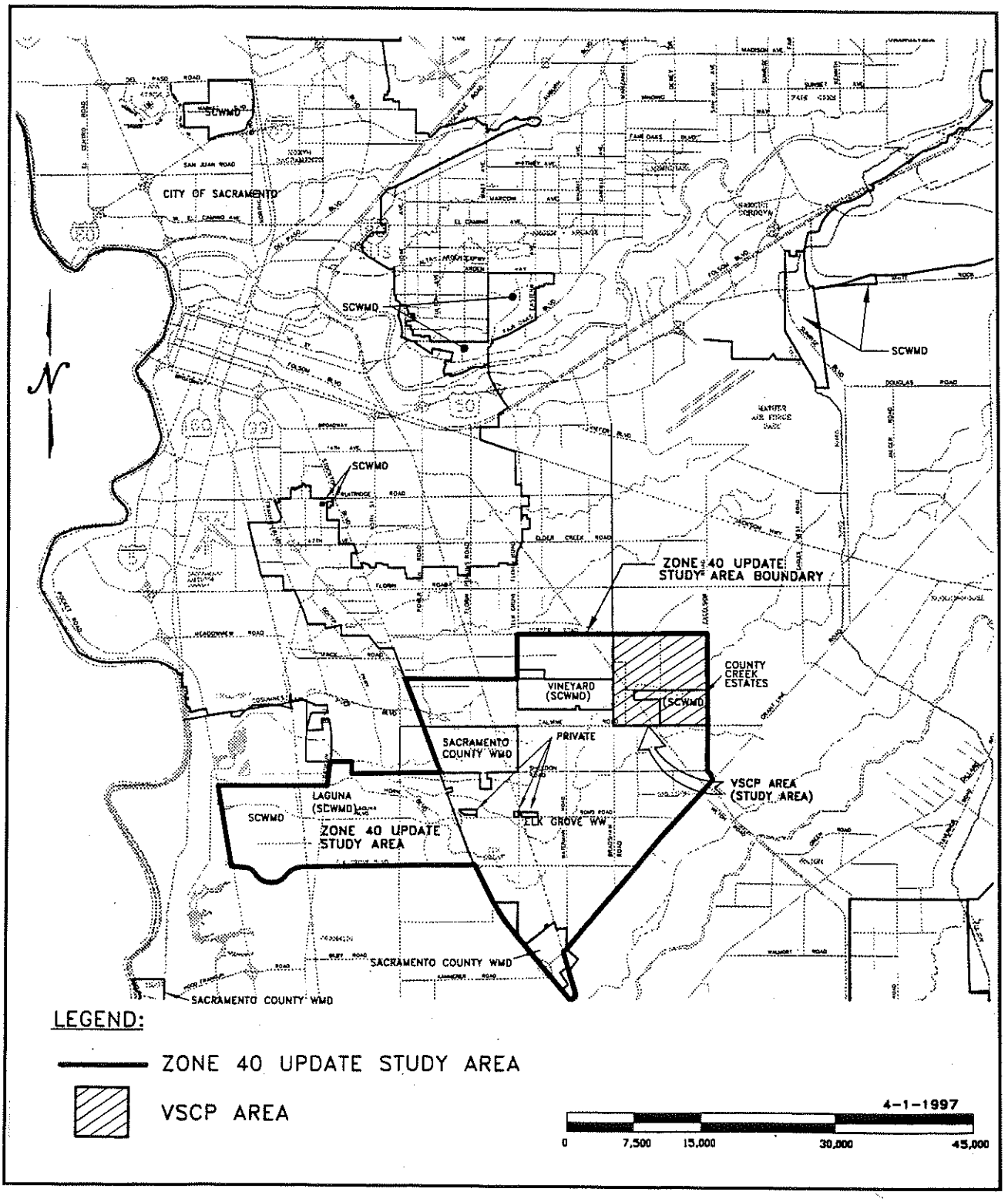


Figure 9.3
Planning Areas with the Zone 40 Study Area



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 Conversation, 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 I 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.

Development Impacts/Proposed Facilities

Several studies and area-wide master plans have been prepared discussing various service scenarios and impacts of water supply and distribution facility development within the current Zone 40 and the surrounding areas. Following is a brief description of the studies that impact the Vineyard Springs Comprehensive Plan Area.

The Zone 40 Master Water Supply Plan report (1987 Zone 40 Master Plan) was approved by the Agency's Board and provided the Agency with a plan for the long-term development of supplies and for the construction of surface water transmission and distribution facilities.

The SCWA authorized an update to this study entitled Zone 40 Water Supply Master Plan Update (Zone 40 Master Plan Update), June 1995. This report contains ultimate demand projections, addresses surface water supply alternatives, and provides a conservation plan for the Zone 40 service area. This report is technically complete but has not been adopted by the Board.

Currently, SCWA is preparing the environmental documentation for an updated Master Plan, which is consistent with Water Forums Agreement. The Zone 40 Master Plan Update is expected to be adopted by the Board late 2000.

The Vineyard Water Distribution Study, September 1993, (1993 Vineyard Study) was prepared by the SCWA to identify the facilities needed to serve the Vineyard Area. The assumptions and criteria as specified in the 1993 Vineyard Study are used for hydraulic modeling in this study.

The Sacramento Area Water Forum and the Foothill Forum Water Group developed a Regional Plan, which was approved in November 1999. The process began in September 1993 with the objective of planning for the development of safe, reliable, and environmentally sound water supplies for the region. Six major stakeholders were involved in the planning process. Private business, environmental groups, public, and other organizations were also involved in this process. The main goal of the process was to advance towards a Regional Water Agreement which identifies the resources needed to meet 2030 demands and establishes groundwater management policies.

A groundwater evaluation study was completed by SCWA entitled Vineyard Springs Community Plan Evaluation of Groundwater Impacts (SCWA Groundwater Impact Study), February 6, 1997. This study was prepared to evaluate groundwater impacts associated with incremental and buildout development in the VSCP area and to show that groundwater can be considered as a long-term reliable source of supply. The SCWA Groundwater Impact Study is contained in Appendix A of the Water Master Plan.

The groundwater supply analysis was performed using the County's Integrated Groundwater Surface Water Model (IGSM) to identify impacts associated with withdrawal in the VSCP area. Two modeling scenarios were considered in this study including: 1) incremental impacts from the Vineyard Springs area based on 100 percent reliance on groundwater, and 2) cumulative impacts based on buildout of the General Plan with some reliance on groundwater. Modeling results as provided in the Groundwater Impact study are briefly summarized as follows:

Incremental impacts include a lowering of groundwater elevations by 6.9 feet in the VSCP area and by approximately 6.8 feet at the Elk Grove cone-of-depression. The impacts associated with this level of decline include an estimate increase in pumping costs of $0.96 per AF per year within the VSCP area and a potential increase in contaminant plume migration of 14, 12, and 23 feet per year at the Mather Field, Sacramento Army Depot, and Kiefer Landfill contamination sites, respectively.

Cumulative impacts include a decline in groundwater elevations from 1990 levels. However, groundwater levels will stabilize through increased recharge from the American River, Sacramento River, and from inflows along the boundary. Under this scenario, the aquifer experiences an approximate 100-foot decline in elevation from 1990 to 2030 stabilized levels. Other impacts include: In-migration of poor quality water from the deep aquifer, dewatering of

public and private wells in the shallow aquifer, increased pumping costs, land subsidence, and increased rate of movement of contaminants.

Reliable supply solutions for the Vineyard Springs area include those whereby surface water will be used conjunctively with groundwater. Surface water supplies will be provided through both long-term and supplemental supply sources. The Agency is actively involved in obtaining supplemental water supplies and is working towards securing long-term and reliable contracts to meet its ultimate supply needs. The acquisition of surface water supplies will extend the number of units available under the present development cap.

The Conjunctive Use Ratio, i.e. the surface water to groundwater ratio, used for modeling in this study is based on the Zone 40 Master Plan Update. This Update incorporates the Water Forum's Draft Recommendations of a safe groundwater extraction rate limit (safe yield) of 49,900 AF/year with the remaining demand to be met with surface water supplies. According to the Zone 40 Master Plan Update this means that up to 61% of the ultimate area wide demand in an average year may ultimately be met with surface water delivered to the Zone 40 area.

The use of reclaimed water for irrigation purposes in the Vineyard Springs area is not assumed to be feasible for this project. The Agency will phase-in conservation measures to reduce urban demands. A listing and the phasing of these conservation measures are contained in Appendix B of the Water Master Plan. Water demand reductions of up to 19.3 percent are expected when all conservation measures are implemented.

Proposed Water Supply Alternatives:
The project proponent has identified three phases of project development. All supply and distribution facility requirements are based on this phasing plan as shown in Figure 9.4.

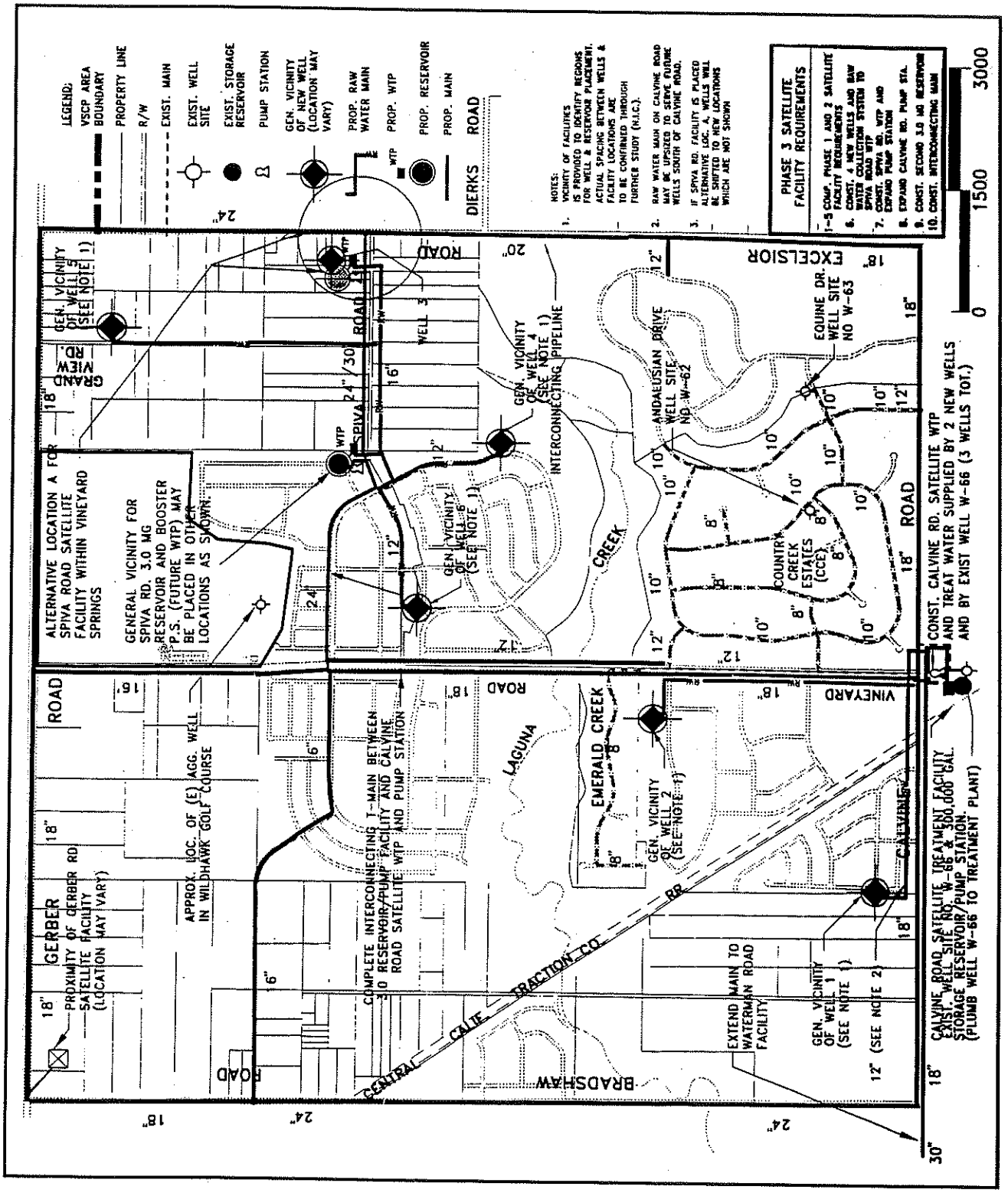
Water supply alternatives for the VSCP area incorporate groundwater and surface water options which include:

Alternative 1. Groundwater to meet 100% buildout demands
Alternative 2. Groundwater as an interim supply source and transition to the conjunctive use of groundwater and surface water supplies

Alternative (2) is the recommended supply option for service of the VSCP area. To allow development to proceed, Alternative (1) will be implemented to serve initial development until adequate surface water supply and transmission facilities are constructed to deliver surface water to the project. It is projected that surface water will be delivered to the VSCP area in Phase 3.

Full implementation of Alternative (2) will require the construction of a pipeline in Calvine Road to interconnect the VSCP system with the existing Zone 40 water system. Delivery of surface water to the Zone 40 area, at the specified conjunctive use ratios, will require the construction of supply pipelines and additional treatment facilities. Additional facilities required for development of the VSCP Area include satellite and supply facilities. Satellite facilities

Figure 9.4
Water Facilities Expansion Plan



generally include groundwater treatment, storage, and booster pumping components. Supply facilities consist of wells and raw water collection systems. Satellite and supply facility needs were also determined for phased levels of growth within the VSCP area.

Supply scenarios are listed by development phase as follows:

- Existing Development is currently served by 100% groundwater
- Phase 1 System will be served by 100% groundwater.
- Phase 2 System will be served by 100% groundwater.
- Phase 3 - Buildout System will be served through the conjunctive use of surface water and groundwater. Pipelines are sized to accommodate a supply of either: 1) 100% groundwater or 2) 69% surface water (max.) and 31% groundwater (see Figure 9.5).

Presently, the existing Country Creek Estates system is not interconnected with other Zone 40 water facilities. Therefore, adequate supply, treatment, and storage facilities must be provided with each development phase.

Water Quality and Treatment

Due to the presence of iron, manganese, and occasionally arsenic in the South Sacramento Basin, groundwater is assumed to require treatment prior to pumping into the distribution system.

Satellite Facility Expansion Plan

The buildout demands may be met through the construction of six new wells. Water supplied by these wells will be treated at two satellite facilities including: 1) the Calvine Road and 2) the Spiva Road satellite and storage facility.

The existing Calvine Road facility shall be expanded to approximately 1/2 buildout capacity by constructing two new wells, a raw water collection system, a groundwater treatment plant, and connecting an existing well (Well W-66) to the treatment plant to meet Phase 1 demands. Phase 2 improvements include the construction of a 3.0 MG reservoir and pump station at a more centrally located satellite and storage facility. Phase 3 demands will be met by constructing new wells, a raw water collection system, a groundwater treatment plant at the Spiva Road Facility, and expansion of the Calvine Road satellite facility booster pump station.

