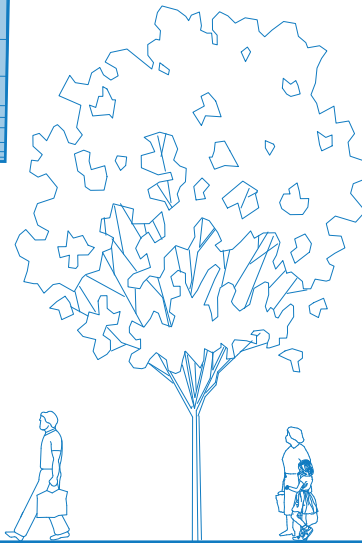


CITY OF ANTIOCH

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HILLCREST STATION AREA SPECIFIC PLAN

PUBLIC REVIEW DRAFT JANUARY 2009

CITY OF ANTIOCH

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1

INTRODUCTION

1.1 VISION

The Hillcrest Station area presents a major opportunity to create an exciting new district for Antioch. The 375-acre site is unique in East County, offering large land acreage with freeway visibility at a strategic location - the juncture of State Route 4 (SR 4) and State Route 160 (SR 160). BART is scheduled to open a new eBART station in 2015, connecting into the Pittsburg/Bay Point line. The area has been identified as a major opportunity site for transit-oriented development—an opportunity to take advantage of the major public investment in transit infrastructure and to create a compact area with both jobs and housing.

Over the past 18 months, community members, property and business owners, city staff and decision-makers, regional and local agencies, and technical experts have collaborated to come up with a flexible, long-range Specific Plan that will guide the transformation of this site. They have worked to identify the numerous opportunities and constraints that shape the land use, circulation, and open space components of the Plan.

Due to its high-visibility location and potential accessibility from Antioch and other East County communities, this site has the potential to become

a unique destination. The Hillcrest Station Area Specific Plan provides the framework for a pedestrian- and transit-oriented district with tree-lined streets, conveniently-located stores and services, and great public spaces and recreation opportunities. Employees will be able to ride eBART to new jobs, reversing commute patterns, and reducing traffic on SR 4. Existing and new residents of Antioch can find new types of housing options within walking distance to transit, work, shopping, dining, and entertainment venues. East Antioch Creek is to be improved to provide natural habitat, drainage, and a unique asset in the form of a linear park. Together, these elements will create an attractive, livable, high-intensity, transit-oriented community.

The vision developed for the Hillcrest Station area during the planning process is summarized as follows:

Create a vibrant signature area for Antioch, offering shopping, restaurants, and entertainment, combined with office and residential uses, in a compact pedestrian-oriented setting. Develop the area as a model of “transit-oriented development”, where residents and workers can take advantage of transit instead of driving, and can walk to stores, restaurants, and services.

1.2 THE HILLCREST STATION AREA

The Planning Area for the Hillcrest Station Area Specific Plan is shown on the aerial photo in Figure 1-1. It encompasses the 375 acres of undeveloped land surrounded by Hillcrest Avenue, SR 4 and SR 160. The larger Study Area shown in Figure 1-1 was also defined for the project, in order to evaluate circulation and access to the site and the future eBART station.

The photos on this page show the existing conditions in the Hillcrest Station Area. The Planning Area is defined mostly by unimproved open space covered with grasses and small trees. There are a few isolated residential and industrial sites. The southeastern portion of the area is dominated by two rolling hills. East Antioch Creek meanders across the Planning Area. The PG&E Substation, electrical transmission lines and towers are dominant visual features. A Union Pacific railroad line runs in an east-west alignment across the site.

The Union Pacific railroad line and existing industrial uses.



East Antioch Creek and Hillsides.



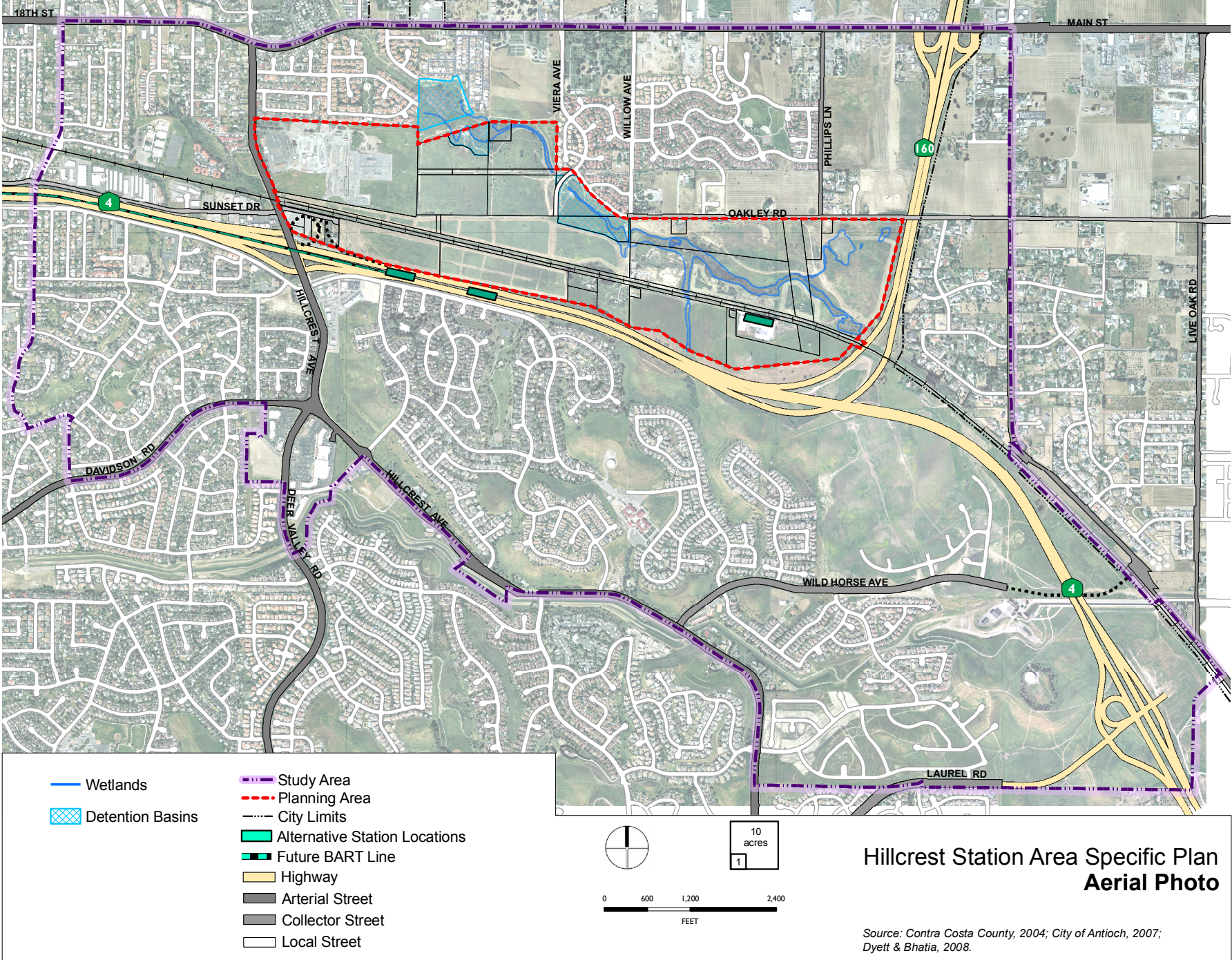
Transmission towers and powerlines.



Non-native grasslands and rolling hills.



Figure 1-1: Aerial Photo



Source: Contra Costa County, 2004; City of Antioch, 2007; Dyett & Bhatia, 2008.

1.3 PURPOSE AND OBJECTIVES

Plan Purpose

The Hillcrest Station Area Specific Plan will serve as the land use regulatory document that governs the development of the Planning Area. It will also meet the requirements of a Ridership Development Plan (RDP) as required by BART (Bay Area Rapid Transit) and the Metropolitan Transportation Commission (MTC) for evaluation and construction of the eBART line. The General Plan Amendment that accompanies the Specific Plan will also satisfy the BART and MTC requirements.

Plan Objectives

Land Use and Development

- Establish a signature area of Antioch with high quality development and dynamic pedestrian areas that add to the quality of life of the city.
- Designate sites for new employment uses, including both office and retail uses, that add quality jobs and improve the City's job/housing balance. Accommodate at least 2,300 jobs in order to create an employment center and improve the City's jobs/housing balance.
- Create a transit village residential neighborhood, with a variety of high-density housing types within walking and bicycling distance of the transit station. Accommodate between 650 and 2,500 housing units within the project area.
- Designate sites for retail uses that can take advantage of the freeway visibility and access.

Circulation

- Generate transit ridership to support the public investment in eBART.
- Construct roads to serve projected increases in traffic.
- Minimize impacts on regional highway facilities and on surrounding residential neighborhoods.
- Enhance multi-modal access and connectivity for pedestrians, bicyclists, automobile drivers, bus, and eBART passengers.

Environmental Protection

- Provide appropriate protection for wildlife habitat, biological resources, and other sensitive natural features of the Planning Area.
- Ensure that land uses and circulation routes are compatible with the surrounding neighborhoods.
- Ensure that sensitive receptors such as homes and schools are adequately protected from noise and air emissions.

Infrastructure and Financing

- Establish infrastructure for roads, water, sewer, storm drainage, utilities, and other systems needed to support development.
- Establish parks, trails, and other community facilities necessary to serve future development.
- Establish financing mechanisms to pay for the infrastructure required to support development. Ensure that the revenues generated from the area and the expenses to provide services do not negatively affect the City's General Fund.

1.4 PLANNING PROCESS

The City of Antioch, in partnership with the Dyett & Bhatia consulting team, led the planning process for the Hillcrest Specific Plan. BART and Brosamer & Wall, a major property owner, also contributed to the plan by providing data and studies relevant to the area.

Background Research

The planning process began with researching the issues, opportunities, and constraints through field visits and evaluating relevant planning documents and studies. The Existing Conditions, Opportunities, and Constraints Report summarized the results. Individual stakeholders were interviewed to provide additional context and understanding of the vision for the area. The Stakeholder Interviews Summary Report reviews the major topics and information gathered during the initial outreach phase. A Market Overview and Absorption Projections Report was also prepared, analyzing the market demand and absorption potential for residential, retail, and office uses. All three documents are available for review at the City's Economic Development Department.

Alternatives

The next stage involved drafting alternative land use and circulation diagrams and evaluating potential traffic, environmental, and market impacts. This work was summarized in the Alternative Development Scenarios Report, dated May 2008. Meetings with the City Council, consulting team, city staff, and property owners provided feedback in order to refine the diagrams. City Council Study Sessions were conducted on May 20, July 8, and October 28, 2008. The alternative diagrams and draft project description were presented to the Planning Commission as part of the Environmental Impact Report scoping session on June 18, 2008.

Community Workshops

A community workshop, attended by approximately 50 residents and interested parties, was conducted on September 18, 2008. Comments and concerns expressed at the workshop were incorporated into the plan diagrams and draft plan policies.

Another public workshop was conducted at the Planning Commission meeting on December 3, 2008 to garner feedback from community members about the plan policies, final plan diagrams, and the draft implementation strategy.

TABLE 1-1: SPECIFIC PLAN PROCESS

Task 1:	Identify Issues, Opportunities, and Constraints
Task 2:	Community Outreach
Task 3:	Station Area Plan Alternatives
Task 4:	Revised Alternatives
Task 5:	Final Alternatives and Development Standards
Task 6:	Implementation Strategy
Task 7:	Draft Station Area Specific Plan and Draft EIR
Task 8:	Adoption of Final Plans
Task 9:	Infrastructure and Costs Analysis
Task 10:	Financing Strategy
Task 11:	Infrastructure Strategic Plan

Draft Plan and EIR Documents

The diagrams, development summaries, and plan policies were finalized as part of the Draft Specific Plan. These elements were incorporated into the Draft Environmental Impact Report. The public review drafts of the Plan and Draft EIR were released in January 2009. The draft documents were reviewed by the Planning Commission and City Council in January and February 2009. The final documents were prepared and presented at hearings in March and April 2009.

Implementation

The Specific Plan includes an implementation strategy based on the phasing of development and necessary infrastructure. In addition, the regional planning agencies, the Association of Bay Area Governments (ABAG), and Metropolitan Transportation Commission (MTC) awarded the City of Antioch a grant to prepare a more detailed Infrastructure Phasing and Financing Plan to support the Hillcrest Station Area Plan. The Plan is a separate document and will act as the financing implementation mechanism of the Specific Plan. It is anticipated that the Infrastructure Phasing and Financing Plan will be completed by Fall 2009.

The City of Antioch adopted the final Hillcrest Station Area Specific Plan and certified the Final Environmental Impact Report on _____, 2009.

1.5 PLAN ORGANIZATION

This Specific Plan has seven chapters including this introductory chapter. The chapters include explanatory text, graphic illustrations, and Plan policies.

The Plan policies are highlighted in color, because they are the regulatory components of the Plan which the City Council officially adopts.

Chapter 2: Background

This chapter presents a summary of the development context and existing conditions that provide the structure for the plan framework.

Chapter 3: Land Use, Circulation, and Open Space

This chapter summarizes the proposed Specific Plan, and describes the development program. It is divided into three sections that detail the land use, circulation, and open space plans and policies.

Chapter 4: Urban Design

This chapter identifies the Plan's major policies related to the public realm – streets, parks, and public spaces. Street sections, landscaping guidelines, and other urban design factors are defined. Policies related to buildings and parking are also included.

Chapter 5: Environmental Protection and Hazards

This chapter lists all the policies that need to be followed in order to protect the environment and protect the public from hazards. Environmental topics include: biological resources, air quality, greenhouse gas emissions, cultural resources, hydrology, and water quality. Hazards issues include geologic safety, hazardous materials remediation, and noise. Green building and energy-efficiency policies are also included.

Chapter 6: Utilities & Infrastructure

This chapter defines the utility and infrastructure improvements required to support the new development proposed in the Plan.

Chapter 7: Implementation

This chapter describes how development will be phased over time, based on the funding and financing of major infrastructure improvements. It also describes the requirements for master plans at the early stages of the development review process.

1.6 LEGAL CONTEXT AND RELATIONSHIP TO OTHER PLANS

A Specific Plan Under California Law

California Government Code (Section 65450) states that planning agencies may prepare specific plans for the systematic implementation of the general plan for all or part of the area covered by the general plan. “A specific plan shall include a text and a diagram or diagrams which specify all of the following in detail:

- The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.
- The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.
- Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.
- A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).”

The Hillcrest Station Area Specific Plan is consistent with these requirements of State law.

Relationship to General Plan

State law states that specific plans can only be adopted or amended if they are consistent with the adopted local general plan. The intent of the Hillcrest Station Area Specific Plan is consistent with the goals of the 2003 General Plan. The General Plan identifies the Planning Area as part of the SR 4 Industrial Frontage Focus Area. The General Plan policies direct this area to become a transit-oriented development, with a mix of office, business park, light industrial, retail commercial, and high-density residential uses, when rail transit is built. The Hillcrest Station Area Specific Plan implements this policy direction and provides more specific detail and implementation policies.

As part of the implementation of the Specific Plan, the City will need to amend the 2003 General Plan to ensure consistency within the details of both plans. The land uses classifications and land use maps will be amended to match the mixed-use Specific Plan. The uses allowed and development standards in the General Plan will also be amended to reflect a more detailed analysis completed during the Specific Plan planning process.

Relationship to East Antioch Specific Plan

In April 1981, the City of Antioch adopted the East Antioch Specific Plan for the 677-acre area bounded by East 18th Street on the north, SR 4 on the south and east, and existing City limits along the eastern boundary of the PG&E parcel on the west. This Specific Plan has been superseded by the 2003 City of Antioch General Plan, and has been replaced by the Hillcrest Station Area Specific Plan.

Metropolitan Transportation Commission Resolution 3434

The Hillcrest Station Area Specific Plan meets the requirements established by Metropolitan Transportation Commission's Resolution 3434 for a Station Area Plan. The Specific Plan responds to the Resolution's various elements:

- Current and proposed land use by type of use and density within the half-mile radius, with a clear identification of the number of existing and planned housing units and jobs;
- Station access and circulation plans for motorized, non-motorized and transit access. The station area plan should clearly identify any barriers for pedestrian, bicycle and wheelchair access to the station from surrounding neighborhoods (e.g., freeways, railroad tracks, arterials with inadequate pedestrian crossings), and should propose strategies that will remove these barriers and maximize the number of residents and employees that can access the station by these means. The station area and transit village public spaces shall be made accessible to persons with disabilities;
- Estimates of transit riders walking from the half mile station area to the transit station to use transit;
- Transit village design policies and standards, including mixed use developments and pedestrian-scaled block size, to promote the livability and walkability of the station area;
- Transit-Oriented Development (TOD) parking supply and parking requirements for station area land uses, including consideration of pricing and provisions for shared parking;
- Implementation plan for the station area plan, including local policies required for development per the plan, market demand for the proposed development, potential phasing of development and demand analysis for proposed development.

