Draft

TISCORNIA ESTATE SPECIFIC PLAN/EIR

Submitted to the
City of Richmond

by

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with Assistance from

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Darwin Myers Associates
Geotechnical Engineers

David Chavez and Associates
Archaeologists

January 15, 1986
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I. PLAN SUMMARY

The overall objective of the Tiscornia Estate Specific Plan and EIR is to provide a master program to guide and facilitate the development of the designated 12.2-acre Tiscornia Estate area in Point Richmond. The plan recognizes the unique character of this section of Richmond and responds to the city's and neighborhood's concerns for promoting quality development of the planning area. The specific plan has been prepared in a manner consistent with the requirements of State Planning and Conservation Law, Title VII, Article 8, Section 64540. The plan includes:

- A specific land use and circulation program for the area;
- A set of detailed design and development standards for the area;
- A set of associated capital improvement requirements and sequences;
- A description of suggested cost responsibilities; and
- A description of potential environmental impacts associated with development under the plan.

Specific plan summary data are provided in Table 1.

The plan as proposed will ultimately accommodate 4.87 acres of single-family residential development and 3.98 acres of open space. The plan calls for the development of 25 new single-family residences in addition to the 8 single-family residences that currently exist in the area. The 33 total units would represent an overall density of 3.7 units per developable acre (i.e., road rights-of-way not included). Existing lot lines and street right-of-way lines within the undeveloped areas will be abandoned, and all new development will occur on reconfigured lots with a minimum area of 5,000 square feet. Development is proposed to be generally located around the perimeter of the planning area, while much of the central portion of the site will be maintained as open space. The majority of the new units have been located on the lower elevations where visual and environmental sensitivity is generally lower, and, where previous development has occurred. A primary criterion in the location of development sites was the preservation of the planning area's high visual and open space values, including views of the bay from existing residences, views out from the site, and views of the site from surrounding areas. In addition, design and development standards have been incorporated into the plan that will minimize both the physical and aesthetic impacts associated with the new development.

The plan provides an open space network that will preserve much of the area's natural character and provide passive recreational opportunities for area residents. The open space network will be privately owned, developed, and maintained. The majority of the homes in the planning area will adjoin the open space. The largest
### Table I

**SUMMARY DATA**

<table>
<thead>
<tr>
<th>PLANNING AREA LOCATION</th>
<th>In Point Richmond on the western slopes just north of Cypress Point, facing San Francisco Bay</th>
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<tr>
<td>PLANNING AREA SIZE</td>
<td>Approximately 12.2 acres</td>
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<td>PARCELIZATION AND OWNERSHIP</td>
<td>97 recorded lots with an average size of 2,500 square feet; held by 18 owners</td>
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<tr>
<td>GOVERNMENTAL AND SERVICE JURISDICTIONS</td>
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<tr>
<td>Fire: City of Richmond Fire Department</td>
<td></td>
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<tr>
<td>Police: City of Richmond Police Department</td>
<td></td>
</tr>
<tr>
<td>Sewer: City of Richmond Sanitary District #1</td>
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<td>East Bay Municipal Utility District</td>
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<th>EXISTING AND PLANNED LAND USE</th>
<th>Existing (1985)</th>
<th>Planned (Buildout)</th>
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<tr>
<td>Single-Family Residential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developed</td>
<td>1.307 ac.</td>
<td>4.871 ac.</td>
</tr>
<tr>
<td>(8 d.u.)</td>
<td>(33 d.u.)</td>
<td></td>
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<tr>
<td>Undeveloped</td>
<td>5.464 ac.</td>
<td>--</td>
</tr>
<tr>
<td>Open Space</td>
<td>--</td>
<td>3.975 ac.</td>
</tr>
<tr>
<td>Street Rights-of-Way</td>
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<td></td>
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<tr>
<td>Developed</td>
<td>3.145 ac.</td>
<td>3.375 ac.</td>
</tr>
<tr>
<td>Undeveloped</td>
<td>2.305 ac.</td>
<td>--</td>
</tr>
<tr>
<td>TOTAL</td>
<td>12.221 ac.</td>
<td>12.221 ac.</td>
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open space area will consist of the upper elevations of the planning area including
the prominent central knoll west of the union of High Street and Pacific Avenue.
This open space will remain predominantly natural in appearance with pedestrian
paths providing access through the area and two vista point/sitting areas at the
higher elevations. In addition to this main open space area, two shoreline areas
will be provided for shoreline access and passive recreational activities (i.e., pic-
nicking, sightseeing, etc.). Both areas are located primarily in existing public-
owned street rights-of-way, one is located at the bend in Western Drive at the
northwest corner of the planning area and the other is in the undeveloped Santa Fe
Avenue right-of-way.

The plan calls for some modification of the existing street system, including: the
closure of Pacific Avenue to through traffic; improvements to the section of
Bishop Avenue between Washington Court and Casey Drive; an extension of
Santa Fe Avenue; and the creation of a new cul-de-sac off Western Drive. Pacific
Avenue will be closed to all traffic except for emergency vehicles in order to
provide a safer pedestrian connection between the neighborhood and the proposed
open space and to discourage the transient parking that currently occurs along this
section of roadway. Bishop Avenue will be either widened or closed (with traffic
rerouted) to avoid a deterioration of the unsafe traffic conditions that already
exist on this narrow section of roadway. The two cul-de-sac extensions (Santa Fe
Ave. and Cleveland Ct.) will provide access to new units. The plan requires that
each new residence provide two onsite parking spaces (rather than just one, as is
normally required by the city Zoning Ordinance for single-family residences). In
addition, 29 parking spaces will be provided in roadside parking bays distributed
throughout the planning area. These extra spaces will help minimize the amount of
onstreet parking resulting from the proposed development.

In addition to road improvements, the plan also describes sewer, water, and other
public service improvements necessary to implement the plan. Associated capital
improvement cost responsibilities are also identified.
II. INTRODUCTION

A. PLAN PURPOSE

This document constitutes a specific plan and master environmental assessment for the future use of the 12.2-acre Tiscornia Estate planning area in the Point Richmond neighborhood in the city of Richmond (see Figures 1–4). The plan sets forth detailed land use and circulation standards, capital improvement requirements, necessary regulatory schemes and supporting policies to implement the plan, and required environmental impact documentation. This plan has been prepared pursuant to Resolution No. 117-84 as adopted by the Richmond City Council on July 9, 1984.

Although the land in the planning area has been subdivided for residential development since early in this century, and the majority of the property has been controlled by one owner for as long (although not the same owner for the entire time), attempts in recent years to develop the area have been controversial. The Point Richmond neighborhood is a unique area because of its hilly terrain and spectacular bay views, and over the years a distinctive neighborhood character has evolved. Residents of the area take pride in their neighborhood and are concerned that development of the planning area, which is the only major developable area remaining, be sensitive to that character.

The Tiscornia Estate Specific Plan and EIR was initiated by the City Council to resolve previous conflicts and provide a number of benefits to planning area landowners, Point Richmond residents, and the city as a whole. These benefits include:

1. Establishment of clear guidelines for the development and conservation of the area that consider the planning area and surrounding neighborhood as an integrated unit;

2. Preparation of master environmental documentation so that a reduced scope of environmental review would be sufficient for individual project applications which are consistent with the plan; and

3. Establishment of a clear basis for development review so that individual applications which are consistent with the plan can be "fast-tracked," i.e., processed more quickly.

The City of Richmond General Plan provides the primary policy formulation for this program. This specific plan is essentially an elaboration of the General Plan, and is formulated to be generally consistent with related goals, policies, and directives. The General Plan will need to be amended, however, to accommodate specific plan particulars.

The Tiscornia Estate Specific Plan has been prepared in a manner consistent with the requirements of State Planning and Conservation Law, Title VII, Article 8, Sec-
tion 6540. By law, specific plans are expected to implement the general plan, providing an intermediate level of detail between the general plan and individual development master plans. Since the focus of the Richmond General Plan is on policies of citywide significance, specific plans are intended to provide information, analysis, and citizen participation on a local basis.

The environmental impact component of this report has been prepared pursuant to all relevant provisions of the California Environmental Quality Act. The environmental analysis is general in scope, discussing cumulative impacts expected to result from buildout of the planning area under these specific plan policies. Portions of the EIR are integrated into the specific plan.

B. PLAN BACKGROUND

The land within the planning area was originally owned by Adolph Tiscornia, who had purchased this site and other Bay Area properties early in the century. Original subdivision of the land into the now substandard 97 lots was made in 1902, with amendments and revisions in 1903 and 1912. In December 1977, Harvey G. Shean purchased most of the planning area from the Tiscornia estate, stated his intentions of developing 36 luxury homes on the site, and filed with the city an application for development of the property. The proposed project included 29 single-family dwellings, related street right-of-way improvements, and underground utility installations. The city completed an Initial Study of the project, which identified the possibility of significant effects on traffic conditions, soils and geologic conditions, and visual quality. On August 22, 1979, the city's Environmental Impact Panel determined that the project required an Environmental Impact Report (EIR). After filing an appeal, Shean's attorney withdrew the plan applications. Walter Brooks, an architect and Point Richmond resident, was retained by Shean to develop a plan for single-family residential use that would be acceptable to the neighborhood and Shean. Brooks's plan was based on protection of major views, and identified 33 building sites, with 30 single-family one- and two-story buildings shown on the plan. Since Brooks's plan was completed, two of the proposed building sites (sites 14 and 25) have been built upon.

Brooks's plan also called for vacating the following streets: all of Cleveland; the western 150 feet of Garfield, the eastern 200 feet of Santa Fe, and the portion of Pacific linking Garfield with Western Drive.

The neighborhood residents indicated that Brooks's plan was an acceptable compromise, and they submitted a Declaration of Purpose to the city that stated the objectives of the compromise plan, and listed additional requests regarding siting and design, including a list of design criteria.

The city, with Shean's concurrence, filed in late 1979 and early 1980 Notices of Merger with the County Recorder that requested mergers of contiguous parcels in the planning area held by Shean into 24 buildable sites.

During this period, Shean entered into a number of bad faith negotiations with the neighborhood and apparent sales of properties indicating that the agreement with the neighborhood would not be honored.
Fearing again that the property might be developed piecemeal by Shean, the Point Richmond neighborhood residents submitted to the Planning Commission, on February 28, 1980, a petition asking that the Planning Commission (1) require an EIR for the entire property; (2) require that Shean (S & L Investments) submit an "overall plan for development of the entire property before individual applications were considered"; (3) deny applications for variances and lot line adjustments; and (4) initiate an immediate traffic/housing density study of the entire Point Richmond area.

In mid-1981, S & L Investments filed Chapter 11.

In response to continued substantial concern from the neighborhood that the planning area would be sold to multiple individual owners and developed piecemeal, the City Council on July 9, 1984, adopted a resolution (Resolution No. 117-84) that "expresses (the city's) desire to see the area of Point Richmond known as the Tiscornia Estate developed in a well-planned and logical manner, and planned as a whole, as opposed to a piecemeal basis"; and "expresses its intent to declare a moratorium on the issuance of development-related entitlements in said area until such time as an overall development plan for the area has been developed and adopted"; and "directs the city staff to develop, in consultation with both the owners of the affected properties and the neighbors of the affected properties and other interested citizens a well-planned Specific Plan for development of said area." The City Council also adopted an emergency ordinance (Ordinance No. 34-84N.S.) establishing an interim moratorium on development entitlements during preparation and adoption of a Specific Plan for the area. The ordinance was adopted on November 17, 1984, and was extended on December 3, 1984, for a 12-month period.

On December 3, 1984, the city undertook the Specific Plan program of which this draft plan is a product. In order to produce a plan that reflects the concerns of all parties affected, the planning program has involved regular meetings of the planning consultant and city planning staff with an advisory committee consisting of representatives of the planning area landowners, planning area residents, and residents of the surrounding neighborhood. At each stage in the process the advisory committee has reviewed and commented on the findings of the planning consultant. The plan presented in this report is the result of an extensive analysis of development alternatives for the planning area and represents the alternative that was most acceptable to the majority of the advisory committee members. (Representatives of Del Mar Associates, the largest planning area landowner, abstained from voting on the preferred alternative.)
III. PLANNING AREA

A. REGIONAL LOCATION

As illustrated in Figure 1, the planning area is located in Point Richmond, a community within the city of Richmond in Contra Costa County. Point Richmond is located on the northeast side of San Francisco Bay, and is bounded on the north by State Highway 17, and on the south by San Francisco Bay. Regional access is available from Highway 17, a major north-south limited-access freeway, which passes along the east side of San Francisco Bay, and connects East Bay cities with San Rafael, San Jose, and Santa Cruz.

The Santa Fe railroad passes through the southeast side of Point Richmond, and connects the disused Richmond-San Francisco freight ferry terminal with the Richmond rail tracks.

B. LOCAL SETTING

The residential community of Point Richmond is enclosed on the north by the Richmond-San Rafael Bridge and the Standard Oil Company refinery, with highly visible oil storage tanks on Castro Point; on the east by Highway 17, and on the south by San Pablo Ridge with the prominent Nichol's Knob landmark. Point Richmond lies on both bay- and inland-facing slopes of the San Pablo Peninsula. The planning area is located in the middle of the bay-facing western slope, surrounded by residential development. Figure 2 shows the Point Richmond area.

The planning area includes approximately 12.2 acres of land situated 2.6 miles west of Richmond civic center and about 8 miles northeast of San Francisco. Figure 3 shows the limits of the planning area and its relationship to the surrounding environs.

The 12.2-acre hillside site is oriented towards San Francisco Bay, and is bounded on all sides by local streets.

The larger study area shown in Figure 4 includes the residential area around the 12.2-acre site which could be affected by development.

Primary local access to the planning area is provided by Highway 17. Richmond Avenue and Castro Street connect the site indirectly with Highway 17.

C. GENERAL SITE CHARACTERISTICS

The majority of the site is hilly, with steep slopes facing the bay and a change in elevation from sea level at the bay shoreline to roughly 164 feet at the eastern edge. Most of the site is undeveloped, covered with native and introduced vegeta-
FIGURE 2
POINT RICHMOND AREA
Tiscornia Estate Specific Plan/EIR
City of Richmond
January 15, 1986

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III. Planning Area
fig 5, aerial photograph, fanfold front
fig 5, aerial photograph, back
tion, and riparian growth in intermittent drainage swales. There are eight single-
family houses on the site.

The site is surrounded by single-family houses on hilly sites, oriented to the west to
take advantage of bay views. The vacant portions of the site are unused except for
casual recreation by area residents. The site functions as a visual open space for
the community.

D. PARCELIZATION AND OWNERSHIP

1. Parcelization

Planning area parcelization is mapped on Figure 6. There are 97 recorded lots. Most of these recorded parcels are substandard and undevelopable under existing zoning due to their small size. Minimum developable lot size allowed by zoning is 6,000 square feet, i.e., usually two of the recorded lots. Four of the substandard lots are developable; however, because the ownership of the properties has not changed since before the imposition of zoning standards. The development rights for these properties therefore carry over to the present. Parcel owners, block and lot numbers, and assessor's parcel numbers and improvements are listed in Table 2, and keyed by block and lot number to Figure 6. The average lot size is about 2,500 square feet.

Sixty-seven of the lots have access to existing streets and street frontage. Thirty have no direct public road access, but do have access to "paper" streets, i.e., streets which are recorded but which are not constructed.

2. Ownership

Planning area ownership is listed in Table 2 and keyed to Figure 6 by lot numbers. The 97 lots are held by 18 owners. The major landowner is Del Mar Commerce Company, which owns 57 of the 97 lots. The second largest landowner is New Heritage Investments, Inc., which owns 9 lots. Olene Sparks owns four lots, four lots are owned jointly by Langkammerer and Herrera, and three lots by S&L Investments. The remaining lots are held individually or in pairs by twelve individual owners. Table 2 lists the owners and Figure 6 shows location of the lots. Table 2 also indicates lots with improvements (dwelling units). Approximately 2.0 acres of the planning area consists of paper streets which are owned by the City of Richmond.
FIGURE 6
PLANNING AREA
OWNERSHIP AND
PARCELIZATION

- - - - PLANNING AREA BOUNDARY

EXISTING RESIDENCE

EXISTING BLOCKS AND LOTS (NUMBERS ARE KEYED TO TABLE 1)

PAPER STREETS

EXISTING STREETS

PARCELS OWNED BY DEL MAR COMMERCE COMPANY

PARCELS OWNED BY NEW HERITAGE INVESTMENTS, INC OR S+L

PARCELS OWNED BY INDIVIDUALS

TISCORNIA ESTATE
SPECIFIC PLAN
POINT RICHMOND, CALIFORNIA

WAGSTAFF AND BRADY
URBAN AND ENVIRONMENTAL PLANNERS
LANDSCAPE ARCHITECTS
BERKELEY, CALIFORNIA
### Table 2
**PLANNING AREA OWNERSHIP AND PARCELIZATION**

<table>
<thead>
<tr>
<th>Owner</th>
<th>Block #</th>
<th>Lot #</th>
<th>Assessor's Parcel Number</th>
<th>Improvements</th>
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<tr>
<td>1. Del Mar Commerce Company P.O. Box 11108 Oakland, CA 94611</td>
<td>51</td>
<td>1,2,3</td>
<td>558-184-005-4</td>
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<td>558-184-006-2</td>
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Table 2, continued

PLANNING AREA OWNERSHIP AND PARCELIZATION

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PLANNING AREA OWNERSHIP AND PARCELIZATION

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IV. PLAN GOALS

The list of planning goals and objectives outlined below provide the framework for development of the specific land use, circulation, capital improvement, and implementation recommendations presented in this plan. The list is based on site capability, housing market, capital improvement and implementation factors identified in the early stages of the planning process (documented in Memorandum I, Preliminary Analysis Findings, April 3, 1985), and related input from planning area landowners, neighborhood residents, and city staff.

A. GENERAL LAND USE GOALS

1. Provide a Specific Plan which recognizes the City of Richmond General Plan goals to encourage "attractive, safe" neighborhoods with distinct identities and a variety of dwelling types.

2. Provide a Specific Plan which recognizes the unique character of the area and specific policies of the city's general plan for shoreline communities by providing a high standard of waterfront living, preserving and expanding public and private recreational use of the shoreline.

3. Provide a specific plan which facilitates the orderly development of lands within the planning area in a manner which:

   a. Is consistent with the Land Use, Housing, Circulation, Recreation, Conservation, and Open Space elements of the City of Richmond General Plan; and

   b. Mitigates significant environmental and community impacts.

4. Provide a specific plan which is consistent with the policies and regulations of the San Francisco Bay Conservation and Development Commission and the Army Corps of Engineers.

5. Provide a specific plan which reconciles to the extent possible any differing interests of landowners, neighborhood residents, and the city.

6. Preserve and enhance the unique character of the Point Richmond community.

7. Establish a development program which maintains the value of the property within the planning area, and protects the rights of adjacent owners as well.

8. Develop a plan which provides for public access to open space and coastline areas, consistent with the policies of the city's Land Use Element and Open Space and Conservation Element of the General Plan and of BCDC.
9. Link recreational opportunities within the planning area to offsite local and regional facilities through appropriate alignment of trail systems and access points. Provide a trail within the planning area to link shoreline public access to inland areas and to the ridge.

10. Provide for the security and privacy of existing and future planning area residents.

11. Provide for development of the planning area in a manner consistent with public safety, especially with regard to increased fire hazard.

12. Provide a Specific Plan which sets forth land development and related capital improvement actions in a manner which avoids adverse fiscal impacts on the city as a whole.

B. VISUAL AND NATURAL RESOURCE GOALS

1. Provide a Specific Plan which is consistent with the city's General Plan goals and policies related to the preservation of the visual quality of the planning area. Specific criteria are to:
   a. Protect the ridgeline that extends down the San Pablo Peninsula and through the planning area as an important visual edge.
   b. Protect views of the San Francisco Bay and its shorelines as a unique, high-quality resource.
   c. Maintain the shoreline as a varied and valuable visual and recreational resource.
   d. Preserve and enhance the "eclectic assemblage" of architectural styles in Point Richmond.
   e. Increase and enhance views of the coastline.

2. Protect existing high quality and long-distance views through the planning area from adjacent properties and surrounding roadways.

3. Protect scenic bay views from within the site.

4. Protect existing onsite vegetation, such as the eucalyptus groves and stands of Monterey pines, to the degree compatible with other visual criteria.

5. Preserve the complex landform of the planning area, which is a valuable natural resource. New development should be designed to blend into the natural terrain and minimize alterations of the topography.

6. Preserve the character of prominent ridgelines and knolls by locating building sites below or beside them.
7. Design development on slopes above 15 percent with special attention to controlling erosion and runoff and to preserving the natural topography. Minimize cuts and fills and removal of vegetation.

8. Formulate development standards to control site design and building placement. Standards would include factors such as setbacks, access roads, landscaping, pedestrian walkways, parking and storage areas, above-ground utilities, and grading.

9. Provide for a variety of housing types and various levels of design control to encourage innovative design and architectural excellence.

10. Retain natural drainage courses wherever feasible.

11. Use open space as a buffer between areas of development.

12. Encourage clustering within building areas to preserve valuable site-specific natural features and viewsheds.

C. CAPITAL IMPROVEMENT AND IMPLEMENTATION GOALS

1. Condition land use modifications in the planning area upon developer provision of road access, sewage collection, water supply, storm drainage, and other capital improvement requirements to be set forth in the plan.

2. Provide a system of road, sewage collection, water supply, and storm drainage facilities in the planning area. The system should be designed for construction in components or sequences to meet the immediate needs of separate, near-term development actions, and ultimately be able to combine with other similar components to form an integrated overall capital improvements network.

3. Provide a water supply system which will be adequate to meet the needs of future residents and fireflow needs of the planning area, and will make efficient use of water delivery facilities which now exist in the planning area. When feasible, locate new development below the 100-foot elevation level.