Satellite facilities are to be equipped with groundwater treatment facilities, which are to be constructed along with new wells. Treated water shall be pumped directly into the reservoir and then, shall be pumped to the distribution system by a booster pump station. The recommended Satellite Facility Expansion Plan is presented in more detail in the Water Master Plan.

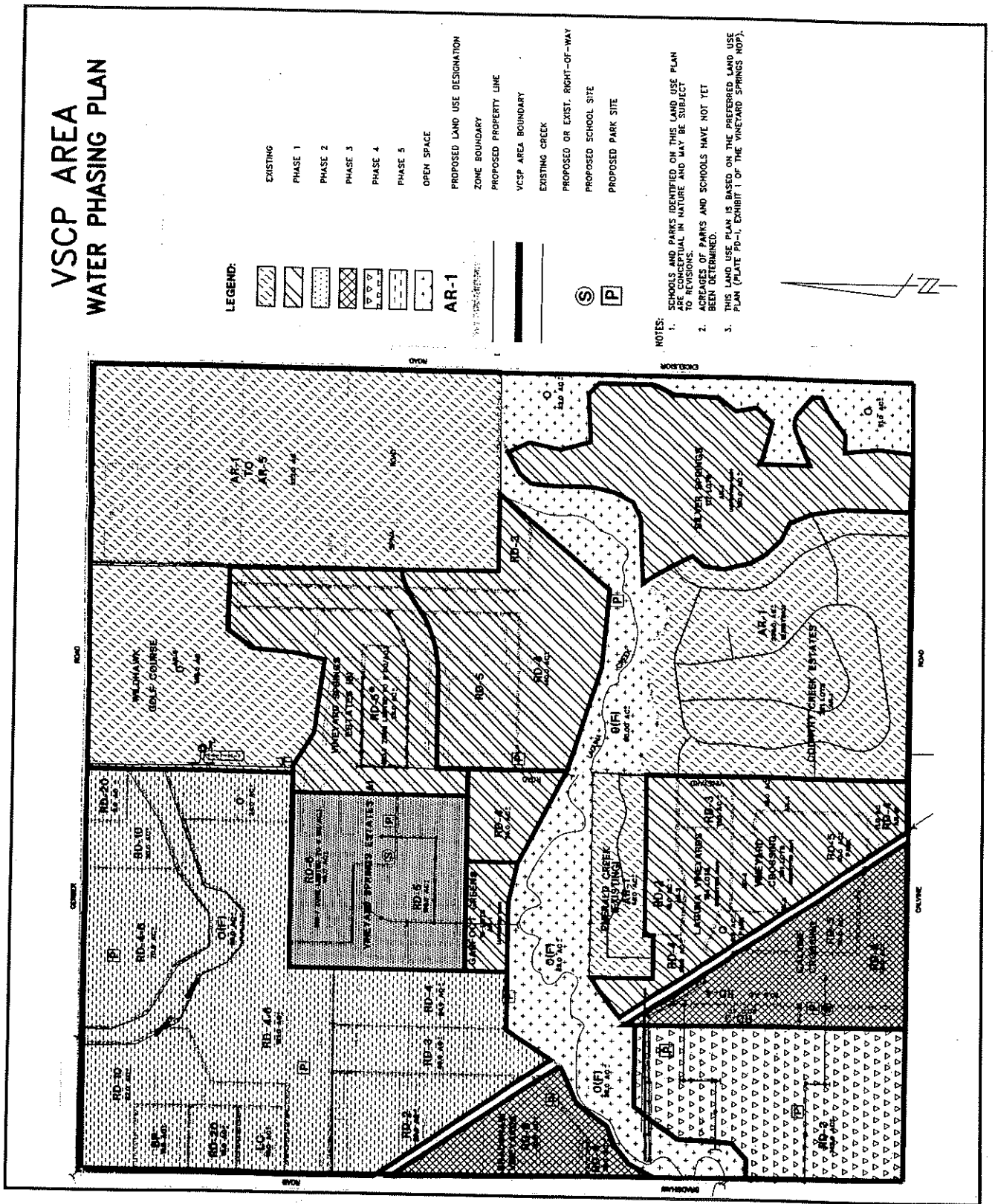
Phase 1 development will require the extension of mains in Vineyard Road to interconnect with the centrally located satellite and storage facility. Upon the construction of the Spiva Road

satellite and storage facility, interconnecting mains are required between this facility, the Calvine Rd. f, and the Silver Springs system.

To meet Phase 3 development water demands pipelines are to be placed according to the Buildout Water System Plan as depicted on Figure 9.5 (see the Water Master Plan for additional details). Phased development needs may require upsizing of some of the pipelines called for on this plan along with additional looping of mains not shown on this plan. The pipelines needed to serve interim phases are identified in this study

In Phase 3 construction of an interconnecting pipeline in Calvine Road is required between the Calvine Road satellite facility and the 30" main in Waterman Road. This will make storage at the Waterman Road Storage Facility available to meet the balance of Phase 3 storage needs, which cannot be adequately met by the proposed 3.0 MG storage reservoir.

Figure 9. 5
Water Facilities Expansion Phasing Plan



SANITARY SEWER

Introduction

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.

Existing Facilities

Sanitary sewer service in the project area is provided by the Sacramento Regional County Sanitation District (SRCSD) and the County Sanitation District No.1 (CSD-1). SRCSD is responsible for the interceptor collection (sanitary sewers which are designed to carry flows in excess of 10 million gallons per day) and treatment of wastewater. CSD-1 is responsible for the local collection facilities (trunk sewers with capacity of 1 million to 10 million gallons per day).

The project area is located within the sphere-of-influence of both County public sewer providers, yet only portions of the subject site are currently within the active service area of these districts (see attached Figure 9.6). The remaining portions will be required to annex to both districts in mass annexation through the Local Agency Formation Commission (LAFCO) after the appropriate planning and zoning entitlements have been obtained through the County. The annexation can be accomplished almost entirely concurrent with the Comprehensive Plan approval process.

Annexation is consistent with General Plan Policy PF-14, which reads as follows:

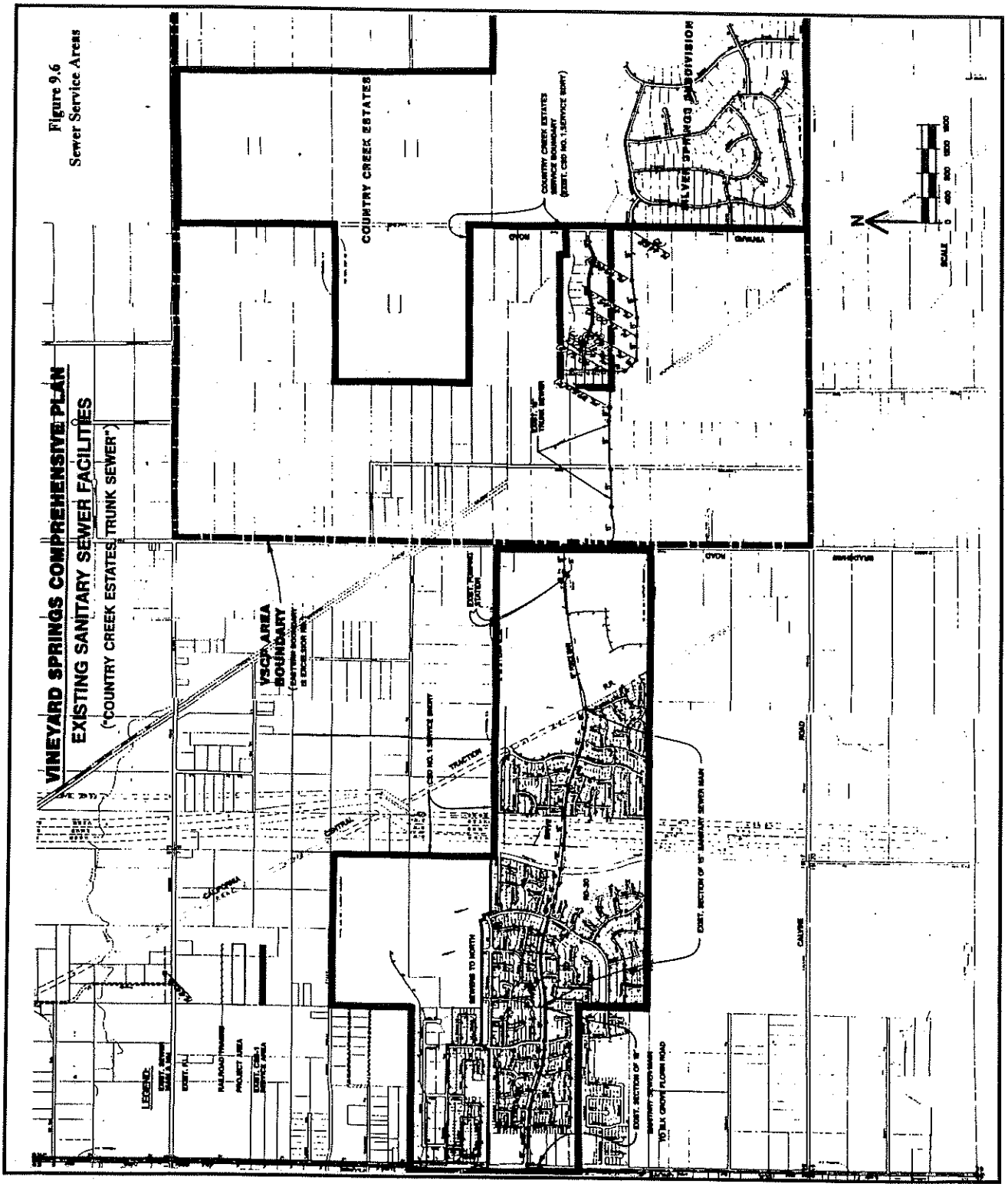
> *Policy PF-14: Independent community sewer systems shall not be established for new development.*

At the present time, the only existing public sewer facility in the area are a 15" trunk sewer located just south of the existing Emerald Creek Subdivision west of Vineyard Road within the limits of the Plan Area (see attached Figure 9.6). This trunk sewer facility connects the Silver Springs Subdivision (formerly known as Country Creek Estates) to the Churchill Downs Trunk Sewer that discharges to the Regional Interceptor in Elk Grove-Florin Road. This line was constructed to serve the Country Creek Estates/Silver Springs project within the VSCP area, as developed by H.C. Elliott, Inc. (see shed boundaries, Figure 9.6). This trunk sewer facility is at capacity when considering all existing and entitled connections.

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-half 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 wishing to develop at densities that exceed-one-half dwelling unit per acre must be served by a public sanitary sewer system.

Figure 9.6
Sewer Service Areas



Development Impacts/Proposed Facilities

The County Water Quality Division is currently in the process of finalizing an update to its area-wide major sewer facilities study entitled "Sacramento Sewerage Expansion Study", specifically the proposed horizontal and vertical alignment of the planned Laguna Creek Interceptor Sewer. This proposed facility generally follows the Laguna Creek alignment up to and through the Plan Area. It is being proposed to locate the interceptor within and along the northern edge of the 600 foot wide Laguna Creek open space corridor (see Figure 9.7) in order to not disrupt future existing development and associated roadway right-of-ways. Due to the proposed timeframe of construction of this sewer as part of the County's Phase IV Expansion projects (scheduled for the years 2009 through 2014), this facility will offer no short-term benefits to the subject Plan Area.

As part of the County's phased Sewerage Expansion projects, a regional interceptor, known as the Bradshaw Interceptor, is being constructed from the existing interceptor in Elk Grove-Florin Road over to Bradshaw Road and then northward . The currently proposed alignment has the future interceptor veering off of the existing interceptor in Elk Grove-Florin Road in a northeasterly direction in the vicinity of Leland Avenue. The interceptor is proposed to cross Gerber Road and then roughly follow the Gerber Creek alignment up to and past Florin Road. The interceptor segment nearest the Plan area - Bradshaw 6 - is included in Phase I of the two-phased project, and is expected to be completed before 2002. Upstream segments in Phase 2 will be completed between 2002 and 2004.

A trunk sewer ranging in size from 15" to 39" diameter has been proposed to extend from the Bradshaw Interceptor (i.e., Bradshaw 6); eastward along Gerber Road up to Vineyard Road, as part of the planning effort called the North Vineyard Station Specific Plan, as prepared by MacKay and Somps, Inc. (see Figure 9.8). This facility was sized utilizing flow estimation criteria developed in the county-wide Sewer System Master Plan, entitled the Sacramento Sewerage Expansion Study (SSES), as adopted by CSD-1 and SRCSD. The boundaries of the major sheds for the proposed Gerber Road trunk sewer as depicted on Figure 9.8 were established by MacKay & Somps, Inc., in conjunction with the Water Quality Division of the Sacramento County Public Works Department.