1.7 ENVIRONMENTAL REVIEW

Environmental Impact Report Prepared For the Specific Plan

A programmatic Environmental Impact Report (EIR) was prepared concurrently with the preparation of the Specific Plan, pursuant to the requirements of the California Environmental Quality Act (CEQA). Policies within the Specific Plan minimize significant environmental impacts, based on the analyses of the EIR.

The EIR is for the Hillcrest Station Area Specific Plan project. The project includes the Specific Plan as well as the subsequent actions needed to implement the Plan and make it consistent with existing plans and regulations. The City will adopt an amendment to the Antioch General Plan concurrently with adoption of the proposed Plan. The General Plan amendment will include changes to the Land Use and Circulation Elements. Implementation of the proposed Plan will also include, but is not limited to, such tasks as amending the City of Antioch Zoning Ordinance and Map, updating the City's Capital Improvements Program (CIP), and establishing development impact fees.

The EIR undertakes quantitative and qualitative analysis to assess service requirements for sewer, water, and storm drainage, as well as schools, fire, police, and other public services. A transportation analysis was conducted using the model prepared by the County and the Contra Costa Transportation Authority for analyzing regional circulation. The EIR also makes a full quantitative analysis of the buildout and traffic impacts of the existing General Plan policies, which are compared to those of the Hillcrest Area Specific Plan project. Refer to the Hillcrest Area Specific Plan Draft Environmental Impact Report, Clearinghouse Number 2008052128, dated January 2009; and the Final Environmental Impact Report dated March 2009.

Environmental Review For Future Development Projects

The Hillcrest Station Area Specific Plan Program EIR assesses the implications of an assumed program of residential, retail, office, light industrial, and open space uses, which is described in Chapter 3. When specific development proposals are submitted to the City for development in the Hillcrest Station Area, the City will determine whether or not the environmental effects of the proposed projects were addressed in the Program EIR.

If the City finds that proposed projects would not result in any additional environmental impacts beyond those considered in the EIR, no new environmental analysis would be required. If the City determines there are potential environmental impacts not studied in the EIR, or that environmental conditions have changed substantially since the EIR was prepared, the City could require further environmental review to determine appropriate revisions to the project, conditions of approval, or mitigation measures.

2

BACKGROUND

2.1 REGIONAL CONTEXT AND PROJECTED GROWTH

The Hillcrest Station Area is located in East Contra Costa County in northeastern Antioch, as shown on Figure 2-1, Regional Context. The Planning Area is at the junction of State Route 4 (SR 4) and State Route 160 (SR 160). Figure 2-2 shows the Planning Area for the Specific Plan, and the surrounding Study Area that provides the context for land use and circulation. The Planning Area is approximately 375 acres, all within the Antioch Urban Limit Line.

East Contra Costa County is one of the fastest growing areas of the San Francisco Bay Region. Between the years 2005 and 2030, more than 32,000 households and 47,000 jobs are expected to be added in the four communities of Antioch, Brentwood, Oakley, and Pittsburg alone. To the west of Antioch are the communities of Concord and Walnut Creek, which are major employment destinations. To the east are the communities of Oakley, Brentwood and Discovery Bay, which have experienced rapid growth in their residential sectors over the past ten years.

With a population of 100,500, Antioch offers a variety of employment, shopping and recreational activities. Land remains plentiful and affordable, compared with other parts of the Bay Area. In 2007, the Association of Bay Area Governments (ABAG) estimated that Antioch will grow to a population of 128,400 (almost 30 percent increase) and will have 40,800 jobs (almost 100 percent increase) by 2035.

TABLE 2-1: CITY OF ANTIOCH ABAG PROJECTIONS

YEAR	2005	2010	2015	2020	2025	2030	2035
POPULATION	101,500	106,000	110,400	115,000	119,600	124,000	128,400
<i>Percent Growth</i>	12%	4%	4%	4%	4%	4%	4%
HOUSEHOLDS	32,760	34,560	36,360	38,090	39,890	41,580	43,270
<i>Percent Growth</i>	12%	5%	5%	5%	5%	4%	4%
JOBS	20,510	22,680	25,930	29,350	33,000	36,750	40,800
<i>Percent Growth</i>	4%	11%	14%	13%	12%	11%	11%
JOBS/HOUSEHOLD RATIO	0.63	0.66	0.71	0.77	0.83	0.88	0.94

Source: ABAG Projections 2007.

Figure 2-1: Regional Context

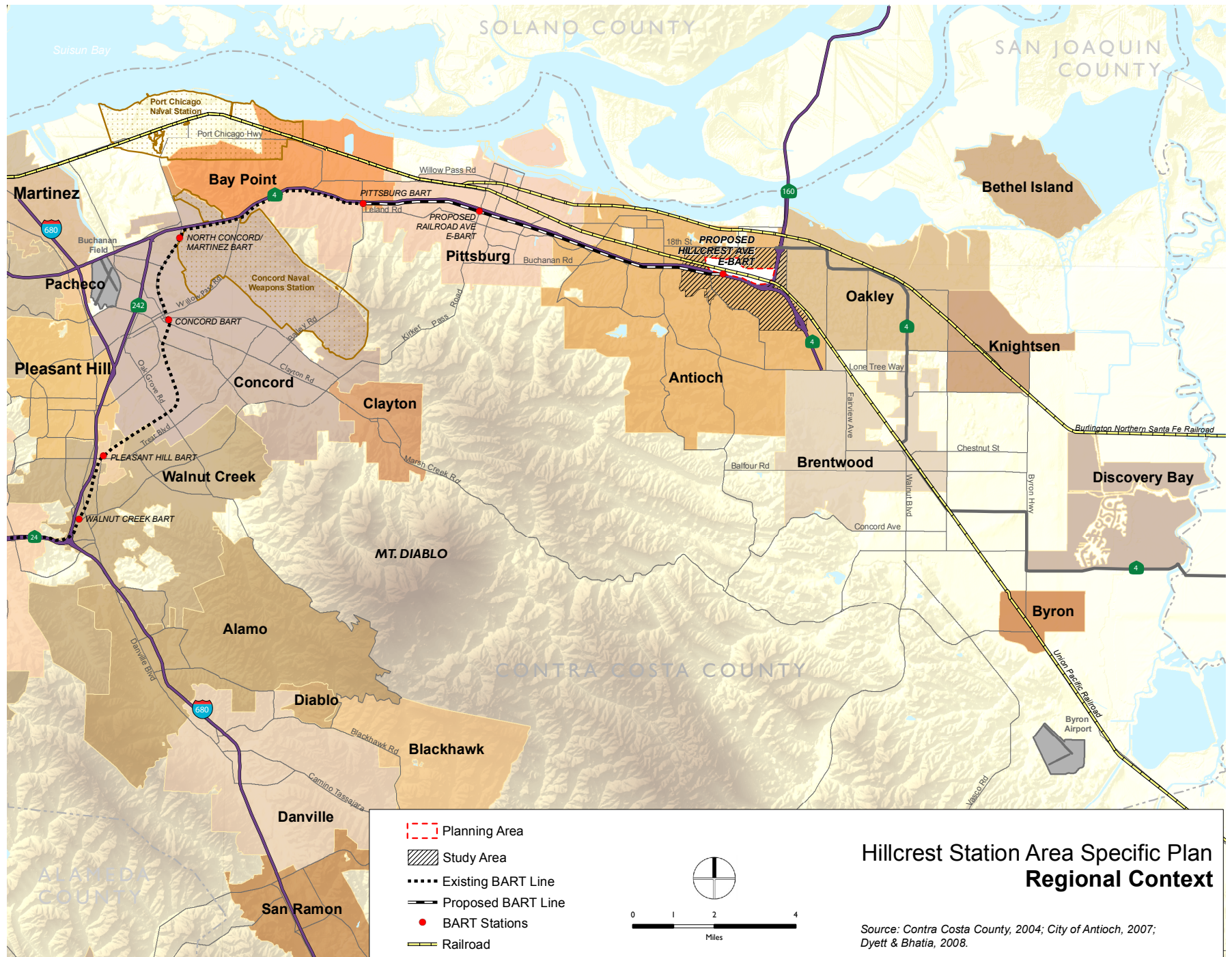
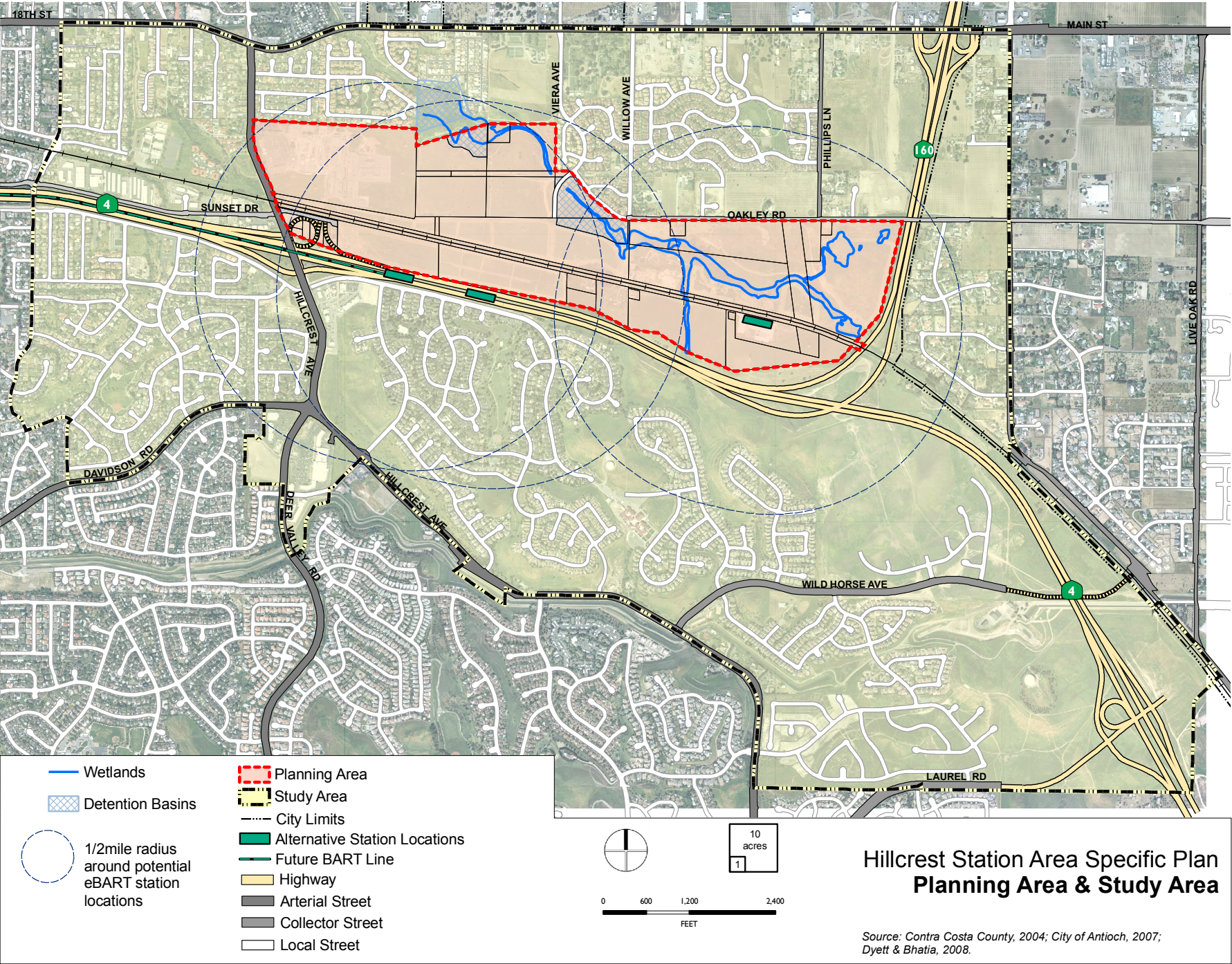


Figure 2-2: Planning Area and Study Area



2.2 TRANSPORTATION CONTEXT

As East Contra Costa County continues to add households and jobs, traffic delay and congestion on SR 4 and on the few alternative street and highway routes available to commuters are expected to increase. Many East County residents travel west to get to work each day, causing serious traffic congestion on SR 4, the only east-west highway in East County. Caltrans and regional transportation agencies are currently widening SR 4 and completing the SR 4 Bypass to help accommodate traffic.

County Transportation Projects

In November 1988, Contra Costa County voters approved a local one-half cent sales and use tax measure, Measure C, to address specific improvements to the transportation system. In 2004, the voters approved Measure J, which extended the local one-half cent sales tax for an additional 25 years. Three major projects related to the Hillcrest Station Planning Area are being funded by Measures C and J: the SR 4 Widening Project, the SR 4 Bypass Project that extends SR 4 southeast to Brentwood, and the eBART Expansion Project. East County's regional fee program is providing the majority of the funding for the SR 4 Bypass Project.

eBART Project: Pittsburg Bay Point to Hillcrest

BART is planning to extend service from the Pittsburg/Bay Point Station into East Contra Costa County. The Proposed Project consists of Diesel Multiple Unit (DMU) technology running from the Pittsburg/Bay Point station and extending almost ten miles down the median of SR 4. This project, called eBART, would provide a cost-effective alternative to driving along the corridor. It includes the terminus station near Hillcrest Avenue, plus a transfer station just east of the existing Pittsburg/Bay Point station and a station at Railroad Avenue in Pittsburg. Future phases

could extend beyond Antioch to Oakley, Brentwood, Byron/Discovery Bay and beyond.

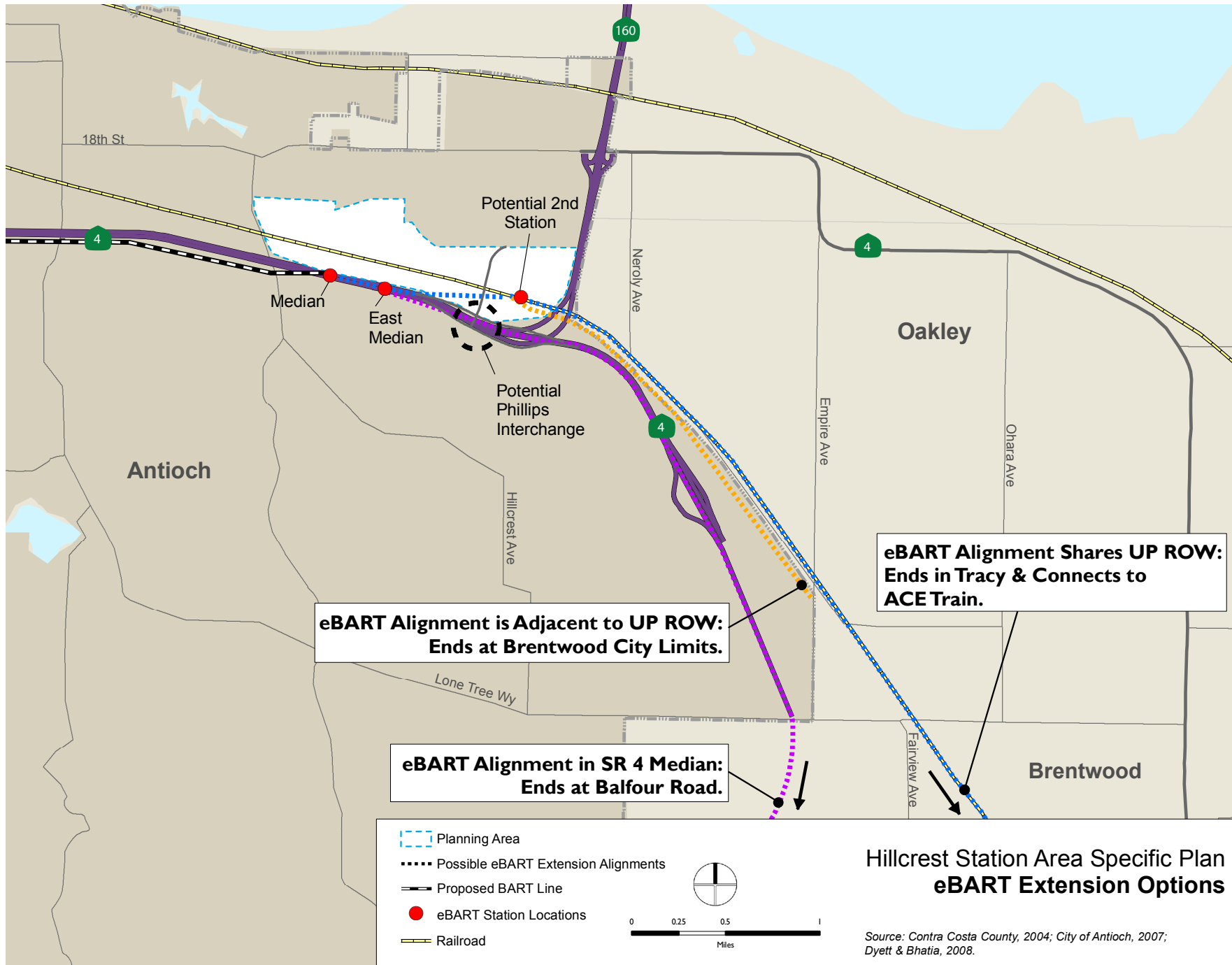
The eBART project is expected to begin construction in 2010. The project will be coordinated with the widening of SR 4. Construction is expected to occur in phases until 2015. The first year of eBART operation is expected to be 2015. Construction of the Livermore Road to Hillcrest section of the project is estimated to begin in 2013 and last 15 months. More information about the eBART project is available online at www.ebartproject.org.