4. Provide a sewage collection system which will be adequate to meet the sewage discharge and treatment demands of the planning area, minimize cost burdens on the public and landowners, and which makes efficient use of sewage collection facilities which now exist in the planning area.

5. Locate road, water, sewer, electrical, and gas utilities in common utility corridors.

6. Require funding of individual building site infrastructure improvements entirely by each benefitting developer.

7. Require each benefitting landowner to contribute a fair share towards the cost of common planning area improvement requirements established in this plan.
8. The plan should be easily implemented by the city planning staff with reasonable administrative review requirements.
V. LAND USE AND OPEN SPACE ELEMENT

This element translates the goals framework established in Chapter IV into a set of specific land use and open space policies for the planning area. Establishment of these policies has in some instances required that certain tradeoffs be made between the economic, land use, visual, natural resource, circulation, and capital improvement goals set forth in Chapter IV.

Factors considered in developing the specific land use and conservation policies include existing Richmond General Plan policies, parcelization and ownership configurations, landowner intentions, existing neighborhood character, access characteristics, physical and environmental constraints, visual factors, market factors, and public service conditions.

A. GENERAL LAND USE AND CONSERVATION CONCEPT

The land use and conservation configuration established for the planning area is mapped on Figure 7. The map designates the developable residential areas, the principal open space areas, and the circulation system. Table 3 provides a summary of the proposed plan land use allocations diagrammed in Figure 7.

Table 3
SUMMARY OF LAND USE ALLOCATIONS

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<th>Designated Land Use</th>
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<th>Percent of Total Planning Area</th>
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<td>TOTAL</td>
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SOURCE: Wagstaff and Brady.
I. Land Use Characteristics

The land use plan has been designed to respond to neighborhood preferences for a low-density and environmentally responsive use of the site. Residential development will be restricted to single-family, detached housing types, similar to the type now predominant in the surrounding area. Development will generally be located around the perimeter of the planning area, while the central portion of the site will be maintained as open space. The plan provides for an additional 25 single-family detached units at an overall density of 3.2 units per developable acre (i.e., that land which is currently undeveloped with either houses or streets). Most of the proposed housing sites have been located in in-fill areas at the lower elevations where visual and environmental sensitivity are generally lower. The major exception are the seven units that are sited below Pacific Avenue in the southeast corner of the planning area. In response to advisory group's concerns, these sites are intended to reduce the number of units located in the swale in the southwestern part of the site, to take advantage of the stable slopes in the upper area, and to provide some elevated sites with the potential for excellent bay views.

In addition to the seven units located along Pacific Avenue, five units are located in the northwestern portion of the site adjacent to Tremont Avenue; a single unit is located north of High Street; four units are located near the intersection of Western Drive with Tremont Avenue and an additional unit is located at the bend in Western Drive as it turns east along the shoreline. Four units are located east of Western Drive in the central portion of the site, and two units are located east of Western Drive off Santa Fe Avenue. A single unit is located on the shoreline west of Western Drive.

In order to create the least amount of site disturbance and to preserve the character of the planning area, the plan has created ten sites at the north end of the area that are less than the 6,000-square-foot minimum lot size required by city's zoning ordinance. All of the lots are greater than 5,000 square feet, which was the standard in effect when much of the surrounding area was developed. The plan does not specify minimum or maximum dwelling unit sizes although the architectural and site design standards will impose limits on unit size.

2. Circulation and Parking

Access to the proposed units will be from existing streets, Western Drive, Tremont Avenue, and Pacific Avenue. No new streets will be required to serve the new units, although extensions off Santa Fe Avenue and Western Drive will be required to serve units in the central area and the southwestern area. In order to create a safer pedestrian connection between the neighborhood and the proposed open space, and to discourage the transient parking that currently occurs along the roadside, Pacific Avenue will be closed to through traffic from the northern intersection with High Street to midway along its alignment. The street will remain intact for access by emergency vehicles, but removable bollards or some other method will be utilized to restrict movement of non-emergency traffic. The southern portion of Pacific Avenue would remain open to serve the seven dwelling units proposed along the west side. Under the plan, the rights-of-way for the existing "paper" streets will become part of the open space area.
A minimum of two offstreet parking spaces per dwelling unit is required of the plan. Spaces will be provided adjacent to dwelling units, and on the ground level under buildings. To avoid extra structures that could obstruct views and increase apparent density of development, the plan does not require spaces to be covered. Twenty-five additional parking spaces will be made available for visitor and overflow parking in parallel parking bays along the edges of the planning area roadways.

Four additional spaces will be provided along Western Drive for public parking at the shoreline open space area in the northwestern corner of the planning area. Counting both onstreet and offstreet parking, the plan will provide a total of 79 parking spaces within the planning area.

3. Open Space and Public Access

The plan provides approximately 4 acres of open space. Less than 5 acres of the planning area would be developed, including proposed and existing units. The majority of the units will directly adjoin the open space areas. The largest open space area would consist of the upper elevations of the planning area including the prominent central knoll west of the union of High Street and Pacific Avenue. This open space would remain predominantly natural in appearance, and would accommodate passive activities as well as providing visual open space for the surrounding residents. Pedestrian trails would provide access to the space from Pacific Avenue, Santa Fe Avenue, Western Drive, and Tremont Avenue. A vista point/sitting area will be constructed near the top of the knoll to provide an area where residents can sit and enjoy the natural open space and panoramic views. This main open space area will be linked by trails to the shoreline in two locations. The larger of the two shoreline open space areas is located at the bend in Western Drive at the northwest corner of the planning area. Access will be provided to the shoreline for activities such as fishing and sunbathing and the bluff that overlooks the shoreline will be developed for passive uses such as picnicking and sightseeing. Tables and seating will be provided along with limited offstreet parking. The other shoreline area is located farther south on Western Drive in the undeveloped right-of-way of Santa Fe Avenue. This bluff area will be developed as a vista point and area for passive use. No offstreet parking will be provided at this vista point and no direct connection to the shoreline will be provided.

B. RESIDENTIAL DEVELOPMENT AREAS

1. Purpose and Objectives

The "single-family residential" land use designation is intended to provide areas exclusively for single-family detached houses which are compatible with each other and with existing development in the Point Richmond area. New residential development within the planning area is subject to special design standards to ensure harmonious development, including special requirements for common improvements, site and building design, landscaping, offstreet parking, and view corridor protection. Design review is required for implementation.

The Point Richmond area has an appealing and eclectic development character that has evolved over many years. To remain consistent with this character the single-
family residential development proposed for the planning area should not be of any one particular style or character. New residential development should provide a diversity in the architectural styles introduced to the area. The plan discourages the development of the area as a typical subdivision with all units being variations on one or two basic plans. In general, the area is intended to attract development of high quality in its appearance, construction characteristics, and common offsite improvements that will contribute to the overall quality of the neighborhood. Of equal importance with the design character of individual units is the plan's emphasis on creating residential development which will complement the natural open space characteristics and scenic viewshed. The plan balances the developers' interest in obtaining private access to these natural amenities with the community's desire to maintain public access. In particular, the plan attempts to minimize the proposed development's impact on existing views from surrounding residences and approach routes.

2. Allowable Uses

Those lands designated in the plan for residential development shall be used solely for single-family dwelling units. Those additional uses permitted in R-1 single-family residential districts under the Richmond Zoning Ordinance (i.e., care homes, farming and truck gardening, two-family dwellings, physician's office, public parking, etc.) will not be permitted, with the exception of home occupations as defined and limited in Section 15.04.040 A.5.a. In an effort to reduce vehicle trips to and from the area, the exception made in A.5.b to allow childcare homes for 12 or fewer children will not be applicable to the planning area. These land use restrictions shall apply to all residences in the planning area regardless of date of construction.

3. Site Development Standards

The following standards are established by this plan to provide minimum guidelines for planning area developers. They are intended to create a uniformity in the quality of design within the planning area while allowing enough flexibility to encourage innovative building and site design.

a. Parcel Size and Coverage. The plan identifies 25 developable sites in the planning area that are subject to the following size and coverage requirements:

(1) Parcel Area—5,000 square feet minimum lot size.
(2) Parcel Width—minimum width of 40 feet.
(3) Parcel Coverage—maximum of 40 percent lot coverage by buildings or structures is allowed provided that all landscaping and parking requirements are accommodated.

b. Yards. The following yard requirements will apply to all buildings, structures, and the enlargement of any building or structure in the planning area with the exception of the seven lots located along Pacific Avenue (see special yard requirements):
(1) Front Yards: Front yard setbacks shall be no less than twenty (20) percent of the depth of the lot, but need not exceed twenty (20) feet from street right-of-way lines to the structure.

(2) Side Yards: Interior side yard setbacks on each side of the structure shall be not less than ten (10) percent of the width of the lot, but need not exceed five (5) feet nor be less than three (3) feet. Street side yards shall be not less than half the required front yard.

(3) Rear Yards: Rear yard setbacks shall not be less than twenty (20) percent of the lot depth, but need not exceed twenty (20) feet.

(4) Parking: Uncovered parking may be permitted in required front, side, or rear yard setbacks provided that a three (3) foot wide by three (3) foot high minimum landscaped separation is maintained between adjacent lots or street right-of-way.

c. Special Yard Requirements. The siting of the seven lots along Pacific Avenue requires special design considerations due to the steep slopes and the potential for obstructing views. The following yard requirements will apply to all buildings, structures, and the enlargement of any building or structure on these seven lots:

(1) Front Yards: Due to the steep slopes west of Pacific Avenue, the minimum front yard setbacks along Pacific will be ten (10) feet from street right-of-way lines to the structure, rather than the 20 percent of lot depth used as the city standard for single-family residential development.

(2) Side Yards: In an effort to preserve view corridors between the proposed units, minimum street and interior side yard setbacks will be ten (10) feet from property line to structure.

(3) Rear Yards: Rear yard setbacks for these seven lots will be the same as the rest of the lots in the planning area.

(4) Parking: Uncovered parking may be permitted in the front yard setback only. No parking will be permitted in side and rear yard setbacks. Landscaping shall be required as in b.(4) above.

d. Building Design. The following criteria are to be applied to building design on all residential lots:

(1) All structures shall be designed to be harmonious with the local setting and with neighboring developments. All structures shall reflect a high standard of architectural design, and be subject to careful architectural review.

(2) All buildings will be adapted to the site's hilly terrain, i.e., the structures will be designed to conform to the natural topography rather than altering the topography to accommodate the structure. All grading will be kept to a minimum. Terracing the site to accommodate single flat-pad construction will not be permitted in areas where the slope exceeds 15 percent.
(3) A detailed soil and geologic investigation of all sites will be required prior to approval of use permit, in order to provide specific standards and criteria to guide site grading, drainage, and foundation design.

(4) The form, mass, and profile of individual buildings and architectural features shall be designed to blend with the natural terrain and preserve the character and profile of the site as much as is possible. Techniques that should be considered include:

   (a) Split pads, pier foundations, stepped footings, and grade separations to permit dwellings to step down or step up the natural slope.

   (b) Flat rooflines and/or low profiles with rooflines following the lines of the natural slope.

   (c) Detached garages, carports, or open parking to decrease apparent building mass.

   (d) Varied and articulated elevations and rooflines to soften the appearance of large vertical surfaces and to avoid the appearance of a massive, rigid vertical element.

(5) Height of Structures: The height of all buildings will be limited to the building envelope as described below and illustrated in Figure 8:

   (a) Downhill Lots (i.e., those lots with street frontage on the uphill side)—maximum height will be twelve (12) feet above the elevation of the street fronting the lot, with a maximum building height limit of 30 feet over sloping portions (measured from natural grade).

   (b) Uphill Lots (i.e., those lots with street frontage on the downhill side)—maximum twelve (12) foot height at setback extending up and towards the rear of the lot at 45 degrees to a maximum height of 30 feet measured from natural grade.

   (c) Cross Slope Lots (i.e., those lots in which street frontage follows the slope)—maximum twelve (12) foot height at setback (to be averaged across frontage inside the side yard setbacks) extending up and towards the rear of the lot at 45 degrees to 25-foot total height.

(6) Building materials and color schemes shall blend with the natural landscape. Treated wood, or material of wood-like appearance preferably having fire-retardant characteristics, is encouraged for exterior surfaces. Where stucco is used it should be colored with a muted earth tone. Color contrasts and accents shall be kept to a minimum. The color of roof materials should also be earth tones and should be nonreflective.

e. Parking. The following criteria will apply to all development in the planning area:
BUILDING ENVELOPE FOR DOWNHILL LOT

STREET ELEVATION

FRONT SETBACK

DOWNHILL SECTION

REAR SETBACK

PROPERTY LINE

SIDEYARD SETBACK

STREET ELEVATION

BUILDING ENVELOPE FOR UPHILL LOT

FRONT SETBACK

UPHILL SECTION

REAR SETBACK

PROPERTY LINE

SIDEYARD SETBACK

STREET ELEVATION

BUILDING ENVELOPE FOR CROSS SLOPE LOT

AVERAGE HEIGHT ACROSS WIDTH OF ENVELOPE

SIDEYARD SETBACK

CROSS SLOPE SECTION

PROPERTY LINE

FIGURE 8
BUILDING ENVELOPES
FIGURE 9
BUILDING DESIGN GUIDELINES
FIGURE 10
BUILDING DESIGN GUIDELINES

THIS

- PROVIDE LANDSCAPING TO SOFTEN THE IMPACT OF THE BUILDING
- AVERAGE SLOPE
- PLANTING SHOULD FOLLOW SLOPE AND NOT OBSTRUCT VIEWS FROM ABOVE
- LIMIT HEIGHT OF FENCES AND RETAINING WALLS TO 3.5' OR LESS
- USE LANDSCAPING FOR SMOOTH, NATURAL-LOOKING TRANSITION TO OPEN SPACE
- MINIMIZES GRADING OF FLAT PADS

NOT THIS

- AVERAGE SLOPE
- TALL TREES IMPACT VIEWS FROM SURROUNDING AREAS
- UNSIGHTLY UNDERPINNINGS OF HOUSE AND DECK
- RETAINING WALL EXCEEDS 3.5' LIMIT
- SHARP CONTRAST BETWEEN DEVELOPED AREA & OPEN SPACE NO TRANSITION
- EXTENSIVE GRADING TO CREATE A FLAT PAD
(1) Each dwelling unit will be required to have two permanently maintained off-street parking spaces. Each parking space shall not be less than ten (10) feet wide by twenty (20) feet long.

(2) Other requirements for parking spaces (i.e., location, covering, etc.) will be the same as for R-MD residential district as specified in the Richmond Zoning Ordinance 15.04.045 Section B.1.a, with the exception that "tandem" parking will not fulfill the parking requirements.

f. Landscaping

(1) Individual developers will be responsible for landscaping the public road rights-of-way adjacent to each parcel. Landscaping will be done in accordance with the master landscape plan for the planning area (see the following discussion on Open Space Design and Protection) prior to habitation of the unit. The purpose of this landscaping will be to provide a consistent landscape character throughout the area and to provide a visual buffer between public and private areas.

(2) Individual homeowners may landscape and cultivate plant materials within private outdoor spaces according to their own discretion, with the single exception that no vegetation should be allowed to block views from surrounding streets and residences:

(a) Plant material which will, at its mature height, obstruct views, should be avoided.

(b) It is critical that view corridors between the units on Pacific Avenue not be obstructed with the introduction of plant materials. Homeowners are encouraged to use trees and shrubs to frame these views and visually soften the hard edges of the buildings as long as the views are preserved.

(3) Homeowners should be encouraged to use native and drought-tolerant species that will be harmonious with the vegetation in the open space areas. This is particularly important where a lot is adjacent to a public street or open space area, in order to create smooth transitions between public and private spaces and to maintain a consistent landscape character throughout the planning area.

(4) Landscaping should be used to screen views of the downhill side of decks, retaining walls, and buildings' pier foundations from streets and residences below.

(5) In order to maintain a more open and natural character to the area, planting and fencing to demarcate property lines is discouraged although not prohibited. Instead, plantings should be used to screen parking, to enhance architecture, and create shade for outdoor use. To prevent obstruction of views and to maintain a visual link between the units and the open space, no fencing higher than 3.5 feet will be allowed adjacent to the main open space area east of Western Drive or along the front of houses on Pacific or Bishop avenues.

g. Architecture, Landscape, and Site Plan Approval. All planning area development shall be subject to design review by Planning Department staff to ensure conformance with the intentions and requirements of this plan.
h. Variances. Deviations from the standards established by this Specific Plan may be considered and approved only in accordance with the requirements as specified in the Richmond Zoning Ordinance 15.04.200.

C. OPEN SPACE AND CONSERVATION AREAS

1. Purpose and Objectives

The open space and conservation areas and policies are established in this plan for the following purposes:

a. To preserve existing natural open space values that are associated with the neighborhood;

b. To mitigate potential development impacts on existing stands of vegetation;

c. To retain those planning area open space components with particularly high scenic values;

d. To provide local residents with an area for passive recreational activities; and

e. To improve the community's access to and enjoyment of the bay shoreline.

2. Open Space Area Designations

As illustrated in Figure 7, a major portion (3.975 acres or 33 percent of total area) of the planning area has been preserved as permanent open space to provide protection against the future development of incompatible uses that could threaten views and the general character and quality of the area. The open space system consists of three distinct components: the large central area located on the steep slopes between Pacific Avenue and Western Drive; the shoreline area in the northwest corner of the planning area; and the smaller shoreline area in the Santa Fe Avenue right-of-way.

3. Open Space Design and Protection

The designated open-space area will remain in private ownership after buildout of the planning area. A homeowners association consisting of all planning area homeowners will own the open space system and be responsible for its ongoing maintenance. Permanent open space easements through the open space system will be offered for dedication to the city of Richmond to ensure ongoing public use of vista points and pedestrian paths. The location and dimensions of these easements will be dependent on the final design of the open space system. A landscape plan, including detailed site design, planting design, and maintenance program will be required for the open space system. In addition to the designated open space areas, the plan should also address landscaping in the developed road rights-of-way throughout the area. Other road rights-of-way should be vacated. The cost of developing the landscape plan will be equitably shared by all planning area developers. The final design must be reviewed and approved by the city of Richmond planning staff and the specific plan advisory group that helped formulate this plan.
prior to approval of use permits. The character and basic elements that should be incorporated into the design of the open space system are described below.

a. Area East of Western Drive. This open space area consists primarily of the planning area's steep upper slopes, including the prominent knoll at the north end of the planning area. The combination of the area's natural, open-space character and its visual prominence from surrounding areas makes it an important visual resource for the neighborhood. The upper portions of the area also provide panoramic bay views of high scenic quality in a natural setting. To ensure that these values are not adversely affected by planning area development, the plan designates the area for permanent open space and calls for the following actions:

(1) Maintain the predominantly natural character of the area.

(2) Create a pedestrian trail system that links the open space to surrounding residential areas and to shoreline open space areas. The trail system, which is schematically illustrated in Figure 7, should facilitate the passive enjoyment of the natural open space without infringing on the privacy of adjacent residences. In order to avoid conflict between access to this open space area and private property, it is recommended that the driveway at Western Drive (McCutcheon residence) be realigned if pedestrians would have to cross the driveway in order to get to Western Drive.

(3) Create two vista points along the upper portion of the slopes (locations schematically illustrated in Figure 7) to accommodate the convenient and comfortable enjoyment of the bay views. These areas would consist primarily of seating and should be designed to be "vandal proof" and "maintenance free." Site furnishings should be made of natural materials and complement the natural setting.

(4) Introduce plantings along edges of development to act as a transition and to visually buffer development. This is particularly important in those areas where the open space overlooks private development. Such plantings should consist of native and drought-tolerant plant species that will naturalize in the area (not requiring regular maintenance or watering) and be designed to appear as natural as possible in their planting configuration. Plantings within the open space area should in no instance obstruct views of the bay from the open space or surrounding residences.

(5) Design a planting program to enhance and stabilize the open space landscape by introducing more native and compatible species into the open space area, and decreasing or eliminating incompatible and non-native species, particularly those that are invasive or tend to inhibit the growth of native species (i.e., Scotch broom/Cytisus scoparius and Ice plant/Carpobrotus spp.).

(6) Preserve existing stands of eucalyptus and pine trees in the open space area.

b. Shoreline Area in Northwest Corner. This open space area consists of two distinct elements: the beach or shoreline area and the bluff that overlooks it. In addition to views of the bay, the shoreline provides a sandy beach area and also accommodates fishing. In order to preserve and enhance these values the plan designates the area for permanent open space and calls for the following actions:
(1) A detailed geotechnical investigation of the bluff area will be required to determine slope stability and need for slope stabilization measures. Slope stabilization measures deemed necessary by the investigation should be designed to be visually consistent with the existing character of the area. Methods such as concrete grout capping should not be permitted.

(2) Encourage use and enjoyment of the shoreline by providing a well-designed, formal access and vista point.

(3) Develop the bluff area to accommodate picnicking and enjoyment of the view. Area should be designed to be "vandal proof" and require very low maintenance.

(4) Four offstreet parking spaces should be created to accommodate limited use of the area by nonresidents of the neighborhood.

(5) An overall design should be developed for the area that helps define and enhance the appearance of the open space area. Improvements could include landscaping along the road edge, stabilization of the bluff as needed, minor grading of the bluff to make it a more suitable activity area, and a major cleaning of the beach area.

(6) Site furnishings should be made of natural materials and complement the natural setting.

c. Shoreline Area in Santa Fe Avenue Right-of-Way. This shoreline space consists of a 50-foot-wide easement between two developed residential lots. The site is on a bluff above the shoreline providing views out to the bay. To ensure community access to the shoreline, enhance the viewing experience, and complete a triangulated open space system that includes the highest and lowest points in the planning area, the plan designates this area for permanent open space and calls for the following actions:

(1) A detailed geotechnical investigation of the bluff area will be required to determine slope stability and need for slope stabilization measures. Slope stabilization measures deemed necessary by the investigation should be designed to be visually consistent with the existing character of the area. Methods such as concrete grout capping should not be permitted.