The direction for the North Vineyard Station Specific Plan to accommodate off-site flow, including portions of the Vineyard Springs Comprehensive Plan area, 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 located west of Vineyard Road 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 east of Vineyard Road are not within the Urban Policy

Figure 9.7
Sewer Master Plan

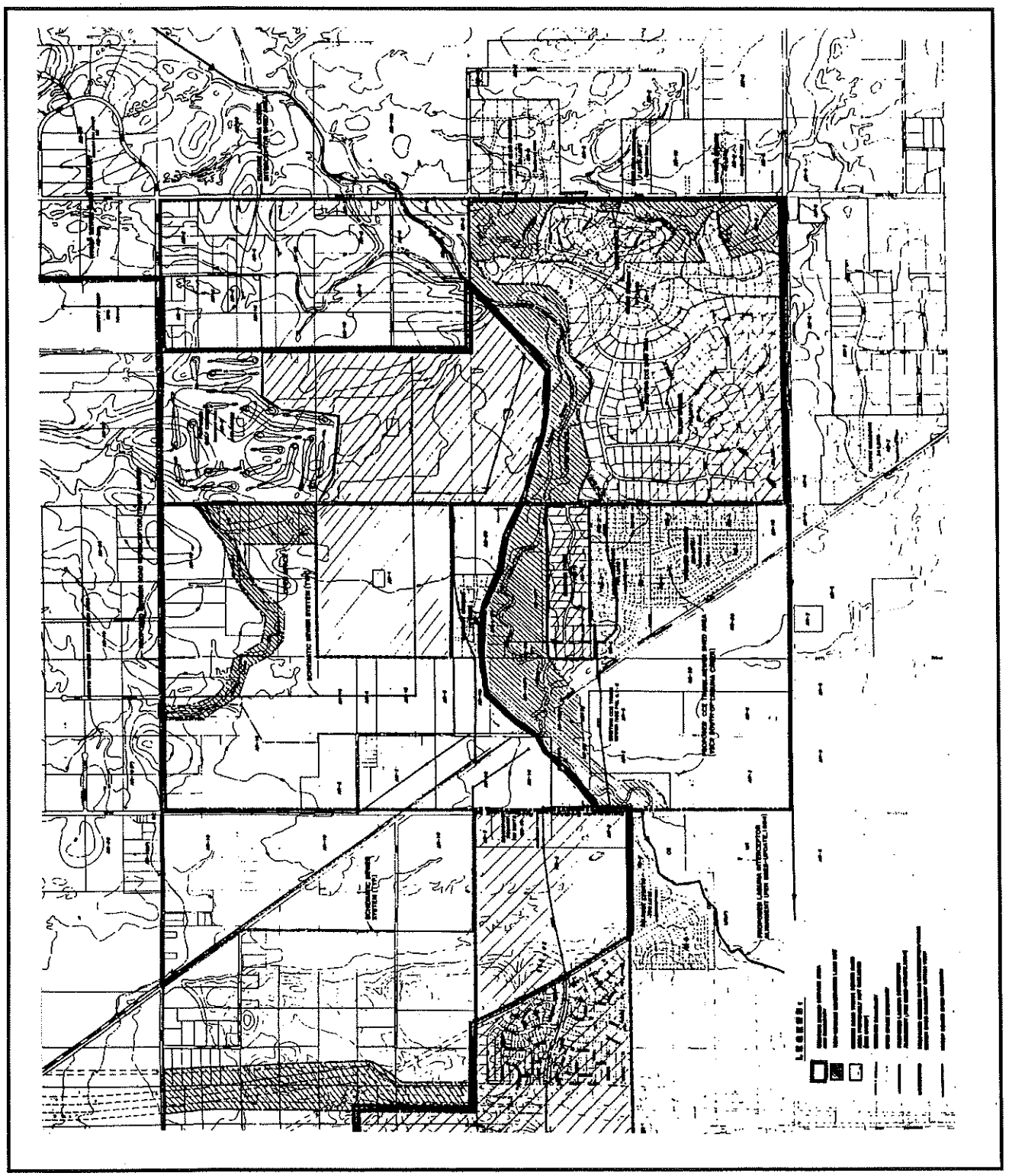
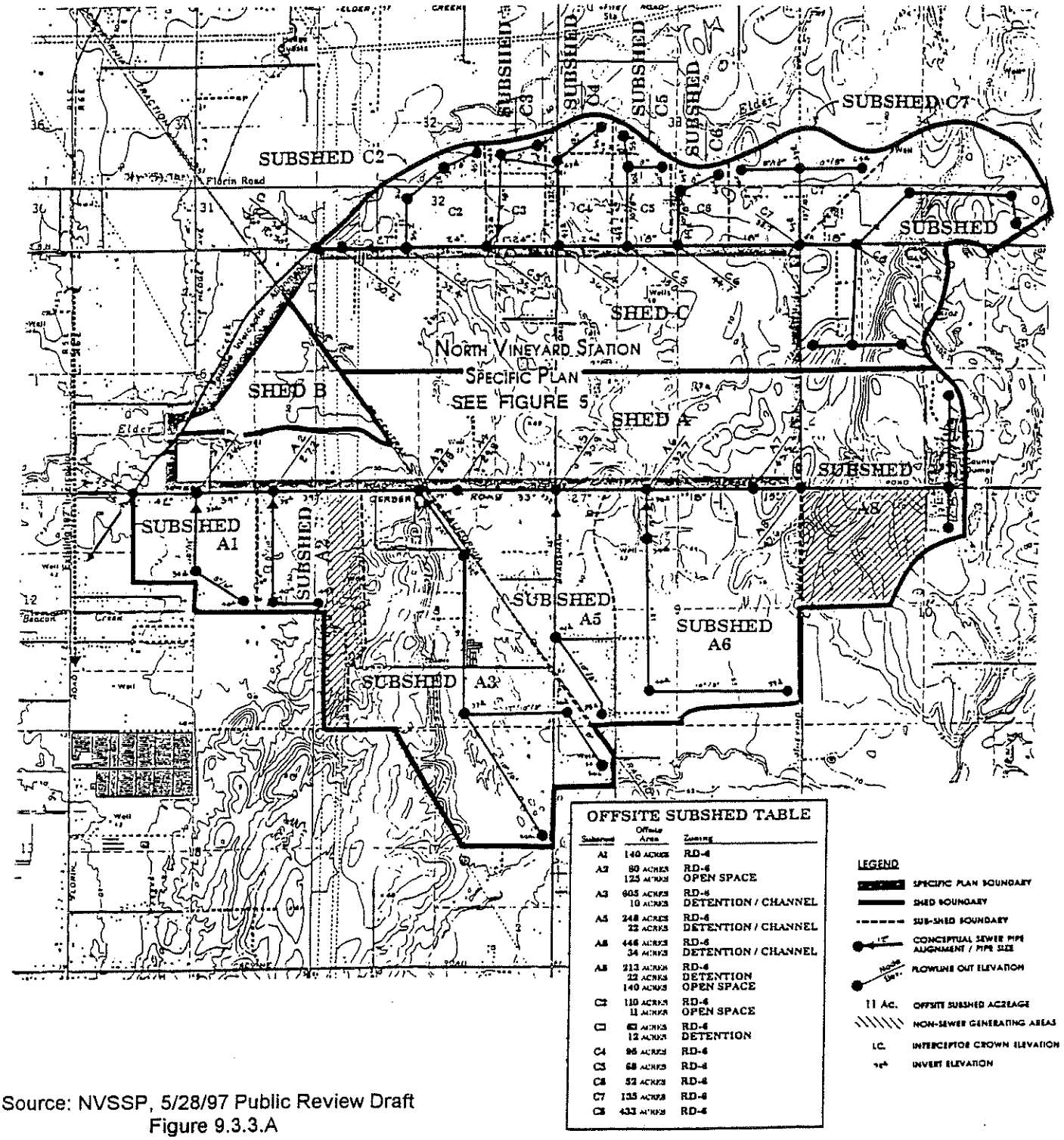


Figure 9.8

GERBER ROAD TRUNK/INTERCEPTOR SEWER
(As designed by MacKay and Somps, Inc.)



Source: NVSSP, 5/28/97 Public Review Draft
Figure 9.3.3.A

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, sizing facilities to accommodate future development of the service area is consistent with the General Plan, as expressed in Policy PF-60.

> Policy LU-60: Sewer and water treatment and delivery systems shall not provide for greater capacity than that authorized by the General Plan.

The majority of the area of the VSCP located east of Vineyard Road, with the exception of the northeast corner currently zoned AR-1 to AR-5, is already within the active service area of SRCSD and CSD-1. It was annexed under the name of Country Creek Estates.

Master Plan Design Procedure

The general procedure that was used in the development of the Vineyard Springs 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. Pipes were sized and inverts calculated using an iterative process.

Provided that the backbone collection system was defined by an existing sewer system (i.e., the Country Creek Estates trunk sewer) and a previously proposed trunk sewer as part of offsite development (i.e., the Gerber Road trunk sewer), the analysis of the backbone collection system was initially limited to a verification of proposed shed boundaries as delineated by the sewer master for the North Vineyard Station Specific Plan and a capacity analysis of the existing CCE trunk sewer, east and west of Bradshaw Road. Once subsheds were defined and then overlaid onto proposed land uses, sewage flows were estimated at individual nodes, both existing and proposed, according to the above mentioned outline of the master plan development. Existing pipes and inverts of the Country Creek Estates trunk sewer and proposed pipes and inverts of the Gerber Road trunk sewer 1, were analyzed for their adequacy in providing gravity sewer service

to all areas of the Vineyard Springs Comprehensive Plan. As discussed in the following sections, the Plan Area sewer flow contributions to the Gerber Road Trunk Sewer were subsequently reduced based on revisions of the previously established shed boundaries (see Figure 9.7). In coordination with the Water Quality Division, it has furthermore been established that the existing CCE Trunk Sewer has no excess capacity to serve any new entitlements within the Plan Area. Therefore, it will be necessary to construct improve the existing sewer outfall as well as construct additional sewer outfall facilities so that proposed developments may proceed prior to the extension of the Laguna Interceptor to the Plan Area by the County.

The methodology for estimating sewage flows in trunk and interceptor lines as used to calculate flows expected in the Plan area sewer system is defined in the Sacramento Sewerage Expansion Study. Peak Dry Weather Flows have been computed based on 310 gallons per day (gpd) per Equivalent Dwelling Unit (EDU) entering each trunk pipe system. EDU values used in the Sewer Master Plan assumed a minimum plan density of 6 EDUs per acre for the VSCP area and offsite shed areas south of Gerber Road. For shed areas north of Gerber Road contributing EDU values were taken from the Sewer Master Plan for NVSSP.

Based on recent review of the site topography within the VSCP area and preliminary work on the pending update of the SSES by the WQD, the proposed shed boundary of the proposed Gerber Road Trunk Sewer as proposed by others for North Vineyard Station, was revised to reflect existing shed boundaries based on actual site topography. The actual shed boundary between Gerber Creek/Gerber Creek Trunk Sewer and Laguna Creek/Laguna Creek Interceptor has established by the Water Resources Division of Sacramento County. This revision of the shed boundary within the VSCP reduces the total peak wet weather flows in the Gerber Road Trunk Sewer at its proposed point of connection to the Bradshaw/Folsom Interceptor from 10.04 MGD to 7.61 MGD.

Figures 9.9 and 9.10 depict the VSCP area and shed areas as they contribute to the proposed Gerber Road Trunk Sewer and the future Laguna Creek Interceptor. On-site gravity sewer systems up to approximately 12-inches diameter in size have been schematically designed in order to verify invert elevations of the trunk sewer and the associated ability to gravity sewer individual sub-sheds. Actual horizontal and vertical alignments and sizes will be designed as part of the tentative mapping process for individual developments wishing to proceed, with ultimate pipes to be sized to account for the entire specific minor sub-shed areas as depicted in Figure 9.10. These pipes will generally be located within existing or proposed roads. Otherwise, it will be the responsibility of the individual project proponents to secure easements, where required.

Initial Sewer Service

There are currently three proposed tentative maps being reviewed by the County as part of the VSCP approval process. These maps are the Wildhawk Estates, Calvine Crossing and Bradshaw Vineyards applications. It is anticipated that these proposed developments, as well as another subdivision, albeit previously entitled and currently known as Silver Springs North, will wish to

Figure 9.9
Major Sewer Subshed Boundaries

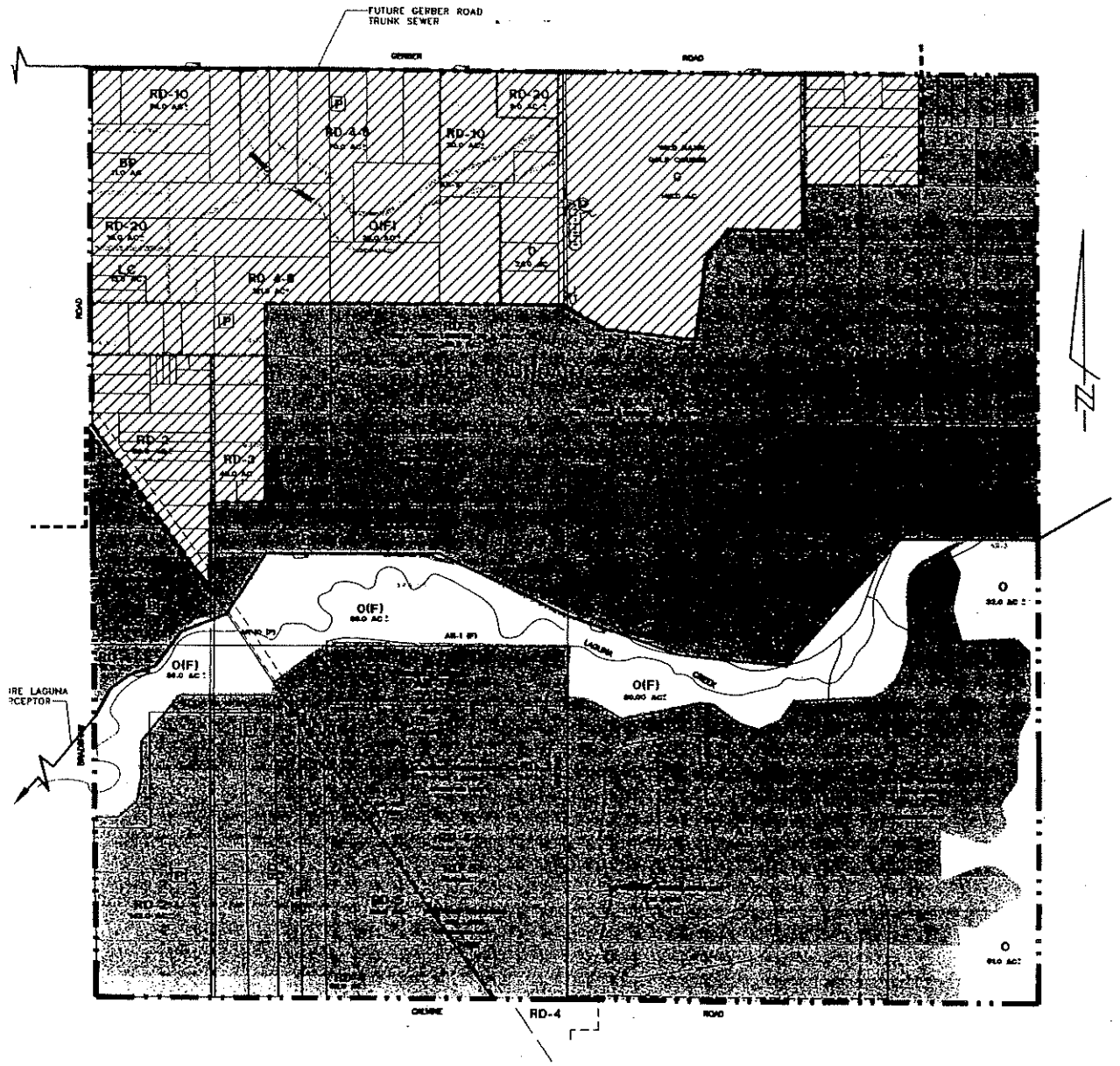
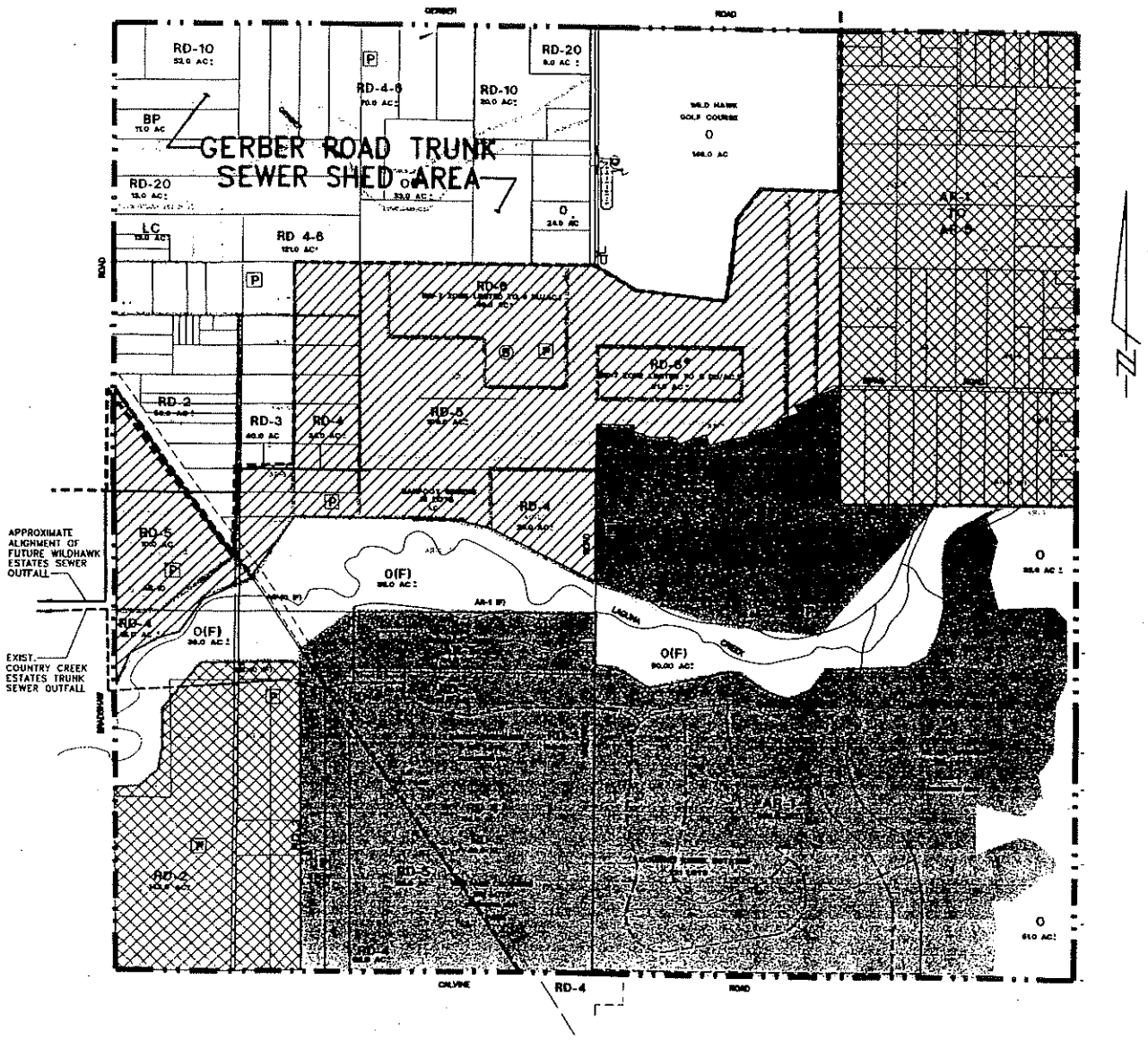