Future eBART Extension

Regional transportation agencies, as well as the cities of Oakley and Brentwood, want to ensure that any eBART alignment and land use plan adopted for the Hillcrest Station Area does not preclude a future eBART extension. Figure 2-3 illustrates the potential extension routes. Ultimately it would be desirable to connect the eBART extension all the way to the ACE train, through the Livermore Valley, and thereby create a transit loop through eastern Contra Costa and Alameda Counties, connecting back to BART at the Dublin/Pleasanton Station.

In the future, eBART will consider further extensions in a southeasterly direction into East County. There are three potential alignments – 1) continuing in the SR 4 Bypass median, 2) constructing an extension adjacent to the Union Pacific Railroad Right-of-Way (known as the Mococo Line, or 3) sharing the Mococo right-of-way. Extension within the SR 4 Bypass is only feasible to Balfour Road in Brentwood, unless the Bypass is extended. Extending eBART service adjacent to the Mococo Line is only feasible to the city limits of Brentwood near Laurel Road, due to housing development near the railroad right-of-way. The third option of sharing the railroad right-of-way would allow eBART service to extend to Tracy. This option would serve Oakley, Brentwood, Byron, and potentially Discovery Bay.

Figure 2-3: Future BART Extension Options



2.3 HILLCREST EBART STATION

City Preferred Location: East Median Station

If the eBART station is to be located in the SR 4 median, the City's preferred location for it is approximately 2,175 feet east of the Hillcrest Interchange. This is referred to as the "East Median Station." The eastern location has several major advantages. It decreases the walking distance from the station to developable areas, improves the visual context of the station area for development (by not focusing on the PG&E substation), and provides more flexibility for shared parking.

BART has completed only a preliminary evaluation of this station location. The plans prepared include both the East Median Station and a potential future second station near Phillips Lane. The maintenance yard would need to be located outside of the SR 4 median between the highway and railroad tracks near the existing Willow Avenue. The yard would be almost 12 acres, to accommodate all the operational and maintenance facilities. A tunnel under the westbound SR 4 lanes would connect the tracks from the East Median Station to the yard and the potential Phillips Station.

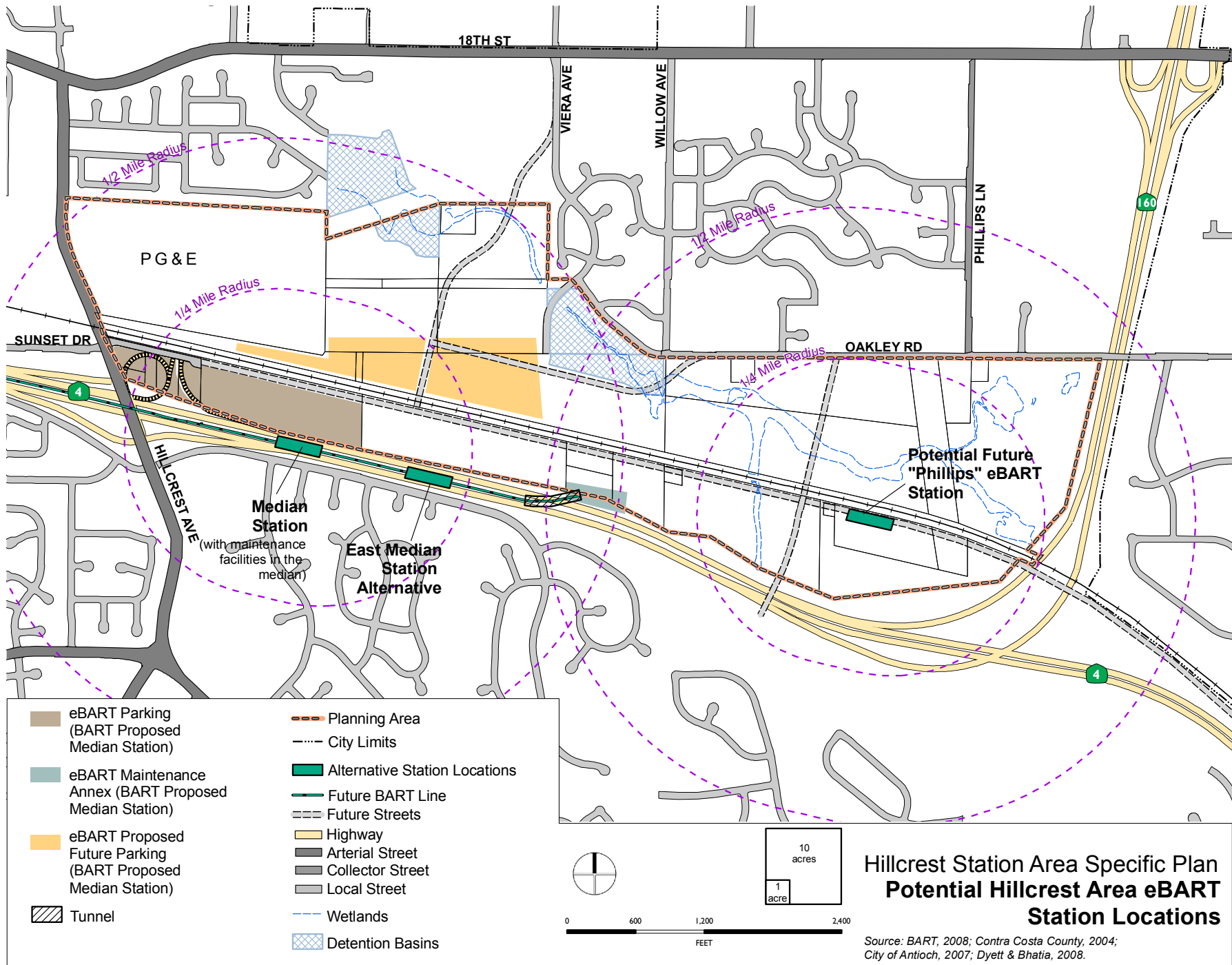
BART has determined that the Hillcrest Station needs 1,000 parking spaces available on opening day and a total of 2,600 spaces at buildout in 2030. Approximately 1,000 parking spaces would be constructed adjacent to the East Median Station. The additional 1,600 eBART parking spaces needed by 2030 would be built as part of future development near either of the two stations, maximizing shared parking opportunities. Access to the stations would be provided by extending Sunset Drive/Slatten Ranch Road, Viera Avenue, Phillips Lane, and Oakley Road. Figure 2-4 shows the location of the East Median and potential Phillips eBART stations.

BART Proposed Project: Median Station

The BART proposed project includes a station in the median of SR 4 approximately 1,275 feet east of Hillcrest Avenue and the SR 4 interchange. As part of this project, the majority of the maintenance operations would occur along the tailtracks that extend east beyond the station in the SR 4 median. A maintenance annex containing the remaining maintenance operations, approximately three acres, would be developed within the Planning Area north of SR 4. A tunnel under the westbound SR 4 lanes would connect the tailtracks to the annex.

The initial 1,000 parking spaces needed in 2015 would be built adjacent to the Median Station, between the freeway and the railroad line. A site for the future 1,600 spaces has not yet been determined; the current eBART plans show the future location north of the Union Pacific railroad. Access to the station would be provided by extending Sunset Drive/Slatten Ranch Road and Viera Avenue. The eBART station would be used primarily by people who drive and park at the station, and to a much lesser extent by residents or workers who walk or bike from surrounding areas. Figure 2-4 shows the location of the BART proposed Median Station.

Figure 2-4: Potential Hillcrest Area eBART Station Locations



2.4 REGIONAL PLANNING AND TRANSIT-ORIENTED DEVELOPMENT

Regional Planning Efforts

Metropolitan Transportation Commission

The introduction of a regional transit system creates a variety of opportunities for the City of Antioch. MTC adopted a TOD Policy in 2005 (Resolution 3434), which is designed to address multiple goals: improving the cost effectiveness of regional investments in new transit expansions, easing the Bay Area's chronic housing shortage, creating vibrant new communities, and helping preserve regional open space. The City of Antioch identified this area as a location for an employment center as well as a transit-oriented mixed-use district in the 2003 General Plan.

Resolution 3434 establishes corridor-level thresholds to quantify appropriate minimum levels of development around transit stations along new corridors. The eBART project is a commuter rail project for which the threshold housing units is 6,600. At buildout of the eBART corridor from Pittsburg to Hillcrest, a total of 6,600 units (an average of 2,200 units per station) must be located within a half-mile radius of the three eBART stations: Pittsburg/Bay Point Station, Railroad Avenue Station, and Hillcrest Avenue Station.

Priority Development Areas

The Hillcrest Station Area was identified in 2008 as a Priority Development Area (PDA) by the Association of Bay Area Governments (ABAG), Bay Area Air Quality Management District (BAAQMD), San Francisco Bay Conservation and Development Commission (BCDC), and Metropolitan Transportation Commission (MTC). PDAs are infill development opportunities within existing communities, intended to creating more housing choices in locations easily accessible to transit, jobs, shopping and services. To be eligible to become a PDA, an area has

to be within an existing community, near existing or planned fixed transit or served by comparable bus service, and planned for more housing. Planned PDAs are eligible for capital infrastructure funds, planning grants, and technical assistance while Potential PDAs are eligible for planning grants and technical assistance, but not capital infrastructure funds. The adoption of this Specific Plan will make the area eligible to become a Planned PDA.

Transit-Oriented Development Planning

Transit-oriented development (TOD) is the creation of compact, walkable communities centered on a high quality transit system. The City of Antioch refers to "Transit-oriented" developments as typically mixed use neighborhoods or projects, within a quarter mile of a transit stop, predominantly light rail or bus transfer stations. Pedestrian-oriented developments respond to and prioritize the needs of the pedestrian over those of the automobile. By providing a compact form of development, both transit-oriented and pedestrian-oriented development types also facilitate bicycle travel.

TOD districts usually include high-density housing and retail and office buildings connected by pedestrian-oriented streets. One of the primary purposes of TOD is to create new choices for community members – new housing types and affordability levels, new employment opportunities, and new transportation options other than automobiles. The creation of this type of development is one of the major goals for this Specific Plan and will be a new type of development in East Contra Costa County and the City of Antioch.

2.5 MARKET ANALYSIS

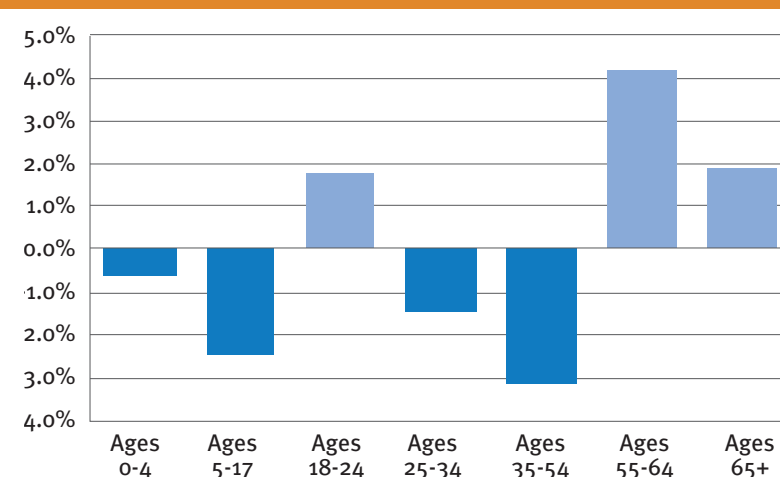
Overview

The Hillcrest Station Area will have a strong competitive position in East County, because it is unique in terms of transit access, highway access and visibility, and the envisioned density and design. The proposed Specific Plan with two eBART stations represents the strongest opportunity to create and gain value from two unique transit villages. However there are many sites in west, central, and east Contra Costa County that are available for development and will compete with the Hillcrest Station Area development.

Demographic Shifts In Antioch

Demographics and the types of households are changing in Antioch. As shown in Chart 2-1, the trend is towards fewer traditional households of parents and children, and more households of singles and couples. Data from the US Census 2000 and Claritas indicate that while population has grown and is anticipated to grow at an average rate of 7 percent between 1990 and 2012, the number of families is growing at a slower rate (5.8 percent). Between 2000 and 2012, three demographic groups - college and career starters (ages 18-24), singles and couples between the ages of 55 and 64, and retirees (ages 65 and over) – will grow positively, while all other age groups will decline. Typically, these three demographic groups are more likely to live near transit in smaller housing types instead of single-family detached houses.

CHART 2-1: DEMOGRAPHIC SHIFTS IN ANTIOCH POPULATION: 2000 - 2012



Source: DecisionInsite for Antioch Unified School District, February 2008.

Housing Market

The housing envisioned in the Plan is denser than most housing developed in Antioch and its surrounding cities in the past two decades. About 91 percent of the residential growth in the East Contra Costa County market area has occurred through development of single-family detached housing over the last 18 years. Single-family detached housing now makes up about 80 percent of the residential units in East Contra Costa County compared to less than 70 percent in 1990.

The Hillcrest Station Area will provide a unique opportunity for higher density housing in East County, but buildout of the Plan's residential components will still take several decades. The eBART station, mixed-use amenities, highway access, and other features of the Plan will enable the site to capture a strong proportion of the City's market for higher density housing.

There are a number of factors that suggest that higher-density, compact product types such as townhomes or condos can be successful in the

Antioch market. Recent studies demonstrate national shifts in many consumers' preferences toward compact housing in mixed-use neighborhoods around transit centers. Nationally, demand for compact living with walking distance of a transit station is projected to double over the next 25 years. Even though the recent downturn in the housing market has slowed growth, there is a lack of senior housing, apartments, condominiums, and townhouses in East County.

As the existing residents age and become empty-nesters or retirees, they may choose to downsize their housing and relocate close to transit for more transportation options. As employment growth increases, the East County market may evolve from its traditional orientation as a "bedroom community" to an area that attracts a higher proportion of young, single professionals. However in order to attract typical transit area residents such as young professionals or empty nesters, there will need to be entertainment, restaurant, and neighborhood retail uses that create an exciting place to live.

The market study conducted for this project indicates that demand for anywhere from 650 to 1,200 residential units can be anticipated in the Hillcrest Station area in the next 20-25 years. If the area becomes highly desirable and successful, that demand could increase to 2,100 units by 2030. Additional units could be absorbed in future years.

Office Market

The most marketable locations for office and business park development are areas that combine convenient auto and public transit access, existing office uses and business service firms, and urban amenities such as retail, restaurants, and outdoor plazas. Several major factors support the continued demand for office space in East County: continued population growth in the region, the national transition of the labor force towards professional and financial service jobs, long commute times, and new eBART transit service. As the buildout of this Specific Plan area occurs, including the eBART station and other major infrastructure improvements, the Hillcrest Station Area can attract a substantial

proportion of the future office growth in Antioch. However there will be competition from existing office space in Walnut Creek and Concord, as well as new office space built in other East County locations.