(2) Encourage the design and use of this area as a "neighborhood open space" as compared to the more public, community-oriented shoreline area to the north. The space will not be closed to public access, but certain design factors can be incorporated which will limit its use to primarily local residents including the following:

   (a) No offstreet parking should be provided in the vicinity;

   (b) The neighborhood association may wish to create a use or uses for the site which are more proprietary (i.e., involving active use and presence of neighborhood residents) in character, such as a community garden, a children's play area, etc.
(c) The close proximity of private residences is both a reason for limiting access to the area (due to potential noise conflicts, etc.) and a natural deterrent to strangers (due to the natural surveillance provided by the residents adjacent to the open space).

(d) The absence of stairs or path down the bluff to the shoreline will discourage the movement of people between the two shoreline open spaces.

d. Road Rights-of-Way. By maintaining the narrow pavement widths of planning area roads the plan creates a situation in which substantial areas of undeveloped right-of-way (as much as 20 feet in some areas) will exist between the street and private property. The landscape master plan for the open space areas shall include landscape design for these right-of-way areas to enhance the appearance of planning area roadways and provide a consistent landscape character throughout the planning area. The landscape plan for these rights-of-way should consider the following criteria:

(1) The rights-of-way should be landscaped with a plant palette that complements and forms an integral part of the open space system. The general character of the planting should be natural and informal.

(2) Plant materials should consist of native and drought-tolerant species that will naturalize in the area and not require extensive care or maintenance.

(3) The landscaped right-of-way should provide a visual buffer that enhances the roadside while screening views between the street and private residences. This landscaped edge will need to be fairly dense to screen views of parking areas and other undesirable elements, but should not interfere with scenic distant views. Native plant species such as Ceanothus, Arctostaphylos (Manzanita), Fremontodendron (Flannel Bush), and Heteromeles (Toyon) would be appropriate for this purpose. The use of trees that at maturity could obstruct views should not be allowed.

(4) In right-of-way that will not have a unit fronting them the landscaping should blend into the open space landscaping and permit views into the open space areas from the roadways. Planting along the closed section of Pacific Avenue should be low growing to preserve the uninterrupted bay views that currently exist.

(5) The landscaping will probably be installed over a period of time as parcels are developed and by a number of different contractors the plan will need to be easily implementable and flexible to site-specific requirements. The long-range maintenance of the public rights-of-way landscaping will be the responsibility of the adjacent property owners.
VI. CIRCULATION ELEMENT

This section of the plan identifies a specific set of circulation policies that will be adequate to accommodate the growth proposed by the plan while maintaining the character of the existing circulation system. These policies include roadway standards for planning area roadways, related road improvement standards for the planning area, descriptions of offsite roadway improvements necessary to accommodate planning area buildout, suggested construction sequences, estimated costs, and suggested cost responsibilities.

A. PLANNING AREA ROADWAY SYSTEM

The local roadway system set forth in this plan is mapped on Figure II. As the map indicates, no major roadway additions are to be made as a result of the plan. Access to existing and proposed units will be from existing streets: Western Drive, Tremont Avenue, Pacific Avenue, and High Street. Extensions off Santa Fe Avenue and Western Drive will be required to access units in the central and southwestern parts of the planning area. These extensions will function as shared driveways and will be used by a maximum of three units. Neither extension will accommodate through traffic. The principal change in planning area circulation proposed by the plan will be the closing of Pacific Avenue to through traffic from the intersection with High Street south to midway along its alignment. From this midpoint south to Santa Fe Avenue, the street will remain open to provide access to the seven units proposed along the downhill side of Pacific and Santa Fe Avenues. The closed portion of Pacific Avenue will remain intact to accommodate emergency fire or police access. The plan calls for the rights-of-way of "paper streets" which are not developed to become part of the open space system. In order to handle increased parking demand throughout the planning area the plan recommends the creation of parallel parking bays along planning area street where development has been proposed.

Existing roads have established a local norm different from those set by the city's Subdivision Ordinance. This norm will be maintained throughout the planning area in order to preserve the rural characteristics of the neighborhood as requested by local residents. The existing streets are narrow (less than 20 feet pavement width) and without shoulders, curbs, or sidewalks. The narrow streets can prevent free-flow of two-way traffic, but also serve to limit traffic speeds through the area, which is preferred by the area's residents. The current traffic levels on planning area streets are low, and the level of development called for in the plan and its dispersed character will not require major traffic improvements unless desired by planning area residents for reasons of aesthetics and convenience. Normally the city requires that roadways adjacent to development have 16 feet of paved surface on the side of the road center line nearest the new development in order to accommodate onstreet parking and through traffic.
B. INTERNAL ROADWAY IMPROVEMENTS

Figure 11 diagrams the recommended road system to serve planning area needs at full buildout. Five general improvements or alterations to the planning area road system are recommended in the plan: (1) close Pacific Avenue to all through traffic except for emergency vehicles; (2) increase the pavement width along the bend in Tremont Avenue; (3) extend Santa Fe Avenue to serve two additional units; (4) extend a roadway off Western Drive near the center of the site to serve three new units; and (5) create parallel parking bays along planning area streets.

1. Pacific Avenue

The plan closes Pacific Avenue to through traffic from High Street south about half the distance to Santa Fe Avenue. The reasons for closing Pacific Avenue are primarily related to land use concerns rather than traffic issues. As explained in the Land Use Element, the plan's intent was to decrease transient loitering and improve pedestrian safety by closing this section of roadway. The circulation patterns and levels of use observed* on this section of roadway indicate that this change should not significantly affect traffic circulation in the area. The 400-foot section of roadway to be closed will remain intact to provide through access to emergency vehicles. Each end of the road segment will be barricaded with some form of removable barrier that meets the approval of the fire department (i.e., removable bollards, crash gates, etc.). The closing of this portion of Pacific Avenue will create two culs-de-sac, each about 300 feet long. High Street at the north end of Pacific Avenue will become a cul-de-sac serving two planning area residences (one existing and one proposed) and three residences outside the planning area (along the southside of High Street). The cul-de-sac formed by the south end of Pacific will serve four planning area residences (all proposed). Both culs-de-sac will terminate with "hammerhead" type turnarounds to accommodate vehicle turning movements. In order to eliminate unnecessary traffic on these roads, the entry to each cul-de-sac will also be posted with a sign indicating that the roads are not through roads and that they end within 300 feet. To facilitate turning movements at the end of each cul-de-sac and to maintain clear emergency access, onstreet parking will be prohibited (i.e., "no parking" signs will be posted) within 75 feet of the end of the cul-de-sac. Three parking bays, providing parallel parking for five vehicles, will be created along the west side of the Pacific Avenue in the street right-of-way. The minimum dimensions of each parking space will be 8 feet wide and 20 feet long. Schematic locations for this parking are shown in Figure 11 (the locations shown for driveways are also schematic). Existing pavement widths of these two roadways are adequate, but may be increased up to a maximum of 20 feet if desired by the developer(s).

2. Tremont Avenue

The concentration of housing units in the northern end of the planning area where Tremont Avenue merges with Western Drive could cause localized circulation problems due to the narrow width of Tremont Avenue and the sharp curve it makes at this location. To avoid such problems, the plan calls for Tremont Avenue to be

* Traffic observed in the planning area by the Goodrich Traffic Group; March 1985.
widened to 20 feet from the edge of the planning area around the curve to where it merges with Western Drive. As is the case with existing streets in the area, no curbs or gutters will be required on this section of widened roadway. In addition, onstreet parking will be prohibited along both sides of the curve in Tremont Avenue to further facilitate movement of traffic through this area. Five parallel parking spaces will be provided in the street right-of-way across from the five units proposed on the east side of Tremont Avenue. Another space will be provided on the west side of Tremont near the intersection with Western Drive. Schematic locations for the parking spaces are shown in Figure 11.

3. Santa Fe Avenue

The plan calls for the development of two additional units that will take access off Santa Fe Avenue. Currently, Santa Fe Avenue consists of an 80± foot section of non-through street that serves two residences east of Western Drive. Pavement width on this segment of roadway varies, but has an average width of about 15 feet. The two proposed units would require the roadway to be extended approximately another 140± feet. Pavement width for the new extension will be 18 feet and the street right-of-way will be decreased from its existing 50-foot width to 40 feet (i.e., 10 feet of existing right-of-way along the north side will become part of the open space system). Curbs and gutters will not be required on the new roadway.

Three parallel parking spaces will be provided in a parking bay across from the new units that are proposed (see Figure 11). Minimum dimensions for each space will be 8 feet wide by 20 feet long. The new roadway will extend 10 feet beyond the last driveway to facilitate vehicle turnaround on this cul-de-sac. Due to the limited number of units served, the relatively short length of the cul-de-sac, and the steepness of the slopes in the area, the full turning radius which would normally be required by the city has not been recommended. When necessary, drivers would be expected to use private driveways to reverse direction. Large emergency vehicles such as fire trucks would probably be required to back up the cul-de-sac from Western Drive.

4. Cleveland Court

The plan calls for a new street to extend from Western Drive east into the middle portion of the planning area to serve three proposed units. This street has been called Cleveland Court in the plan because it would be located within the existing Cleveland Street right-of-way. The right-of-way for the proposed cul-de-sac will be 30 feet wide and the pavement width will be 18 feet. The street would extend approximately 100 feet east of Western Drive. As with Santa Fe Avenue a full radius turnaround has not been recommended. The street would extend 10 feet beyond the last driveway to facilitate vehicle turnaround on this cul-de-sac. As on Santa Fe Avenue, drivers would be expected to use private driveways to reverse direction and extra long vehicles would probably be required to back out of the cul-de-sac. Due to the steep slopes in this area no parking bays have been recommended on Cleveland Court. Instead, two parking bays providing four parallel parking spaces (minimum space dimensions: 8 feet by 20 feet) will be provided along the east side of Western Drive (see Figure 11 for schematic locations).
5. Onstreet Parking

The narrow width of existing streets does not facilitate safe, onstreet parking. In order to avoid additional onstreet parking problems as a result of the proposed development, the plan recommends the creation of parking bays that will provide parallel parking spaces near the new development. The plan calls for one onstreet space per unit plus an additional four parking spaces at the shoreline open space in the northwest corner of the planning area. Minimum dimensions for these onstreet spaces will be 8 feet wide by 20 feet long. The approximate location of the proposed parking bays have been described above and are schematically shown in Figure 11. The exact location of these parking areas will be determined by topographic conditions and the location of private driveways.

C. EXTERNAL ROADWAY IMPROVEMENTS

Existing neighborhood traffic is generally light on local streets and the amount of development proposed in the plan will not significantly increase local traffic, so major changes in the circulation system surrounding the planning area will not be required. Only one area has been identified as being in need of some improvement. The segment of Bishop Avenue between Washington Court and Casey Drive is a narrow one-lane section of roadway which handles two-way traffic, serves one residence, and has a history of accidents. The problems caused by the narrowness of the road are amplified by horizontal and vertical alignments which prevent drivers from seeing oncoming vehicles. The short segment of road serves as access to a single residence.

The steep topography in the area complicates the resolution of this problem. The plan calls for either one of two ways of solving the problem; however, the physical feasibility of both of these measures has to be determined before a decision can be made. The first option is to close the segment of Bishop between Casey Drive and Washington Court except for access to the existing residence. This would mean all traffic bound for Pacific Avenue and Water Street would use a one-way entrance to the area via Washington Court and all traffic leaving these two areas plus Washington Court would depart the area via Santa Fe Avenue. This option would require some restructuring of the intersection of Pacific Avenue, Santa Fe Avenue, Water Street, and Golden Gate Avenue to facilitate turning movements onto Santa Fe from Golden Gate Avenue and Water Street, and the closure (i.e., barricading) or removal of the section of Bishop from Washington Court to the house which takes access off Bishop. A "not a through road" or "private drive" sign would be posted at the intersection of Bishop and Casey to prevent traffic from entering Bishop. A second option for resolving the problem is to widen this section of Bishop between Washington Court and Casey to two lanes (20 foot pavement width) and maintain the existing pattern of circulation. This section of road would have a painted center stripe to provide clear lanes in each direction and would be posted for no onstreet parking to avoid potential conflicts with the free flow of traffic. A stop sign would be required for southbound traffic on Bishop where it joins Casey Drive, and a stop sign would be required for northbound traffic on Washington Court.
D. CIRCULATION ELEMENT POLICIES

1. Development approvals shall be conditional on applicant provision of the roadway needs and requirements set forth in the preceding section of the Circulation Element.

2. The implementation of street improvements set forth in the plan will be linked to planning area development in the following manner:
   a. Improvements to Pacific Avenue and Bishop Avenue will be completed prior to occupying of any of the seven units proposed along those two streets; and
   b. Improvements to Tremont Avenue will be completed prior to occupying of any of the eight units proposed along this section of street.

3. All internal road improvements set forth in the plan shall be constructed at the applicant's expense. Improvement costs shall be shared by all benefitting landowners on an equitable basis. Only planning area landowners who have developable property as designated by the plan shall be considered in any equation to share improvement costs. Owners of currently developed properties in the planning area will not be subject to the cost of road improvements even if they benefit from them.

4. The cost of offsite road improvements recommended in the plan to eliminate the unsafe traffic conditions along Bishop Avenue between Casey Drive and Washington Court will be the responsibility of the developers of the seven downhill lots along Bishop and Pacific avenues. The Public Works Department will need to evaluate the physical feasibility of the two recommendations made in the plan and implement the improvements it finds most appropriate.

5. The cost of installing landscaping in the street rights-of-way will be the responsibility of individual developers. The long-term care and maintenance of this landscaping will be the responsibility of the adjacent property owners, consistent with citywide practice.
VII. PUBLIC FACILITIES ELEMENT

A. SEWER SERVICE

1. Planning Area Sewer System

Sewer service to the planning area will be provided by the City of Richmond Sanitary District #1. Existing 6- and 8-inch sanitary sewer mains are located in Western, Tremont, and Santa Fe Avenues (see Figure 12 for specific sizes and locations). The new development proposed by the plan can be accommodated by the existing system of mains with only minor extensions needed to provide hookups to new building sites. All planning area sewage will be collected by gravity flow in the 12-inch bayside line which carries sewage to the pump station at Keller's Beach and then on to the wastewater treatment plant on Canal Boulevard. Treated sewage will be disposed of in bay outfall about one mile off Ferry Point. The capacity of the existing sewerage system outside the planning area and the treatment plant will be adequate to accommodate the development proposed in the plan.

2. Sewer System Improvements

Figure 12 shows the existing planning area sewerage system and the extensions that will be necessary to provide service to the new units. As indicated on the map, extensions will be needed on the 6-inch line in Santa Fe Avenue to serve the units proposed along Pacific Avenue and Bishop Avenue and a 6-inch line will need to be extended east of Western Drive to serve the three units in the middle of the planning area. Altogether the two sewer main extensions will total about 260 feet of additional pipe. In addition to the sewer main extensions, five manholes will be required at specified points (see Figure 12) to allow for maintenance activities. The cost responsibility for these improvements will be equitably shared by the developers of those units directly benefitting from the improvements. An estimate of the total cost of sewer system improvements is included in the Implementation Element (see Section VIII).

B. WATER SERVICE

The East Bay Municipal Utility District (EBMUD) will provide water service to the planning area. The planning area is located in two different pressure zones: the Nichol's Knob pressure zone, which serves areas above 100 feet in elevation, and the Central pressure zone, which provides service to areas below 100 feet elevation. Water pressure in the planning area is currently far below the standards required by the fire department for fire flow in both pressure zones. (Hydrants in the area currently provide fire flow as low as 475 gallons per minute. The fire department's standard is 1,500 gpm.) The lack of adequate fire flow is due to the limited capacity of the Nichol's Knob Reservoir and the old and undersized system of water mains serving the area. Improvements to the reservoir and the delivery system will be required prior to any development approvals in the planning area.
The District currently provides water within the planning area from 6-inch water mains located in Western Drive, Tremont Avenue, and Santa Fe Avenue (see Figure 13 for location). These mains are still in good condition and are adequately sized to serve units proposed along these streets. An additional 675± feet of 8-inch main will be required along Pacific Avenue to serve proposed development and to provide adequate fire protection to the area (see Section D. Fire Protection). This 8-inch main will extend the length of Pacific Avenue and connect with existing mains in High Street and Santa Fe Avenue, thereby creating a continuous loop system that ensures adequate water volume and pressure. A 6-inch water main will need to be extended approximately 100 feet up Cleveland Court to serve the proposed units on this street. Figure 13 shows the location and sizes of existing and proposed water mains. In addition to the new water mains each unit would require the installation of a water meter. A System Capacity Charge is levied by the district on each unit as a hook-up fee for water service. This fee is based on the size of meter required and the cost of any required system improvements. The cost of all areawide improvements (i.e., all costs except hook-up fees) to the water system within the planning area will be the responsibility of planning area developers and will be equitably shared by all developers. The installation of new water mains and meters would be done by EBMUD.

Improvements will also need to be made to the water system beyond the planning area boundaries if adequate fire flow is to be provided to the area. EBMUD has plans for the upgrading of the Nichol's Knob Reservoir but no definite schedule has been established for making the improvements. The improvements, which include an enlarged reservoir, a new pumping station, and pipeline improvements, will be required prior to development of those units located in the Nichol's Knob pressure zone (i.e., the eight units that are proposed along Pacific Avenue, High Street, and Bishop Avenue). The cost of these improvements would be shared by all customers, new and old, on a pro rata basis. EBMUD has not yet determined exact costs or the distribution of those costs, but indicates that the planning area's share will be included in the Service Capacity Charge for each unit. (It has not yet been determined whether all planning area units would be charged for these improvements or only those eight that are in the pressure zone.)

In addition to the Nichol's Knob improvements, old, cast iron mains that carry water to the planning area will also need to be replaced in order to achieve adequate pressure and volume. Approximately 1,000 feet of 4-inch main that follows Scenic Avenue from the reservoir to Washington Avenue will need to be replaced with 6-inch PVC pipe, and approximately 525 feet of 8-inch main that is located in Washington and Bishop Avenues will need to be replaced with 8-inch PVC pipe. EBMUD has indicated that the cost of replacing these water mains will be the responsibility of planning area developers. The District would be responsible for the installation of the new mains.

An estimate of the total cost to the planning area for the identified water improvements are included in the Implementation Element (see Section VIII).
C. STORM DRAINAGE

1. Existing Planning Area Drainage

There are three (3) major drainage swales that carry planning area runoff. In addition to planning area runoff, the swales in the center and southern end of the planning area carry runoff from the slopes above the planning area by these culverts under Pacific and Bishop Avenues (see Figure 17 in the EIR, Section IX.E, for the location and size of these culverts). The land stability in all three swales is a concern due to the steepness of the slopes. The northern swale is considered to be primarily a landslide area, and the central swale contains a small active earthflow. Both swales have erosional gullies in them. Three culverts direct runoff from the planning area across Western Drive: 18-inch corrugated metal pipes at Santa Fe Avenue and Cleveland Court and a 12-inch corrugated metal pipe at the corner of Western Drive and California Street.

2. Improvement Needs

The steepness of planning area slopes can create problems in the form of erosion, landslides, or sedimentation if drainage is not handled sensitively. For this reason a storm drainage master plan should be prepared for the area under the direction of the City of Richmond Public Works Department. The drainage plan would establish an integrated storm drainage system adequate to accommodate full buildout of the planning area under the provisions of this specific plan. The cost of developing the master plan should be equitably shared by all planning area developers. The drainage system should be designed to intercept runoff from graded and developed areas onsite, along with concentrated runoff that is presently discharged onto the site, and direct it into existing culverts to prevent offsite problems for neighboring property owners. The drainage system should also ensure that the rate and volume of runoff does not exceed current levels by a significant amount. It is important, however, that the drainage system not disperse so much water across the slopes that recharge creates slope instability.

The principal areas of concern are the central and southern swales, both of which have development proposed in them. The central swale will require control of surface runoff from above Pacific Avenue to prevent the erosion problems that currently exist. Use of energy dissipators such as rock aprons or effective alternatives at the culvert outlet and other points of high energy water discharge may be appropriate. Where the drainage swale meets proposed development, both surface and subsurface controls may be required to direct runoff into the existing culvert. Drainage controls in the southern swale will be needed primarily because of the significant amount of development that is proposed on the slopes above it. Runoff from the roofs and paving associated with this development will need to be slowed to prevent erosion and sedimentation problems downslope. A common collection system (either surface or subsurface) and energy dissipators may be necessary. Depending on the design and use of the proposed open space area in the Santa Fe Avenue right-of-way (west of Western Drive), it may be desirable to provide subsurface drainage to the shoreline rather than have the outfall from the planning area cross the open space area in a surface swale as it presently does. Throughout the planning area, whenever surface drainage features (such as rock diversions, grass-lined channels, etc.) are needed, they should be designed to fit in with the
natural or rural character of the neighborhood and should not degrade the visual character of the area.

Costs for all drainage improvements will be the responsibility of developers whose project necessitates the improvement. In the event of improvements that benefit the entire planning area (e.g., the undergrounding of drainage through the open space area) the costs will be equitably shared by all planning area developers. The Public Works Department must review and approve all drainage improvements prior to the issuance of any building or grading permits.

D. FIRE PROTECTION

1. Planning Area Fire Protection Services

Fire protection for the planning area will be provided by the Richmond Fire Department. The station at 140 West Richmond Avenue is the closest to the planning area (one-half mile) and will have first response responsibility in case of emergency. The station's 1,250 gallon per minute (gpm) pumper and its three-person crew (captain, engineer, and fireman) will be adequate to serve the planning area. Average response times will remain in the 3 to 4 minute range. The fire station at 12th Street and Cutting Boulevard will continue to provide backup service with its three units. This station has a 100-foot aerial truck and two pumpers. The aerial truck and the larger pumper are each manned with three-person crews (captain, engineer, and fireman); the smaller pumper is manned by one engineer. The average response time to the planning area from this station is 5 to 6 minutes.