Figure 9.10
Minor Sewer Subshed Boundaries



LEGEND:

AR-1	PROPOSED LAND USE DESIGNATION
AR-1	PREVIOUS LAND USE DESIGNATION
	ZONE BOUNDARY
	PROPOSED PROPERTY LINE
	VCSP AREA BOUNDARY
	EXISTING CREEK
	EXISTING RIGHT-OF-WAY
	PROPOSED OR EXIST. RIGHT-OF-WAY
(S)	PROPOSED SCHOOL SITE
P	PROPOSED PARK SITE

NOTES:
1. SCHOOLS AND PARKS IDENTIFIED ON THIS LAND USE PLAN ARE CONCEPTUAL IN NATURE AND MAY BE SUBJECT TO REVISIONS.
2. ACREAGES OF PARKS AND SCHOOLS HAVE NOT YET BEEN DETERMINED.
3. THIS LAND USE PLAN IS BASED ON THE PREFERRED LAND USE PLAN (PLATE PD-1, EXHIBIT I OF THE VINEYARD SPRINGS NOP).

	WILDHAWK ESTATES SEWER OUTFALL SUBSHED
	SEWER SUBSHED SEWERING DIRECTLY TO FUTURE LAGUNA INTERCEPTOR
	COUNTRY CREEK ESTATES TRUNK SEWER SUBSHED

develop shortly after the approval of the Comprehensive Plan and their maps (please see Figure 9.7 for the location of the proposed developments). As this timeframe will likely precede the construction of the Laguna Interceptor to the Plan Area, other sewer improvements will need to be constructed to provide sewer service to these areas. Several alternatives to provide this initial service were evaluated. In coordination with WQD staff, the following two alternatives were deemed to be most feasible and are therefore being carried forward.

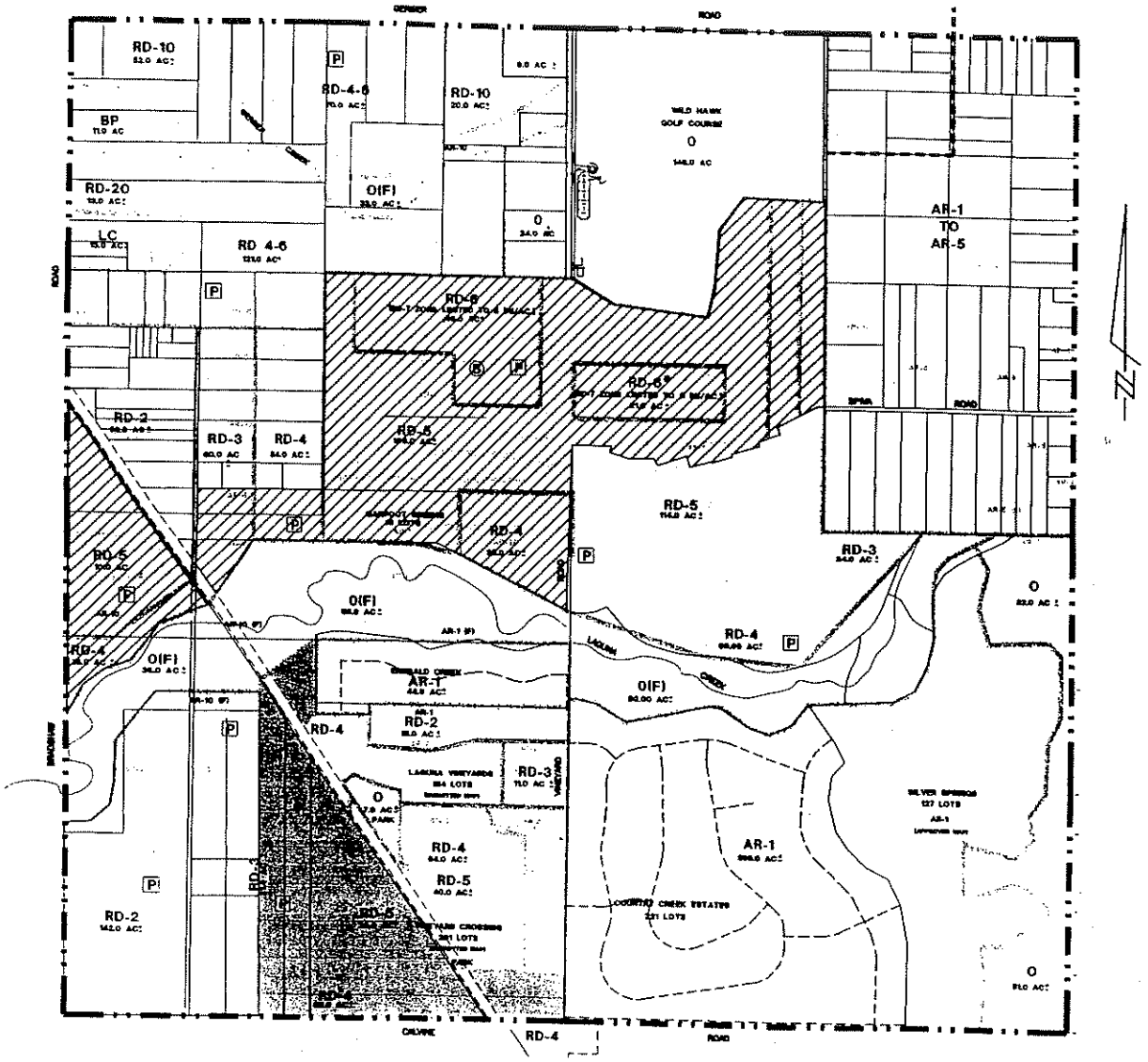
As ultimate sewer service for those areas located within the Laguna Creek shed area will be provided by the future Laguna Interceptor, individual projects will design their on-site sewer systems as gravity systems with proposed outfall locations to coincide with future outfalls to the permanent interceptor. Provided that both of the following initial service alternatives will require a sewer lift station and force main west of Bradshaw Road, the most feasible location for this facility has been determined to be just west of Bradshaw Road, in the vicinity of Vintage Park Drive. This will allow the currently proposed projects/maps as well as other future development in the Plan Area as identified on Figure 9.11 to share the cost of this interim facility based on the sewage flow contribution of each individual project. Based on the direction of the WQD, no interim connections to the existing CCE trunk sewer within the VSCFI area will be allowed without improvements to the existing sewer outfall.

The costs to upgrade the capacity of the existing CCE trunk sewer upstream of Bradshaw Road will have to be borne equitably (based on proposed flow contributions) by those developments wishing to connect (see Figure 9.11). The outfall being proposed for Wildhawk Estates (see Figure 9.10) will need to be reviewed and approved by the WQD. Any associated easement acquisition will be the responsibility of the respective project proponent. Should portions of proposed trunk gravity outfalls east of Bradshaw Road coincide with ultimate outfalls to the future Laguna Interceptor and the respective project proponents can demonstrate this to the satisfaction of WQD these portions could be reimbursable by CSD-1 under the then-current reimbursement program. Otherwise, these costs will have to be borne by the project proponents.

From the existing CCE pump station on downstream all proposed new connections not yet entitled will share a common interim outfall to the existing Regional Interceptor located in Elk Grove-Florin Road. The most straight forward alternative being proposed is to construct a new lift station and a 10-inch diameter force main (interim Alternative 1, see Figure 9.7). As mentioned above, this new lift station would be located just west of Bradshaw Road in the vicinity of Vintage Park Drive. From this point on the interim force main would run north within the Bradshaw Road right-of-way up to Gerber Road. Here the force main would angle westward and follow the Gerber Road right-of-way up to the existing interceptor. The force main would be located within existing right-of-way adjacent to existing pavement. This will minimize impacts to traffic as well as reduce construction costs. Nonetheless, the relatively high construction cost due to the length of the outfall is the one drawback of this alternative.

Alternatively, it is being proposed to upgrade both the existing interim CCE trunk sewer west of Bradshaw Road and the existing permanent Churchill Downs Trunk Sewer to provide for the necessary capacity to service the additional equivalent dwelling units (Interim Alternative 2, see

Figure 9.11
Required Sanitary Sewer Outfall Improvements



AR-1 — PROPOSED LAND USE DESIGNATION

(AR-1) — PREVIOUS LAND USE DESIGNATION

ZONE BOUNDARY

PROPOSED PROPERTY LINE

VCSP AREA BOUNDARY

EXISTING CREEK

EXISTING RIGHT-OF-WAY

PROPOSED OR EXIST. RIGHT-OF-WAY

Ⓢ PROPOSED SCHOOL SITE

P PROPOSED PARK SITE

SHED AREA TO PAY FAIR SHARE COST OF WILDHAWK ESTATES SEWER OUTFALL AND INTERIM SEWER OUTFALL IMPROVEMENTS FROM BRADSHAW RD. TO C.C.E. TRUNK PUMP STATION; PUMP STATION & FORCEMAIN IMPROVEMENTS, AND DOWNSTREAM CHURCHILL DOWNS TRUNK SEWER UPSIZING.

NOTE:
GARFOOT GREENS UNDER CURRENT ENTITLEMENTS IS NOT REQUIRED TO PAY FOR SEWER SYSTEM IMPROVEMENTS TO THE D/S PUMP STATION, FM, OR CHURCHILL DOWNS TRUNK SEWER.

SHED AREA TO PAY FAIR SHARE COST OF IMPROVEMENTS TO C.C.E. TRUNK SEWER, P.S. & FM, & CHURCHILL DOWNS TRUNK SEWER DOWNSTREAM OF POINT OF CONNECTION.

NOTE:
SILVER SPRINGS NORTH UNDER CURRENT ENTITLEMENTS (AR-1) IS NOT REQUIRED TO PAY FOR IMPROVEMENTS TO THE EXIST. SEWER SYSTEM UP TO THE REGIONAL INTERCEPTOR.

NOTES:
1. SCHOOLS AND PARKS IDENTIFIED ON THIS LAND USE PLAN ARE CONCEPTUAL IN NATURE AND MAY BE SUBJECT TO REVISIONS.
2. ACREAGES OF PARKS AND SCHOOLS HAVE NOT YET BEEN DETERMINED.
3. THIS LAND USE PLAN IS BASED ON THE PREFERRED LAND USE PLAN (PLATE PD-1, EXHIBIT I OF THE VINEYARD SPRINGS MOP).

Figure 9.7). This would include upsizing the existing 15-inch diameter gravity to an 18- inch diameter main between Bradshaw Road and the existing lift station. This is proposed to be accomplished using pipe bursting. The existing lift station would require upsizing from an existing capacity of 1.31 MGD to 2.75 MGD. A new 10-inch diameter force main would then be constructed parallel to the existing 12-inch diameter force main and connect the upgraded lift station to the existing 15-inch diameter gravity main downstream. This downstream reach of 15-inch trunk sewer, approximately 1,800 LF, was constructed at a slope of 0.0085 ft/ft and has sufficient capacity to handle the proposed increase in flow (capacity = 3.9 MGD; required interim capacity = 3.73 MGD). The next existing downstream reach west of Montevina Drive is a 15-inch diameter trunk sewer that was constructed at a slope of 0.0065 ft/ft with a capacity of 3.4 MGD. At this slope this section of the existing Churchill Downs Trunk Sewer will not carry the proposed interim peak wet weather flow of 4.00 MGD. Therefore, it is proposed to upsize this pipe by means of pipe bursting to an 18-inch diameter trunk sewer.

With these upgrades in place, the interim CCE Trunk Sewer and permanent Churchill Downs Trunk Sewer systems, west of Bradshaw Road, will be able to carry the proposed peak wet weather sewage flows of all currently existing and entitled service connections, including all interim connections proposed as shown on Figure 9.11. The cost of construction for interim sewer service improvements west of Bradshaw Road will be borne by the developers of the proposed interim service connections (of those projects within the Plan Area not yet entitled and as identified on Figure 9.11). The cost will be spread based upon number of EDU's proposed to be connected.