The office market in Antioch is expected to grow, creating opportunities for new development on the Hillcrest Station Area site. East County employment growth is expected to outpace population growth in the next several decades (51 percent vs. 19 percent from 2015 through 2030), and traditional office tenants (finance and professional service firms) are expected to be among the fastest-growing job sectors. ABAG has projected that the number of jobs in Antioch will almost double between 2005 and 2035.

The Hillcrest Station Area should attract a substantial proportion of the future office growth in Antioch, but the large amount of office space in the Plan will take decades to build out. The market study indicates that demand for office space in the Hillcrest Station area could be anywhere between 200,000 and 950,000 square feet in the next 20 years, depending on the type of development created in the Station Area and competition from other locations. Additional absorption in future years could increase that total as high as 1,400,000 square feet.

Retail Market

East County has experienced strong activity in the retail market. The majority of recent commercial development has been in the retail sector, and can be attributed to recent housing and population growth in East Contra Costa County, as well as increasing income levels. The commercial pipeline data suggests that retail will remain the strongest commercial land use sector in the near future, although eventually office growth may outpace retail growth.

The Hillcrest Station Area should be very competitive for new retail development in Antioch, but still may require decades to achieve buildout. The housing and employment density and highway and transit access will offer unique advantages for this site as a retail location. Still, the

site will compete with numerous other potential retail locations, and the development of as much as 1.0 million square feet of retail space on this single site may take over 30 years.

The Hillcrest site should be able to support a combination of local-serving and regional retail. Regional retail should be highly viable, given the access and visibility of the site. The amount of residential and office development planned for the Station Area alone will not support a super-market-anchored shopping center, but the neighborhoods to the north can contribute to support for such a center. A neighborhood-serving retail component in the Hillcrest Station Area site could create substantial competition for several existing community shopping centers surrounding the site to the south, east, and west.

To be successful, new retail in East County will need to carve out a niche that is unique, and less formulaic than what is being provided in the rest of the market area. New residential and office development in the Hillcrest Station area could foster an active urban feel, which would support a unique type of retail. The market study estimates that the demand for new retail space in the next twenty years in the Hillcrest Station Area could be anywhere between 150,000 square feet and 650,000 square feet, depending on the amount of population growth and competition from other locations. Additional absorption in future years could increase that total to as much as 1,000,000 square feet.



Antioch, CA

Housing Market:

The Hillcrest Station Area will provide a unique opportunity for higher density housing in East County.



Antioch, CA

Office Market:

The office market in East County is expected to grow substantially, with traditional office tenants such as finance and professional service firms among the fastest-growing job sectors. The Hillcrest Station Area could attract a substantial proportion of the future office growth in Antioch.



San Mateo, CA

Retail Market:

The Hillcrest Station Area should be able to support a combination of local-serving and regional retail. Regional retail should be highly viable, given the access and visibility of the site. Unique types of retail that do not already exist in East County could be especially successful.

2.6 SITE DEVELOPMENT ISSUES AND CONSTRAINTS

Major site development issues and access constraints were identified in the preparation of the Existing Conditions Report and the Draft Environmental Impact Report. These issues and constraints are major determinants of land use, circulation routes, and open space strategies. Figure 2-5 shows existing land use in and near the Planning Area. Figure 2-6 summarizes the opportunities and constraints analysis. The Specific Plan has been formulated to address the identified issues and constraints, as discussed below.

Land Use

Existing Land Uses

Currently, the Hillcrest Station Area is primarily vacant. A portion of it is characterized by wetlands and stormwater detention basins along East Antioch Creek. There are some existing industrial uses, including a car towing and storage yard, and an aluminum casting facility (operations ended in January 2008). There are approximately five houses on the site, though at least one appears to be abandoned. The northwest corner of the site is occupied by the PG&E Hillcrest Yard and Substation (70 acres) and the southwest corner is the BART park-and-ride facility (5.2 acres).

Immediately surrounding the Planning Area are the SR 4 and SR 160 corridors, residential neighborhoods, agriculture uses, a church, cemeteries, and office uses. There are three parks in nearby residential neighborhoods. East Antioch Creek and the extension basins also serve as a physical and visual separation between the Planning Area and the two cemeteries and neighborhoods to the north and northwest. A large church is located above the northeast corner near the Oakley Road/SR 160 over-crossing. Along Oakley Road adjacent to the Planning Area, in addition to the church, there are agriculture and residential uses. SR 4 and the existing hills to the south create a physical and visual barrier, so there is little integration with the neighborhoods to the south of Planning Area. SR 160 is another

physical and visual barrier between the Planning Area and the portion of Oakley directly to the east.

Existing General Plan Regulations

Even though there is minimal development in the Planning Area at this time, the 2003 General Plan designated the area for substantial development. The Planning Area encompasses the majority of the SR 4 Industrial Frontage Focus Area identified in the General Plan. The majority of the Planning Area (64 percent) is designated as Business Park. Less than 20 percent is designated as Transit-Oriented Development. Under the existing regulations, the Planning Area could support approximately 1,200 housing units and 4,400 jobs.

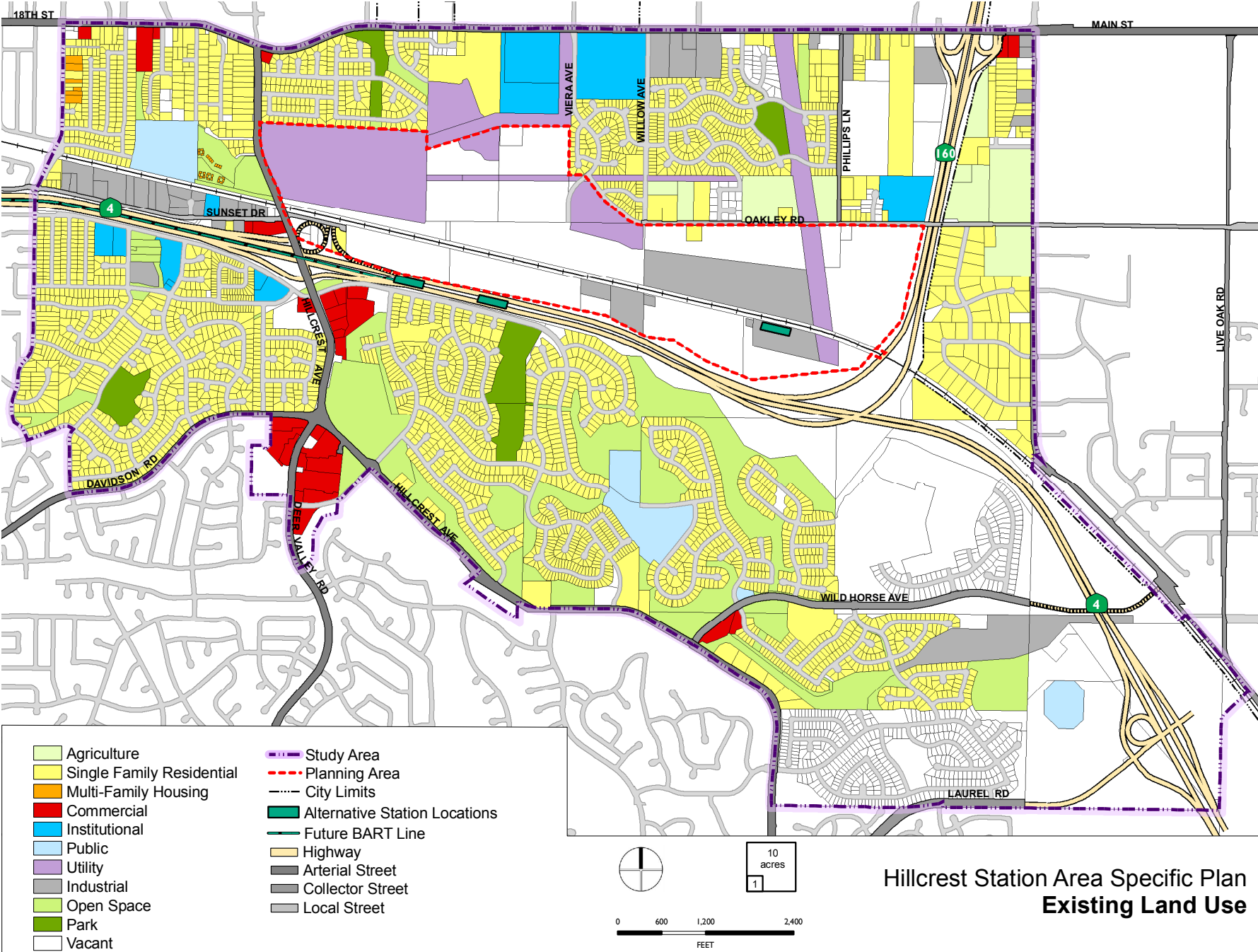


PG&E Substation and an adjacent residential neighborhood.



Existing Industrial Uses — car towing yard.

Figure 2-5: Existing Land Use



Source: Contra Costa County, 2008; City of Antioch, 2007; Dyett & Bhatia, 2008.

Circulation

Roadway Connections and Access to the Station Area

Four major roads, Slatten Ranch Road, Viera Avenue, Oakley Road, and Phillips Lane, will need to be extended in order to provide access for development sites and the eBART station. Expanding access into and across the area is critical. The key to enhancing access to the area is the construction of a new interchange at the extension of Phillips Lane and SR 4. The circulation system needs major access points from Oakley Road, 18th Street, Hillcrest Avenue, and Slatten Ranch Road.

Railroad Crossings

At least one vehicular railroad crossing will be required to connect the eBART station with the developable land within the Planning Area. The UP ROW is 100 feet wide. Over-crossings require at least 23 feet of clearance, while vehicular under-crossings require at least 17 feet of clearance with a 6 to 10-foot thick bridge. Vehicular ramps can have a grade of 8 percent and pedestrian ramps require a grade of 5 percent or less with landings every 150 feet. A vehicular under-crossing needs to be between 675 and 725 feet long, while an over-crossing needs to be more than 875 feet long.



Hillcrest Avenue Substation and rail line.

Access to the eBART Station

The eBART station must be accessible to automobiles, buses, pedestrians, and bicyclists. Required facilities include: roads, bus layover and drop-off areas, passenger drop-off areas, shuttle/taxi areas, and a ped/bike bridge over the railroad.

eBART Parking

BART has identified a need for 1,000 parking spaces when the station opens in 2015, and a total of 2,600 spaces at full capacity. The amount of land needed to accommodate the necessary parking depends on the shape and accessibility of the site. For 1,000 spaces and eBART station circulation, the minimum total acreage required is approximately 20 acres. Up to 40 acres would be required to accommodate all 2,600 spaces as surface parking. This amount of acreage would consume a large amount of the developable land within walking distance of the station. For this reason, the Specific Plan requires that land be provided for approximately 1,000 spaces of surface parking, and that the majority of the future additional parking be provided in decks, parking structures, or joint development projects.



Railroad line running east-west across the site.

Buffers

Freeway and Rail: Noise and Emissions

Studies have shown that air quality and noise are of particular concern within 300 feet of freeway and rail lines. Therefore, residential development is generally not desirable in the areas between the railroad and the freeway. In the areas immediately north of the rail line, noise buffers and air filtration systems will be required to mitigate impacts for residential within 300 feet of the rail line.

Wetlands and Creek Setbacks

Delineated wetlands, more familiarly known as East Antioch Creek, run through the site. The wetlands need to be preserved both for their storm drainage and flood protection function, and their wildlife habitat value. The Plan assumes a buffer from wetlands delineated by the US Army Corps of Engineers. A 50-foot buffer is the minimum requirement. The creek establishes a major opportunity for a linear park and trail system. In order to accommodate a trail, an additional 25-foot wide buffer area is needed for landscaping and a multi-purpose trail. The buffer may need to be adjusted in certain locations, depending on final input about habitat value and flood control from county, state and federal agencies. The Plan assumes that a portion of the delineated wetlands will be filled and mitigations provided as necessary.

Electromagnetic Lines and Substation

PG&E maintains multiple electrical transmission lines in the Planning Area. The Plan includes landscape buffers with extensive planting on both sides of the PG&E right-of-way, to screen the towers from view of residences and offices.

There is a large PG&E Substation at the western edge of the Hillcrest Area. A strong landscape buffer adjacent to the PG&E substation is needed to screen the substation from view of residences and offices.

Other Factors

Hazardous Materials and Soil Contamination

There are some areas within the Hillcrest Station Area where hazardous materials have been identified in the soil and groundwater. These areas will need to be cleaned up and remediated per State standards prior to new construction and development.

Steep Slopes

There are two hills in the southeast quadrant of the Planning Area near the SR 4 and SR 160 junction. The slopes in these areas are fairly steep.

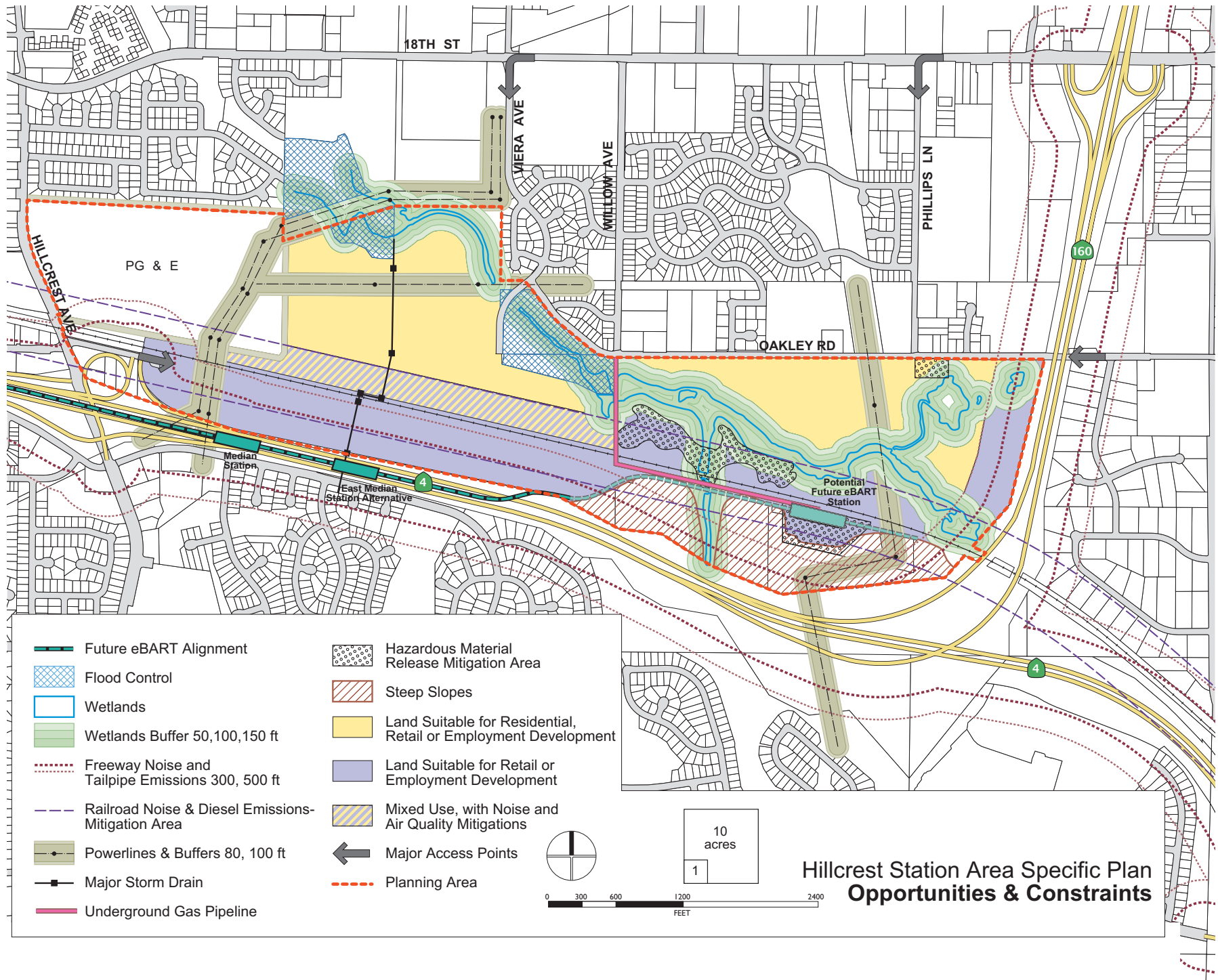
Existing Utility Pipelines

There are several major utility pipelines related to gas transmission and storm drainage that traverse the Hillcrest Station Area. It is expensive and difficult to relocate the larger size lines, so it may not be possible to locate buildings on or adjacent to existing large lines. The Plan proposes that the easternmost set of transmission towers and lines be relocated.