In the event of an extreme emergency, the Fire Chief can call the county's Office of Emergency Services through a mutual aid agreement. The El Cerrito Fire Department also automatically responds to fire calls in Richmond on a rotating basis.

2. Fire Protection Service Improvements

As explained in the preceding discussion on water services, the fire flow in the area is currently substandard due to the limited capacity of the Nichol's Knob Reservoir and to old and undersized cast iron pipes that deliver water to the planning area. The development of the planning area is contingent upon fire flows being increased to a minimum of 1,000 gallons per minute (gpm); however, the fire department's preferred standard is 1,500 gallons per minute. The water system improvements that are outlined in the preceding section (see Section VII.B) were designed by EBMUD to accommodate this standard. If, for some reason, the improved system did not supply 1,500 gpm, the fire department would require each unit to have a sprinkler system installed.

In addition to the previously discussed water system improvements, the Fire Department will also require four (4) new fire hydrants in the planning area to supplement the five (5) hydrants that are currently in the planning area vicinity. Figure 13 shows the location of existing and proposed fire hydrants. The cost of the new hydrants will be shared equitably by all planning area developers.
The closure of Pacific Avenue to all but emergency vehicles will ensure fire access along this street without conflict from other traffic or parked vehicles. The means of limiting access to Pacific Avenue (e.g., removable bollards, crash gates, heavy-gauge chain, etc.) will be selected in accordance with specifications approved by the Richmond Fire Department.

E. POLICE PROTECTION SERVICES

1. Planning Area Services

Police protection for the planning area will continue to be provided by the Richmond Police Department. The police station is located at the Hall of Justice, approximately 4 miles northeast of the site. The planning area is served by Beat #8. The current estimated response time of 3-5 minutes will not be affected by the plan. The proposed development can be expected to lead to a small increase in the number of calls for service due to the increase in population, but would not significantly alter the current service. No new staff or equipment needs would result from the plan’s implementation.

Point Richmond currently has a relatively low rate of thefts and house break-ins due in part to the active neighborhood watch and business association in the area. The plan should help to increase the neighborhood pride and responsibility that will enhance the area's general security. The plan's proposed closure of Pacific Avenue would remove what the residents see as an attractive spot for loitering and a potential trouble source. Also, the upgrading of the open space areas for neighborhood use and the creation of a homeowner's association would create a greater sense of resident responsibility to watch over the activities that occur in the vicinity.

F. GAS AND ELECTRICITY

1. Planning Area Service

Gas and electricity in the planning area vicinity are provided by the Pacific Gas and Electric Company (PG&E). Service will be extended to proposed planning area development from existing gas and electric lines that run along surrounding streets. Existing electric and telephone service are provided from overhead lines. In an effort to protect views from the area, new electric and gas lines to the planning area will be undergrounded in trenches along with telephone and television cables. To further enhance views from the area the plan also recommends that existing overhead lines in the surrounding areas be undergrounded.

Undergrounding of existing overhead utility lines is a standard development cost ordinarily absorbed by a subdivider. Alternatively, the designation and partial funding by the City Council of an underground district may be used if the project is declared to meet certain qualifying criteria. The city has established a committee to determine priorities for undergrounding. Point Richmond is one of the districts under consideration, due to the old age of the utilities and the obstruction of scenic views that occurs. The Point Richmond Neighborhood Council has submitted a
request that the city approve the neighborhood for the undergrounding of utilities. PG&E allocates limited funds annually to each jurisdiction within their service area for undergrounding. Jurisdictions must supplement these funds to cover undergrounding costs. PG&E has allocated $3.2 million to date in Richmond for undergrounding utility lines. The highest priority for undergrounding in the planning area would be those lines along Western Drive and the lower slopes, because they affect more people’s views than those near the top of the hill.
VIII. FINANCING AND IMPLEMENTATION ELEMENT

The policies and guidelines of this specific plan are intended to provide for orderly development in the planning area. This section of the plan makes recommendations regarding the administrative, financing, development review, and regulatory approaches that should be followed to effectively implement this specific plan.

A. DEVELOPMENT REVIEW AND REGULATION

The following steps will be required to implement this specific plan.

1. Following public review and certification of the Plan EIR, and adoption by the City Council of the plan, the Tiscornia Estate Specific Plan shall be incorporated as part of the General Plan.

2. Zoning

Current zoning in the planning area Single-Family Residential, Controlled Development, with Lot Additive District A-6 (R-1, A-6, CD). The zoning designations for the area are mapped on Figure 14 and the applicable zoning standards are summarized in Table 6 (see Section IX, Specific Plan Relationship to Local Plan Policies and Zoning). To bring city zoning into consistency with this specific plan and ensure effective implementation of design and development standards, it is recommended that the zoning designation within the planning area boundaries be changed to Planned Area District (PA).

3. Plan Conformance

No subdivision, use permit, design review application, or other entitlement for use and no public improvement shall be authorized for construction in the planning area until a finding has been made that the proposed subdivision, entitlements, or public improvement is in substantial compliance with this specific plan. Approval of final development plans and use permits shall be contingent upon a determination of substantial compliance with the applicable provisions of the City of Richmond General Plan and this specific plan.

4. At the request of any or all of the seven property owners (i.e., owners 3, 6, 10, 11, 13, 14, and 17 as shown in Table 2) holding single-unit development rights prior to the moratorium, the city will assign a single developable lot to each property owner. Assignment will be made on the basis of geographical proximity to the location of the lot or lots originally held by the owner. Each owner will receive development rights to that developable lot as shown in Figure 7, which is located nearest to his or her original lot or lots.
5. The cost for preparing the Tiscornia Estate Specific Plan and EIR will be passed on to planning area landowners as a prorated fee based on the benefit received, i.e., the number of developable lots belonging to each landowner.

B. REQUIRED CAPITAL IMPROVEMENTS

The majority of the planning area is currently undeveloped and some of the basic services will need to be extended or upgraded to adequately serve the area as growth occurs, including such capital improvements as streets and water and sewer distribution facilities. Sections VI and VII of this plan describe these needs in detail and are summarized in Table 4. Some improvements will provide benefits to all property owners with developable property in the planning area, while others will benefit only individual or groups of property owners. (Property owners with currently developed lots are not considered to be beneficiaries of the capital improvements recommended by this plan, and would not be required to participate in cost-sharing for improvements.)

Required improvements to the circulation system are described in the Circulation Element, Section VI of this plan. They include the widening of Tremont Avenue, the extension of Santa Fe Avenue, the creation of Cleveland Court, the closure of Pacific Avenue, the widening or closure of a section of Bishop Avenue, and the addition of parallel parking bays along planning area streets. The widening of Tremont Avenue and the extensions of Santa Fe Avenue and Cleveland Court would primarily benefit those landowners immediately adjacent to the improvements. The other improvements would benefit all property owners in the plan area and the improvements to Bishop Avenue would benefit property owners outside the plan area as much as those within it.

Planning area water, sewer, storm drainage, and fire service policies are described in the Public Facilities Element, Section VII. New development in the planning area will require extension and upgrading of the water system including necessary common improvements to offsite facilities such as water transmission mains and reservoir capacity to ensure peak reserves and adequate emergency fire flows. Smaller water mains and laterals would benefit individual landowners and groups of landowners. Similarly, necessary extensions of sewer mains and laterals would benefit individual landowners and groups of landowners. No common improvements will be required to the sewerage system. Various capital improvements to provide adequate fire protection services in the planning area such as fire hydrants and access control improvements to Pacific Avenue would provide a common benefit to all landowners in the planning area. The storm drainage improvements required within the open space areas would provide a common benefit to all landowners, but site-specific improvements would benefit only individual landowners or groups of landowners.

C. APPORTIONMENT OF CAPITAL IMPROVEMENT COST RESPONSIBILITIES

The cost of constructing capital improvements in the planning area will be shared between private landowners with developable property and public agencies. Private landowners shall to be responsible for improvements that provide direct bene-
### Table 4
ON- AND OFFSITE CAPITAL IMPROVEMENTS REQUIRED BY THE SPECIFIC PLAN

<table>
<thead>
<tr>
<th>Type of Improvement</th>
<th>Improvements That Benefit All Property Owners</th>
<th>Improvements That Benefit Individual Property Owners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Streets and Parking</td>
<td>• Installation of removable barriers at both ends of Pacific Avenue (to provide for emergency access)</td>
<td>• Extension of Santa Fe Avenue</td>
</tr>
<tr>
<td></td>
<td>• Construction of parking bays</td>
<td>• Creation of Cleveland Court</td>
</tr>
<tr>
<td></td>
<td>• Posting of &quot;no parking&quot; signs</td>
<td>• Widening of Tremont Avenue</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Widening or closure of Bishop Avenue between Washington Court and Casey Drive</td>
</tr>
<tr>
<td>Water Distribution System</td>
<td>• Improvements to Nichol's Knob Reservoir and delivery system*</td>
<td>• Extension of lateral in Santa Fe Avenue</td>
</tr>
<tr>
<td></td>
<td>• Upgrading of transmission main in Scenic Avenue*</td>
<td>• Extension of lateral in Cleveland Court</td>
</tr>
<tr>
<td></td>
<td>• Installation of new main in Pacific Avenue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Replacement of transmission main in Washington and Bishop Avenue*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Installation of four new fire hydrants</td>
<td></td>
</tr>
<tr>
<td>Sewage Collection System</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storm Drainage System</td>
<td>• Improvements in open space areas</td>
<td>• Improvements to developed areas</td>
</tr>
<tr>
<td></td>
<td>• Development of a Drainage Master Plan</td>
<td></td>
</tr>
<tr>
<td>Utility Undergrounding</td>
<td>• Installation of transmission system</td>
<td>• Installation of lateral connections</td>
</tr>
</tbody>
</table>

SOURCE: Wagstaff and Brady.

* It has been assumed that external improvements to the two pressure zones that serve the area would benefit all property owners because the plan has specifically limited the number of units in the upper pressure zone to preserve views and open space for the benefit of all planning area landowners.
fits to their property. Public agencies may be able to assist in the financing of improvements that provide benefits to the broader community. Based on this formula the major portion of the cost responsibilities will be borne by planning area developers.

1. Planning Area Improvement Cost Responsibilities

Planning area improvements include all capital facilities located within the planning area itself. These would include all improvements identified in the Public Facilities Element except for improvements to the water distribution system and to Bishop Avenue. Cost responsibility for internal planning area improvements are as follows:

a. Circulation Improvements:

• The cost responsibility for the addition of onstreet parking bays will be shared equitably by planning area landowners with the number of potential units being the basis for attributing each landowner's financial contribution.

• The closure of part of Pacific Avenue to all but emergency vehicles will benefit all parcels in the planning area, and will be the shared responsibility of all planning area developers.

• Posting of "no parking" signs will benefit all parcels in the planning area, and will be the shared responsibility of all planning area developers.

• The costs of constructing Cleveland Court, extending Santa Fe Avenue, and widening Tremont Avenue shall be the responsibility of the benefitting private landowners on each of those respective streets.

b. Water System Improvements:

• The installation of a new 8-inch water main in Pacific Avenue and four new fire hydrants will benefit all planning area landowners due to the improved fire flow provided. The cost responsibility for these improvements will be shared equitably by all landowners with the number of developable parcels owned by each landowner being the basis for attributing each landowner's financial contribution.

• The cost of extending 6-inch water mains in Santa Fe Avenue and Cleveland Court will be the responsibility of the benefitting private landowners on each respective street.

c. Sewage System Improvements:

• The cost of extending a 6-inch main up Cleveland Court will be the responsibility of the benefitting landowners on that street.

• The cost of extending a 6-inch main up Santa Fe Avenue to serve units along Santa Fe and Pacific avenues will be shared equitably by all benefitting landowners. The cost of installing the manhole at the top of Santa Fe will be the
responsibility of the owner(s) of those parcels located along Pacific and Bishop avenues.

d. Storm Drainage System Improvements:

- The cost of developing a Storm Drainage Master Plan for the planning area will be shared equitably by all planning area landowners with the number of developable parcels owned by each landowner being the basis for attributing each landowner's financial contribution.

- The storm drainage improvements within the open space system will benefit all planning area landowners. The costs of these improvements will therefore be shared equitably by all planning area landowners with developable property.

- The cost responsibility of storm drainage improvements within developed areas (including private lots and public rights-of-way) will be shared equitably by the owner(s) of those parcels whose runoff necessitates the improvements.

e. Landscaping and Open Space Improvements:

- The cost of developing a Master Landscape Plan for the road rights-of-way will be shared equitably by all planning area landowners with developable property, with the number of developable lots owned by each landowner being the basis for attributing each landowner's financial contribution.

- The cost of landscape improvements to the open space system (including plantings, trails, site furniture, etc.) will be shared equitably by all planning area landowners with developable property, with the number of developable lots owned by each landowner being the basis for attributing each landowner's financial contribution.

- The cost of landscaping public easements will be the responsibility of individual developers whose property is adjacent to the easement.

f. Specific Plan and EIR

- The cost of preparation of the Specific Plan and EIR will be reimbursed to the city by each benefiting landowner. Each landowner will be responsible for 1/25 of the cost of preparation for each developable lot they own.

2. Offsite Improvement Cost Responsibilities

Offsite improvements are facilities needed at locations outside the planning area in order to accommodate planning area growth. They include improvements to Bishop Avenue just south of the planning area, and improvements to the Nichol's Knob Reservoir and the water distribution system.

a. Bishop Avenue Improvements:

- The cost of the improvements necessary to prevent worsening the unsafe conditions that currently exist along Bishop Avenue between Washington Court
and Casey Drive will be the responsibility of the developer(s) of the seven lots on the downhill side of Pacific and Bishop avenues.

b. Water System Improvements:

East Bay Municipal Utilities District has indicated that the following apportionment of costs is a rough estimation of what the District will require.

- Planning area landowners will be required to contribute to the cost of upgrading the Nichol's Knob Reservoir and delivery system. These costs will be passed on to customers as a proration among both old and new customers. The District has not yet determined the precise costs involved or the manner in which it will divide the costs; for instance, it has not decided whether all planning area landowners would be required to contribute or only those landowners developing parcels in the Nichol's Knob pressure zone. During the planning process for this area the planning area was considered as a single unit and decisions were made about the potential placement of units based on criteria that would provide the most benefit for all planning area landowners (i.e., views, open space, privacy, etc.). This led to a plan which has purposefully limited the number of developable lots in the Nichol's Knob pressure zone to provide a better environment for all planning area landowners. Rather than make the owner(s) of the seven developable lots in this pressure zone bear the extra financial burden of paying for the Nichol's Knob improvements, the plan recommends that all planning area landowners be included in EBMUD's cost apportionment calculations. EBMUD has indicated that developers would not be required to deposit a guarantee for these improvements. The costs will be passed on to developers in the form of a System Capacity Charge on each developed unit.

- The cost of upgrading the 4-inch cast iron main which is located in Scenic Avenue to a 6-inch PVC main would be the responsibility of planning area landowners. These costs would be shared equitably by all planning area landowners with developable property, with the number of developable parcels owned by each landowner being the basis for attributing each landowner's financial contribution.

- The cost of replacing the 8-inch cast iron mains in Washington and Bishop avenues with 8-inch PVC mains would be the responsibility of planning area landowners with the number of parcels owned by each landowner being the basis for attributing each landowner's financial contribution.

c. Undergrounding Utility Lines

- The cost of undergrounding electrical, telephone, and cable TV distribution systems would be the responsibility of planning area landowners, with the number of parcels owned by each landowner being the basis for attributing each landowner's contribution, both with or without formal city participation in an undergrounding district.
D. TIMING OF CAPITAL IMPROVEMENTS

Because of the type of development proposed and the multiple ownership of the planning area, it is assumed that development of the planning area will be spread over a number of years. The timing of most of the capital improvements will be tied directly to the development of the units requiring the improvements; however, some improvements or actions will be required prior to consideration for individual units.

• A Master Storm Drainage Plan and a Master Landscape Plan for the planning area should be prepared for approval by the city prior to the issuance of any use permits.

• Water system improvements adequate to provide sufficient fire flow to the area should be completed prior to issuance of building permits. Fire flow must be adequate only in the pressure zone in which development is proposed (i.e., development will be able to proceed in the Central pressure zone as long as fire flow in that zone meets fire department standards).

• The closure of Pacific Avenue and the improvements to Bishop Avenue should be required prior to issuance of building permits for those units proposed along Pacific and Bishop avenues.

• Improvements to the open space system (e.g., landscaping, drainage, etc.) should be made prior to the occupation of more than 30 percent of the proposed units.

• Plan-recommended improvements to streets (including extensions, widening parking bays, and landscaping), water system, sewer system, and storm drainage system are tied to the parcels served and need not be implemented until the actual development of those parcels is proposed.
### Table 5

**ESTIMATED COST RESPONSIBILITIES FOR CAPITAL IMPROVEMENTS**

<table>
<thead>
<tr>
<th>Improvement</th>
<th>Responsible Party</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Road System</strong>&lt;sup&gt;1&lt;/sup&gt;</td>
<td>individual developer(s)</td>
<td>$6,300</td>
</tr>
<tr>
<td>- Extension of Santa Fe Ave.</td>
<td>individual developer(s)</td>
<td>$4,500</td>
</tr>
<tr>
<td>- Extension of Cleveland Ct.</td>
<td>individual developer(s)</td>
<td>$6,100</td>
</tr>
<tr>
<td>- Widening of Tremont Ave.</td>
<td>individual developer(s)</td>
<td>$12,750</td>
</tr>
<tr>
<td>- Construction of parking bays</td>
<td>all developers</td>
<td>$5,000</td>
</tr>
<tr>
<td>- Closure of Pacific Ave.</td>
<td>all developers</td>
<td>$650</td>
</tr>
<tr>
<td>- &quot;No Parking&quot; signs</td>
<td>all developers</td>
<td>$35,000</td>
</tr>
<tr>
<td>- Improvements to Bishop Ave.</td>
<td>individual developer(s)</td>
<td>--</td>
</tr>
<tr>
<td>- Landscaping in rights-of-way</td>
<td>individual developer(s)</td>
<td>--</td>
</tr>
<tr>
<td><strong>Water System</strong>&lt;sup&gt;2&lt;/sup&gt;</td>
<td>all developers</td>
<td>$34,425</td>
</tr>
<tr>
<td>- New 8&quot; main in Pacific Ave.</td>
<td>individual developer(s)</td>
<td>$4,625</td>
</tr>
<tr>
<td>- Extension of 6&quot; main in Cleveland Ct.</td>
<td>all developers</td>
<td>$46,250</td>
</tr>
<tr>
<td>- New 6&quot; main in Scenic Ave.</td>
<td>all developers</td>
<td>$26,775</td>
</tr>
<tr>
<td>- New 8&quot; main in Bishop Ave. and Washington Ave.</td>
<td>all developers</td>
<td>$75-100,000</td>
</tr>
<tr>
<td>- Improvements to Nichol’s Knob Reservoir (i.e., System Capacity Charge)</td>
<td>all developers</td>
<td>$13,475</td>
</tr>
<tr>
<td>- New fire hydrants</td>
<td>all developers</td>
<td>$15,000</td>
</tr>
<tr>
<td><strong>Sewer System</strong>&lt;sup&gt;3&lt;/sup&gt;</td>
<td>individual developer(s)</td>
<td>$7,500-15,000</td>
</tr>
<tr>
<td>- Extension of 6&quot; main in Cleveland Ct.</td>
<td>individual developer(s)</td>
<td>$12-16,000</td>
</tr>
<tr>
<td>- Extension of 6&quot; main in Santa Fe Ave. and along Pacific Ave.</td>
<td>individual developer(s)</td>
<td>$58-87,000</td>
</tr>
<tr>
<td>- Installation of manholes in Santa Fe Ave. and Cleveland Ct.&lt;sup&gt;4&lt;/sup&gt;</td>
<td>individual developer(s)</td>
<td>$200-300,000</td>
</tr>
<tr>
<td><strong>Storm Drainage System</strong>&lt;sup&gt;5&lt;/sup&gt;</td>
<td>all developers</td>
<td>$12-16,000</td>
</tr>
<tr>
<td>- Design of drainage master plan &amp; improvements in open space</td>
<td>all developers</td>
<td>$12-16,000</td>
</tr>
<tr>
<td>- Improvements to developed areas</td>
<td>individual developer(s)</td>
<td>$58-87,000</td>
</tr>
<tr>
<td><strong>Open Space System</strong>&lt;sup&gt;6&lt;/sup&gt;</td>
<td>all developers</td>
<td>$200-300,000</td>
</tr>
<tr>
<td>- Design of landscape master plan &amp; installation of improvements</td>
<td>all developers</td>
<td>--</td>
</tr>
<tr>
<td><strong>Utilities</strong>&lt;sup&gt;7&lt;/sup&gt;</td>
<td>all developers</td>
<td>--</td>
</tr>
<tr>
<td>- Undergrounding utility lines</td>
<td>all developers</td>
<td>$576,350-789,850</td>
</tr>
</tbody>
</table>

**TOTAL PROJECTED COSTS**<sup>8,9</sup> $576,350-789,850

**SOURCE:** Wagstaff and Brady.

<sup>1</sup>Road System Assumptions: 18-ft.-wide road @ $45/l.f.; paving for parking bays and street widening @ $2.75/sq.ft.; signs @ $50/sign; landscaping @ $20/l.f.
<sup>2</sup>Water System Assumptions: 8" main @ $51/l.f.; 6" main @ $46.25/l.f.; hydrants @ $3,366.25/unit; System Capacity Charge @ $3-6,000/unit.
<sup>3</sup>Sewer System Assumptions: 6" main @ $75-100/l.f.
<sup>4</sup>Assumes five (5) manholes @ $3,000 each.
<sup>5</sup>Storm Drainage System Assumptions: $50-75/l.f. of improvements.
<sup>6</sup>Open Space System Assumptions: $50-75,000/acre for design and development.
<sup>7</sup>Costs for undergrounding utility lines will require more detailed analysis to provide estimate of costs.
<sup>8</sup>Costs do not include improvements to Bishop Ave. Specific improvements have not been identified.
<sup>9</sup>Although not technically a capital cost, the developers will be required to pay a pro rata share of the cost of preparing this plan and EIR.
IX. SPECIFIC PLAN RELATIONSHIPS TO LOCAL GENERAL PLAN GOALS AND POLICIES

The planning area is subject to development policies and regulations set forth in the City of Richmond General Plan, the City of Richmond Zoning Ordinance, and the Richmond Coastline Plan. State law requires that the specific plan be consistent with the general plan and contain measures to implement all policies set forth in the general plan that pertain to the planning area. Planning for the future use of the area also requires consideration of city policies established for adjacent areas, and policies of regulatory and interested agencies. The relationship of this specific plan to pertinent provisions from these documents is summarized in this chapter.