The northeast portion of the Plan Area as well as the Carmencita Road properties, i.e. those parcels with existing land use zoning of AR-1 to AR-5, have not expressed any desire to develop in the foreseeable future. They are currently relying on private septic systems for their sewer needs. Should the respective property owners decide to develop and apply for zoning changes in the future they would then be able to, depending on timing, connect to the Laguna Interceptor within the Plan Area. Alternatively, they could propose additional interim improvements to the existing CCE and Churchill Downs Trunk Sewer, subject to review and approval of the WQD.

STORM DRAINAGE

Existing Facilities

The Vineyard Springs Comprehensive Plan Area (VSCP Area) is located entirely within the Morrison Creek Stream Group. The site consists of moderately sloping open grasslands and pastures with single-family homes, barns and sheds. The Plan Area is drained by Gerber Creek, Laguna Creek and a tributary to Laguna Creek, Tributary #1. The Central California Traction Railroad (CCTRR) traverses the southwest corner of the planning area from the northwest to the southeast.

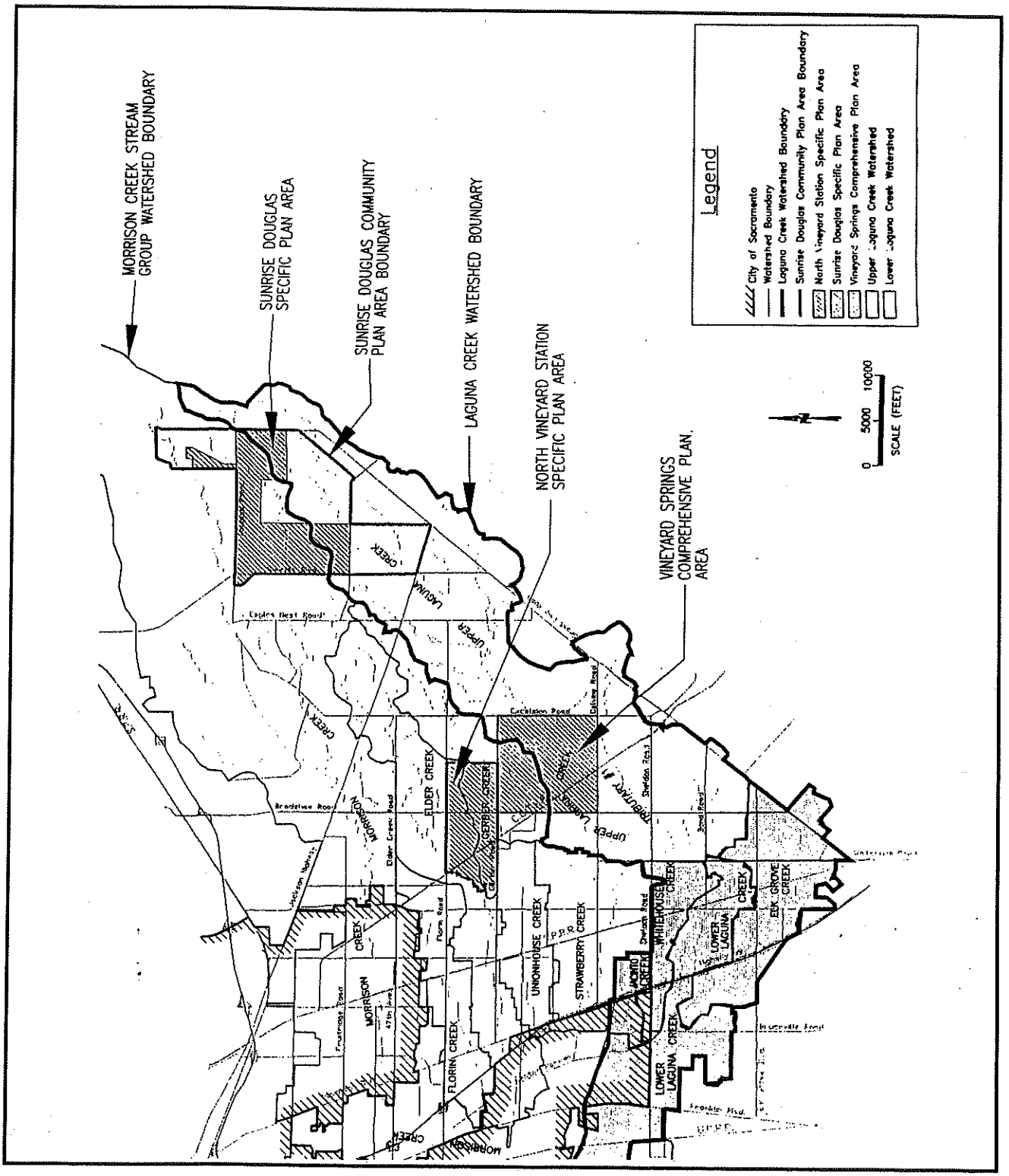
The Plan Area is drained by three separate watercourses. Gerber Creek drains the northwest and north-central portion of the plan area and enters the plan area from north of Gerber Road, just east of Vineyard Road. Gerber Creek drains south across Gerber Road at Crossing #1 then west across Vineyard Road and exits the plan area at Gerber Road Crossing #2, west of Deonsire Lane. Laguna Creek drains from the northeast to the southwest entering the plan area at Excelsior Road south of Spiva Road. It then flows southwest along the northern boundary of the existing Country Creek Estates and Silver Springs, then west under Vineyard Road and along the north boundary of Emerald Creek Subdivision. Laguna Creek then turns southwest at the CCTRR and continues southwest, crossing Bradshaw Road in the vicinity of Appaloosa Way. Tributary No. 1 to Laguna Creek, (Tributary #1), drains the southeast corner of the plan area. It enters the plan area from east of Excelsior Road, south of Dierks Road, and flows south, along the east side of the Country Creek Estates Subdivision. Tributary #1 leaves the plan area at Calvine Road west of Polo Crosse Avenue (see Figure 9.12).

Gerber Creek, Laguna Creek and Tributary #1 generally exist in a natural state within the plan area. Tree plantings and wetlands will be incorporated within the channel banks as mitigation measures. Minor stream bank modifications were made to Laguna Creek as part of the Emerald Springs and Country Creek Estates (Silver Springs Subdivision) improvements.

Portions of the VSCP area are within the Federal Emergency Management Agency (FEMA) regulated 100-year flood plain of both Gerber and Laguna Creek (FIRM Panels 060262 0330C and 060262 335C, dated September 30, 1988). Base Flood Elevations (BFE), along Gerber Creek range from 61 feet msl, south of the Gerber Road Crossing #2 to 70 feet msl at Gerber Road Crossing #1. The BFE along Laguna Creek ranges from elevation 60 feet msl at Bradshaw Road to approximately elevation 83 feet msl at Excelsior Road. No FEMA BFE's have been established for Tributary #1 upstream of Calvine Road. A BFE elevation of 65 feet msl is noted on Tributary #1 downstream of Calvine Road.

A FEMA "Floodway" has been established along Laguna Creek from approximately 2,000 feet upstream of the CCTRR to Excelsior Road. No "Floodway" designations have been established along any portions of Gerber Creek or Tributary #1 within the VSCP Area.

Figure 9.12
Watershed Boundaries



Service Standards

The Sacramento County Water Resources Division (WRD) requires new development and new public projects to follow specific guidelines in the construction and maintenance of drainage facilities. These standards are designed to protect new structures from the 100-yr flood event (i.e. the event with a 1 percent chance of occurrence in any given year) and new roads from the 10-yr flood event (i.e. 10 percent chance of occurrence in any given year). 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 established by the Sacramento County Boars of Supervisors.

Development Impacts/Proposed Facilities

A Drainage Master Plan (DMP) was prepared for the Vineyard Springs planning area. The objectives of the VSCP Master Drainage Plan are to:

- Provide a 100-year level of flood protection for the Plan Area in conformance with the Sacramento County Drainage Standards.
- Provide a drainage plan that incorporates the hydrologic and hydraulic criteria established by the scoping study for VSCP and UNET analysis for Elder/Gerber Creeks and the Laguna Creek watersheds:
- Limit the Laguna Creek (ULC) Ultimate 100-year peak flow at the City limits to a non damaging flow (3,230 cfs or 4,190 cfs per ULCDMP Status Report Addendum #2).
- Eliminate the inter-basin transfer of flood flows from Laguna Creek to Gerber Creek upstream of CCTRR.
- Contain the Ultimate 100-year peak flows within the proposed open space corridor on Laguna Creek and Gerber Creek.
- Provide a storm drain system within the Comprehensive Plan area that provides 100-year water surface elevations in the open channels that allows gravity drainage of the development areas.

Description of Drainage Master Plan

Currently, flood flows from Laguna Creek back up behind the CCTRR levee and travel northwest along the levee to the Gerber Creek shed. Sacramento County Water Resources Division has adopted a policy to eliminate the inter-basin transfer of flood flows from the Laguna Creek to the Gerber Creek watershed. Elimination of the existing inter-basin transfers is essential to the development of North Vineyard Station and certain portions of the VSCP Area. The Upper Laguna Creek Drainage Master Plan Status Report has determined that the proposed channel improvements on Laguna Creek will effectively eliminate the inter-basin transfer.

Increased flows due to elimination of the inter-basin transfer can be effectively mitigated at the City limits by one regional basin (UL45, offsite of VSCP) and also immediately downstream of the CCTRR by one local basin (UL41, onsite of VSCP). Sites have been identified within and downstream of the VSCP that would limit the flows at the City Limits. Channel improvements in conjunction with the proposed detention sites provide sufficient storage to attenuate the flows to non-damaging flows.

The Upper Laguna Creek Drainage Master Plan (ULCDMP) Status Report Addendum #2 by SCWRD has determined that 100-year peak flows of 3,230 cfs and 4,190 cfs at the City limits are non-damaging. These flows are the result of the 'City Peak Flow' and 'Minimum Detention' alternatives, respectively. The Minimum Detention alternative is proposed as the "Preferred Alternative" for this project.

The Drainage Master Plan for VSCP incorporates the preferred drainage alternatives from the Elder/Gerber Creek and Upper Laguna Creek Drainage Master Plan UNET analyses. Currently, WRD is evaluating two drainage scenarios for the Upper Laguna Creek watershed within the VSCP. The proposed "City Peak Flow" and "Minimum Detention" Alternatives detention basin characteristics are presented in Table 9. 1. Both alternatives are carried forward in the DMP.

A. Ultimate Condition Scenario - ULC Shed Area Buildout

Detention: The Preferred Alternative consists of two regional detention basins at the confluence of Laguna Creek Tributary #1, plus two local detention basins within VSCP. The local detention basins on Laguna Creek will be at the CCTRR and the other on Gerber Creek upstream of Gerber Road Crossing #2. The operation of these basins have not been finalized at this time. The detention volumes presented in this portion of this report represent flood control volumes only and do not include "Water Quality" volumes.

The proposed regional detention facilities, at the confluence of Laguna Creek and Tributary #1, are intended to attenuate the Ultimate Condition, i.e. buildout of the Upper Laguna Creek (ULC) shed area, flood flows. Two separate basins, UL45 & UL58 are proposed at the confluence, with detention volumes of 230 ac-ft and 200 ac-ft, respectively (see Figure 9.13). The proposed CCTRR detention basin UL41 will provide flood control with approximately 75 ac-ft of detention. An alternate drainage scenario substitutes the CCTRR basin with a similar sized basin upstream of Vineyard Road. The total Laguna Creek detention volume required to mitigate for the Ultimate development of the ULC shed (for basinsUL45, UL58 and UL41) is approximately 505 ac-ft. Development flows from upstream of Gerber Road Crossing #2 will be mitigated by a 44 ac-ft detention basin (basin G-45; see Figure 9.14). Preliminary detention basin characteristics for the Ultimate Condition are presented in Table 9.1. It should be noted that these values may change as the ULCDMP study and UNET model are finalized. Excavation volumes will depend on the actual ground elevations of the proposed sites.