Development Implications

As shown in Figure 2-6, the areas of developable land are established by the combination of the development issues and constraints. Certain areas are only suitable for retail or employment development (shown in purple), while other areas can be suitable for residential, retail, or employment development (shown in yellow). The Specific Plan was developed to take all of the issues and constraints into account, and locate land uses in suitable locations, where potential impacts will be minimized.

Figure 2-6: Development Opportunities and Constraints



3

PLAN FRAMEWORK: LAND USE, CIRCULATION, AND OPEN SPACE

3.1 OVERVIEW

This chapter presents the Hillcrest Station Area Specific Plan framework, including the land use, circulation, and open spaces plans, as well as the regulatory policies that support the plans. The three Development Areas within the Hillcrest Station Area are shown in Figure 3-1. A Plan Overview drawing is presented in Figure 3-2, which shows the major land use, circulation, and infrastructure components. The western portion of the Station Area is a transit village designed around the eBART station. The eastern portion of the Station Area is planned as a mixed-use town center around the future Phillips Lane Interchange; it could also include a second eBART station located adjacent to the Union Pacific Railroad right-of-way (UP ROW). The area between SR 4 and the UP ROW in the western portion of the Station Area has a more auto-oriented character, and is referred to as the “Freeway Area.”

The Land Use Plan and policies show the type of development that is envisioned for the Station Area. The Circulation and Open Space Plans identify the improvements that tie the Hillcrest Station Area together, and integrate the area into the larger context of Antioch and East County.

An additional level of planning will be required prior to land subdivision and construction for the Transit Village and the Town Center areas. Master plans for these development areas must be prepared to show the parcel layout, mix of land use types, street design, open space and public space design, and detailed infrastructure plans.

The development of each of the three areas is contingent on the construction of specific circulation and utilities infrastructure. Some of the major infrastructure components are beyond the City of Antioch’s jurisdiction, including: approval of a new SR 4 Phillips Lane interchange in the eastern portion of the Station Area; the final location of the eBART station(s); alignment of the future eBART extension; configuration of the Hillcrest Interchange improvements; and the resumption of freight rail activity on the UP ROW. The master plans will need to address the final approved designs for each of these circulation improvements. It is also possible that the Hillcrest Station Area Specific Plan will need to be amended to reflect the ultimate decisions about these major roadways and rail systems.

Transit Village

Transit villages maximize opportunities for the use of public transit by creating compact neighborhoods where people can live, work, and walk to shops, restaurants, and services. Such villages provide a mix of uses that are mutually supportive, such as housing with neighborhood retail or offices with commercial services. The Hillcrest Transit Village is focused on the eBART Median Station in the SR 4 median, just east of Hillcrest Avenue. An alternative East Median Station location is illustrated 2,175 feet from Hillcrest Avenue. The alternative station location increases the pedestrian accessibility to the Transit Village; however, it increases the cost of the eBART project.

The Transit Village emphasizes office development near the eBART station, to help the City of Antioch meet its need for a greater employment base and to balance the SR 4 traffic flow. Office Transit-Oriented Development (TOD) will create a compact employment center generally between the UP ROW and Oakley Road within walking distance of the station, so that employees have the option to use public transit to commute. At buildout, the Transit Village could support more than 2,300 jobs.

A mixed-use residential area is located north of Oakley Road. This Residential Transit-Oriented Development (TOD) area allows a maximum of 1,000 new housing units, with some ground floor retail, commercial services, and office space. The neighborhood will include a variety of housing types such as live-work units, lofts, condominiums, apartment buildings, senior housing, and/or townhouses. Transit Village residents will be able to walk or bicycle to neighborhood services and potentially to work, or have easy access to public transit. Parks and open space will be integrated with the residential development.

A network of new roads with pedestrian and bicycle facilities efficiently connect walkers, bikers, and vehicles to major destinations, such as the eBART station, shopping, public plazas, and open space. The western segment of Oakley Road will be a pedestrian-oriented street at the heart

of the transit village, serving both residents and office employees. It will be fronted with buildings that have retail, restaurants, commercial service, and other active uses on the ground floor. Outdoor dining and landscaped public spaces will enhance the pedestrian experience so that workers and residents are able to walk to the services they need on a daily basis. This dynamic public space will create a transition area between the office and residential uses.



San Jose, CA

Transit Village:

Transit villages provide compact neighborhoods where people can live and work, and walk to shops, restaurants, services, and the eBART station.

Town Center

A Town Center can generally be described as a high-intensity commercial core including retail, restaurants, entertainment and hospitality uses surrounded by residential and office uses. A second eBART station would potentially be a focal point of this 100-acre mixed-use area. The development of a Town Center in the eastern portion of the Station Area is predicated on a new Phillips Lane freeway interchange, to accommodate both local and regional traffic. When the Phillips Lane Interchange is approved, a Town Center Master Plan will need to be prepared to show how land uses east of Willow Avenue are integrated with a network of streets, parks, and public spaces. Pedestrian connections will be a key feature, providing access to public transit, East Antioch Creek, and parks. The goal is to create a unique, attractive, and memorable destination for Antioch residents and visitors.

The Hillcrest Town Center can support almost 1.4 million square feet of commercial and hotel uses and a maximum of 1,500 housing units. New higher-intensity uses at the pedestrian core of this area will need to be transitioned to the existing neighborhoods north of Oakley Road. This transition can be facilitated by locating similar uses near each other, reducing building heights, designing building step-backs, and providing larger set-backs and/or landscaped buffer areas. Office or other major commercial uses are proposed to be located along the highway and railroad to increase visibility and access for new businesses. Residential and other sensitive uses should be limited in this same area in order to reduce the potential for noise and air quality impacts.

A primary asset in the eastern portion of the Station Area is East Antioch Creek. In order to preserve the creek's natural functions while enhancing the area's recreational opportunities, a loop trail system will be installed around the perimeter of the protected wetland areas. A minimum 50-foot buffer will be maintained to preserve wildlife habitat and critical flood management. An adjacent 25-foot wide area will be landscaped and enhanced to create a recreation corridor. A continuous multi-use trail will provide a critical link between the Town Center and the Transit Village.

If the Phillips Lane Interchange is not approved, land use and circulation plans for the eastern portion of the Hillcrest Station Area will have to be reevaluated and revised, and the Specific Plan amended.

Town Center:

The Town Center is envisioned as a high-intensity pedestrian area with retail, restaurants, entertainment and hotels, surrounded by residential and office uses.



Fruitvale BART Station Area, Oakland, CA

Freeway Area

In addition to the Transit Village in the western portion of the Station Area, Office TOD and commercial retail uses are located along the SR 4 highway to take full advantage of the freeway access and the high-visibility location. The area will also accommodate transit facilities, including eBART and bus facilities, parking, passenger drop-off, and shuttle and taxi areas, plus a small public plaza at the eBART station. The initial phase of parking development will accommodate the estimated eBART demand of 1,000 spaces when the system opens in 2015. Parking will be located adjacent to the Hillcrest Avenue Interchange, incorporating the existing Park-and-Ride lot. The future projected eBART parking demand, estimated to be 1,600 additional spaces, will need to be accommodated by structured parking located primarily within this freeway area. It is anticipated that most eBART maintenance activities take place within the freeway median, and in a small maintenance yard adjacent to the freeway.



Santa Clara, CA

Freeway Area:

The Freeway Area would include eBART parking, office buildings next to the eBART station, and community retail uses that take advantage of freeway access and visibility.

Figure 3-1: Development Areas

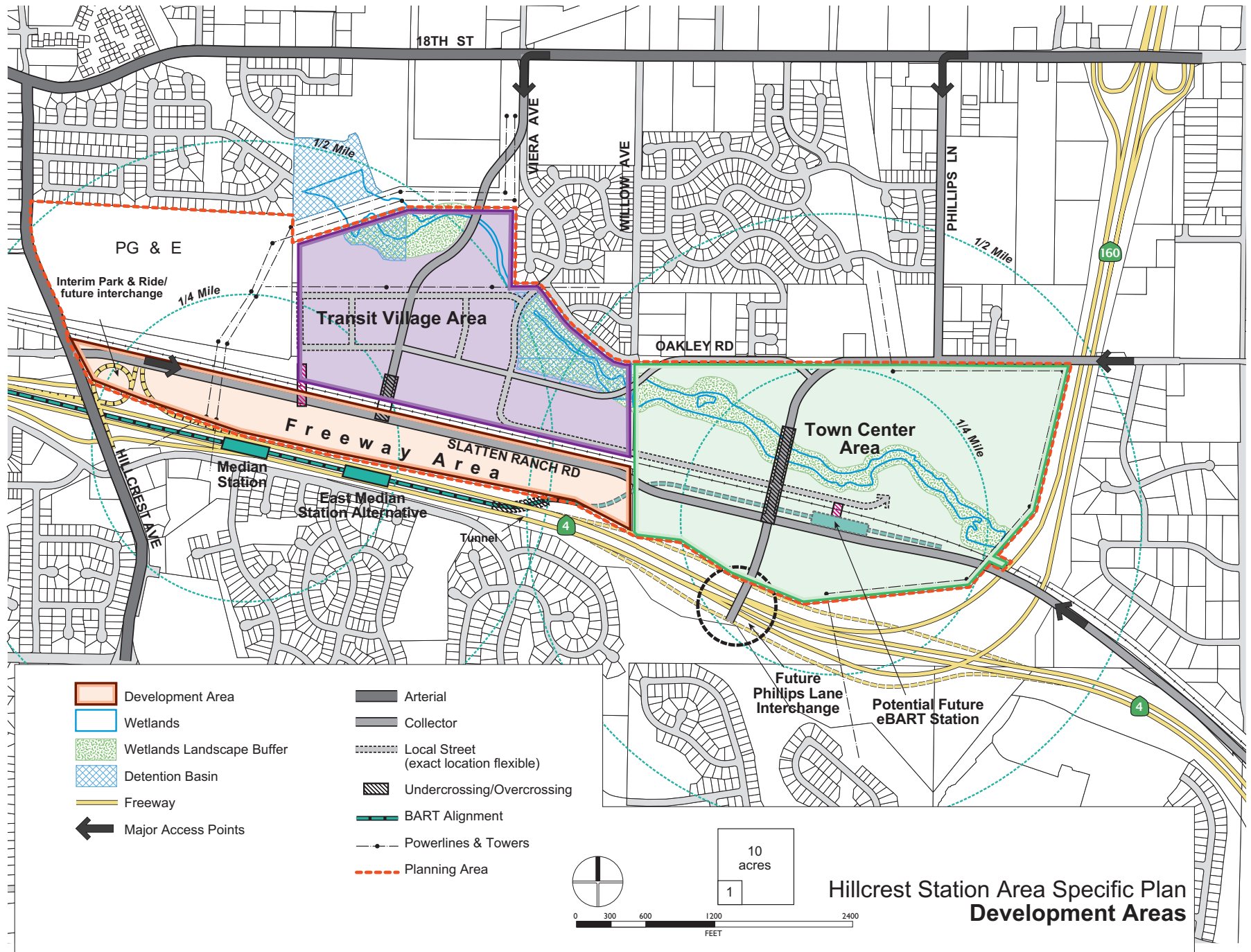
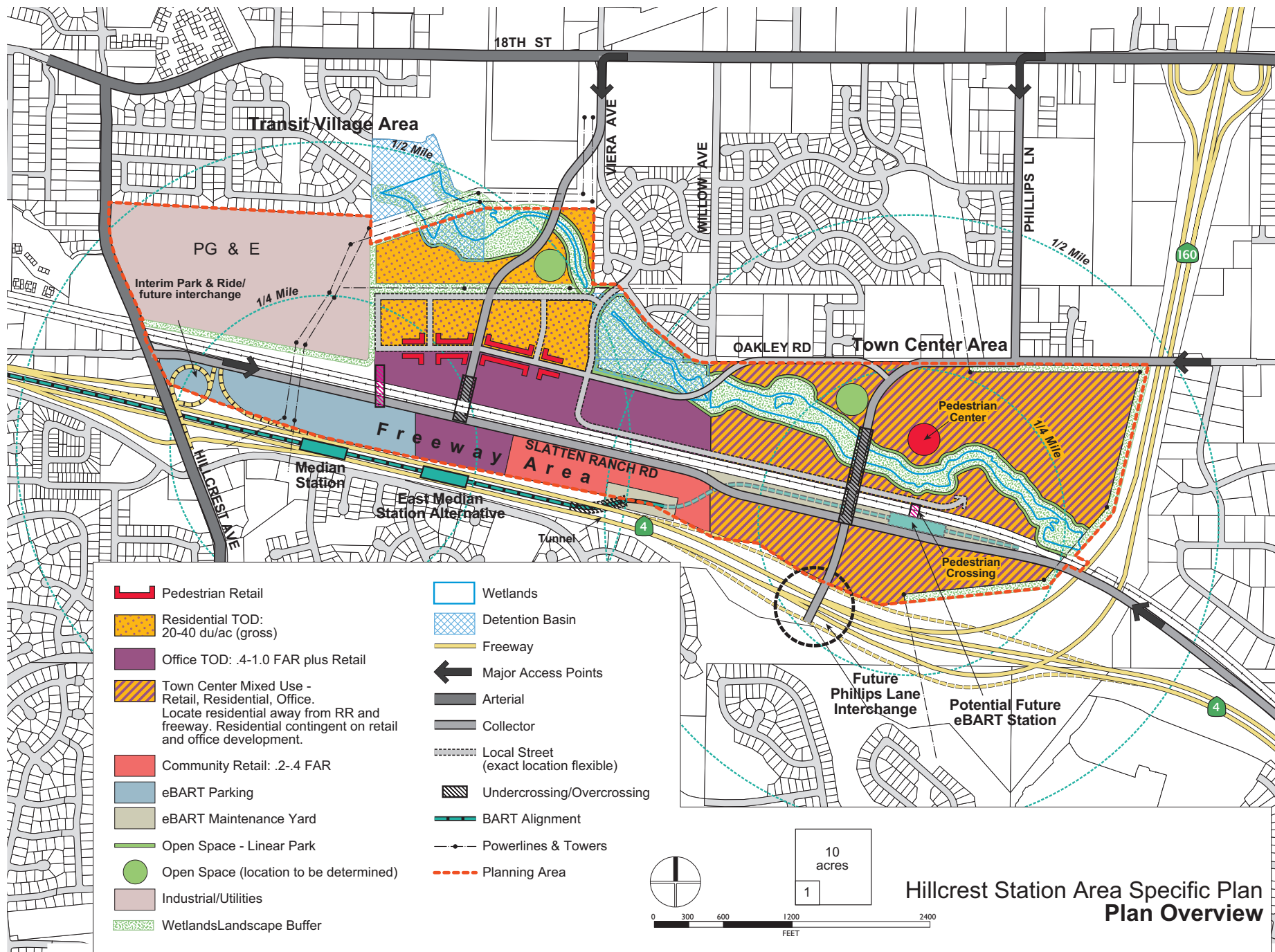


Figure 3-2: Plan Overview



3.2 DEVELOPMENT PROGRAM

Total Buildout Projections

The Specific Plan creates a land use and regulatory framework that allows up to 2,500 residential units and 2.5 million square feet of commercial uses in the Station Area. The following buildout projections were prepared to assess the need for transportation and utilities infrastructure to serve development, and potential impacts on circulation in the surrounding area. Growth projections are based on gross acreage of each land use category, as seen in Table 3-1. The ultimate amount of development could be less than projected, depending on market conditions and

whether sites are built to the maximum limits. If the amount of development exceeds the projections, additional environmental review would be required.

It is assumed that development will be built at approximately the midpoint of the permitted density or intensity range, when averaged over the entire development area. Assumptions were also made about the percentage of land uses types within the mixed-use categories; for example, 2,100 square feet of commercial space per acre (80 square feet per unit) is assumed within the Residential TOD area. Residential units are assumed to be 1,200 gross square feet each (including lobbies, circulation, etc.). The Town Center Mixed Use area is assumed to have 325 hotel rooms.

TABLE 3-1: HILLCREST STATION AREA LAND USE SUMMARY

LAND USE	GROSS ACRES	PERCENT OF TOTAL
Community Retail	13	3%
Office TOD	36.6	10%
Residential TOD	38.2	10%
Town Center Mixed Use	105.5	28%
Parks/Open Space ¹	8.6	2%
Public/Institutional – Transit Parking	17.5	5%
Public/Institutional – BART Yard & Future ROW	9.7	3%
Wetlands, Buffer & Detention Basins	41.6	11%
Industrial/Utilities – PG&E Substation	61.1	16%
Union Pacific Railroad Right-of-Way	19.5	5%
Other: Arterial Roads and Collectors	23.8	6%
TOTAL	375.1	100%

1. Except for the creek-side loop trail, the locations of the parks have not been defined. When the master plans are completed, land will be dedicated from the appropriate parcels. The amount of park/open space land is based on the estimated number of residential units and household size.