A. CITY OF RICHMOND GENERAL PLAN

The City of Richmond General Plan as adopted by the City Council in 1965 establishes general policies with respect to the long-term (year 2000 and beyond) use of city land. The Concise General Plan Document, as adopted by the Council in 1983, abstracts goals, objectives, policies, principles, standards, and implementation from the full General Plan for the convenience of users.

The planning area is designated for urban low residential density development at densities of 7 to 12.9 dwelling units per acre. The General Plan also identifies the area as having slopes of 15–30 percent and shows a hiking/biking trail along the shoreline, following the alignment of Western Drive. Planning goals in the plan which are relevant to the Tiscornia Estate Specific Plan program include the following (pp. 10–11 of the concise plan):

"1. Encourage attractive, safe residential neighborhoods with a variety of dwelling types, and facility amenities that will produce neighborhoods with distinct identities, and actively promote a policy of providing housing in a wide range of prices available to all segments of the city's population in new subdivisions, in areas of housing and redevelopment, and in the city at large in order to avoid the costs of social problems created by ghettoization and to encourage human contacts prevented by housing barriers.

"2. Devise legislation directed toward improving the visual appearance of streets including controls on signs and other street embellishments, and require freeway design and location that enhance property values.

"3. Develop Richmond's waterfront potential for residential, commercial, and recreational use as well as for heavy industry.

"4. Encourage a general community awareness of the fact that attractive urban design improves the aesthetic and economic values of a site, the adjacent lots, the neighborhood, and the entire city.
"5. Provide for the recreational and cultural needs of the community with a variety of opportunities for leisure time activity available in each neighborhood and in the community in conformance with standards established by the Recreation Commission and adopted by the City Council.

"6. Devise zoning ordinance provisions that encourage open space in the urban scene, zoning which gives an economic reward to the developer who provides open space, in place of the dreary asphalt jungles so typical of most congested areas.

"7. Assist in balancing the environmental, social, and economic values of the Bay and adjacent areas when formulating plans for future development in Richmond. Use the area's resources to produce a kind of growth that will benefit residents of the community within a framework of conservation, public access to the Bay, and economic feasibility." (Concise General Plan, pp. 10-11.)

The Land Use Element of the General Plan includes residential area plan policies that pertain to the planning area:

"Shoreline Communities

"Shoreline communities merit special mention because of their particularly important role in the future growth and prosperity of the Planning Area; the Richmond shoreline should be utilized for a multiplicity of uses--industrial, recreational, and residential.

"The objectives for creating shoreline communities are:

"• To establish a variety of new high quality residential areas closely linked to the Central Business District

"• To provide the citizens of the Richmond Planning Area with an opportunity for high standard waterfront living

"• To preserve and expand public and private recreational use of the shoreline

"• To capitalize on the extensive shoreline resource by making it a source of pride for residents in the Richmond area and an attraction for tourists by virtue of its function, distinctiveness, and beauty

"• To put vacant waterfront lands to economic and profitable use

"Shoreline communities offer differing aspects to San Francisco Bay. They are:

"(i) Point Richmond

"(ii) Inner Harbor." (Concise General Plan, p. 22.)

Relevant residential development policies in the Land Use Element include the following:

"1. Urge inclusion of a broad variety of dwelling types within all new and existing residential communities. This may result in development of the following: (Continuing Policy)"
"a. Single-family detached units, townhouses, and garden court apartments; terraced apartments that follow steep hillside contours; and tower apartments, as appropriate for the setting of each residential area.

"b. Accommodations suitable for a broad cross-section of family sizes, ages, and income levels with intent to upgrade Richmond’s housing supply.

"2. Encourage residential expansion at each of the four residential areas within the Coastline Area as follows:

"... Point Richmond: Develop the vacant buildable sites remaining in this area. (Continuing Policy)...

"3. The shoreline communities at Point Richmond and the Inner Harbor, in addition to meeting the overall policies stated above, should be developed in accordance with the following specific policies:

"a. Develop sufficient dwellings at each location to house a population large enough to support an elementary school and a shopping center

"b. Provide direct access to the water for each single-family lot and group of apartments.

"c. Provide public beach and boating facilities for the general public in order that it may benefit from these newly created waterfront environments.

"d. The approaches to each shoreline community should provide convenient access to downtown Richmond; should be attractively landscaped; and should be devoid of unsightly industrial, commercial, or other activities that may presently front along each route.” (Concise General Plan, pp. 22-24.)

The Housing Element of the General Plan contains a single broad general goal and two subgoals that are relevant to the planning area:

"The General Housing Goal of the City of Richmond is to:

"Provide the Opportunity for a Fair Share of All Segments of the Population Living in the Local Market Area to Obtain a Variety of Adequate Housing Convenient to Other Activities and Facilities, in Neighborhoods That Are Satisfying to Them.

"The Housing Subgoals of the City of Richmond are:

"Ensure That a Fair Share of Market Area Residents Are Able to Obtain a Variety of Standard Dwelling Units of a Size Suitable for Their Needs and at a Price They Can Afford.

"Maintain and Develop Attractive, Safe, Residential Neighborhoods with a Variety of Dwelling Types and Community Facilities That Will Produce Neighborhoods with Distinct Identities Convenient to Other Activities.” (Concise General Plan, p. 41.)
The Richmond Coastline Plan, an element of the City of Richmond General Plan, establishes general planning and land use objectives for the city's coastline area. Policies of the Coastline Plan that relate to the planning are the following:

1. Establish a new hiking-biking trail along the Point Richmond shoreline. As shown in the Coastline Plan map, the trail passes through the planning area adjacent to the shoreline.

2. The Residential Plan Element of the Coastline Plan describes Point Richmond as one of four existing residential areas in the coastline area, and "located on both sides of a low ridge which rises 200 feet above the Bay, between the Standard Oil Refinery and Nichol's Knob. The area borders the Bay and Bay views are available from many sites. Waterfront lots include some water area and often a mud beach at low tide. About 70 acres of sloping land are available for residential development."

Policies of the residential element of the Coastline Plan are the same as the Residential Development Policies in the General Plan.

Specific Plan Consistency with the General Plan

This specific plan is essentially a refinement of, and an elaboration on, the General Plan and has been formulated to be consistent with the pertinent goals, policies, and objectives summarized above. However, the following General Plan amendments will be required to accommodate this specific plan:

The residential density designation and the land use map of the General Plan will have to be changed to reflect the new residential density of land uses within the planning area (see the Land Use Map, Figure 7). Residential density for future uses now shown on the map for the planning area is Urban Low, 7 to 12.7 dwelling units per acre. This designation would be changed to Rural Medium, 2 to 3.9 dwelling units per acre.

Following adoption by the City Council of the Tiscornia Estate Specific Plan, the plan shall be incorporated as a part of the General Plan.

B. CITY OF RICHMOND ZONING ORDINANCE

The planning area is currently zoned Single-Family Residential, Controlled Development, with Lot Area Additive District A-6 (R-1, A-6, CD). The zoning map for the planning area is shown in Figure 14.

The R-1 zoning district allows single-family dwellings and accessory buildings, with mobile home, schools, parks, playground, and community centers as conditional uses.

Basic requirements of R-1 zoning are shown in Table 6.

The Lot Area Additive District is provided to establish a range of minimum lot sizes greater than 5,000 square feet required by the R-1 district. When the Lot
<table>
<thead>
<tr>
<th>Table 6</th>
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<tr>
<td>PLANNING AREA ZONING REQUIREMENTS</td>
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<table>
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<tr>
<th></th>
<th>Single Family R-1</th>
<th>Controlled Development (CD)</th>
<th>Additive District A-6</th>
<th>Specific Plan Proposed Planned Area District</th>
</tr>
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<tr>
<td><strong>DENSITY</strong></td>
<td>Up to 8.7 units/acre</td>
<td>• May reduce maximum to 6.5 or increase to 13 units/acre</td>
<td>up to 7.3 units/acre</td>
<td>3.2 dwelling units per acre</td>
</tr>
<tr>
<td><strong>PARKING</strong></td>
<td>• 1 space per unit</td>
<td>• may increase min. to 1.5 spaces/unit</td>
<td>---</td>
<td>2 spaces per unit</td>
</tr>
<tr>
<td></td>
<td>• Dimensions</td>
<td>• may impose design and siting requirements</td>
<td>---</td>
<td>10' x 20' minimum</td>
</tr>
<tr>
<td></td>
<td>• Covered</td>
<td></td>
<td>garage coverage may not exceed 12' in height within 10' of street right-of-way</td>
<td></td>
</tr>
<tr>
<td><strong>BUILDING HEIGHT</strong></td>
<td>35' maximum</td>
<td>may vary, up to 10' greater than maximum</td>
<td>---</td>
<td>varies; 30' maximum height</td>
</tr>
<tr>
<td><strong>YARD REQUIREMENTS</strong></td>
<td>• Front</td>
<td>• min. 20% of lot depth or 20'</td>
<td>• may modify, but maintain aggregate yard space</td>
<td>minimum 20'</td>
</tr>
<tr>
<td></td>
<td>• Side</td>
<td>• min. 10% of lot width or, 3' min., 5' max.</td>
<td>• may increase by 50% interior yard space</td>
<td>minimum interior side: 5'</td>
</tr>
<tr>
<td></td>
<td>• Rear</td>
<td>• min. 20% of lot depth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARCEL AREA</td>
<td>Single Family R-1</td>
<td>Controlled Development (CD)</td>
<td>Additive District A-6</td>
<td>Specific Plan Proposed Planned Area District</td>
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<td>minimum 5,000 s.f.</td>
<td>---</td>
<td>minimum 6,000 s.f.</td>
<td>minimum 5,000 s.f.</td>
<td>fencing maximum 3½' along property lines adjacent to open space and Pacific Avenue</td>
</tr>
</tbody>
</table>

FENCING¹
- Front & Side Yard
  - 3½' in height, max., generally
- Interior Side Yard
  - 6' in height, max., generally
- Rear Yard
  - 8' in height, max., generally

LANDSCAPING
- shall be required

DESIGN
- may impose requirements

¹Requirements can be varied in specifically defined circumstances. See Zoning Ordinance text for variations.
Area Additive District is combined with the R-1 (or other basic) district, the lot area, front and side yard regulations of the additive district apply. These requirements are shown in Table 6.

The Controlled Development Additive District is intended to provide greater flexibility and control over development in special areas, through several means, including "permitting clusters of multiple-family developments in appropriate locations within single-family zones with suitable controls imposed." A Controlled Development Plan approved by the Planning Commission is required in any CD zone. Variations on the basic R-1 zoning requirements are outlined in Table 6.

Specific Plan Consistency with Zoning Ordinance Provisions

The Specific Plan recommends rezoning of the site to Planned Area District (PA). Rezoning to PA will require approval of a Preliminary Development Plan by the Subdivision Review Committee, and approval of a Tentative Development Plan by the Planning Commission. This specific plan will serve as both a Preliminary Development Plan and a Tentative Development Plan, and rezoning of the site will occur at the same time as adoption of the Specific Plan. Following rezoning to PA, approval of a Final Development Plan by the Planning Commission will be required prior to any land alteration or development. The Final Development Plan will be required to be consistent with the Specific Plan.

Table 6 compares requirements of existing zoning with those required under the PA zoning proposed by the Specific Plan. Major differences between existing zoning and proposed PA zoning are maximum densities (7 to 12.9 units/acre under existing zoning compared to 3.2 under proposed zoning), increases in number of required parking spaces (1.5 spaces per unit compared to 2 spaces per unit), and building height limitations (35 feet maximum compared to 30 feet maximum). The minimum size of the lots has been reduced to 5,000 square feet, compared to 6,000 square feet minimum under A-6 zoning. Other changes represent variations on existing zoning requirements, and are proposed in order to maximize open space and to promote community design objectives.

C. REGULATORY AND PERMIT AGENCIES

City of Richmond

The City of Richmond has primary jurisdiction for proposed activities in the planning area. Normal review procedure for land development in the city is as follows: Following environmental review, which may include an environmental impact report to satisfy requirements of the California Environmental Quality Act (CEQA), the city would act to approve or deny an application for development of property within the planning area. The city has authority to grant building and use (plan of development) permits and to approve rezoning applications and parcel lot mergers. The city would review proposed plans for a development proposal for functional and design adequacy.

Upon adoption of the Specific Plan and EIR, the city retains primary jurisdiction. The Specific Plan becomes the governing regulation for development activities.
within the area. Following plan adoption, the city would review Final Development Plans for consistency with the Specific Plan requirements and design guidelines.

Other agencies with jurisdiction or permit authority are the following:

Army Corps of Engineers

The Army Corps of Engineers (Corps) has jurisdiction over all undiked areas on the site below the elevation of mean high water (MHW), and diked areas below former MHW. For the local area, MHW is approximately at the 6-foot elevation line.

The Corps regulates development within its jurisdiction by requiring a permit (Eng Form 4345) for "all proposed work and/or structures extending bayward or seaward of the line on shore reached by the mean of the high water (MHW) in 'navigable waters of the United States,' including all new work in unfilled portions of the interior of diked areas below former MHW." This authority is defined in Section 10 of the River and Harbor Act of 1899.

Corps authorization is also required for "all proposed discharges of dredged or fill material into 'waters of the United States' (below the 'high tide line' in tidal waters, and below the 'ordinary high water mark' in nontidal waters)" under Section 404 of the Clean Water Act (amended 1977). The Corps also requires elutriate (leach) testing to be performed on spoil material to determine the release of toxic elements, if the project requires greater than 10,000 cubic yards of dredging. This measure is designed to safeguard disposal-site water quality.

According to a Memorandum of Understanding between the Secretary of the Interior and the Secretary of the Army, the Corps District Engineer must "coordinate with the Regional Directors of the Secretary of the Interior (Fish and Wildlife Service) on fish, wildlife, recreation, and pollution problems associated with dredging, filling, and excavation operations." The Corps also considers the National Marine Fisheries Service and the California Department of Fish and Game advice on permits and the conditions of permits, pursuant to the Fish and Wildlife Coordination Act.

The Corps is concerned with the shoreline area west of Western Drive (lots 16 through 24, as shown in Figure 3), and has no concern with the rest of the planning area. After preliminary review of the site, the Corps has indicated that bank protection for stabilization of the lot 22–24 area may be required. Such stabilization could consist of a bulkhead; concrete grout capping has also been used for similar situations. A permit from the Corps would be required for stabilization.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) has advisory jurisdictional responsibility for preserving, protecting, and enhancing fish and wildlife resources, as specified in the Fish and Wildlife Coordination Act of 1958 (revised, 1979). The

Service actively discourages activities and developments which would, individually or cumulatively, unnecessarily destroy, damage, or degrade fish, wildlife, aquatic, and wetland ecosystems. USFWS jurisdiction generally corresponds to that of the Corps.

California Department of Fish and Game

As authorized by the U.S. Fish and Wildlife Coordination Act, the California Environmental Quality Act (CEQA), the McAteer-Petris Act (BCDC), and the State Subdivision Map Act, the California Department of Fish and Game (DFG) is committed to work with local, state, and federal regulatory agencies in the early stages of planning for areas under its jurisdiction. The Department will also provide the state's viewpoint on fish and wildlife matters when reviewing permit applications and environmental impact reports. The San Francisco Bay Management Guidelines adopted by the Department will be strictly adhered to when the Department is critically evaluating any project whose implementation may adversely affect the fish and wildlife values of the area. The Department will work through the U.S. Army Corps of Engineers and BCDC in review of projects in the planning area.¹

Bay Conservation and Development Commission

In the San Francisco Bay Plan (1969), the Bay Conservation and Development Commission (BCDC) policies concerning the Bay as a resource emphasize the need to ensure the benefits of fish and wildlife for future generations by maintaining existing Bay surface area, tidal marshes, mudflats, water volume, and freshwater inflow. The means of implementing these policies have been to require the submission of a major development permit which is reviewed by the BCDC Design Review Board and BCDC Engineering Criteria Review Board.

Under the legislated authority of the McAteer-Petris Act (1965), BCDC has permitting power, within its jurisdiction to the line of "highest tidal action, 100 feet shoreward therefrom, and in specified tributary creeks." In Richmond elevation of highest tidal action is about 6 feet; BCDC jurisdiction would extend inland 100 feet from the 6-feet elevation line.

BCDC's major concern for any proposed development in this planning area is "maximum feasible public access" along the shoreline, and minimum bay fill from development of lots. BCDC has requested that the agency be consulted at the time alternatives are developed for the planning area.²

Specific Plan Consistency with Agency Requirements

1. The plan is consistent with Corps of Engineers requirements, and would require a plan for any needed bank stabilization prior to development of the shoreline area.

¹Ted Wooster, California Department of Fish and Game, personal communication, March 21, 1985.
Plan design guidelines recommend that concrete grout capping not be used, and that any bank stabilization be designed to be visually consistent with the natural character of the area.

2. Consistent with BCDC requirements, the plan provides for public access along the shoreline, and would not permit bay fill for development of the single developable lot on the shoreline.

The Draft Plan and EIR will be reviewed by the U.S. Army Corps of Engineers, BCDC, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game.
X. ENVIRONMENTAL IMPACTS

A. INTRODUCTION

The following section provides a documentation of environmental impacts, assuming full realization of land use and circulation policies recommended in the specific plan. This environmental impact component has been prepared pursuant to all relevant provisions of the California Environmental Quality Act. The analysis is general in scope, discussing cumulative impacts expected to result from buildout of the planning area under specific plan policies. The assessment is intended to provide a master environmental impact assessment which will eliminate the need for environmental review of individual project applications which are consistent with the plan.

B. LOCATION

Locational characteristics of the planning area are described in Section III of the specific plan.

C. LAND USE

1. Existing Setting

The majority of the planning area is currently undeveloped. Eight single-family houses are currently located in the planning area. The footprints and location of these houses are shown on Figure 7. With the exception of Pacific Avenue, which crosses the site along its eastern edge, and Western Drive, which traverses the western and northern edges of the site, no other development occurs on site. Assuming an average household size of 2.61 persons per unit (City of Richmond average for 1985 as projected by ABAG), it is estimated that the planning area currently has a population of approximately 20 people.

Figure 2 and the aerial photograph in Figure 5 show the Point Richmond environs. The immediate vicinity of the planning area is developed primarily with single-family residences, although apartment buildings are located north of the planning area along Water Street and Santa Fe Avenue. The area directly north of the planning area is interspersed with occasional vacant lots. The Standard Oil Company refinery is located on hill slopes about ½ mile to the northwest and on lands to the north and east, across Highway 17.

The neighborhood commercial center of Point Richmond is located several blocks to the east of the ridge that separates the planning area from the rest of Point Richmond. The 214-acre Miller Regional Shoreline area is located about one-half mile southeast of the planning area. Beyond that, the Brickyard Cove residential-marina project is constructed with about 50 single-family dwellings of a planned
250 units. The Brickyard Landing residential 310-unit condominium development now under construction is located south beyond the Miller Regional Shoreline area on about 38 acres of land on the southern shoreline of Point Richmond. A proposed third major residential development, Seacliff Estates, is located on 44 acres of land and water in the Brickyard Cove area of Point Richmond, a little more than a mile south of the planning area, and adjacent to the Brickyard development. The Seacliff Estates project will include 320 clustered residential units, with commercial facilities, a 200- to 250-berth marina, and recreation facilities. The City of Richmond Marina is located on the southern peninsula enclosed by the Santa Fe Channel and Harbor Channel. The Marina Cove project will have 3,500 condominium units.

2. Impacts

The proposed plan would result in the loss of open space; however, the plan will retain approximately 33 percent of the planning area for undeveloped open space. The introduction of the proposed single-family residential units would be consistent with the surrounding residential development and the design standards proposed in the plan will help to limit any significant land use conflicts. Existing residents of the area could experience some loss of privacy as a result of the proposed development. Even though the units have been sited to avoid such conflicts, the steep slopes make it virtually impossible to eliminate houses on the upper slopes from overlooking those on the lower slopes. The development density of the proposed development would be considerably less than the development of surrounding areas.

The closure of Pacific Avenue to through traffic will discourage the current practice of non-residents parking and loitering along the top of the site, engaging in activities which the existing residents find objectionable. The plan attempts to provide an acceptable location for non-residents to enjoy the view while not disturbing planning area residents by creating the shoreline vista point at the north end of the planning area. The pedestrian trails and other vista points in the planning area's open space system will also be accessible to non-residents; however, the trails and vista points will only be accessible to foot traffic and only limited onstreet parking has been provided, so use by other than neighborhood residents is considered unlikely. In addition, the common ownership of the open space by planning area landowners should act as a deterrent to the type of activities that presently take place. Homeowners will feel more responsibility to oversee activities in the open space area.