Figure 9.13
Detention Basin Locations

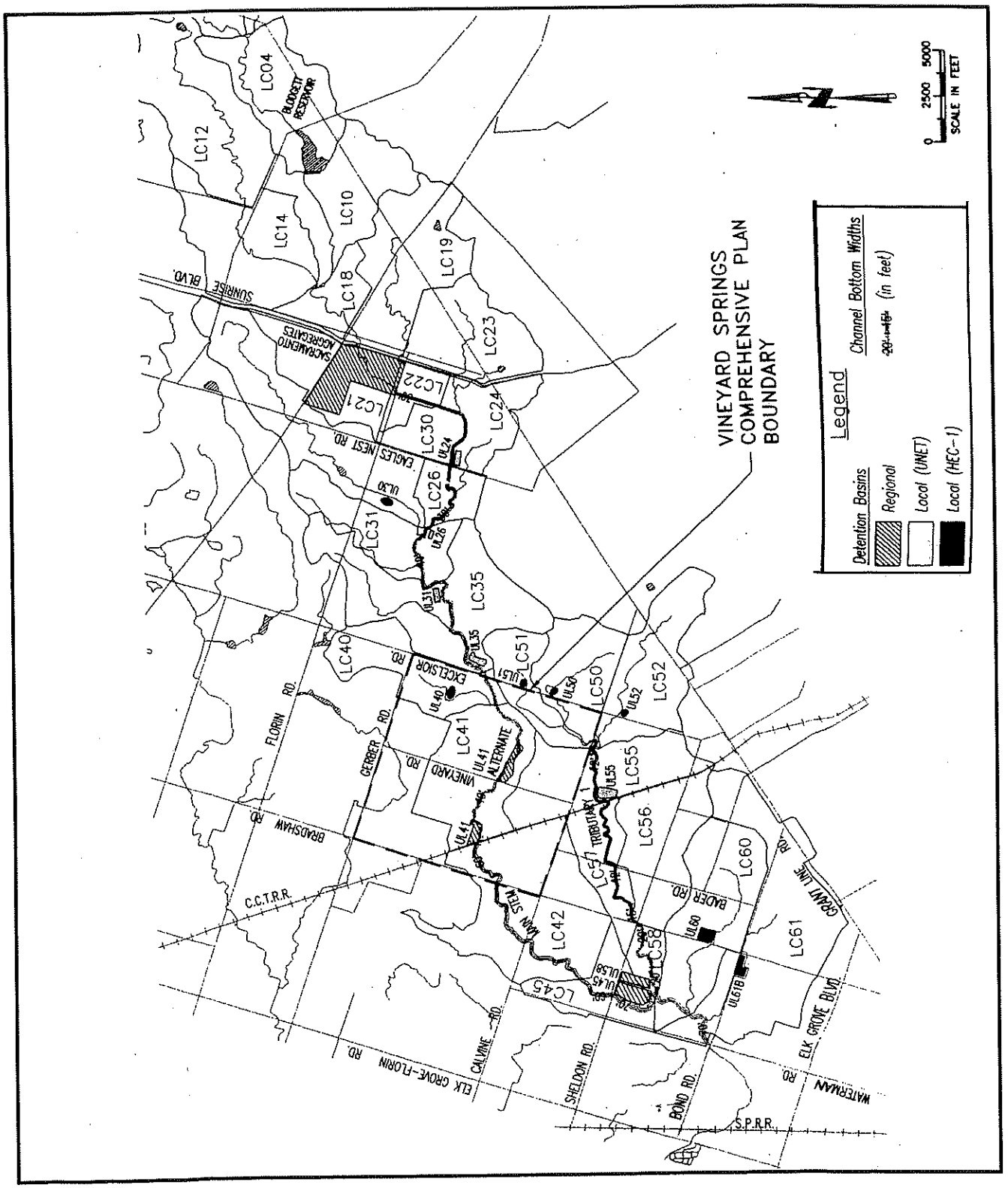


Figure 9.14
Detention Basin Locations

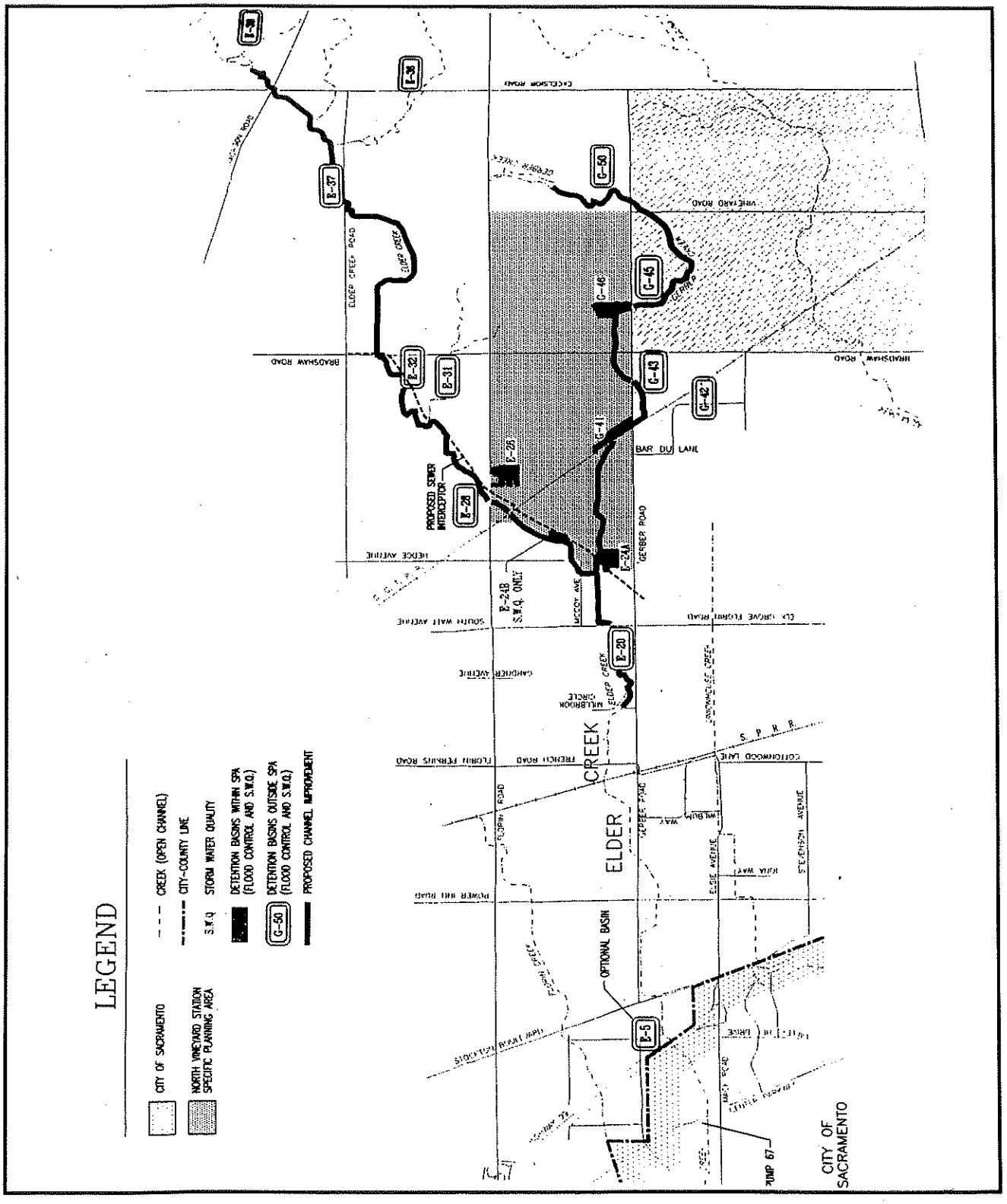


Figure 9.13 identifies a future regional detention basin at the Sacramento Aggregates gravel pit on Laguna Creek. Mining operations are currently underway by Triangle Rock. This site may not be available for detention purposes for another 20 years. SCWRD has asked the Board of Supervisors for direction on whether to acquire this regional basin in Phase 4 of the Drainage Master Plan for VSCP.

I. Regional Detention: A summary of the proposed flood control detention basin volumes for the preferred Ultimate and Stand Alone Conditions scenario for the Upper Laguna watershed and Gerber Creek are presented in Table 9.1 and Table 9.2, respectively. The regional detention facilities at the confluence of Laguna Creek and Tributary #1 (LC45 & LC58) consist of two adjacent basins located immediately north of the confluence of the two channels. The Laguna Creek detention basin is approximately 230 ac-ft and the Tributary #1 detention basin is approximately 200 ac-ft. Each basin is proposed with separate inlet weirs and outlet structures.

Table 9.1
Ultimate Land Use
Detention Basin Characteristics

ULTIMATE LAND USE DETENTION BASIN CHARACTERISTICS*								
	City Peak Flow Alternative				Minimum Detention Alternative			
Basin Characteristics	Vineyard Road Altern.	CCTR	Conf Laguna Creek	Conf Tributary #1	Vineyard Road Altern.	CCTR	Conf Laguna Creek	Conf Tributary #1
	UL41**	UL41	UL45	UL58	UL41**	UL41	UL45	UL58
Area (w/o buffer)	10.8 ac.	10.8 ac.	31.4 ac.	35.0 ac.	7.9 ac.	7.9 ac.	17.3 ac.	12.0 ac.
Vol stored in 100-yr @ depth	76 AF @ 7.6'	75 AF @ 7.6'	230 AF @ 7.7'	200 AF @ 6.0'	52 AF @ 7.9'	55 AF @ 8.1'	125 AF @ 8.2'	70 AF @ 7.0'
Vol excavated @ depth	98 AF @ 10'	98 AF @ 10'	240 AF @ 8'	268 AF @ 8'	67 AF @ 10'	67 AF @ 10'	138 AF @ 9'	82 AF @ 8'
Basin Invert Elev.	58.2	53.0	40.8	41.0	58.2	53.0	40.8	41.0
Weir length @ elevation	25'@ 64.3' 75'@ 64.8'	25'@ 58' 50'@ 59' 150'@ 60'	125'@ 46' 125'@ 47'	75'@44.5' 75'@45.5'	25'@65.0' 75'@65.5'	20'@59.4' 50'@60.4' 150'@ 61.4'	20'@47.2' 125'@48.2'	10'@ 45.1' 20'@ 46.1' 70'@ 47.1'
Peak Q over weir	244 cfs	340 cfs	713 cfs	527 cfs	213 cfs	198 cfs	353 cfs	369 cfs
Channel invert @ weir	60.0'	52.8'	41.5'	50.2'	60.0'	52.8'	41.5'	40.2'
Outlet Pipe length	100'	200'	200'	150'	100'	200'	200'	150'
Outlet Pipe diameter	36"	36"	36"	24"	36"	36"	36"	24"

*Source: ULCDMP (August 1997)
**Alternative Detention Site

Both the "City Peak Flow" and the "Minimum Detention" alternatives require regional detention basins at the confluence of Laguna Creek and Tributary #1. The "Minimum Detention" alternative, though, reduces the total detention volume to 250 ac-ft and produces a 100-year flood flow of 4,190 cfs at the city limits, a non-damaging flow as required by the ULCDMP Status Report.

Table 9.2
Flood Control
Gerber Creek Detention Volumes

FLOOD CONTROL GERBER CREEK DETENTION VOLUMES		
Detention Basin	**Ultimate UNET**	**Stand Alone VSCP**
Local Detention	Ac - Ft	Ac - Ft
NVSSP (G-46)	35	0
Gerber Rd. Crossing #1 (G-50)	89	0
Gerber Rd. Crossing #2 (G-45)	44	66*
* From Elder Gerber Creeks Drainage Master Plan (Jan. 1996)		

II. Local Detention: Development sites within the VSCP Area not draining to a regional detention basin will provide local on-site detention for storm water flows. Under the Ultimate Preferred Condition scenario one local detention basin is proposed on Laguna Creek and one on Gerber Creek. Two possible detention sites were identified on Laguna Creek within the VSCP area, one (LC41) upstream of CCTRR and an alternate (LC41A) upstream of Vineyard Road. The CCTRR site is the preferred site alternative. The detention volume of the local basin upstream of CCTRR (LC41) is approximately 75 ac-ft. The detention volume requirements for the Laguna Creek watershed presented in Table 9.1 are based on the Upper Laguna Creek Drainage Master Plan Status Report UNET analysis.

The detention requirements and basin information for the Gerber Creek watershed are based on the Elder/Gerber Creek and North Vineyard Station Specific Plan analyses. The Gerber Creek detention basin upstream of the Gerber Road Crossing #2 (G-45; Figure 9.14) will need to detain 44 ac-ft to attenuate the local development flows. An additional detention facility is recommended on Gerber Creek upstream of Gerber Road Crossing #1 (G-50). This is to replace the loss of the existing (private) upstream detention (ponds) within the Silva property (A.P.N. 066-0100-077, 078 & 079). The detention volume requirements of the Gerber Creek watershed as presented in Table 9.2 are based on the North Vineyard Station and the Elder/Gerber Creek UNET analysis and represent flood control volumes only.

The local detention for both the Ultimate and the Stand Alone VSCP land use is 44 ac-ft. The inter-basin transfer from Laguna to Gerber Creeks will be eliminated by channel improvements downstream of Vineyard Road to Calvine Road. Until the areas that are

currently in the FEMA floodplain are raised above the Base Flood Elevations or a CLOMR for the necessary channel improvements is processed those areas cannot be developed. A discussion of phased development is presented in detail in Sections VII and XI of the DMP.

Channel Improvements: SCWRD has recommended channel improvements for both Laguna Creek and Gerber Creek as part of the future development of the watershed. Channel improvements are required to provide conveyance of the Ultimate peak flows and to allow storm drain conduit systems to gravity flow to the creeks. Typical channel improvements will consist of "naturalized" trapezoidal sections with side slopes of 3:1 (H:V). Proposed bottom widths of Laguna Creek upstream of Bond Road will vary from 45 feet to 75 feet.

Public outreach in the area downstream of the VSCP to Bond Road conducted by SCWRD resulted in the selection of two proposed cross sections for Laguna Creek, the Hydraulically Efficient Channel and the Minimum Channel. The Efficient channel is the preferred alternative and confines the 100-year flows within the channel banks. The Minimum channel is the smallest section that can be used without increasing the Stand-Alone 100-year water surface elevations above existing conditions. It leaves a residual 100-year floodplain.

The inverts will be lowered to provide a channel depth of 8 to 10 feet. This will provide adequate free board for the 100-year flows and sufficient depth and cover for the proposed urban storm drain systems. Figure 9.15 presents the Ultimate profile of Laguna Creek from the confluence at Tributary #1 to Vineyard Road. The improved channels will be "naturalized" trapezoidal sections of varying bottom widths to provide the required conveyance capacity. The channel slopes will vary and generally parallel the existing channel slopes. The improved channels will be designed to have a natural appearance rather than a trapezoidal section.

The proposed culvert improvement at Gerber Road #1 and Vineyard Road will be designed to pass the 180 cfs and 170 cfs Q100 flows, respectively. These flows are based on the "Stand Alone Revised" alternative flows and will exceed the anticipated Ultimate Q100 flows of 126 cfs and 128 cfs, respectively (see Table 9.3). The Ultimate channel improvements to Gerber Creek will thus accommodate the Stand Alone VSCP flows and the storm drain outfall structures. The Ultimate channel section with a 12 foot bottom width upstream of Gerber Road #2 will be lowered to match the Ultimate NVSSP invert. Bridge piers and abutments at the Gerber Road #2 crossing were originally designed to allow the invert to be lowered 6 to 7 feet. Flow downstream of the proposed detention facility (G-45) will be limited to 178 cfs.

Two options are available to "daylight" the Gerber Creek VSCP invert in the absence of a downstream project by the NVSSP - (1) excavate along the existing channel to Gerber Road #4 (approximately 6,500 feet) or, (2) construct a temporary channel along the south edge of Gerber Road and conform to the existing offsite channel between Gerber Roads #3 & #4 (approximately 4,500 feet). This option reduces the length of offsite channel easements and the number of drainage agreements required. It is apparent from the above discussions that complete development of the Stand Alone VSCP is not economically feasible. Phased Development is discussed in detail in Section XI of the DMP.