Source: Dyett & Bhatia, 2008.

TABLE 3-2: BUILDOUT ASSUMPTIONS: BUILDING INTENSITY AND DENSITY

LAND USE	TOTAL FAR	AVERAGE RESIDENTIAL DENSITY	AVERAGE SF OFFICE PER ACRE	AVERAGE SF RETAIL PER ACRE
Residential TOD	–	26	0	2,100
Office TOD	0.60	0	24,600	1,400
Town Center Mixed Use	0.75	14	2,800	6,900
Community Retail	0.25	0	0	10,800

Source: Dyett & Bhatia, 2008.

Housing Units and Population Projections

Buildout projections include a maximum of 2,500 residential units, which is the maximum allowed under the Specific Plan policies. The majority of the housing will be in multi-unit structures, some of which will be in mixed-use buildings. Based on the residential densities of the land uses in the Station Area, no single-family homes are assumed. Multi-family households are assumed to have 2.0 persons each. This assumption is based on Antioch 2000 US Census block data showing an average multi-family household size of 2.42 persons per unit; and the average household size around the Concord, Pleasant Hill, and Walnut Creek BART Stations which is 1.57 persons per unit.

TABLE 3-3: BUILDOUT PROJECTIONS: HOUSING UNITS AND POPULATION

	MULTI-FAMILY UNITS ¹	POPULATION ²
Transit Village	1,000	2,000
Town Center	1,500	3,000
TOTAL	2,500	5,000

1. The maximum number of units allowed by the City of Antioch in the Hillcrest Station Area is 2,500.
2. Multi-family units are assumed to have 2.0 persons per household.

Source: Dyett & Bhatia, 2008.

Commercial Square Footage and Employment Projections

One of the City's goals is for this area to develop as an employment center in order to help balance the jobs/housing ratio in the City of Antioch, and improve traffic flows on SR 4. Based on the land use designations and buildout projections, the Station Area could support up to 5,600 new jobs. Up to 1.2 million square feet of office space may be built, most of which is designated in the Transit Village area. Up to 1.0 million square feet of retail space is projected at buildout. The majority of the retail space is anticipated to be built in the Town Center area. In addition, up to 325 hotel rooms are allowed in the Town Center. The following employment generation rates were used to estimate employment at buildout:

- Retail: 1 employee per 500 square feet gross floor area
- Office: 1 employee per 350 square feet gross floor area
- Hotel: 0.8 employees per room.

TABLE 3-4: BUILDOUT PROJECTIONS: COMMERCIAL SQUARE FOOTAGE AND JOBS

	OFFICE SF	RETAIL SF	HOTEL ROOMS	JOBS ¹
Transit Village	730,000	120,000	–	2,300
Town Center	300,000	730,000	325	2,500
Freeway Area	170,000	150,000	–	800
TOTAL	1,200,000	1,000,000	325	5,600
1. Approximate employment generation rates (values rounded): • Retail: 1 employee per 500 sf gross floor area • Office: 1 employee per 350 sf gross floor area • Hotel: 0.8 employees per room.				

Source: Dyett & Bhatia, 2008.

Regional Plan Consistency

BART System Expansion Policy

BART adopted a System Expansion Policy in 1999. The eBART project is the first application of the policy. The policy requires that BART set Ridership Targets (Thresholds) for the eBART service in the Pittsburg to Antioch Corridor, which has been defined as a total of 5,801 patron entries and exits for an average weekday in 2030. As a “terminal” station, the Hillcrest Station is projected to serve many commuters from East Contra Costa County. Based on standard modeling methodology that incorporates assumptions regarding land use and transportation policies (including draft Ridership Development Plans), and projected growth, BART estimates that in 2030 there will be 10,100 total daily riders. The Hillcrest Station is projected to serve more than 80 percent of eBART’s riders (8,200). Thus, the eBART service should far exceed BART ridership targets. (East Contra Costa County BART Extension Draft EIR, September 2008)

MTC Transit-Oriented Development Goals

The Metropolitan Transportation Commission (MTC) adopted a Transit-Oriented Development (TOD) Policy in 2005. Resolution 3434 specifies that by 2030, a total of 6,600 units must be located within a half-mile of the three stations on the eBART corridor. Table 3-5 illustrates the number of projected corridor housing units, assuming that the Railroad Avenue Specific Plan is adopted by the City of Pittsburg without significant reductions in proposed densities. The estimated 10,403 units far exceed the minimum 6,600 units required.

TABLE 3-5: EXISTING & PLANNED CORRIDOR HOUSING WITHIN A HALF MILE OF AN EBART STATION

	EXISTING	PLANNED	TOTAL
Pittsburg/Bay Point	1,873	1,595	3,468
Railroad Avenue	1,477	1,590	3,067
Hillcrest Station	999	1,000	1,999
SUBTOTAL	4,349	4,185	8,534
Future Phillips Station	369	1,500	1,869
TOTAL	4,718	5,685	10,403

Source: eBART Draft EIR, 2008; ABAG Projections 2005; Pittsburg/Bay Point Specific Plan, 1997; Draft Railroad Avenue Specific Plan, 2008.

3.3 LAND USE

Figure 3-3, the Land Use Plan, designates the proposed location, distribution, and extent of land uses. The Land Use Plan is a graphic representation of policies contained in the Hillcrest Specific Plan. Land use classifications—shown as color/graphic patterns on the plan—allow for a range of uses within each classification. Allowable building intensities and densities are delineated in Table 3-6.

Land Use Principles

The following principles were used to guide the layout of the land use plan:

- Create an East County employment center.
- Provide a mix of uses that supports transit ridership.
- Ensure that vibrant pedestrian-oriented retail/restaurant/entertainment centers are the focus of the Transit Village and Town Center.
- Integrate new development with existing uses and neighborhoods.
- Limit sensitive receptors' exposure to noise and air quality emissions.
- Preserve the natural features and functions of East Antioch Creek, while enhancing its recreational uses.
- Reduce total vehicle miles traveled and regional greenhouse gas emissions.

Adopting a mix of land uses around the proposed eBART stations will generate the greatest benefits for the City of Antioch and BART. Office will help establish the needed major employment center. Retail uses will serve the residents and employees of the area and also provide sales tax revenue for the City of Antioch. Residential units within walking distance of the stations will provide the riders necessary to support the eBART system. Studies have shown that residential units within walking distance of the stations provide the greatest number of riders compared to other land uses.

Land Use Classifications

The land use classifications in this chapter represent adopted policy and are meant to be broad enough to provide flexibility in implementation, but clear enough to provide sufficient direction to carry out the Specific Plan.

Land Use Classifications Policy

LU-1 Projects in the Hillcrest Station Area shall be consistent with the Land Use Plan in Figure 3-3, and the land use classifications described below. In addition to the permitted uses provided here, public uses such as parks, police and fire stations, and government offices are permitted in all land use classifications.



Mixed Use:
A mix of land uses around the proposed eBART stations will create a lively transit village.

Redwood City, CA

Residential TOD

This mixed-use classification is intended to create a primarily residential neighborhood within walking distance to the eBART station, with complementary retail, service, and office uses. Residential densities are permitted between a minimum of 20 and a maximum of 40 units per gross acre. A range of housing types may be included in a development project, some of which may be as low as 10 units per acre, provided the total project meets the minimum density standard.

Attached Residential Townhomes (10-15 du/ac):

These are attached units of 2-3 stories. The units occupy their own lot, because no units are above or below. They typically have an attached parking garage, often accessed from an alley or parking court. They also have private open space in the form of a porch and/or small rear courtyard.



Attached Residential Townhomes (15-20 du/ac):

These are attached units of 3 stories, with an attached parking garage on the ground floor accessed from an alley or parking court. Units are sometimes interlocked at upper levels, for example with the bedrooms of one unit above the living space of another unit, to achieve an efficient layout.



The photos below illustrate the types of housing envisioned in the Residential TOD land use classification. Residential units should be at least 300 feet away from rail and freeway rights-of-way, or should incorporate construction measures that mitigate noise and air emission impacts. Retail, restaurants, commercial services, and office are allowed on the ground floor and second floor, particularly on pedestrian retail streets and adjacent to Office TOD designations. Low intensity stand-alone retail or restaurant uses with surface parking are not permitted. Fee parking in surface parking lots is not permitted as a primary use.



Stacked Residential (20-25 du/ac):

These are 2-3 story apartment or condominium buildings. Units are grouped into buildings, and units are typically located on a single floor. Parking is usually grouped in surface parking areas, though some units may have an attached parking garage. The example shown is a recent development in Antioch.



Mixed Use (20-40 du/ac):

These are 3-4 story buildings with retail, restaurants, or services on the ground floor, and residential above. Residential units are apartments or condominiums typically located on a single floor. Parking is usually located behind the ground floor commercial uses, or underground. Open space is provided in courtyards and balconies.

Office – Surface Parking:

These are 3-5 story office buildings with surface parking. Buildings need to be carefully located so that employees can easily walk to the retail/restaurant areas without having to cross large parking lots.



Office – Structured Parking:

These are 4-8 story office buildings with parking provided on the ground floors of the building and/or in parking structures adjacent to the building. The development is more compact, and more integrated into the transit village.



Walnut Creek, CA

Office TOD

This classification is intended to provide a compact office employment center close to the eBART station. The types of development envisioned in the office TOD land use classification are shown in the photos to the left. The maximum Floor Area Ratio (FAR) allowed is 1.0. A portion of the parking should be in parking decks or structures. Retail, restaurant, and commercial service uses that serve employees are permitted and encouraged on the ground floor. Low density, single-use retail or entertainment developments with surface parking are not permitted. Commercial parking in surface lots requires a conditional use permit (where it is a primary use, not associated with a development project).

Town Center Mixed Use

This classification is intended to provide for an integrated mix of high-intensity uses in the area surrounding the potential second eBART station near Phillips Lane, as illustrated in the photos on this page. Residential, commercial, employment, entertainment, and hospitality uses are permitted. Both horizontal mixed-use and vertical mixed-use projects are appropriate in this area. Retail, restaurant, and service uses are to be located on the ground floor in the pedestrian Town Center. Office space or residential space may be on upper floors. Development is to be high-density to support pedestrian and bicycle use, and shall provide easy pedestrian access to the potential transit station. The maximum floor area ratio (FAR) allowed is 1.0.

Residential densities may range from a minimum of 6 to a maximum of 25 units per gross acre (calculated based on the entire Town Center Mixed Use area). A range of housing types may be included in a development project, some of which may be as high as 50 units per acre with City Council approval, provided the total project does not exceed the maximum density standard. Residential units should be at least 300 feet away from rail and freeway rights-of-way, or should incorporate construction measures that mitigate noise and air emission impacts.



Santa Clara, CA

Town Center Mixed Use:
Detached Residential



Santa Jose, CA

Town Center Mixed Use :
Hotel



San Mateo, CA

Town Center Mixed Use:
Office uses above
ground floor retail.



Dublin, CA

Town Center Mixed Use:
Multi-family Residential

Community Retail

This classification is intended to facilitate the development of a community commercial center with highway frontage. The site shall be at least 10 acres and shall be developed with a maximum FAR of 0.30. This site may share parking with the adjacent office or Town Center Mixed Use development.

Public/Institutional – Transportation Facilities

This classification is intended to include the eBART parking, maintenance yard, and other associated transit uses, such as the drop-off areas, taxi or shuttle areas, and bus stops.

Open Space

This classification includes public open space areas that serve the residents and employees of the Hillcrest Station Area. A minimum of five acres of improved public or private open space per 1,000 residents must be provided. Open space areas may include: multi-use trail areas, public and private recreational facilities such as tot lots or picnic areas, public parks, and plazas open to the public. Development sponsors can apply for park credit to meet a portion of the park requirements by providing appropriate native landscaping in the wetland buffer area, as approved by the City and a certified wetland biologist, and by providing trails in the utility easement landscape buffers.

Industrial

The PG&E substation parcels are designated as industrial, and are not assumed to redevelop with any other industrial uses.

Development Density Standards

Development density standards in the Hillcrest Station Area Specific Plan are based on gross land acreages, including land that will be dedicated for streets and parks. Therefore, the net project densities may be higher than those expressed in the standards shown in Table 3-6. Density standards for residential land use classifications are expressed as dwelling units per gross acre (du/ac). For non-residential and vertically mixed-use developments, development density is described as Floor Area Ratio (FAR). FAR is obtained by dividing gross floor area by total lot area. Structured parking areas are not counted as floor area.

Development Density Standards Policy

LU-2 Projects in the Hillcrest Station Area shall be consistent with the density standards in Table 3-6.

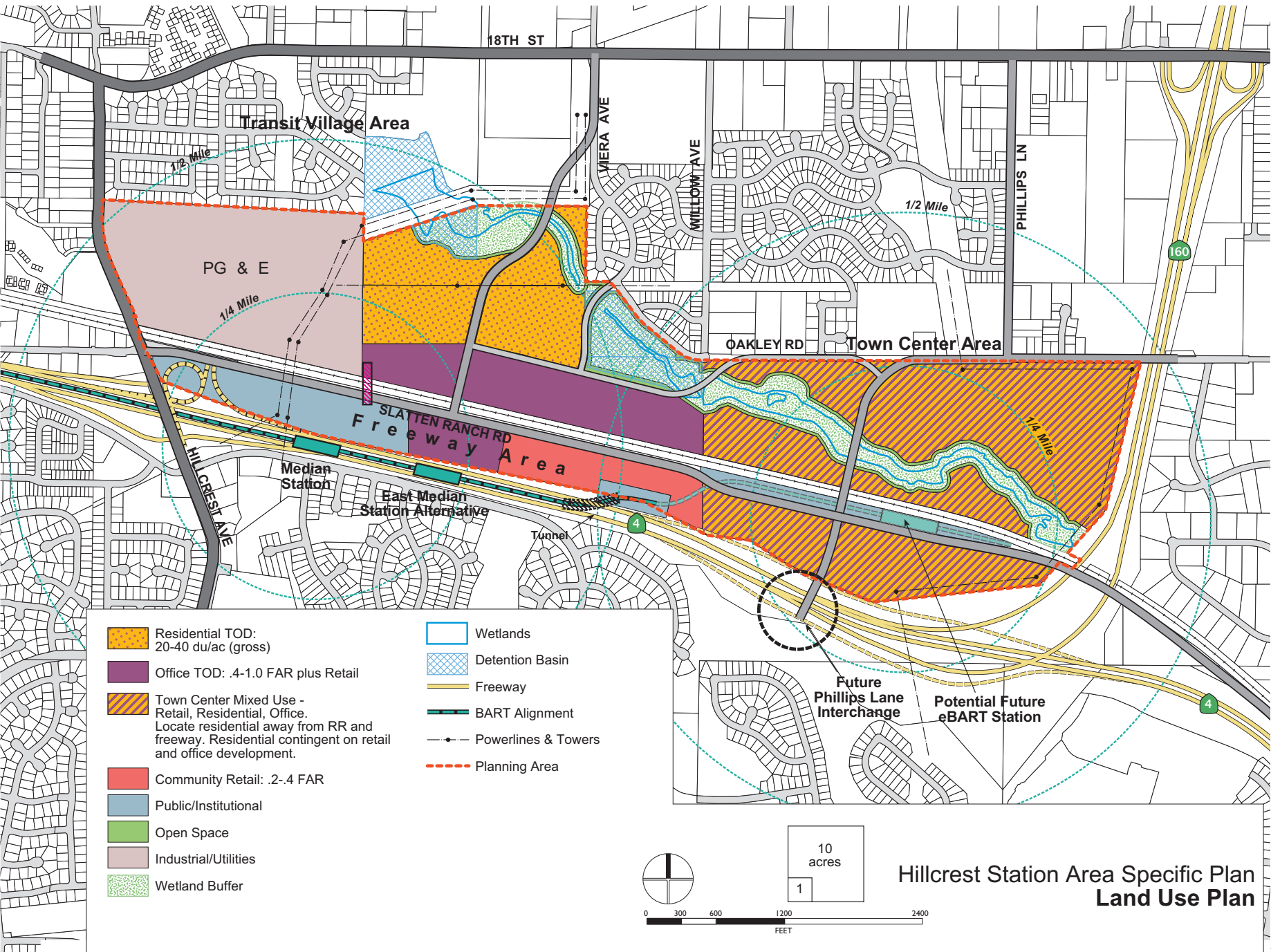
TABLE 3-6: DEVELOPMENT DENSITY STANDARDS

LAND USE	FAR	RESIDENTIAL DENSITY		OTHER DENSITY PROVISIONS
	Maximum	Minimum	Maximum	
Residential TOD	N/A	20	40	Up to 100 sf commercial space permitted per residential unit. (includes retail, restaurant, office, and personal services)
Office TOD	1.0	N/A	N/A	Up to 2.5 FAR possible on individual sites.
Town Center Mixed Use	1.0 *	6	25	- Up to 2.5 FAR possible on individual sites. - Up to 50 units per acre possible on individual sites.
Community Retail	0.3	–	–	–

* The maximum FAR is calculated over the entire Town Center Master Plan area and includes the floor area of all uses including residential and hotel.