The availability of public access to the shoreline does permit people to move along the bayside of existing houses out of the purview of most residents. This situation has led to neighborhood concern regarding privacy and security of those houses along the shore. Due to the difficulty of surveillance (both formal and informal), the issues of privacy and security are common concerns in cases where public access is provided near areas of continuous shoreline development. Under existing conditions public access is available to the shore at the northwest corner of the planning area, and formalization of this existing casual use is not likely to increase security problems. By designating the Santa Fe Avenue right-of-way west of Western Drive as open space, the plan will provide an additional access point to the shoreline. This additional access point is not expected to significantly increase the security of neighboring houses, primarily because access to the shoreline is not
provided at this location, and the steep bluff that separates the houses from the shoreline acts as a natural deterrent to potential trespassers.

3. Mitigation Measures

It has been noted that plan-designated development in the planning area could result in minor land use conflicts having to do primarily with privacy and the use of open space areas by non-residents. In response to these impact findings, a number of specific improvement measures are recommended and described in the Land Use and Open Space Element (see Section V of this report).

D. CIRCULATION AND PARKING

1. Existing Setting

a. Regional Access. Highway 17 provides regional access to the project vicinity. The highway contains four travel lanes and carries about 4,000 two-way trips during the PM peak hour.* Volume in the heavier traveled direction consumes about 60-75 percent of the nominal capacity. (Capacity is about 1,600 vehicles per lane per hour.) Primary access between the project site and Highway 17 is provided at the signalized Castro Street intersection. Access from the planning area to Highway 17 is also provided via an interchange at Marine Street. Access from Highway 17 to the planning area is restricted at the Marine Street interchange to west-bound traffic.

Under the present highway configuration, most traffic from the planning area vicinity uses the Castro Street intersection to exit or enter the Highway 17 corridor. The most efficient route between this access point and the planning area for vehicles traveling inbound toward the study area is via Tewksbury and Castro streets to Washington Avenue.

Traffic outbound from the planning area vicinity uses either the same Washington-Tewksbury-Castro route or exit via Santa Fe Avenue. Santa Fe Street is a one-way northbound narrow one-lane residential street on steep grades. A third exit is via the High Street-Golden Gate Avenue-Mono Street-West Richmond Avenue-Castro Street route. It is possible that some planning area traffic enters Highway 17 via the Marine Street interchange but the route between the site and this interchange is more time consuming than the more direct access via Santa Fe or Washington Avenue. Figure 15 shows inbound and outbound routes.

Washington Avenue is a two-lane collector with parking and sidewalks along both sides. This facility carries about 130 two-way trips during the PM peak hour in the vicinity of West Richmond Avenue. Figure 15 shows daily PM peak hour two-way traffic volumes on planning area streets.

Tewksbury and Castro streets are collector-type facilities with curbs and parking along both sides. Tewksbury and Castro streets carry about 350 two-way trips during the PM peak hour.

b. Local Circulation. Local streets in the immediate vicinity of the planning area are Pacific Avenue, Washington Court, Santa Fe Avenue, Western Drive, Casey Drive, High Street, California Street, Tremont Avenue, Mono Street, and Golden Gate Avenue. Figure 15 shows the location of these streets in relation to the planning area.

Generally the local street system serving the planning area includes a few one-way streets, some of which carry outbound traffic while Washington Avenue serves as the major inbound traffic carrier. These one-way streets are necessary because many of the local streets are too narrow to carry safely two-way traffic. Streets bordering the planning area, such as Pacific Avenue, California Street, and Western Drive, are narrow one-lane facilities with less than 20 feet of pavement without shoulders, curbs, or sidewalks. The local circulation system serving the planning area contains sharp curves often combined with steep grades, requiring driver caution.

Generally the neighborhood traffic is very light on the local streets. Pacific, Western, and High streets carry about 30 or fewer two-way vehicles per hour during the PM peak hour.*

Local residents have indicated a desire to retain the present street configuration to preserve the rural characteristics of the neighborhood, rather than widen streets and provide sidewalks, curbs, and gutters along the local streets.

The capacity of the major circulation system serving the site is determined by the ability of critical intersections to carry traffic during the peak hours such as the afternoon commute. In order to determine the existing level of service, PM traffic counts were conducted at the Tewksbury Avenue/Castro Street and West Richmond Avenue/Washington Avenue intersections in March 1985. Most planning area traffic would pass through these intersections during the PM peak hour. Level of service is defined as the ratio of the capacity of intersection approaches to the actual volume carried. Designations are assigned to the ratio values from A to F, Good to Failure. Level of service "A" represents the least delay and level "F" represents the greatest delay. Generally, drivers consider Level of Service "D" to represent the greatest delay acceptable. Thus, Level "D" represents 100 percent of the acceptable capacity in the Capacity Index. The Capacity Index ranges from under 68 percent of acceptable for Level of Service A to over 112 percent of acceptable for Level of Service F.

Level of Service and Capacity Index are described more fully in Appendix A.

Based on PM peak-hour traffic counts, both intersections operate at service level A with ample reserve capacity.

During PM peak-hour field investigations no congestion or safety problems were observed within the circulation system serving the planning area. Traffic volumes

* Goodrich Traffic Group Traffic Counts, March 7, 1985; verification by City of Richmond Department of Public Works.
along the streets in the immediate vicinity of the planning area are very light with long periods without a single vehicle observed.

c. Accident History. Review of city accident records for the past three years indicates that the street system serving the site is relatively accident free. Three accidents were reported during the past three years along Bishop Avenue. Two of these accidents involved parked vehicles and the third involved property damage to a fence. This short street segment between Washington Court and Casey Drive carries two-way traffic but contains only one travel lane. The street directly serves only one residential dwelling unit.

During this three-year period, one accident involving a vehicle and pedestrian was reported along Washington Street south of Bishop Avenue. Another accident involving a parked vehicle was reported at Western Drive west of Bishop Avenue.

d. Future Street Improvements. No local street improvements are anticipated for the local street system serving the planning area. Construction of the John T. Knox Freeway (Route I-580) through Richmond along the Highway 17 right-of-way is scheduled to begin shortly and to be completed in 1987. As part of this project, the existing interchange at Marine Street would be eliminated. Access to and from Point Richmond will be concentrated at a new interchange to be constructed at Castro Street. This proposal will have no effect on planning area travel patterns, since the Castro Street intersection is already the primary access point to Highway 17. After construction, traffic would be concentrated at the Tewksbury Avenue/Castro Street intersection; this intersection would be improved to accommodate the increase in traffic levels.

e. Future Cumulative Development. No major traffic-generating projects are anticipated near the planning area. Minor residential infill continues.

f. Parking Conditions. Little on-street parking space is available in the vicinity of the planning area. Most of the area residents use small turn-out areas or shoulder space. Any new development should provide adequate offstreet space for residents and visitors, as vehicles parked along the narrow streets would constrain through traffic, including emergency vehicles.

g. Transit. AC Transit does not serve the planning area directly. Service is provided within the business center of Point Richmond, approximately 1/3 of a mile from the site.

2. Impacts

The proposed plan would add incrementally to existing traffic volumes, but the increase would not be large enough to change the existing level of service on sur-

\[1\] Dick Danker, City of Richmond Department of Public Works, personal communication, March 12, 1985.


\[3\] Dick Danker, City of Richmond Department of Public Works, personal communication, March 12, 1985.
rounding roadways. Assuming that each single-family residential unit would generate 10 one-way vehicle trips per day, the proposed plan would add a total of 250 vehicle trips per day to local streets. Approximately 10 percent or 25 of these vehicle trips would occur during the AM and PM peak hours. While this number of trips may actually double the peak-hour trips on Western Drive, the current traffic volumes are so low that no significant impact would occur. The increase in traffic would be noticeable, however, to existing residents of the area. Figure 16 shows the increase in daily PM peak-hour two-way traffic volumes as a result of the project. Approximately 80 percent of PM peak-hour traffic would be inbound toward the planning area and 20 percent would be outbound. The majority of the inbound peak-hour traffic will approach the planning area via Washington Avenue.

In an effort to accommodate the residents' desire to maintain the rural character of the neighborhood, the plan does not require upgrading of planning area streets to city standards. Improvements have only been recommended in the plan when it was felt that the impacts of the proposed development would create an unsafe situation (e.g., the proposed widening of Tremont Avenue). The plan therefore will not lead to an overall improvement in planning area circulation. The occasional slow movement of traffic through the area that is necessitated by the narrow streets and sharp curves will remain unchanged or be slightly exacerbated by the additional traffic.

The closure of Pacific Avenue to all through traffic, except for emergency vehicles, is not expected to lead to any significant impact on local circulation. The current traffic volumes on this section of road are very light, and the roadway does not function as an essential link in the circulation system. The closure would cause a temporary inconvenience while those people who currently use this route find alternate routes. The vehicle trips that currently occur on Pacific Avenue would be fairly evenly distributed over several local streets (including Santa Fe Avenue, Western Drive, Golden Gate, and West Richmond Avenue) and would not have a significant effect on any of them.

The means utilized to restrict through traffic along Pacific will have some effect on the movement of emergency vehicles. Methods such as removable bollards or a heavy chain across the road that must be removed manually would slow response times of emergency vehicles. Radio-operated gates would allow emergency vehicles to move along Pacific without interruption. It should be noted, however, that the width and alignment of Pacific restrict the speed of travel enough that automatic gates may not save enough time to be worthwhile.

The plan proposes two culs-de-sac off of Western Drive that do not provide the full turning radii normally required by Public Works or the Fire Department. The plan views these two culs-de-sac as shared driveways in which normal access would be limited to residents and visitors. Each cul-de-sac serves a limited number of houses (one serves 3 units and one serves 4 units) and has limited length (one is 100 feet long and the other is 200 feet long). The absence of a full turnaround would not cause a major problem for errant residential traffic, which could use private driveways to reverse their direction of travel. The principal impact would

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FIGURE 16
PROJECTED TRAFFIC LEVELS

MAJOR INBOUND/OUTBOUND ROUTE
OUTBOUND ROUTE
← ONE WAY STREET
75 EXISTING PM PEAK HOUR TRAFFIC
(75) PROJECTED PEAK HOUR TRAFFIC WITH PROJECT
←→ SPLIT STREET HALF WITH ONE WAY TRAFFIC
be on fire protection services. Fire Department vehicles would be able to easily reach all units; however, all of the longer vehicles would be required to back down the culs-de-sac in order to leave. Due to the short length of each cul-de-sac, this appears to be more of an inconvenience than a significant problem. While full turnarounds could be accommodated, they would require significant amounts of grading and retaining structures to hold the steep slopes. Such improvements would have significant visual impacts.

The plan recommends two possible ways of improving the safety on the section of Bishop Avenue between Washington Court and Casey Drive. This section of roadway has a history of accidents, and the additional development proposed by the plan would increase the potential for future problems. Two alternative solutions are provided because the feasibility of both solutions requires further study due to the physical constraints of the site. Assuming that it is possible, the widening of this section of Bishop Avenue to a full two lanes would cause the least impact: existing traffic patterns would remain the same and safety would be improved. However, the possibility of widening Bishop Avenue could be constrained by the houses that have been built adjacent to both sides of the right-of-way and the steep cross-slope that traverses the right-of-way. The second alternative, which closes Bishop Avenue and creates a one-way loop along Washington Court and Santa Fe Avenue, would also improve safety but would disrupt existing traffic patterns. Presently the turn from Water Street onto Santa Fe Avenue is too sharp to negotiate, so traffic uses Bishop Avenue to move south to Washington Avenue or uses Pacific Avenue to travel north. If the turning configuration at Water Street and Santa Fe Avenue can be made to work, all outbound traffic on Water Street, Pacific Avenue, and Washington Court would travel on Santa Fe Avenue. This would create some inconvenience for people wishing to go from any of these three streets to areas to the west and south such as Keller’s Beach or the Richmond Yacht Club. These people would have to travel northeast on Santa Fe Avenue to Nicholl Avenue and then backtrack on Washington Avenue to reach their destination. The number of trips in this direction would probably be few, so the amount of inconvenience caused by this solution would be relatively minor. If it turns out that both solutions are physically feasible, the widening of Bishop Avenue would be the preferred alternative based on a consideration of impacts. Neither solution, however, would have significant adverse impacts.

The plan requires each residential unit to provide 2 offstreet parking spaces, plus an additional 25 spaces which are provided in parallel parking bays throughout the planning area. This means there would be the equivalent of 3 spaces provided per new unit. This should accommodate most of the new residents as well as some visitor parking; however, a certain amount of spillover parking onto existing streets can be expected. This spillover could cause circulation problems (as does spillover from existing residences) by impinging upon the already narrow roadways. Posting "no parking" signs at the most critical points might reduce this potential; however, enforcement in such a remote area could be ineffective.

3. Mitigation Measures

It has been noted that plan-designated development in the planning area would result in an incremental increase in traffic volumes on local streets. It has also been noted that standard improvements normally required by the city of new devel-
opment have not been incorporated in the plan because of the desire of local residents to maintain the area's existing rural character. The plan does recommend a number of specific roadway improvement measures for those areas where impacts would lead to unsafe driving conditions. The proposed measures, which are described in the Circulation Element of the plan, are summarized below:

- Widen Tremont Avenue to 20 feet from the northern edge of planning area around the curve to where it merges with Western Drive;
- Close Pacific Avenue to all through traffic except for emergency vehicles;
- Either widen the segment of Bishop Avenue between Casey Drive and Washington Court to 20 feet or close that segment of Bishop Avenue and realign the intersection of Water Street and Santa Fe Avenue to accommodate a one-way loop consisting of Washington Court and Santa Fe Avenue (decision on which measure to implement must be based on further feasibility studies);
- Provide 25 onstreet parking spaces in paved, parallel parking bays along planning area streets to accommodate visitor parking; and
- Create a system of pedestrian paths through the open space to reduce potential for pedestrian/vehicle conflict.

E. PUBLIC SERVICES AND UTILITIES

The new development proposed for the planning area will result in a need for additional public services, especially sewer, water, storm drainage, law enforcement, fire protection, and power. In general, the amount of development that is proposed is small and would lead to only incremental increases in the services required. In most cases this will result in little or no adverse impact. The services which will be significantly impacted by the plan are those in which existing service conditions are below normal city standards or are in need of improvements (i.e., water service, storm drainage, and fire protection). The Public Facilities Element (Section VII) describes current public service conditions, public service impacts resulting from the plan, and mitigation measures recommended to maintain or improve current service levels. Assuming the planning area is developed to plan specifications, no significant adverse impacts to public services will result.

1. Sewer Service Impacts

Recommended sewer improvements for the planning area are described in the Public Facilities Element of this plan (Section VII.A). A suggested sewer collection system layout is diagrammed in Figure 12 in that element. Assuming each unit generates approximately 300 gallons per day in wastes,* the plan can be expected to increase demand by 7,500 gallons per day. The capital costs associated with providing additional service to the planning area will be the responsibility of plan-
ning area developers. Estimates of these costs are included in the Financing and Implementation Element (Section VIII) of this plan. Ongoing costs associated with sewer service would be paid by user fees.

2. Water Service Impacts

As described in the Public Facilities Element of this plan (Section VII.B), improvements to the Nichol's Knob Reservoir and to the delivery system will be required in the planning area to meet the fire flow requirements of the Richmond Fire Department. The amount of water demand generated by the new development will not be a problem for EBMUD. The improvements are required to achieve adequate volume and pressure. The recommended onsite improvements to the system are diagrammed in Figure 13 in the Public Facilities Element.

Capital costs for the improvements to the planning area's water delivery system will be the responsibility of planning area developers, as will a percentage of Nichol's Knob improvement costs. Estimates of these costs are included in the Financing and Implementation Element. Ongoing costs for the operation and maintenance of the water system will be financed through normal connection and user fee approaches currently used by EBMUD.

3. Storm Drainage Impacts

The development proposed in the plan will increase the rate and volume of runoff due to the increased land area covered with impervious surfaces. This runoff would exacerbate existing drainage deficiencies (see Figure 17 for existing drainage facilities), creating the potential for landslides, slumping, erosion, and sedimentation. For this reason the plan calls for the preparation of a storm drainage system master plan under the auspices of the Richmond Public Works Department. This master plan would establish an integrated drainage system adequate to accommodate full buildout under the plan and would be funded by planning area developers. Drainage concerns that need to be addressed in the master plan are discussed in the Public Facilities Element (Section VII.C).

4. Fire Protection

The primary fire protection issue will be addressed by making the improvements to the water system that are required to provide the 1,500 gpm fire flow required by the Richmond Fire Department. The location of new fire hydrants needed as a result of the plan are shown in Figure 13 in the Public Facilities Element (see Section VII). The development proposed in the plan would not require the Department to add either new staff or equipment.

Fire access to the planning area is currently complicated by the area's narrow streets and steep topography. The street improvements and parking provisions of the plan will prevent further deterioration of this condition, but can be expected to provide only marginal improvement. The closure of Pacific Avenue to all but emergency vehicles will ensure fire access along this street without conflict from oncoming traffic or parked vehicles. The absence of full radius turnarounds on Santa Fe Avenue and Cleveland Court will create an inconvenience for fire engines
FIGURE 17
EXISTING STORM DRAINAGE FACILITIES

- WOOD BOX CULVERT
- CORRUGATED METAL PIPE
- CULVERT
- DRAINAGE DITCH OR SWALE
- PLANNING AREA BOUNDARY

TISCORNIA ESTATE SPECIFIC PLAN
POINT RICHMOND, CALIFORNIA

WAGSTAFF AND BRADY
URBAN AND ENVIRONMENTAL PLANNERS
LANDSCAPE ARCHITECTS
BERKELEY, CALIFORNIA
who will be required to back down the culs-de-sac in order to leave, but this is not expected to create a significant problem for fire service.

5. Police Service

Development of the planning area would increase the population of the area by about 75 people (assuming 3.0 persons per unit). This level of growth could lead to a small increase in the number of calls for service but would not require the addition of new staff or equipment. The current 3-5 minute response time will not be affected by the implementation of the plan.

6. Gas and Electricity

PG&E will be able to provide service to the planning area. Gas lines will be extended from existing lines in planning area streets. New electric lines will be undergrounded to all new units from existing overhead lines in the surrounding area.

F. VISUAL FACTORS

1. Existing Setting

a. Physical Characteristics. The planning area landscape is characterized by relatively steep slopes of 15 percent and above. These slopes are generally west facing (i.e., toward the bay); however, the ridges and hollows within the site also create slopes with distinct northern and southern orientations. Vegetation in the area consists primarily of grassland interspersed with areas of dense, low-growing undergrowth and isolated clumps of tall eucalyptus and pines. The planning area is situated in the midst of a residential district that has grown gradually over the past 30 to 40 years, and the variety of architectural styles reflect this fact. The area surrounding the planning area is not completely built out. There are still several developable lots available in the vicinity (especially immediately north of the site). The planning area itself is largely undeveloped, but does have eight single-family residences situated within it. All but one of these are located in the lower part of the site along Western Drive.

The steepness of the planning area combined with its generally open character permits panoramic westerly views of the San Francisco Bay and its western shoreline. Views to the south terminate in residential development as Cypress Point extends westward, and views to the north are terminated by Castro Point and the oil-tank-covered hills of the San Pablo Peninsula. From the eastern edge of the planning area the slope continues to rise sharply for another 50 to 60 feet in elevation where residential development lines the ridgetop overlooking the site.

b. City of Richmond Policies. The City of Richmond’s General Plan states several goals and policies which are either directly or indirectly applicable to the preservation of the visual quality of the planning area. Specifically, the Open Space and Conservation Element and the Form and Appearance Element address this issue. The elements of the General Plan identify four general visual factors that are relevant when considering development in the planning area:
(1) The ridge that extends down the San Pablo peninsula and through the planning area is an important visual edge that gives definition and character to Richmond;

(2) The views of the San Francisco Bay and its shoreline are a unique, high quality resource that enrich the community;

(3) The varied shoreline provides a valuable visual and recreational resource; and

(4) The eclectic assemblage of architectural styles that has occurred in the Point Richmond area has a visual charm that should be preserved and enhanced.

(1) Open Space and Conservation Element. The goals of the Open Space and Conservation Element are to identify and protect the community's natural resources, including scenic resources, and to encourage urban growth in those areas where the natural characteristics of the land are most suited to such development. The element includes the planning area in its mapping of major ridgelines and scenic backdrops as part of the San Pablo Peninsula ridgeline. The one scenic resource policy that directly applies to the planning area states:

"Increase and enhance views of the coastline by means such as: limiting building heights near the water's edge; staggering the siting of buildings to minimize blockage of views; opening up views by clustering structures and increasing street setbacks; creating a coastline drive with viewpoints; encouraging industrial developments to cluster and screen their structures."

Other scenic resource policies that do not directly refer to the planning area, but indirectly indicate the city's concern for preserving visual values, include recommendations to protect the form of the San Pablo Peninsula, protect and maintain important vista points, preserve existing vegetation features, and take greater advantage of regional recreation potential provided by the land forms and shoreline vista of the San Pablo Peninsula.

(2). Form and Appearance Element. This element of the general plan identifies the most vivid visual components that make up the Richmond planning area and develops policies that will strengthen and enhance them in order to create a more visually unified and appealing environment. One of the element's primary goals is to "achieve permanent variety in the character of development and create a community of pleasant contrasts." Specific form and appearance policies that are relevant to the development of the planning area include:

* Promote the greatest feasible use of Richmond's long and varied waterfront. Evaluate development proposals from the point of view of their contribution to Richmond's visual resources. As its appearance improves, popularize the coastline as the key to the City's image.

* Give highest priority to preserving and enhancing the potential amenities of the coastline's variety of edges and of the landmark character of its adjacent hills.
In order to preserve visual access to the Bay and the regional landscape, urge that new residential developments on sloping or waterfront sites be grouped or clustered.

Urge that new residential, commercial and industrial development in the Coastline Area attempt to establish a distinctive character, as expressed in the external design of buildings and open space and their relationship to the terrain and water.

Preserve views of the Bay and regional landscape from the trails and open spaces along the Coastline Area's ridgelines by controls on siting and height of adjacent structures.

Promote development of the viewpoints and trails described in other portions of the general plan.