Figure 9.15

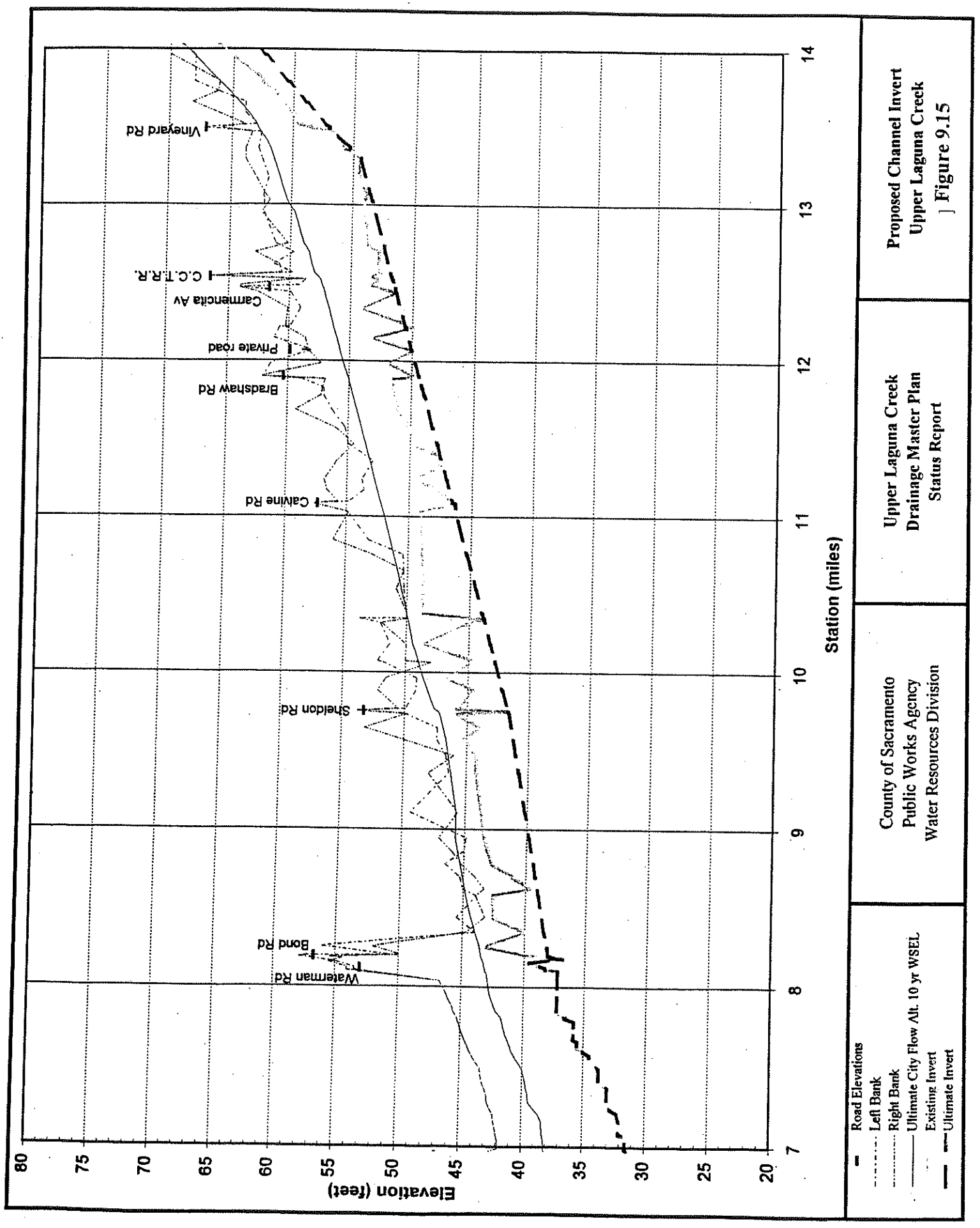

Elevation (feet)
80
75
70
65
60
55
50
45
40
35
30
25
20
7
8
9
10
11
12
13
14
Station (miles)
Waterman Rd
Bond Rd
Sheldon Rd
Calvine Rd
Bradshaw Rd
Private road
Carmencita Av
C.C.T.R.R.
Vineyard Rd
Road Elevations
Left Bank
Right Bank
Ultimate City Flow Alt. 10 yr WSEL
Existing Invert
Ultimate Invert
County of Sacramento
Public Works Agency
Water Resources Division
Upper Laguna Creek
Drainage Master Plan
Status Report
Proposed Channel Invert
Upper Laguna Creek
] Figure 9.15

Table 9.3
NVSSP Gerber Creek Flows

NVSSP GERBER CREEK FLOWS Q100 (cfs)						
Gerber Creek	Existing		Ultimate		Stand Alone	
	UNET	HEC-1	UNET	HEC-1	UNET	HEC-1
Gerber Rd. Crossing #1	67*	375	126	124	345	375
Vineyard Road	66*		128		342	
Gerber Rd. Crossing #2	178	355	234	162	465	342
* represents flow capacities of existing culverts						

B. "Stand Alone" Scenario

The Stand Alone scenario described below is based on buildout of the VSCP Area (only) and the elimination of the inter-basin transfer from Laguna Creek to Gerber Creek. This section addresses the potential impacts associated with the Stand Alone scenario and construction of drainage facilities within and downstream of the Plan Area.

The Stand Alone scenario assumes the following off-site changes on Gerber Creek upstream of VSCP to be existing:

- Removal of the existing small privately owned detention facilities.
- Elimination of the existing "overspill" flows of Gerber Creek, north of Gerber Road Crossing #1.
- Channel improvements of Gerber Creek upstream of Gerber Road #1.

The Stand Alone scenario is generally based on development impacts from within the proposed Plan Area. Off-site improvements are required only to mitigate for impacts from this development. The diversion of existing flood flows into or out of an existing shed is not allowed without prior approval by the SCWRD. Approval of a change in flow regimes requires mitigation by the project proponent causing the impact.

Under the Stand Alone scenario, the construction of the following off-site improvements will be required to accommodate increases in flow due to the development of the VSCP Area:

1. Laguna Creek channel improvements (approximately 3.7 miles) from Bradshaw Road to Waterman Road .

2. Gerber Creek channel improvements (approximately 1.2 miles) from Gerber Road Crossing #2 to Gerber Road Crossing #4.

3. One hundred-forty (140) acre-feet of detention volume and the appurtenant facilities at the confluence of Laguna Creek and Tributary #1.

Regional Detention: The Stand Alone condition reduces the regional detention volume at the Laguna Creek confluence with Trib. #1 from 430 ac-ft (for the City Peak Flow detention alternative, or 200 ac-ft for the Minimum detention alternative) to 140 ac-ft. Regional detention is not required on Tributary #1 for the Stand Alone condition. The land use of the Tributary #1 shed area within the VSCP is predominately one (1) acre or greater lots with open space and wetlands. No significant increase in flows will be experienced on Tributary #1 from development. Neither is regional detention required on Gerber Creek within the VSCP boundary.

Laguna Creek - Local Detention: Under the Stand Alone condition the local detention volume for Laguna Creek is 49-ac-ft at the CCTRR basin (UL41). The Stand Alone scenario reduces the regional detention requirement at the confluence (Laguna Creek, UL45) to 140 ac-ft and the local detention at the CCTRR (UL41) to 49 ac-ft. Under the Stand Alone condition the Tributary #1 basin (UL58) is not required. The Drainage Master Plan limits the construction costs and long-term maintenance costs to a manageable level.

Gerber Creek - Local Detention: Gerber Creek requires 44 ac-ft (G-45) of local detention volume under the ultimate condition. The Stand-Alone detention volume of 66 ac-ft, though, assumes upstream channel improvements and the removal of existing detention facilities without mitigation. When the properties upstream of Gerber Road Crossing #1 develop, the local detention basin G-50 will provide the mitigation for the proposed hydrologic and hydraulic impacts. The Montgomery-Watson study estimates the Stand Alone condition detention volume to be 66 ac-ft at G-45. The 66 ac-ft, however, is based on conditions that will not occur. The Montgomery-Watson Stand Alone condition for Gerber Creek assumes 100-year (Q100) flows of 342 cfs upstream of Gerber Road #2 and 375 cfs downstream of Gerber Road #1. These flows ignore the "overspill" of the existing flood flows north of Gerber Road and the existence of two small private detention basins (ponds) upstream of Gerber Road #1. The NVSSP UNET analysis estimated an existing condition Q100 "overspill" of 250 cfs flowing directly into the NVSSP area north of Gerber Road. The existing Q100 upstream of Gerber Road #1 is thus 110 cfs.

The UNET analysis for NVSSP did not evaluate a Stand Alone VSCP condition. However, supplemental information for the Stand Alone VSCP condition was developed for Sacramento County WRD. The following data from the UNET analysis for the Stand Alone VSCP condition was provide by WRD staff.

- The existing 100-year flows (Q100) through Gerber Road #1 are 180 cfs and 170 cfs downstream of Vineyard Road.
- A Q100 of 276 cfs was estimated for Gerber Creek, upstream of Gerber Road #2 (see Table 9.3-3).

- Both the UNET analysis and the Montgomery-Watson study generated similar detention volumes of approximately 44 ac-ft. for basin G-45 (upstream of Gerber Road #2) under the Ultimate Watershed Condition.
- Based on the Ultimate Condition 100-year flows (126 cfs and 234 cfs) and the Stand Alone Condition 100-year flows (180 cfs and 276 cfs) the 44 ac-ft detention volume at G-45 is adequate for the Stand Alone detention volume. The 44 ac-ft is sufficient to attenuate the developed flows to an existing condition 100-year flow of 178 cfs.

Channel Improvements: Naturalized trapezoidal channel sections are proposed for both Laguna Creek and Gerber Creek. Typical sections will have bottom widths that vary from 45 feet to 75 feet for Laguna Creek (10 feet for Gerber Creek) with 3:1 side slopes. The ultimate channel section between Vineyard Road and the CCTRR will have a bottom width of 40 feet. Downstream of the CCTRR to Sheldon Road the ultimate bottom width will be 60 feet. The channel section downstream of Sheldon Road to Waterman Road will have a bottom width of 70 feet. The existing channel bottom will be lowered 4 feet to 6 feet to accommodate the 100-year peak flows and storm drain outfall structures. The locations of the outfall structures will need to consider the final channel section and alignment. Total channel depths of 8 feet to 10 feet are anticipated to provide adequate "free board" and conduit cover.

Laguna Creek - Channel improvements: Existing public roadway culverts on Laguna Creek (with the exception of Carmencita Avenue which is an old timber structure that will have to be replaced) have been determined to be adequate for the Ultimate condition flows. Culvert lengths will be extended to accommodate ultimate street widths. Development of the Laguna Creek watershed will require lowering the invert for a total channel depth of 8 to 10 feet. The development of VSCP within the "inter-basin transfer" floodplain will require the channel capacity downstream of the CCTRR to be increased to accommodate the flows. Without the inter-basin transfer flows the 100-year flows could be accommodated in a channel with a bottom width of 30 feet.

Gerber Creek - Channel Improvements: The existing culvert crossings on Gerber Road and Vineyard Road will be replaced and/ or extended to accommodate the ultimate flows and street widths. Development within the Gerber Creek watershed will require lowering the channel invert for a total channel depth 6 to 8 feet. Under the "VSCP Stand Alone" condition off-site channel improvements would be required for 6,200 feet of Gerber Creek downstream to the Gerber Road Crossing #4 to "daylight" the channel at minimum slope. The cost of providing even partial improvements to the 6,200 feet of downstream channel would be prohibitive. The phasing schedule of the VSCP anticipates development within the Gerber Creek watershed to occur as the last phase. A phased development schedule would most likely choose to delay development within the Gerber Creek shed until adequate channel improvements are made downstream by the North Vineyard Station Specific Plan proponents.

C. Hydrology - Gerber Creek

The Gerber Creek drainage analysis is based on the UNET model developed for the Elder and Gerber Creek watersheds, including NVSSP located north and adjacent to VSCP. Table 9.3 presents the NVSSP, Gerber Creek 100-year flows for the; "Existing," "Ultimate" and "Stand Alone" conditions within the Vineyard Springs developments. The Stand Alone scenario assumes channel improvements upstream of the Gerber Road Crossing #1.

The Gerber Creek flows for the Stand Alone scenario consider development within NVSSP only and show a flow increase from 67 cfs to 345 cfs at Gerber Road Crossing #1. This increase is due to the following hydraulic changes upstream of Gerber Road:

1. The elimination of sub-basin "overspill" upstream of Gerber Road Crossing #1. (By the extension of Vineyard Road north of Gerber Road and development of the NVSSP properties).
2. The removal of the existing (private) detention facilities (ponds) within sub-shed G2A (upstream of Gerber Road).
3. Channel improvements upstream of Gerber Road Crossing #1.

A comparison of the Gerber Creek flows generated by the different studies and hydrologic methods for the Ultimate and Stand Alone Conditions is presented in Table 9.4. The Ultimate Condition flows between the HEC-1, UNET and the NVSSP studies vary by only 6 cfs.

Table 9.4 includes a revised Stand Alone VSCP UNET analysis for Gerber Creek. The flows under the "Stand Alone Revised" heading were developed by SCWRD from the NVSSP UNET model as supplemental information for the Stand Alone Condition.

Table 9.4
Gerber Creek Flows

GERBER CREEK FLOWS Q100 (cfs)					
Gerber Creek	**Ultimate Condition**			**Stand Alone NVSSP**	**Stand Alone Revised**
	HEC-1	**UNET***	**NVSSP****	**Improvements u/s VSCP UNET***	**Undeveloped Cond u/s VSCP*****
Gerber Rd. Crossing #1	124	126	120	345	180
Vineyard Rd.		128		342	170
Gerber Rd. Crossing #2	162	234	240	465	276****

* UNET - Elder/Gerber Creek Watershed - Doug Hamilton - June 1997
** NVSSP - MacKay & Somps - February 1997
*** STAND ALONE - REVISED - Supplemental UNET Analysis.
**** Estimated flow, see discussion above.

Under this revised Stand Alone Condition the existing upstream detention and "overspill" conditions were retained and the "existing condition" flows conveyed across both Gerber Road #1 and Vineyard Road. The 100-year flow (276-cfs) at Gerber Road Crossing #2 was estimated based on the difference in Ultimate Condition flows between Vineyard Road and Gerber Road #2 (234-128=106) plus the Revised Condition flow (170 cfs) at Vineyard Road (170+106=276).

The Stand Alone Revised scenario represents a hydraulic condition that allows the flows to pass downstream through culverts with adequate capacity at their respective crossings. The Revised 100-year flows (180-cfs and 276-cfs) at Gerber Road Crossings #1 and #2 corresponds fairly closely with the Ultimate watershed UNET flows (126 cfs and 234 cfs). This will provide an option for development to proceed within the Gerber Creek shed without having to install oversized culverts for hypothetical flow conditions (345-cfs to 465-cfs) that are not likely to occur.

D. Hydrology - Laguna Creek:

The Existing, Ultimate and Stand Alone 100-year Peak Flows for Laguna Creek are presented in Table 9.5 below. For comparison purposes both methodologies, UNET and HEC-1, flow values are presented. Table 9.5 shows the Ultimate Condition HEC-1 flows downstream of the CCTRR to be less than the UNET flows. The UNET Ultimate Condition flows for the two alternatives are less than the UNET Existing Condition flows. This is partially attributable to the channel improvements.

Table 9.5
Laguna Creek Peak Flows

LAGUNA CREEK PEAK FLOWS* Q100 - cfs									
Laguna Creek	Existing Condition		UNET				Stand-Alone Condition		
	UNET	HEC-1	Base Condition Add. # 2	Ultimate Condition			UNET	UNET REV B Add. #2	HEC-1
				City Peak Alternative	Minimum Detention Alternative	HEC-1			
Excelsior Rd.	2346	2571		1073	1228	1837	2347	1513	2347
Vineyard Rd.	2406	2640		1213	1459	2112	2389	1633	2444
CCTRR u/s	2393	2605	2340	1301	1486	2191	2361		2470
CCTRR d/s	1348	1368	1340	1158	1313	1035	2138	1601/2130	985
Carmencita.	1346			1158	1312		2136	1598	
Bradshaw Rd.	1338	1377		1155	1308	1065	2124	1608	990
Calvine Rd.	1302			1147	1298		2083	1610	
City Limits	3511	2950		3564	4350	3113	3508	3411	2994
Addendum #2					4350				
City Limts	3000		2770	3230	4190		3000	3280	
Non-Damaging Flow				4,350	4350	3141			

*Source: ULCDMP Status Report Addendum #2, January 1999

The Ultimate channel improvements through the VSCP area will be designed to accommodate the Ultimate flows within a "naturalized" channel section.