Source: Dyett & Bhatia, 2008.

Figure 3-3: Land Use Plan



LAND USE POLICIES

Transit Village

- LU-3** Create a Transit Village in the western portion of the Hillcrest Station Area north of the Union Pacific Railroad right-of-way, with direct pedestrian, bicycle, bus transit, and automobile connections to the eBART station in the median of SR 4.
- LU-4** Locate high-density residential development within a half-mile walk from the eBART station.
 - A range of housing types may be included in a development project, some of which may be as low as 10 units per acre provided the total project meets the minimum density standard.
 - Residential units should be at least 300 feet away from rail and freeway rights-of-way, or incorporate construction measures that mitigate noise and air emission impacts.
- LU-5** Establish a 3 to 4-block pedestrian-oriented street along Oakley Street and/or Viera Avenue to serve the new residential community, station visitors, and area employees in the Transit Village.
 - Require active pedestrian-oriented retail, restaurants, personal services, and other commercial services and amenities on the ground floor on Oakley Road and near the Oakley/Viera intersection to meet the needs of transit riders, residents, employees, and visitors.
 - Incentivize eating and drinking facilities in the pedestrian center, for example by allowing shared parking, or reducing parking requirements for small businesses less than 2500 square feet.
- LU-6** The Transit Village Master Plan will include the following land use provisions:
 - A percentage of the office and retail uses are built prior to or in conjunction with residential uses.
 - The Master Plan for the Transit Village area shall allow:
 - No more than 1,000 total residential units;

- Up to 730,000 square feet of office uses; and,
- Up to 120,000 square feet of neighborhood retail, restaurant, and commercial service uses.

Town Center

- LU-7** Development in the eastern portion of the Hillcrest Station Area, the Town Center area, is contingent on the approval and funding of the Phillips Lane Interchange.
- LU-8** Develop a Town Center in the eastern portion of the Hillcrest Station Area that incorporates retail, entertainment, hospitality, and residential uses in a “lifestyle center” or other pedestrian-oriented format.
- LU-9** The Town Center Master Plan will include the following land use provisions:
 - A percentage of the office and retail uses are built prior to or in conjunction with residential uses.
 - The Town Center Master Plan shall allow:
 - No more than 1,500 total residential units;
 - At least 300,000 square feet of office uses;
 - Up to 730,000 square feet of retail, restaurant, hotel, and entertainment uses; and,
 - Up to 325 hotel rooms.
 - The FAR in the Town Center Master Plan area shall not exceed 1.0. Individual projects within the area may be built up to a maximum of 2.5, provided that the total FAR in the master plan area does not exceed 1.0.
- LU-10** Establish a cluster of 3 to 4 pedestrian-oriented blocks (“Town Square”) to serve the new residential community, area visitors and employees in the Town Center.
 - The pedestrian center should be focused on a public plaza or park to serve as a central gathering area.
 - Require active pedestrian-oriented retail, restaurants, personal services, and other commercial services and amenities on the ground floor to meet the needs of transit riders, residents, employees, and visitors.

- Incentivize eating and drinking facilities in the pedestrian center, for example by allowing shared parking, or reducing parking requirements for small businesses less than 2,500 square feet.

LU-11 Allow theaters and cultural facilities in the Town Center Mixed Use district.

Freeway Area

LU-12 Development projects in the Freeway Area shall comply with the following land use provisions:

- Up to 170,000 square feet of office uses with some ground floor retail adjacent to the eBART parking lot; and,
- Up to 150,000 square feet of community retail uses.
- Residential uses are not permitted in this area due to noise and air emissions from the freeway and railroad.

Office TOD

LU-13 Create a compact employment area that can accommodate at least 2,500 employees within walking distance of the eBART Median station.

LU-14 Allow compatible retail, restaurant, personal service, and other commercial uses within the Office TOD district. These uses must be on the ground floor and publicly accessible.

LU-15 Fee parking in surface parking lots (where it is a primary use, not associated with a development project) requires approval of a Conditional Use Permit. The CUP can be approved only if the project meets the following conditions:

- The parking use is temporary until structured parking and/or mixed-use development is feasible.
- The Conditional Use Permit is time-limited to a maximum of five (5) years.

Residential TOD

LU-16 Up to 100 square feet of compatible retail, restaurant, personal service, office, and other commercial uses per residential unit is allowed within the Residential TOD district. These uses must be on the ground floor or second floor, and must be publicly accessible.

Community Retail

LU-17 Allow a community retail site of at least ten acres, which benefits from SR 4 visibility and is easily accessible from Slatten Ranch Road.

LU-18 Allow shared parking arrangements between community retail and uses with different peak parking periods, such as office uses, to maximize development potential.

Residential Uses

LU-19 Provide a wide variety of housing opportunities, including multi-family, affordable, and senior housing, within walking distance of the proposed eBART station(s) or other public transit.

LU-20 Promote a variety of multi-family housing types throughout the Hillcrest Station Area. Include a mix of apartments, condominiums, and townhomes.

LU-21 Residential development must be built to meet the minimum housing density standard, to ensure that a level of affordability and housing variety is maintained. Detached single-family homes on traditional suburban lots are not appropriate in this area.

LU-22 At least fifteen percent of new housing units in the Station Area shall be affordable to moderate-income, low-income, or very low-income households, as required under state law for Redevelopment Project Areas.

LU-23 Locate residential units away from railroads and freeways, to minimize impacts from noise and air emissions. Units should be at least 300 feet away from rail and freeway rights-of-way, or incorporate construction measures that mitigate noise and air emission impacts.

Transit Facilities and other Public Uses

- LU-24** Locate eBART parking so that it is accessible to passengers arriving by car, bus, bicycle, or on foot.
- LU-25** Work with BART to ensure that at least 1,000 parking spaces are provided in close proximity to the eBART Station by 2015, and that 2,600 spaces are provided by 2035.
- LU-26** Locate the eBART maintenance facilities away from pedestrian-oriented areas.
- LU-27** Provide public bus facilities near each eBART station.

eBART Parking:

Work with BART to ensure that at least 1000 parking spaces are provided in close proximity to the eBART Station by opening day in 2015; and that 2600 spaces are provided by 2035, located in parking structures, or in shared parking with new development.



Park and Ride Lot; Antioch, CA



VTA Bus to Light Rail Transfer; Milpitas, CA

Bus and eBART Connection:

Provide public bus facilities near the eBART station, and make the transfer from bus to eBART easy and direct.

3.4 CIRCULATION

The addition of BART service will increase the mobility of existing and future residents and employees of Antioch and other East Contra Costa County communities. However development near the station will not be feasible if access within and access to the Hillcrest Station Area is not improved. This is one of the most important goals for the Specific Plan. The Station Area will need substantial circulation improvements, including eBART, bus transit, local streets, and improved access to regional freeways. When completed, these local and regional transportation facilities will enhance linkages between Antioch neighborhoods, neighboring communities, and the greater San Francisco Bay Area.

The Circulation Plan and policies in this chapter guide the necessary improvements related to circulation and access for automobiles, public transit, pedestrians and bicycles. Planned roadway improvements are shown in Figure 3-4, and the complete Circulation Plan is presented in Figure 3-5. The backbone of this network is the streets – arterials, connectors, and local streets. However the Circulation Plan also prioritizes alternative modes of transportation, particularly public transit, bicycling, and walking. The Plan encourages these alternative modes over personal vehicle use by providing safe and attractive streets complete with sidewalks, bike lanes, and bus transit access; supporting walking and bicycling with short block lengths and connectivity between major destinations; and integrating land use and transportation planning so that activities are concentrated within an easy walk to transit.

Street design standards are presented in Chapter 4, Urban Design. Street design is critical to the character of the area, and to the ultimate quality of life for residents and workers. Street sections in that chapter depict the number of travel lanes as well as bicycle lanes. The drawings and policies also focus on street landscaping, building to street relationships, and pedestrian safety in intersection design.

Circulation Principles

The Circulation Plan is based on the following principles:

- Provide access to all parts of the Hillcrest Station Area with a walkable, fine-grain street grid.
- Minimize impacts of Station Area development on existing residential development adjacent to the project area.
- Reduce total vehicle miles traveled and regional greenhouse gas emissions.
- Support rail and bus transit.
- Emphasize pedestrian, cyclist, and transit-rider connections to the eBART station and major destinations.
- Provide parking for BART and development as efficiently as possible.



eBART:
The future eBart train in the median of Highway 4.

City and Regional Roadway Improvements

There are several roadway improvement projects in East Contra Costa County that are intended to address existing and future traffic congestion. Those applicable to the Hillcrest Station Area are described below; they are assumed to be completed by 2035. Planned Roadway Changes in the Study Area and the Planning Area are shown on Figure 3-4. The detailed Circulation Plan for the Hillcrest Station Area is shown in Figure 3-5.

Regional Improvements Outside the Planning Area

SR 4 Widening Project. The Contra Costa Transportation Authority (CCTA) in cooperation with the California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) are working to widen SR 4, upgrade its interchanges and affected local roadways from about 0.8 mile west of Loveridge Road to approximately 0.7 mile east of Hillcrest Avenue. The project will reduce existing traffic congestion, improve traffic operations, encourage high-occupancy vehicle (HOV) use, and accommodate travel demand anticipated through the year 2030.

Hillcrest Avenue Interchange Improvements. The Hillcrest Avenue interchange adjacent to the Planning Area is planned to be modified including: widening the eastbound SR 4 off-ramp to two lanes at the gore point, widening the overpass to allow for additional through and left turn lanes, adding a northbound to westbound loop on-ramp, constructing a westbound SR 4 hook ramp to Slatten Ranch Road. These improvements are consistent with those identified in the State Route 4 (East) Widening Project.

SR 4 Bypass Project. The State Route 4 Bypass Project (Bypass) is a roadway project being constructed cooperatively between Contra Costa County and the Cities of Antioch, Brentwood, Pittsburg, and Oakley. The Bypass is intended to ease traffic congestion in Antioch, Brentwood and Oakley; to provide access to the growing areas of southeast Antioch

and western Brentwood; and, to provide more efficient connections throughout East Contra Costa County.

City Road Improvements Outside the Planning Area

The following roadway improvements are identified on the General Plan Circulation Map, and affect traffic flow in the vicinity of the Hillcrest Station Area.

East 18th Street Widening. This project is currently under construction and will widen East 18th Street to provide a continuous four-lane roadway with a median from SR 160 to Viera Avenue. This project is a gap closure project so that the corridor will be a continuous four-lane facility through the study area. This project is fully funded.

Wild Horse Road Extension. This project would extend the two-lane Wild Horse Road from its current terminus (east of Hillcrest Avenue) to Slatten Ranch Road. The Wild Horse Road extension would be constructed as part of planned residential development along the corridor.

Laurel Road Extension. This project would extend Laurel Road between its current terminus in Antioch and Hillcrest Avenue. The Laurel Road extension would be constructed as part of planned development along the corridor.

Road Improvements Proposed as Part of the Specific Plan

The Hillcrest Station Area will need a connected internal street network, and improved connections to the freeway network. In addition, bridges or tunnels are required for all new rail line crossings, because the Union Pacific Railroad line runs through the Station Area. Union Pacific has indicated that they may resume freight train service on that line, which may necessitate grade separations on Hillcrest Avenue.

In addition to the overall extent of the street network, streetscape design will play an important role in transforming the Hillcrest Station Area. As the most pervasive visual and physical component of the public realm, the design of the street network is integral to the image and experience of any development in the area. Chapter 4, Urban Design describes specific street design typologies and character to guide development of new and existing streets.

The roadways in the Planning Area are described below. Internal collectors and local streets are also needed. These will be planned as part of project applications, and thus are not detailed on the Circulation Plan. Figure 3-4 shows the details of the proposed roadway improvements—new streets and segments where changes in number of traffic lanes, intersection improvements, or new signalized intersections are proposed.

Phillips Lane Interchange. The Phillips Lane interchange is identified in the 2008 Contra Costa Countywide Transportation Plan. The interchange project is not funded at this time. The Specific Plan includes policies to limit the amount of development that can be constructed if the Phillips Lane Interchange is not approved and constructed.

Oakley Road Extension. This project would include a two-lane roadway extending from Oakley Road at Viera Avenue to the west, terminating at the PG&E facilities. While it is shown on the General Plan circulation map as extending all the way to Hillcrest Avenue, this is not feasible due to the location of the PG&E facilities and the proximity to existing intersections.

Slatten Ranch Road Extension. This project would continue Slatten Ranch Road north from Laurel Road as a two lane roadway to Phillip Lane, and then as a four-lane roadway from Phillips Lane to Hillcrest Avenue. The extension would intersect Hillcrest Avenue opposite the existing Sunset Drive signalized intersection. New SR 4 westbound ramps would be constructed at Slatten Ranch Road.

Phillips Lane Extension. This project would include a two- to four-lane roadway with a median from East 18th Street to the Slatten Ranch Road Extension. This project would also include a grade separation at the railroad tracks, and possibly a new interchange with SR 4.

Viera Avenue Extension. This project would include a two-lane roadway from East 18th Street to the Slatten Ranch Road Extension. A central third lane would be included between the PG&E easement and Slatten Ranch Road; the central lane would function as a turn lane near intersections, and would be a landscaped median in other segments. This project includes constructing a left-turn lane from northbound Viera Avenue to westbound East 18th Street. It would include a bypass around the existing residential neighborhood and a grade separation at the railroad tracks.