Require new development to preserve the unique view opportunities of the shoreline and make these views available to the public to the maximum extent feasible.

c. Views of Planning Area from Surrounding Points

(1) Views from Areas North of the Site. The residential development immediately to the north of the planning area is situated on south- and west-facing slopes which provide the houses with good views out to the bay. It also provides most of the houses and streets in the area with unobstructed views of the planning area (see Photos #14&15). Figure 18 diagrams the extent of view from this area. The planning area is easily distinguished, not only because it is undeveloped, but also because it rises abruptly from Western Drive as a smooth, grassy slope that culminates with the houses along High and Water streets at the top of the hill. Three existing houses in the planning area situated at the bend in Western Drive interrupt the slope's undisturbed descent to Western Drive and the shoreline. The tall stand of eucalyptus trees that crosses through the center of the planning area forms a dense visual backdrop that screens views of the rest of the site and provides definition and an attractive vertical contrast to the grassy slopes. Another smaller stand of eucalyptus at the bend in Tremont Avenue (just before it meets Western Drive) similarly helps to define and dramatize the undisturbed expanse of hillside.

(2) Views from Areas South of the Site. The southern end of the planning area is bordered by five residences, three immediately adjacent to the property and two set back from it. These homes have access off Casey Street, Western Drive, and Santa Fe Avenue so the houses either have their backs or sides toward the planning area, with only minor or secondary windows overlooking the site. Views of the planning area from these windows and from the rear yards of these homes are partially obstructed by vegetation that has grown along the southern boundary of the planning area. Much of this vegetation is within the rear yards of the homes and appears to have been planted to create privacy from views into the homes from overlooking residences on Water Street. The resulting views of the site tend to be focused by this combination of building orientation and vegetation so that none of the residences is provided with sweeping views of the site. (Refer to Figure 18 for extent of views.)
FIGURE 18
VIEWS OF PLANNING AREA FROM SURROUNDING AREAS

- - - - - AREA VISIBLE FROM THE NORTH
- - - - - AREA VISIBLE FROM THE EAST
- - - - - AREA VISIBLE FROM THE SOUTH
- - - - - PLANNING AREA BOUNDARY
The portion of the planning area south of the large grove of eucalyptus is the only part of the site visible from these homes. Unlike the smooth grass-covered slopes at the north end of the planning area, the south end is characterized by greater variation in topography and vegetation. Immediately north of the homes, in the foreground of their views of the site, is a large depressed area that is densely vegetated in the lower areas with shrub and vine species. Beyond this site rises to a lightly vegetated ridge backed by the eucalyptus grove. The eucalyptus grove blocks views of the residential development north of the planning area, but does permit glimpses at both the east and west ends of the grove of the oil storage tanks on the San Pablo Peninsula. This hillside and the houses that rise above Pacific Avenue (outside the planning area) form an important part of this viewshed because of the steepness of the slopes and the prominence of the residences at the top of the hill.

(3) Views from Areas East of the Site. Approximately nine to ten houses overlook the planning area from the hillside to the east. The residences are sited along the top of the ridge to take advantage of the panoramic views of the San Francisco Bay and are 20 to 60 feet above the highest portions of the planning area. The planning area acts as the foreground for these spectacular Bay views. Most of the houses are located above the southern half of the planning area and their view of the planning area is limited to that half, due to existing eucalyptus groves (both on site and above Pacific Avenue) and the steep topography at the north end of the planning area. Those houses located above the middle part of the planning area, however, have views of almost the entire planning area. (Refer to Figure 18 for extent of views.)

(4) Views from Areas West of the Site. A single row of houses lines the shoreline west of the planning area. The attraction of the Bay views to the west is so strong, however, that most of these houses have little or no visual orientation to the planning area.

d. Views from Principal Driving Routes. There are two primary routes that provide access to the planning area and, to varying degrees, provide views of the site. Pacific Avenue and the two streets that feed into it (High Street and Bishop Avenue) form the eastern boundary of the planning area, and Western Avenue forms most of the western and northern boundaries.

(1) Pacific Avenue. This route traverses the steep slope along the eastern edge of the planning area. The road edge defines the highest elevations in the planning area and therefore provides a sequence of overviews of the planning area's landscape. The views of the planning area are, for the most part, quite limited when driving this route because the slopes that border the roadway fall away so sharply. Those areas that are visible are primarily the lower portions of the site where the slopes begin to level off. In addition to these foreground views, the road provides excellent long-range views of the San Francisco Bay.

(2) Western Drive. This route forms the lower edge of the planning area except in the northwest corner where the planning area extends all the way to the shoreline. Along the west side of the road, in the area that lies outside the planning area, houses have been densely built along the shore, preventing any views through to the
Bay. Where the planning area extends across Western Drive to the shoreline, the absence of development permits focused views out to the Bay.

Due to the steepness of the planning area's slopes, views into the site from Western Drive are all uphill. One can actually see up into the site from only a few places along the eastern side of Western Drive (i.e., before the road bends around the northern end of the planning area). Much of the roadway is bordered by steep banks that rise so sharply that no views into the site are possible (see Photos #5&6). In other areas houses have been built which block views, and in still other areas trees and vegetation limit the extent of any view into the site.

e. Views from Stationary Viewpoints in the Planning Area. The most important development asset of the planning area is the high scenic quality of the views out from the site. The steepness of the site and its orientation toward the Bay combined with the breadth of the viewshed and the wealth of scenic elements means that almost all portions of the site have good to excellent views. (See Figure 19 and the photographs that follow for examples of the view potential.) The major visual landmarks that are visible from the planning area include the San Francisco–Oakland Bay Bridge, the San Francisco skyline, the Golden Gate Bridge, Angel Island, Mt. Tamalpais, Red Rock, and the Richmond–San Rafael Bridge. Other elements that are distinctive but not as visually appealing include the Standard Oil pier and the oil storage tanks on the San Pablo Peninsula to the north of the planning area. While the quality of the views is high from most areas of the site, the character of the views changes depending upon the elevation, slope orientation, and vegetation at each viewpoint. In general, the best views out from the site are provided from the highest elevations, particularly from the area along Pacific Avenue between High Street and Santa Fe Avenue. The views from the shoreline west of Western Drive are also excellent although they lack some of the dramatic quality provided by the elevated perspective at the top of the hill. Views from planning area viewpoints between these two elevation extremes are also of high quality, but tend to be more focused (i.e., less breadth to the viewshed) due to existing stands of vegetation and adjacent development. In general, those areas with a more the southern view orientation have higher quality views due to the more distinctive and more scenic character of the elements located in southern portion of the viewshed.

3. Impacts

The proposed plan has taken great care in the location of building sites and the creation of building design standards to protect the visual open space values provided by the site for neighboring development and to provide new units with good view potential. The plan is also generally consistent with city policies regarding the preservation of open space values and scenic view corridors. The proposed development will, however, significantly alter the appearance of some parts of the planning area and lead to the obstruction of views from selected viewpoints. Overall the plan minimizes the potential for visual impact. Much of the impact that would occur under the plan would result in equal or greater measure under any development scenario of similar proportions. The level of impact that would result from the proposed plan is not considered significant enough to warrant additional mitigation.
FIGURE 19
PLANNING AREA
VIEWPOINTS

A → DIRECTION AND EXTENT OF VIEW

2 → LOCATION OF PHOTOGRAPH

----- PLANNING AREA BOUNDARY
1. Western Drive (looking north)

2. View to the northeast from Western Drive (near Santa Fe Avenue)

3. Western Drive (looking south)

4. View east across site from Western Drive (near center of site)

5. Western Drive (looking north)

6. View to the southeast from Western Drive (near center of site)
7. View east from Western Drive (near Molyneux residence)
8. Beach frontage along Western Drive (looking south)
9. Western Drive (looking east)
10. Residences overlooking north end of site
11. Residences overlooking site from High Street
12. Residences overlooking site from Water Street
3. View from residence at corner of Pacific Avenue and Water Street

4. View of site from Cliffside Court (north of planning area)

- View of site from Western Drive (north of planning area)
6. Viewpoint A

7. Viewpoint B

18. Viewpoint C
a. Effect on Views of Planning Area from Surrounding Points

(1) Areas North of the Site. The plan calls for development on the lower slopes adjacent to Western Drive and Tremont Avenue. This will increase density of development and remove some open space areas that now exist but would have little significant visual impact. The grassy knoll and eucalyptus grove, which are the most prominent visual elements in the planning area, would remain undisturbed under the proposed plan, and the visual open space values and rural character that these elements impart would remain intact. The eucalyptus grove would block views of most if not all development proposed in the southern end of the planning area.

(2) Views from Areas South of the Site. The three houses proposed along the southern boundary of the planning area will reduce the views into the site from neighboring residents to the south and eliminate the natural open space values now associated with these views. Limited view corridors through to the site's open space areas will be preserved due to the building envelope requirements stipulated in the plan. The view obstruction that would occur as a result of the plan is not considered significant due to the limited importance that views into the site have for these neighbors (i.e., no windows or outdoor spaces are especially oriented in this direction) and the limited number of people affected.

(3) Views from Areas East of the Site. The development proposed along the south end of Pacific Avenue will partially block views from houses located near the intersection of Pacific, Bishop, and Santa Fe avenues by placing houses in the foreground of their viewing area. The height limits required for the proposed units (12 feet at building setback line), the required view corridors between the proposed units, and the difference in elevation between the proposed units and the existing residences to the east (a minimum of 12-14 feet) will prevent these views from being completely obstructed, but then could be a significant alteration of the views from two or three existing homes. The rural character the existing views now possess due to the absence of any development along Pacific Avenue will decrease as the row of proposed units are built in the foreground. For those houses farther north on Water Street, the proposed plan will have very little visual impact. The extreme difference in elevation between these houses and the planning area would prevent any obstruction of Bay views.

(4) Views from Areas West of the Site. The development proposed in the plan would decrease the amount of open space viewed from these homes, and replace it with residential development. The planning area is not an important viewshed for the homes along the west side of Western Drive which are oriented towards the Bay, so the significance of this change would be minimal. In addition, the building design standards proposed in the plan would minimize the visual impact on these downhill neighbors.

b. Effect on Views from Principal Driving Routes

(1) Pacific Avenue. The closure of Pacific Avenue to through traffic would end the current practice of driving and parking along this road in order to enjoy the
view, because vehicular access (except for emergency vehicles) would be prevented by barriers at each end of the road segment. On the length of road that is closed, very little change would occur in the view itself. New development in the lower areas would be visible, but proposed height limits would prevent it from obstructing Bay views. The principal change that would occur as a result of the closure would be that this viewing area would only be accessible on foot. Along the south end of Pacific Avenue where units have been proposed on the downhill side of the roadway, views out to the Bay would be partially obstructed. The plan would preserve view corridors between the new units, but these focused corridors would represent a significant change from the unobstructed foreground that presently exists.

(2) Western Drive. The plan would have very little impact on views from Western Drive. The one house that is proposed along the west side of the road would decrease the amount of undeveloped area along the shoreline, but the permanent open space area proposed in the plan would preserve a major view opportunity through to the Bay from Western Drive.

c. Effect on Views from the Planning Area. The plan would not have any significant effect on views out from the planning area. The plan would preserve the most important viewpoints within the planning area for public use and enhance the viewing experience by providing seating and landscaping at these points. In addition to maintaining public views, the plan would provide the potential for high quality views from the majority of the proposed building sites. Those units proposed near the intersection of Western Drive and Tremont Avenue would probably have minimal potential for Bay views, although the coordinated design of this group of units could protect those views that are available.

3. Mitigation Measures

Buildout of the planning area under the plan would result in an overall reduction in the amount of open space that now exists. The visual character of site development would be generally consistent with the development of the surrounding neighborhood, and the design standards incorporated into the plan would help ensure development that was sensitive to the site and surroundings. The panoramic Bay views, which are the site's principal asset, would be preserved for both public and private enjoyment. Other primary visual elements such as the grassy knoll, the eucalyptus groves, and the shoreline open space areas would also be preserved under the plan.

G. ARCHAEOLOGICAL AND HISTORIC RESOURCES

1. Existing Setting

Prior to conducting a field reconnaissance of the project area, maps and records which indicate the location of known cultural resources in general study area were reviewed. A similar literature review was accomplished at the California Archaeological Inventory Northwest Information Center at Sonoma State University. In addition, the National Register of Historic Places and the California Inventory of Historic Resources were also consulted.
a. Historic Resources. A review of the historic documentation for the Point Richmond region indicates that the area is historically quite sensitive. Point Richmond is included on the National Register of Historic Places as an historic district. The district, which encompasses approximately 94 acres, is partially situated on the steep northeast-facing slope of the ridge which overlooks the Pacific Avenue boundary of the study property. The historic district extends northeasterly to Highway 17, and the district's center corresponds to Point Richmond's town center in the flatter area between the ridge and Highway 17. A single corner of the historic district extends to the project property at the intersection of Santa Fe Avenue and Washington Court.

The Point Richmond District is significant in terms of architecture and history. In the area of architecture, the district is a coherent representation of a turn-of-the-century industrial town. The Point Richmond District, through coherence of urban design and maintenance of older structures, possesses the aura of a bygone day. The district is the historic nucleus which formed the city of Richmond. It is also important to the San Francisco Bay Area as a whole because it represents a unique developmental history for the region. It still exists relatively unchanged from its beginnings and it continues to possess integrity and isolation. These latter two factors, in particular, contribute to its continued preservation (National Register of Historic Places Inventory—Nomination Form, Certified May 16, 1979, by the State Historic Preservation Officer, and included on the National Register, November 5, 1979).

b. Archaeological Resources. No visible surface evidence of the presence of cultural resources was encountered during the reconnaissance of the planning area. This does not, however, preclude the possibility that archaeological remains exist below the ground surface and could be encountered during land alteration activities associated with the proposed project.

No archaeological resources are recorded within the boundaries of the planning area, nor has the property been previously surveyed. However, records do indicate the existence of two known archaeological resources in the vicinity of the planning area. One of these sites (CA-CCo-244) is located approximately 100 feet north-ea of the planning area boundary and one site (CA-CCo-245) is situated approximately 1,500 feet northwest of the area boundary; this latter site is located at a sufficient distance from the project area so as not to be affected by development on the property. CA-CCo-244, while located only 100 feet from the property boundary, is situated on the opposite side of the ridge that borders the northeastern edge of the property and will not be affected by the development of the Tiscornia Estate planning area.

2. Impacts

While Point Richmond is valued as an historical area, the development of the planning area as proposed in the plan would not affect the historical or architectural integrity of the designated historical district. Even though one corner of the district abuts the planning area, the fact that the planning area is on the opposite side of the ridge from the majority of the district greatly limits the potential for adverse impacts.
The development plans for the planning area will have no adverse impacts on known cultural resources. Results of previous archaeological investigations indicate, however, that the general planning area vicinity does have some archaeological sensitivity and that the possibility exists of unearthing archaeological materials during construction activities.

3. Mitigation Measures

If prehistoric or historic deposits are encountered during ground-disturbing activities, work in the immediate vicinity should halt and a qualified archaeologist be contacted to evaluate the finds. Mitigation measures prescribed by the archaeologist and required by the city should be undertaken prior to resumption of construction activities.

H. SOILS AND HYDROLOGY

1. Existing Setting

The scope of the investigation included review of pertinent geologic mapping; geologic reconnaissance of the site and surrounding area; evaluation of the data collected; and preparation of preliminary evaluation and conclusions regarding site conditions and development.

a. Geologic Setting.

(1) Bedrock Geology. The primary geologic maps of the Point Richmond area are those of the California Division of Mines and Geology (CDMG: Knox, 1973), the U.S. Geologic Survey (USGS: Blake, et al., 1974). These are general purpose geologic maps which show the distribution of geologic units in the area, along with the distribution of surficial deposits, and they present an interpretation of geologic structure. They do not show the precise location of faults, nor do they classify them by activity status; and the landslides that are mapped are limited to those which are large and easily recognized. These maps indicate that the sloping hillside area of Point Richmond is within the outcrop belt of the Franciscan Assemblage, and each map indicates that in the area of the Tiscornia Estates, the Franciscan rocks consist of sandstone and shale. No faults or landslides are mapped on the site. The nearest mapped fault is the San Pedro–San Pablo fault which passes approximately 3,500 feet northeast of the planning area. This northwest-trending fault is not considered active by either the CDMG or USGS.

(2) Landslides. The USGS (Nilsen & Frizzell, 1975) and the CDMG (Knox & Bishop, 1973) have prepared landslide maps of the Point Richmond area. The USGS work was part of an areawide study, and their mapping is based almost exclusively on interpretation of aerial photographs, with limited field mapping in some areas. The CDMG map was based chiefly on field mapping of the Richmond–El Cerrito–San Pablo areas, but the primary thrust of that study was mapping landslides in the Berkeley Hills–San Pablo Ridge area. There is surprisingly little information on the Point Richmond area.
The planning area topography consists of very steep west-facing slopes, with the majority of the area having slopes over 30 percent. Figure 20 illustrates the planning area topography.

There are three (3) major drainage swales within the planning area. The central and southern swales are underlain by colluvium. The northern swale is considered to be a landslide. The remainder of the planning area is mapped as Franciscan bedrock.

b. Site Investigation. A geologic reconnaissance of the site was performed on March 11 and 12, 1985. Features that were observed and mapped include: (a) geomorphic features such as erosional gullies, landslides, colluvial-filled swales and scarps; (b) bedrock outcrops and cut slopes; (c) fill slopes; and (d) drainage culverts. Figure 21 delineates geologic and soil features. Site conditions are summarized as follows:

(1) Bedrock Geology. Natural outcrops are limited to the seaciff in the northwest portion of the planning area. However, bedrock is exposed in road cuts along the periphery of the planning area. Bedrock is also exposed in cut slopes on individual lots.

Competent Franciscan sandstone is exposed in the seaciff and on the wave-cut beach at the base of the seaciff. Massive sandstone also crops out in a cut slope on the east side of Western Drive (opposite the seaciff). Road cuts elsewhere in the vicinity expose rock that is shaley and/or highly fractured.

(2) Fill. Fill is present along the Pacific Avenue frontage of the property. In general the fill appears to be performing satisfactorily. If the turnout on Pacific Avenue (overlooking the onsite erosional gullies) is fill, it may present an unstable condition.

Any cuts that are made within or immediately downslope from fill areas could trigger failure of the fill material.

(3) Gullies and Drainage. The cause of the gullies in the central swale is not known in detail. A 12-inch-diameter culvert carries runoff across the Pacific Avenue right-of-way upslope from the gullies (see Figure 17). The location of the outfall from this culvert is unknown. The presence of a willow in the area of the gullies indicates that a subsurface spring may be present and that control of drainage (surface and subsurface) is a prerequisite for any development in the central swale.

(4) Swales. The southern and central swales are underlain by colluvium of unknown thickness. The central swale contains a small active earthflow, along with the erosional gullies.

The northern swale is steep and experiencing heavy erosion. We concur with the USGS that it is a slide area. However, the instability appears to be relatively shallow.
FIGURE 20
SLOPES

0 - 15%

15 - 30%

30% +
FIGURE 21
GEOLOGY

Ce Colluvium (mapped where inferred depth to rock is approx. 5 feet)

KJf Franciscan Assemblage (sandstone, siltstone and shale)

Cut slope (arrow at top-of-slope; gradients of 4:1 to 1:1; raveling)

Cut slope (arrow at top-of-slope; gradients of 4:1 to 1:1; raveling)

Fill slope (slope vegetated and performing satisfactorily)

Active earthflow and cut slopes experiencing heavy erosion

Dormant landslide (depth to rock uncertain)

Active gully erosion

Natural rock outcrop (sealiff and wavecut bench)

Culvert

Strike and dip of bedding

The swales are areas of thick soils, concentrated runoff, and soil creep. They also tend to be areas with a relatively shallow water table. Earthflows originating higher on the slope could impact structures built in the swale. The swales are considered to be less suitable for development. No dwelling units or structures should be planned for the axes of drainage swales. Such areas would be suitable for minor streets or driveways.

2. Impacts

The steepness of slopes throughout the planning area creates a situation in which the potential for significant geotechnical impacts would exist under almost any development scenario, particularly if grading and drainage were not sensitively handled. Improper grading or drainage could lead to landslides, soil creep, soil erosion, and sedimentation problems.

The plan has located the majority of the development sites outside the three main drainage swales in areas where the potential for geotechnical problems is the lowest. However, a limited amount of grading has been proposed in two of the swales. In the southern and central swales where a total of five new units have been proposed, the units would not be located in the axes of the drainage swales. The roadways have been aligned with the axes of the swales in order to reduce the potential hazard to the new units caused by erosion and soil creep. Removal of soil to ensure slope stability and some retention of upper slopes could still be required in the central swale to accommodate the proposed unit. Substantial grading would also be required to construct the access road in the central swale. Proper drainage improvements will be needed on the access drives proposed in both the central and southern swales in order to handle existing runoff plus increased runoff due to new graded and developed areas.

The units located on the upper slopes near Pacific Avenue could cause significant problems for homes below them if adequate drainage improvements are not made to capture increased runoff. The area along Pacific Avenue, however, is fairly stable and the slopes are so steep that development would not require cut-and-fill grading or retaining wall foundations that could disrupt the slope's stability. The remaining units are proposed for areas that are not particularly sensitive except for their steep slopes. In these areas excessive grading could lead to slope instability on the slopes above the units and could increase erosion and sedimentation problems.

3. Mitigation Measures

Based upon the very general review of planning area conditions that has been conducted, there appear to be no hazardous or unavoidable geotechnical conditions that would preclude the development of the area as proposed in the plan. Development on steep hillsides or on less stable colluvium in drainage areas is not unusual and can be mitigated by routine engineering procedures. The plan has recommended several measures and policies in the Land Use and Public Facilities Elements that should prevent any significant geotechnical impacts. These measures are summarized below:
• A master drainage plan should be developed for the planning area that provides for an efficient system of site drainage;

• A site-specific soil and geologic investigation will be required for all development in order to provide specific standards and criteria to guide site grading, drainage, and foundation design;

• All grading should be kept to a minimum, and building design should accommodate the natural terrain as much as is feasible; and

• Erosional gullies and areas of slope instability should be repaired as part of the improvements to the open space area in order to ensure the safety of development located downslope from these areas.