E. Storm Water Quality

To comply with Sacramento County's NPDES Permit storm water quality treatment facilities will be incorporated with the flood control detention basins and channel improvements to be constructed within the VSCP Area. There are many alternate treatment methods available for the control of urban and municipal stormwater pollutants. Sacramento County prefers the use of "dry" detention basins for urban developments. Industrial and commercial developments within Sacramento County generally install on-site grit and grease separators before connecting to the storm drain system. Water Quality Standards are found in Volume 2 of the City/County Drainage Manual.

Water Quality detention will be required of all developments. Detention that provides partial development of an ultimate facility, such as the CCTRR basin (UL45), will be reimbursable. Temporary water quality detention facilities are neither reimbursable nor desirable.

Final determination of water quality requirements will be established during consultation with the Water Quality Section of WRD. Water quality volumes for Gerber Creek, Laguna Creek and Tributary #1 are presented in Table 9.6. Land use, percentage impervious and the runoff rates from the SATO report were used to determine the required treatment volume.

Table 9.6
Water Quality Volume

VINEYARD SPRINGS COMPREHENSIVE PLAN
WATER QUALITY VOLUME*

LAND USE	% IMPRV	SATO W.Q. INCHES	GERBER CREEK		LAGUNA CREEK u/s CCTRR		LAGUNA CREEK d/s CCTRR		TRIB #1	
			AREA Ac.	Vol Ac.-Ft.	AREA Ac.	Vol Ac.- Ft.	AREA Ac.	Vol Ac.-Ft.	AREA Ac.	Vol Ac.-Ft.
AR 1-5	10%	0.00		0.00	322	0.00		0.00		0.00
AR1	15%	0.00		0.00	81	0.00		0.00	352	0.00
RD 2	25%	0.28	53	1.24		0.00	142	3.31	18	0.42
RD 3	30%	0.32	28	0.75	55	1.47	21	0.56	11	0.29
RD 4	35%	0.36	26	0.77	120	3.55	77	2.28	67	1.98
RD 4-6	40%	0.39	191	6.21		0.00		0.00		0.00
RD 5	40%	0.39		0.00	223	7.25	60	1.95	40	1.30
RD 6	45%	0.43		0.00	70	2.51		0.00		0.00
RD 10	60%	0.58	72	4.38		0.00		0.00		0.00
RD 20	80%	0.87	22	1.60		0.00		0.00		0.00
L.C.	90%	1.03	13	1.12		0.00		0.00		0.00
B.P	90%	1.03	11	0.94		0.00		0.00		0.00
O & F	2%	0.00	205	0.00	166	0.00	38	0.00	51	0.00
		TOTALS	621	16.10	1,037	14.77	338	8.10	539	4.00

F. Phased Facility Development

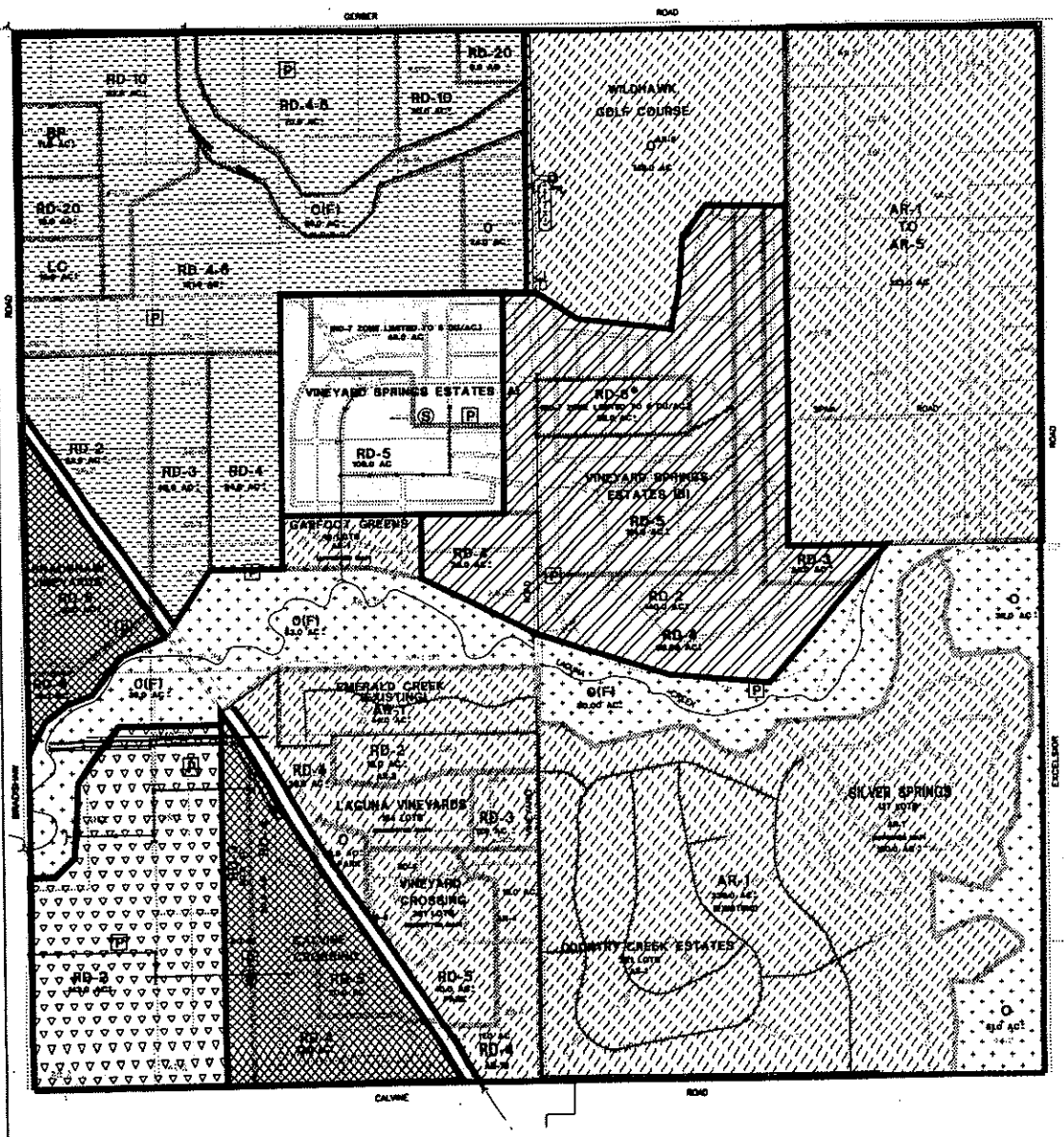
Development of the VSCP area will occur over a ten to twenty year period. Phased development of VSCP will be limited by the detention storage available within the proposed detention sites. The Phasing Plan identifies those parcels and projects capable of proceeding and providing necessary infrastructure and flood protection. This phasing plan is non-binding and could change in the future. It is anticipated that development will occur within the planned phase areas as presented in Figure 9.16. Those properties identified as "EXISTING" include existing developed properties and undeveloped properties currently "Entitled" with separate zoning conditions.

The ULCDMP analysis by SCWRD indicates that approximately 25% (301 acres) of the developable acreage (1201 ac) within the VSCP boundary can be developed without significant impact at the city limits. The ULCDMP Status Report indicates that this initial development results in no significant impacts in the County and results in an increase of 33 cfs in the 100-year flow at the City Limits. This increase is below the City's design water surface profile. In consultation with SCWRD staff, it has been agreed to support development of 25% of the VSCP area without detention mitigation. Properties "Entitled" prior to January 1, 1997, are not included in the 25 percent allotment as they have existing zoning conditions to satisfy as part of their prior approval. It should be noted that the development of the first 25% is not limited to specific properties. Entitlements will be based on a "first come, first served" basis. Development beyond the initial 25% (301 acres) will require construction of portions of the Stand Alone detention volumes and increments of the ultimate channel sections.

Phasing Plan: A 5-phased development plan is proposed for the existing undeveloped 1,048 acres within the plan area. Under the proposed phasing plan development will construct incremental portions of the Stand Alone detention volumes and the channel improvements associated with the VSCP area.

Table 9.7 presents the sequence for acquiring the easements and/ or Irrevocable Offers of Dedication (I.O.D.) and the construction of the channel improvements and detention volumes with each of the development phases. Buildout of 80% of each phase will "trigger" the requirement to begin the design for the subsequent incremental regional detention volume at the confluence of Laguna Creek and Tributary #1 and the CCTRR. At 90% build out of each phase, construction of the detention basin must begin. (A detailed description of each drainage development phase can be found in Section XI of the VSCP DMP).

Acquisition of easements for the construction of the detention basins and channels will be required prior to the construction of the phased facilities. The ultimate easement widths and areas shall be acquired in conjunction with the initial construction. The costs of easements and right-of way are reimbursable through the Zone 11A impact fees.



VSCP AREA
DRAINAGE MASTER PLAN

LEGEND:

- EXISTING
- PHASE 1
- PHASE 2
- PHASE 3
- PHASE 4
- PHASE 5
- OPEN SPACE
- AR-1 — PROPOSED LAND USE DESIGNATION
- ZONE BOUNDARY
- PROPOSED PROPERTY LINE
- VCSP AREA BOUNDARY
- EXISTING CREEK
- PROPOSED OR EXIST. RIGHT-OF-WAY
- (S) PROPOSED SCHOOL SITE
- [P] PROPOSED PARK SITE

NOTES:
1. SCHOOLS AND PARKS IDENTIFIED ON THIS LAND USE PLAN ARE CONCEPTUAL IN NATURE AND MAY BE SUBJECT TO REVISIONS.
2. ACREAGES OF PARKS AND SCHOOLS HAVE NOT YET BEEN DETERMINED.
3. THIS LAND USE PLAN IS BASED ON THE PREFERRED LAND USE PLAN (PLATE PD-1, EXHIBIT I OF THE VINEYARD SPRINGS NDP).

0 1200 2400 3600

Figure 9.16

Table 9.7
Phasing of Vineyard Springs Project Improvements

Development		Action					Excavate Detention Basin (volume)			
Phase No.	acres	Obtain Easements*	Construct Channel Improvements (bottom width)**				UL41	UL45	G-45	Triangle Rock***
			Vineyard Road to CCTRR ***	CCTRR to Calvine Road	Calvine Road to Sheldon Road	Sheldon Road to Waterman Road				
1	349	Channel from UL45 d/s to confluence UL45						140 AF		
2	270	Channel from Sheldon Rd to Waterman Rd UL41				75 feet				
3	172	Channel from CCTRR to Sheldon Rd		65 feet	65 feet					
3		Channel from Vineyard Rd. to Gerber Rd Crossing #2 10' BW	Channel from Vineyard Rd. to Gerber Rd Crossing #2 10' BW							
4	91	Channel from Vineyard Rd to CCTRR	45 feet				49 AF			
4		G-45 Triangle Rock***							44 AF	967 AF***
5	166						Terminate Inter-Basin Transfer of Laguna to Gerber Ck.			
Total	1048		45 feet	65 feet	65 feet	75 feet	49 AF	140 AF	44 AF	967 AF

* Easements must be for the ultimate footprint of the channel or detention basin when obtained

** All channel improvements must be made to the ultimate channel invert elevation

*** Required if directed by Board – Supplemental Drainage Fee of approximately $1,000,000 to be paid in-lieu of construction of UL41

The following condition will be applied to future development projects proposed within the VSCP to implement the phased drainage improvements of the drainage master plan:

Drainage master plan improvements shall be required concurrent with development within the Vineyard Springs Comprehensive Plan (VSCP) area, in accordance with the following criteria.

No final map shall be recorded, nor improvement plans approved, until the following criteria are met:

a. Phase I Improvements are required in order for 349 acres within the VSCP to be developed.
   (1) Up to 80% of Phase I area (279 acres) can be developed with no restrictions.
   (2) Prior to exceeding 279 acres: acquire Basin UL45 site.
   (3) Prior to exceeding development of 90% of area (314 acres), begin excavation of UL45, with the contract released for completion of the entire basin (140 AF) to the satisfaction of the Water Resources Division.
   (4) By development of 100% of area (349 acres), complete Basin UL45 (including weir, outlet pipes, etc.)

b. Phase 2 Improvements are required in order for an additional 270 acres to be developed.
   (1) As up to 30% of Phase 2 area (81 acres) develops: acquire Basin UL41 site.
   (2) Prior to exceeding 30% of area (81 acres), begin construction of the channel from Waterman Road to Sheldon Road, and begin excavation of Basin UL41.
   (3) By development of 100% of area (270 acres), complete channel improvements and at least 25 acre feet of Basin UL41 excavation.
   Note: the number of acres allowed to develop between 30% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

c. Phase 3 Improvements are required in order for an additional 172 acres to be developed.
   (1) As up to 25% of Phase 3 area (43 acres) develops, continue excavation of Basin UL41.
   (2) Prior to exceeding 25% of area (43 acres), start construction of the channel from Sheldon Road to the CCT Railroad.
   (3) By development of 100% of area, complete channel improvements and an additional 24 acre feet (total of 49 AF) of Basin UL41.
   Note: the number of acres allowed to develop between 25% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

d. Phase 4 Improvements are required in order for an additional 91 acres to be developed.
   (1) As up to 25% of Phase 4 area (22.75 acres) develops, continue excavation of Basin UL41, and acquire Triangle Rock basin site (if directed by the Board of Supervisors).

(2) Prior to exceeding 25% of area (22.75 acres), start channel improvements from the CCT Railroad to Vineyard Road, and begin construction of the Triangle Rock basin improvements.

(3) By development of 100% of area, complete the channel improvements; and additional 16 acre feet (total of 65 AF) of Basin UL41, including all appurtenances (weir, outlet pipes, etc.); and Triangle Rock basin (including weir, pumps, etc.)

Note: the number of acres allowed to develop between 25% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

e. Phase 5 Improvements are required in order for an additional 166 acres to be developed.

(1) As up to 25% of Phase 5 area (41.5 acres) develops: acquire Basin G45 site.

(2) Prior to exceeding 25% of area (41.5 acres), start excavation of Basin G45 (44 AF) and Gerber Creek channel improvements.

(3) By development of 100% of area, complete all improvements.

Note:

(1) The number of acres allowed to develop between 25% and 100% will be proportioned based on the percentage of improvements completed as approved by Water Resources Division.

(2) If development occurs within the Gerber Creek watershed before Phase 4 is completed, only development outside of the FEMA floodplain spill of Laguna Creek to Gerber Creek can occur. The development will be required to construct ultimate Gerber Creek improvements at their time of development.