I. VEGETATION

I. Existing Setting

Site vegetation is composed primarily of introduced ornamental species and disturbed grassland species. There are three major tree groups on the site. A large grove of eucalyptus (Eucalyptus globulus) stands slightly north of the midsection of the property, on the north side of the central swale. The trees in this grove are mature, and the grove extends from about the 60-foot elevation to the 100-foot elevation. A second grove of eucalyptus (Eucalyptus globulus) is located along the northern edge of the property adjacent to the curved intersection of Tremont Avenue and Western Drive. This grove has fewer trees than the central grove but also has mature trees of significant height (30–40 feet).

The third grove consists of about 11–12 young Monterey pines (Pinus radiata) located on the southern slope of the central swale, near the large eucalyptus grove.

Monterey pines are scattered over the site in various locations. A smaller group of them surrounds the upper end of the southern drainage swale. These pines are immature, although some have reached heights ranging from 15 to 20 feet.

A group of five Monterey pines is scattered along the slope above Tremont Street. Individual pines have been planted adjacent to houses on the site, and some small immature specimens are located in the central drainage swale.

Other tree groups on the site include a row of acacias (Acacia baileyana) along the eastern edge of Western Drive (just north of Santa Fe Avenue), and acacias (Acacia longifolia and Acacia melanoxylon) along Tremont Avenue, along Western Drive across from the seashell area, and adjacent to Pacific Avenue along the eastern edge of the site.

Individual tree species include California buckeye (Aesculus californica), willow (Salix spp.), and one nut tree adjacent to Pacific Avenue along the eastern site border, above the central swale.
Scotch broom (Cytisus scoparius) covers large areas of the site, especially within and surrounding the drainage swales. Other shrub species include toyon (Heteromeles arbutifolia), coyote brush (Baccharis pilularis), and poison oak (Rhus diversiloba).

The rest of the site is covered with grassland species common to disturbed areas. Species noted during site surveys were vetch, lupine, chickweed, sourgrass, mullein, convolvulus, California poppy, wild radish, fennel, and several species of grass. Ice plant (Carpobrotus spp.) has been planted downslope of the fill area on Pacific Avenue, probably as erosion control.

No rare or endangered species were seen onsite during site visits.

2. Impacts

Development under the plan could result in the removal or disturbance of a number of the Monterey pines that are located on the site. The proposed development would threaten the groups of pines that are located in the upper end of the southern drainage swale, and in the area just above Tremont Avenue. The specific number of trees that would be threatened will depend on the design of the units in each of these three areas. The plan strongly recommends the preservation of mature trees whenever feasible. The development would also lead to the removal of other grass and shrub species and an overall decrease in the extent of their habitat area. Neither of the two large eucalyptus groves would be affected by the proposed development.

3. Mitigation Measures

Measures that are incorporated in the development and open space guidelines of the plan should be adequate to minimize disturbance to existing vegetation and protect and enhance the growth of native plant species throughout the open space area.

J. ALTERNATIVES

The proposed specific plan has evolved out of a lengthy planning process in which a number of specific land use and circulation alternatives were identified and examined as possible components of the Tiscornia Estate Specific Plan. The alternatives served as a means of investigating possible apportionments of land among various residential types and siting approaches, developing schematic circulation and open space plans for the area, and evaluating the comparative onsite and offsite impacts of various development approaches.

Each of these alternatives represented a possible variation on the general planning criteria that were developed early in the process based on input from city staff, planning area landowners, and neighborhood residents. To help understand the relative advantages and disadvantages of the various land use proposals, a number of evaluative factors were examined on a comparative basis for each alternative—i.e., land use and visual impacts, traffic-generation factors, market factors, and other environmental impact considerations. Each alternative was then presented
to the specific plan advisory group to elicit the members' responses regarding its compatibility with city, neighborhood, and landowner objectives.

A total of eight alternatives were developed during the plan formulation process. Initially five alternatives were considered that included a wide range of densities, housing types (e.g., single-family, multi-family, attached, detached, etc.), and site planning approaches. The basic characteristics of the five preliminary alternatives are described below:

1. **Status Quo**: 34 single-family detached units; 6,000 sq.ft. min. lots; 45 ft. height limit; density 4.4 units/acre; 0.74 acre of non-contiguous open space.

2. **Single-Family Planned Unit/Maximum Development**: 45 single-family detached units; 5,000 sq.ft. lots; units ranging from 2,000 to 3,000 sq.ft. in size; density 5.8 units/acre; 0.03 acre of open space.

3. **Mixed Building Types/Moderate Development**: 36 single-family detached and attached units; one- and two-story units ranging from 1,500 to 2,400 sq.ft. in size; density 4.6 units/acre; 3.5 acres of open space.

4. **Multiple-Family Housing Units**: 49 multiple-family units; two- and three-story garden apartment/condominium units ranging in size from 1,250 to 1,500 sq.ft. in size; density 6.3 units/acre; 4.77 acres of open space.

5. **Single-Family/Low Density Development**: 20 single-family detached and attached units; one- and two-story units ranging from 1,500 to 2,400 sq.ft. in size; density 2.6 units per acre; 5 acres of open space.

The advisory group's review of these five alternatives generated a number of general conclusions with regard to the planning area's eventual development character, including the following (a more detailed evaluation of these five alternatives has been documented in Memorandum 2):

- Densities of 5 units/acre or more as proposed in Alternatives 2 and 4 would not be appropriate for the area.

- Intensive development of the upper elevations of the site along Pacific Avenue and on the knoll would be inappropriate due to the significant adverse impact on views (see Alternative 2).

- Single-family detached units would be consistent with desired development character and the introduction of either multiple-family or attached single-family units should be discouraged (preference for Alternatives 1, 2, and 5).

- A uniform development pattern over the entire area (such as in Alternatives 1 and 2) is unacceptable because it would require extensive re-grading of the site that would destroy its natural character.

- Intensive development of the entire site (such as in Alternatives 1 and 2) would also eliminate any significant amount of useable public open space.
Major open space areas (as proposed in Alternatives 3, 4, and 5) should be maintained primarily as natural open space with only limited improvements (e.g., pedestrian paths, seating, etc.). A shoreline open space area should be preserved.

Based on these comments, three additional alternatives were developed. These alternatives were more focussed due to the advisory group's comments and were therefore also more similar to each other than were the initial set of alternatives. Each of these alternatives presented a slightly different site plan approach although all three maintained significant open space areas along Pacific Avenue, on the knoll, and along the shoreline. Each alternative also presented small differences in the total number of units proposed. The basic characteristics of each alternative are as follows:

6. Low Density/Single-Family Mix: 24 single-family attached and detached units; one- and two-story units ranging from 1,500 to 2,400 sq.ft. in size; density 3.2 units/acre; 3.75 acres of open space.

7. Single-Family/Upslope Development: 25 single-family detached units; one- and two-story units ranging from 1,800 to 2,400 sq.ft. in size; density 3.2 units per acre; 3.75 acres of open space.

8. Single-Family/Knoll Development: 30 single-family detached units; one- and two-story units ranging from 1,800 to 2,400 sq.ft. in size; density 3.9 units/acre; 3.5 acres of open space.

The advisory group's review of these three alternatives resulted in a vote to adopt Alternative 7 as the preferred land use concept of the advisory group. This alternative has been refined and is presented in this report as the draft Tiscornia Estate Specific Plan. The advisory group adopted Alternative 7 on a majority vote with one voting party abstaining. Del Mar Commerce Company, the abstaining party, agreed with the general concept presented in Alternative 7, but felt that the proposed density was too low. CEQA requires that, in addition to detailed analysis of the proposed project, the EIR include a discussion of reasonable alternatives to the project, in order to provide further understanding of the impacts of the project and possible approaches to reducing identified impacts. In addition to the CEQA-required "no-project" alternative, two other site plan alternatives will be examined. One of these will be an alternative submitted by Del Mar Commerce Company which proposes a higher development density for the planning area than is proposed in the plan. The third alternative will be the plan originally presented as Alternative 8. This alternative shares elements with both the proposed plan and the Del Mar Commerce Company proposal and proposes a unit density between the two.

1. Descriptions of Alternatives

Alternative A. No Project: The planning area would be developed in accordance with existing single-family residential zoning requirements (R-11C-D-A-6) for the site. Existing requirements include a minimum lot size of 6,000 square feet and maximum building heights of 45 feet. For the purposes of this alternative it is assumed that no further parcel assemblage would occur, although contiguous par-
cells under a single ownership would be merged to meet the minimum lot size requirement. This situation would create 29 developable lots that meet the 6,000 sq.ft. standard. However, an additional 5 lots, which are substandard in size, could also be developed under this alternative because the ownership of the properties predates existing zoning standards. The development rights on these properties date from a period when the lots were not considered substandard. Therefore, a total of 34 single-family detached units, an overall density of 4.36 units per acre, could be accommodated under this alternative. "Paper" streets that are currently laid out in the area would need to be developed to provide access to the new units. Open space areas would be limited to those remaining lots which are too small to be developed. The total open space area would be approximately 0.75 acre, but it would be located throughout the planning area in non-contiguous parcels.

Alternative B. Del Mar Proposal: This alternative proposes that the planning area be developed with single-family detached residences on lots exceeding the 6,000-square-foot minimum required by existing zoning. Lot lines would be re-drawn within the currently undeveloped portions of the planning area in order to minimize the need for new roads, to preserve views from Pacific Avenue, and to provide view-oriented lots along the site's upper slopes. A total of 35 single-family detached units with an overall development density of 4.49 units per acre could be accommodated under this alternative. Limits on unit size and height have not been proposed, but the concept calls for units that step down the hillside in order to minimize the apparent mass of new structures. The only significant change in the existing road system would be the addition of a loop road at the junction of High Street and Pacific Avenue to provide access to the seven units proposed for the knoll at the north end of the planning area. This alternative would preserve a narrow strip of undeveloped open space that would run the length of the planning area and on to which most of the units would back. Another open space area would be preserved along the shoreline in the northwestern corner of the planning area. Altogether the open space area would total approximately 2.48 acres.

Alternative C. Limited Upslope Development. Under this alternative the planning area would be developed with single-family detached residence, but a combination of smaller lots (less than 6,000 sq.ft.) and small-lot P.U.D.'s (planned unit developments) would be utilized to maximize the amount of open space area and minimize the need for new roads and grading. Lot lines within the currently undeveloped portions of the planning area would be re-drawn to accommodate these changes. A total of 30 single-family detached units with an overall development density of 3.8 units per acre would be accommodated under this alternative. The units would be limited to two stories and the smaller lots would require smaller units (probably in the 1,500 to 2,400 sq.ft. range). A short cul-de-sac (approximately 160 ft.) would be added to provide access to the six units proposed on the knoll at the north end of the planning area. In addition to open space areas along the shoreline, this alternative would preserve a significant band of open space on the slopes between Pacific Avenue and Western Drive. Altogether, the total open space area would be about 3.5 acres.

2. Comparative Land Use and Visual Impacts

Alternative A. No comprehensive plan for the harmonious use and coordinated development of the planning area would exist with this development. The absence
of design standards and development guidelines would lead to significant impacts on views into and through the site from surrounding areas, and a change in the area's development character from that of the surrounding areas. Multiple-story dwelling units would be located in areas of highest visual sensitivity, along the downslope immediately west of Pacific Avenue, and on the prominent knoll area. Long-distance bay views would be blocked, although the street rights-of-way would allow some view corridors between structures. Structures sited on the lower elevations could partially block views along these corridors as well as from residences on the upper slopes.

This alternative would completely change the natural open space character of the planning area, and would leave very little open space as either a visual or passive recreation resource.

Alternative B. This alternative would afford the maximum advantage of long-distance bay views from onsite by siting the largest number of units in the best view positions: along Pacific Avenue and on the prominent knoll. Even if units were stepped down the slope, their presence would significantly alter views from Pacific Avenue and existing residences to the east by siting development in the foreground and creating numerous narrow view corridors where there is now an unobstructed panorama. The plan would preserve an open section along Pacific Avenue that would continue to provide high quality views. The units proposed on the knoll would significantly alter the natural open space character of the knoll as seen from surrounding areas.

It is unlikely that development of the knoll could occur as shown in the plan. Houses shown in the southwest portion of the loop extend down into private property that is already developed (i.e., the Healy residence). This property is also shown comprising a portion of the open space area. It is probable that the proposed units would be situated higher on the knoll, which means they would be more liable to obstruct views from Pacific Avenue and the open space area in the center of the loop. Also, if the units were sited higher on the knoll the circumference of the loop would decrease, bringing the units closer together and creating narrower view corridors between them. As shown in the plan, two houses would encroach upon the large grove of eucalyptus trees near the center of the site which has been identified as a significant onsite resource. In addition to requiring the removal of trees to build these two units, the grove could be additionally threatened because it would not accommodate bay views, thus creating pressure for further removal of trees.

The open space system proposed in this alternative for the area east of Western Drive would provide some visual relief from development, particularly at the south end of the planning area. At the north end of the planning area there would be little space available between proposed and existing lots, and it is questionable whether an adequate open space easement could be provided without infringing upon private property. As presented, the open space corridor would occupy some of the site's steepest slopes. The open space provided along the shoreline would be a positive amenity.

Alternative C. Development of the planning area under this alternative would restrict obstruction of views to limited areas at either end of Pacific Avenue. In
these areas long-range views would be at least partially obstructed. Design guidelines would help minimize this impact and preserve view corridors between structures. The smaller lots and smaller units would permit development of the knoll while still providing substantial open space between development on the upper and lower slopes. The use of a cul-de-sac rather than a loop road would also allow for a more compact development at the top of the knoll. By restricting development to the top of the knoll the alternative would preserve much of the site's open space character as seen from surrounding areas. This alternative also preserves public access to this important vista point while still permitting development of the knoll.

The significant amount of open space that would be preserved in the central portion of the planning area would provide an important visual resource and open space amenity for both planning area and neighborhood homeowners.

3. Geotechnical Impacts

All three alternatives are feasible in relation to geotechnical factors. The principal difference will be the amount of grading and other measures that would have to be instituted to make each alternative safe.

Alternative A. This alternative would have significant geotechnical impacts due to the location of units and paper streets which have been sited perpendicular and parallel to the areas of steepest slopes without regard for the topography. The installation of the paper streets would require a radical regrading of a major portion of the site along with the use of retaining walls and crib walls, all of which would eliminate any natural open space values the area now possesses. This alternative also does not provide grading guidelines for individual units, which could lead to extensive cutting and filling of individual sites to create flat building pads rather than using more site-sensitive methods. All three alternatives site units in or near the major drainage swales. Units in these areas will require extensive grading and surface earth removal to ensure slope stability.

Alternative B. By siting units along the more stable upper slopes along Pacific Avenue and on the knoll and by limiting the amount of new road construction in the planning area, this alternative limits the probable geotechnical impacts; however, there are two areas which would be problem areas. The development on the north side of the knoll is located in a landslide area which is very steep and also experiencing heavy erosion. While it is believed that the instability in this area is relatively shallow, special precautions would be required for any development in this area. In the area just north of Santa Fe Avenue, three units are shown having access off Western Drive. The slopes in this area are very steep (100 to 125 percent) and the extensive grading required to put driveways in along this stretch of road would lead to significant natural resource and view quality impacts (e.g., loss of vegetation, loss of rural character, etc.).

Alternative C. The geotechnical impacts associated with this alternative would be essentially the same as those in Alternative B with the exception that no units are proposed to take access off Western Drive where there are excessive slopes. The development on the knoll may not be affected as much by the slide area on the north side because the units would be sited more on top of the knoll, but special precautions would still be required.
4. Circulation and Parking. The traffic impacts for all three alternatives would not be substantially different from those identified for the plan. There would be incremental differences based on the number of units proposed (e.g., Alternative B would generate 35 peak-hour trips and Alternative C would generate 30 peak-hour trips) but none of the alternatives would be likely to affect the level of service now available on surrounding roadways. Under all alternatives the street improvements recommended in the plan would still be required. None of these alternatives recommends the closure of Pacific Avenue; however, Pacific Avenue is currently considered too narrow to safely accommodate the increased levels of two-way traffic that would occur under all three alternatives. Possible ways of correcting this problem would be to widen Pacific Avenue, change Pacific Avenue to a one-way street (either direction) or close Pacific Avenue to through traffic as recommended in the plan.

Parking would probably be a traffic problem under all alternatives because the steepness of planning area slopes and the narrowness of planning area streets limits the availability of both on- and offstreet parking spaces. Alternative A would have significant impacts because the existing zoning only requires new residences to provide only one offstreet parking space. Alternative B would have a significant impact even if it is assumed that each unit provides two offstreet street spaces. The steepness of the upper slopes and the narrow uses of Pacific Avenue would make it very difficult to accommodate even one extra onstreet space for each of the 15 units proposed in this area. Alternative C would create slightly less impact due to the slightly lower number of units proposed.

5. Infrastructure and Service Cost Factors

None of the three alternatives would cause substantially different infrastructure or service impacts than those identified for the proposed plan. All improvements to sewer, water, and storm drainage facilities required by the plan would be required for each of the alternatives. The primary difference would be a decrease in the cost per unit for improvements due to the increased number of units proposed in each of the alternatives. Each of the alternatives would also generate some additional costs, however. Alternative A would require substantially longer extensions of sewer and water mains due to the dispersed siting of development. Alternatives B and C would both require water and sewer main extensions and an additional fire hydrant on the knoll in addition to those improvements required in the plan. Police and fire protection services would not be adversely affected by any of the alternatives.

K. GROWTH INDUCEMENT

The proposed development of the planning area would add 25 single-family residential units and a projected population of 75 people to the community in Point Richmond. This would represent a minor population increase for both the Point Richmond community and the city of Richmond. Overall the project would have very limited growth-inducement effects, primarily because it is surrounded by established residential development. The project represents an in-fill development more than it does a growth-inducing expansion. The proposed plan would involve improvement and extension of water and sewer service facilities which could
facilitate additional development on isolated lots in the surrounding area, but
would not create any development potential that does not already exist. The
improvements proposed for the road system were purposefully limited, to discour-
age all but local use of the area's roadways.

The 3.98-acre permanent open space area proposed as part of this development
would prohibit additional future development within the planning area. Finally, the
plan purposefully limits the development potential of the area to a lower density
than in much of the surrounding area in an effort to provide the highest quality
residential environment.

L. UNAVOIDABLE AND IRREVERSIBLE ADVERSE EFFECTS

No unavoidable and irreversible significant adverse impacts were identified. Some
lesser impacts, not "adverse" or "significant" in the strict CEQA sense, were found.
The development of the planning area would result in a relatively minor loss
(3.56 acres) of natural open space to residential use, and would restrict the scenic
Bay views from selected viewpoints within and surrounding the planning area. Sub-
sequent development of the proposed residential units will lead to incremental
increases in the demand for public services including water, sewage treatment,
solid waste disposal, police and fire services, schools, road maintenance, and rec-
reational facilities. The plan would also lead to minor increases in traffic on local
streets and increased stormwater runoff. Energy consumption for construction,
operation, and transportation would also be unavoidable.

M. SHORT-TERM VERSUS LONG-TERM ENVIRONMENTAL PRODUCTIVITY

In keeping with California Environmental Quality Act (CEQA) guidelines for EIR
content, this section includes consideration of impacts that narrow the range of
long-term beneficial uses of the environment.

Accommodation of 25 units on 3.56 acres of the planning area and commitment of
the remaining 3.98 acres to permanent open space would restrict future develop-
ment on the site. The 3.56-acres of developed area would be permanently lost to
urban uses. On the other hand, 3.98 acres of open space land would be permanently
protected from further urbanization.

N. PERSONS, ORGANIZATIONS, AND AGENCIES CONTACTED

Art Summers, U.S. Army Corps of Engineers
Ted Wooster, California Department of Fish and Game
Nancy Wakeman, San Francisco Bay Conservation and Development Commission
Thomas H. Lindenmayer, Environmental Coordinator, East Bay Regional Park Dis-
trict
Mark Lynch, Deputy Fire Chief, City of Richmond Fire Department
Shirley Weiland, Secretary to Director of Administrative Services, Richmond Uni-
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Lucretia Edwards
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Jerry Feagley
Edmund Burger, Architect for Del Mar Commerce Company
Olene Sparks, planning area landowner
John Scott, planning area landowner
### APPENDIX A. LEVEL OF SERVICE AND CAPACITY DEFINITIONS

**ROADWAY AND INTERSECTION LEVEL OF SERVICE CONCEPT**

**Level of Service A**
- Volume/Capacity Ratio = 0-.59
- Free flow conditions
- Low volumes
- High operating speed
- Uninterrupted flow
- No restriction on maneuverability
- Drivers maintain desired speeds

**Level of Service B**
- Volume/Capacity Ratio = .60-.69
- Stable flow condition
- Operating speeds beginning to be restricted

**Level of Service C**
- Volume/Capacity Ratio: .70-.79
- Stable flow but speed and maneuverability restricted by higher traffic volumes
- Satisfactory operating speed for urban conditions
- Delays at signals

**Level of Service D**
- Volume/Capacity Ratio = .80-.89
- Approaching unstable flow
- Low speeds
- Major delays at signals
- Little freedom to maneuver

**Level of Service E**
- Volume/Capacity Ratio = .90-.99
- Lower operating speeds
- Volumes at or near capacity
- Unstable flow
- Major delays and stoppages

**Level of Service F**
- Volume/Capacity Ratio = 1.00 or greater
- Forced flow (jammed) conditions
- Low speeds
- Volumes above capacity
- Extended stops because of downstream congestion
APPENDIX B. EIR AUTHORS AND CONSULTANTS

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