Figure 3-4: Planned City and Regional Roadway Improvements

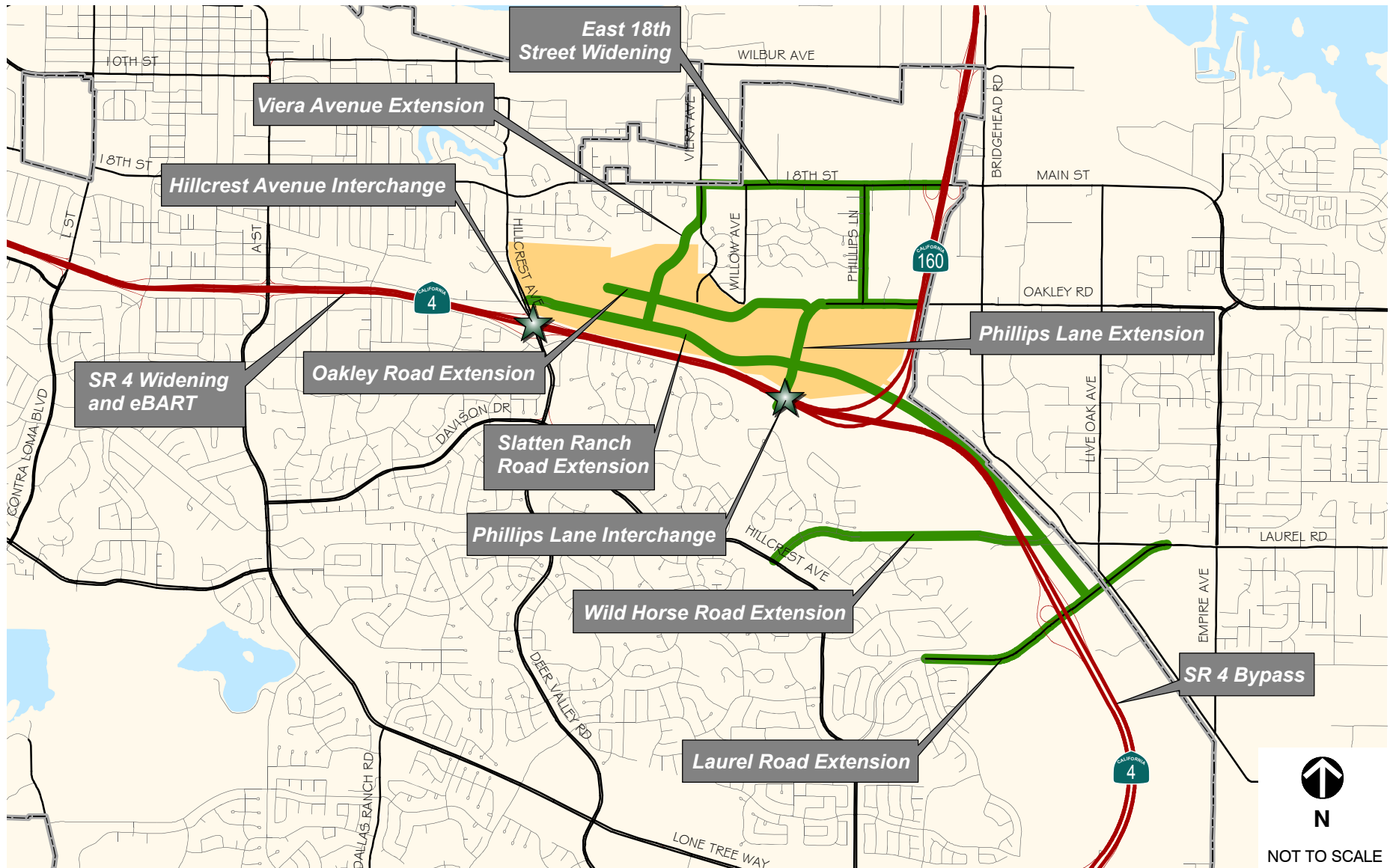
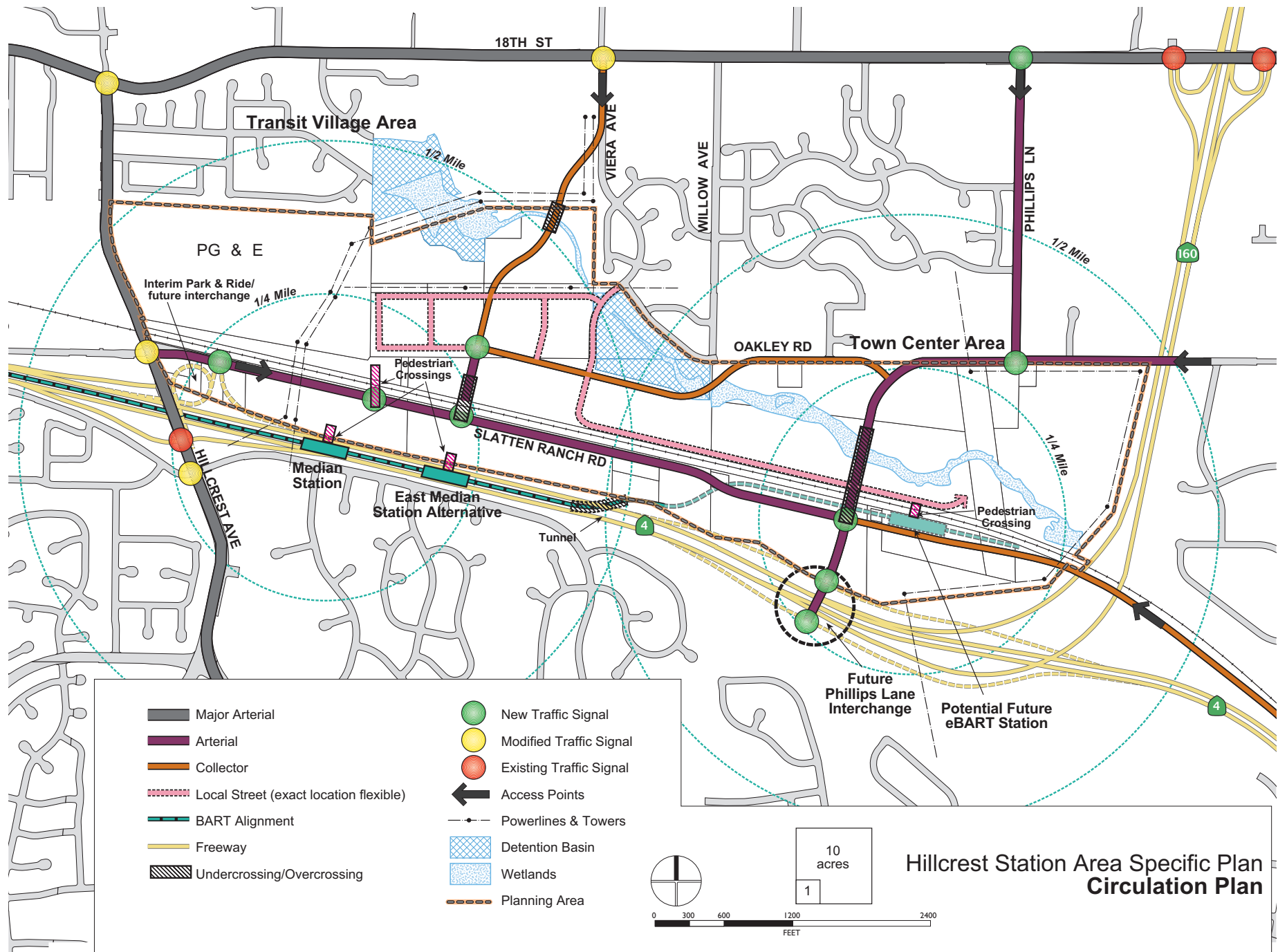


Figure 3-5: Circulation Plan



STREET NETWORK POLICIES

Street Network Design

- C-1** Create a connected street network of arterials and collectors that connects with existing local and regional roadways, and provides circulation throughout the Station Area.
- C-2** Create a connected network of local streets appropriate for a mixed use, pedestrian-oriented environment that extends throughout the Hillcrest Station Area. The network should establish:
 - Blocks that are two to four acres in size to facilitate direct and easy pedestrian access between different land uses and destinations; and,
 - Maximum block lengths of approximately 450 feet, or 600 feet where a mid-block pedestrian connection is provided (measured on the longest side of the block).
- C-3** Design streets so that they incorporate medians, landscaping, sidewalks, street trees, travel lanes, bike lanes, and on-street parking, such that they:
 - Are consistent with the desired pedestrian-oriented character and safety; and,
 - Meet the needs of all users including drivers, pedestrians, persons with disabilities, bicyclists, and transit users.
- C-4** Require land dedication and street improvements to be built consistent with street designs described in Chapter 4, Urban Design, for all arterials, collectors, and local streets in the Hillcrest Station Area.
- C-5** Limit potential traffic and parking impacts from new development on existing neighborhoods by:
 - Re-routing existing collector alignments outside existing neighborhoods, where feasible;
 - Providing direct access to the arterial and regional road network from any new streets; and,
 - Installing traffic calming measures where necessary.

- C-6** Minimize cul-de-sacs to the maximum extent possible. Where cul-de-sacs are necessary due to barriers such as freeways and detention basins:

- Provide at least one pedestrian and bicycle path at the circular end in order to connect to other streets and trails, to allow emergency vehicle access when warranted and to minimize response times for emergency access; and,
- Consider designing cul-de-sacs with a planted cul-de-sac island to limit the amount of pavement and increase stormwater management opportunities.

- C-7** Promote the use of permeable paving for parking aisles, off-street bike lanes, and parking lots, where feasible.

Station Area Street Improvements

- C-8** All applications for master plans, subdivisions, and development projects shall indicate how streets are connected to existing local and regional roadways, and how a connected network of streets is created throughout the Hillcrest Station Area.
- C-9** Arterials and collectors should be located as shown in Figure 3-5 Circulation Plan; however, locations may be modified based on additional engineering or environmental analysis, or a completed master plan that shows how all parcels will be adequately served. Streets shall be located consistent with the following criteria:
 - Arterials are to be generally located along property lines.
 - Collector alignments may vary to accommodate site conditions and development proposals, provided that the streets align and join directly with existing and/or future collector streets on adjoining properties.

C-10 Construct a four-lane east-west road, Slatten Ranch Road, south of the Union Pacific Railroad from Hillcrest Avenue to SR 160 to serve the eBART Station and development between SR 4 and the Union Pacific right-of-way. Design this road consistent with the following criteria:

- Connect Sunset Drive west of Hillcrest Avenue with the Station Area;
- Accommodate easy and direct access for buses in and out of the eBART station; and
- Ensure that BART service can be extended to the east in or adjacent to the Union Pacific railroad right-of-way. Design of this corridor will need to be coordinated with Caltrans, Union Pacific Railroad, and BART.

C-11 The City shall address traffic congestion at the Hillcrest Avenue and East 18th Street intersection. Starting in 2015, the City shall monitor the turning movements at this intersection with annual traffic counts.

- When the average delay per vehicle is exceeds 45 seconds (or the current CCTA level of service standard), the City engineer shall initiate a comprehensive engineering study to define feasible mitigations and the project's fair share of the cost of improvements.
- When the average delay per vehicle is 55 seconds (or the Level of Service reaches E), proceed with design and construction of the improvements defined in the engineering study.

C-12 Extend and re-align Viera Avenue between East 18th Street and Slatten Ranch Road. Design this road consistent with the following criteria:

- Realign Viera Avenue so that Station Area traffic does not impact existing neighborhoods, as generally shown in Figure 3-5.
- Add a left turn lane from northbound Viera Avenue to westbound East 18th Street.
- Work with PG&E to design the alignment so that Viera Avenue minimizes impacts to the PG&E electrical transmission and natural gas rights-of-way.

- Construct an overcrossing at East Antioch Creek that minimizes impacts to the creek, detention basins, and recreational areas.
- Construct an overcrossing or undercrossing at the railroad tracks that serves vehicles, pedestrians, and bicycles. Design the crossing to maximize developable land. The design of this crossing should also be coordinated with the design of the railroad grade separation at Hillcrest Avenue.

C-13 Extend and improve Oakley Road to serve the Hillcrest Station Area. Design this road consistent with the following criteria:

- Minimize impacts to the Oakley Detention Basin;
- Limit traffic and parking from the Station Area within existing neighborhoods;
- Support and encourage pedestrian-oriented land uses between the Oakley Detention Basin and the PG&E substation; and,
- Do not preclude a future connection with Hillcrest Avenue featuring a right-in, right-out intersection, if warranted.

C-14 Create a cul-de-sac at existing Willow Avenue near Oakley Road to avoid traffic impacts on existing residential neighborhoods. Consult with neighborhood residents prior to proceeding with this improvement to ascertain support and review alternative designs.

C-15 Extend and improve Phillips Lane south of East 18th Street to Slatten Ranch Road. Design this road consistent with the following criteria:

- Serve the development within the Town Center;
- Minimize impacts to East Antioch Creek and recreational uses;
- Cross over the railroad;
- Intersect with Slatten Ranch Road; and
- Provide access to the Phillips Lane Interchange.

City and Regional Transportation Improvements

- C-16** Work with CCTA and Caltrans to implement Hillcrest Avenue Interchange improvements. The final design of the improvements should consider the potential railroad grade separation at Hillcrest Avenue.
- C-17** Work with Union Pacific Railroad to provide a grade separation at the intersection of the Mococo Railway right-of-way and Hillcrest Avenue, if it is determined that the rail operator will resume active rail service. Explore all feasible design solutions with the goal to minimize the impacts on existing development and new development in the Hillcrest Station Area.
- C-18** Work with Caltrans to approve, design, and construct a full SR 4 interchange at Phillips Lane. Work with federal, state, and local agencies such as the Fee and Finance Authority to secure funding for the Phillips Interchange.
- C-19** The City and project sponsors shall work with neighboring cities and regional agencies to construct Slatten Ranch Road from west of SR 160 to Laurel Avenue.
- C-20** The City shall ensure that Wild Horse Road is extended and connected to the SR 4 Bypass Frontage Road, "Slatten Ranch Road," to improve local access to parks, schools, and fire stations.
- C-21** Work with the City of Oakley to monitor traffic levels and level of service at the Neroly Road and Oakley Road intersection, and support efforts to design and construct needed improvements.

Transportation Demand Management

- C-22** Apply a Transportation Demand Management (TDM) program that reduces single-occupant vehicle trips to development exceeding 25,000 square feet of non-residential space. Components of TDM programs could include:
 - Contributions to urban design projects, such as:
 - Bicycle parking, both short- and long-term, located in appropriate places; and,
 - Direct routes to transit (station, shuttle, or bus) and other key destinations that are well-lit and designed for pedestrian comfort.
 - Employer-based programs, such as:
 - Carpool and vanpool ride-matching services;
 - Designated employer TDM contact;
 - Guaranteed ride home for transit users and car/vanpoolers;
 - Transit subsidies for employees;
 - Flexible work schedules, shortened work weeks, or options to telecommute;
 - Information campaigns using brochures, boards/kiosks, or other communication outlets; and,
 - Employer provided showers and lockers.
 - Meeting or exceeding project design standards, such as:
 - Free and preferential parking for carpools, vanpools, low-emission vehicles, and car-share vehicles;
 - Passenger loading zones; and,
 - Bicycle- and pedestrian- friendly site planning and building design.

Construction Traffic Management

C-23 Project sponsors shall develop a Construction Traffic Management Plan for City review and approval. The plan shall include at least the following items and requirements to reduce traffic congestion to the maximum extent feasible during construction:

- A set of comprehensive traffic control measures, including major truck trips and deliveries that avoid peak traffic hours, detour signs if required, lane closure procedures, sidewalk closure procedures, signs, cones for drivers, and designated construction access routes.
- Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- Location of construction staging areas for materials, equipment, and vehicles (must be located on the project site).
- Identification of haul routes for movement of construction vehicles that minimize impacts on vehicular and pedestrian traffic, circulation and safety;
- Temporary construction fences to contain debris and material and to secure the site.
- Provisions for removal of trash generated by project construction activity.
- A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager.
- Provisions for monitoring surface streets used for truck routes so that any damage and debris attributable to the trucks can be identified and corrected.

Parking

Parking is a critical component of transit-oriented development. Provide too much and the environmental benefits of transit and pedestrian-oriented design are negated. Provide too little and development and transit may not thrive. The provision and management of on-site parking is directly related to issues such as the efficient use of the internal circulation system, and integration of parking into urban design, transit uses, and economic development. The goals for providing sufficient parking may complement, or compete with, one or more of these related issues. Parking is also very expensive to build; therefore, parking requirements can be an incentive or a deterrent for certain types of development.

Research shows that some reductions in off-street parking requirements are appropriate within transit-oriented development areas, based on: (1) the mix of uses (which allows trip chaining instead of separate auto trips); (2) the availability of pedestrian, bicycle, transit and other non-automobile modes of travel; and (3) the smaller sizes of units compared to single family homes. This can be combined with shared parking arrangements to reduce the amount, and therefore the cost, of providing parking. The amount of reduction is typically somewhere between 10 and 20 percent, compared to the standard City parking ratios.

With the proposed mixed-use development throughout much of the Station Area, several opportunities will be available to reduce the amount of parking through shared parking arrangements. The extent of parking reduction will depend on factors such as: transit station access, size and mix (type) of land uses with complementary parking patterns, physical location of the complementary uses, cooperation between various land owners/developers for shared parking arrangements, and the phasing and implementation of these developments. Parking studies and proposals will need to be provided as part of major development applications to determine the appropriate amount of parking.

PARKING POLICIES

Parking Location

- C-24** Locate off-street parking behind buildings or in structures, to the maximum extent feasible. Do not locate parking between public streets and building entrances, except on commercial retail sites within the freeway area.

Parking Standards and Guidelines

- C-25** Maintain flexible parking standards that balance the need for parking with the broader Station Area goals of encouraging transit ridership, ridesharing, and nurturing the area's pedestrian appeal.
- C-26** Distribute parking throughout the Station Area to help balance traffic flow on the street grid network.
- C-27** Include on-street parking on collector and local streets, following detailed recommendations in Chapter 4, Urban Design.
- C-28** Adopt specific parking standards for the Station Area. Consider some or all of the following strategies to prevent oversupply and encourage the use of alternate modes of transportation:
- Allow shared parking between uses with different peak periods of parking demand;
 - Reduce minimum off-street parking requirements for multi-family and commercial developments;
 - Adopt maximum off-street parking requirements;
 - Allow credits for adjacent on-street spaces;
 - Allow exemptions for small retail and dining establishments (e.g. less than 2,500 square feet) in pedestrian centers; and,
 - Allow tandem parking in residential developments.
- C-29** Work with property owners to emphasize shared parking arrangements where appropriate to maximize efficient use of parking resources.
- C-30** Incentivize parking structures, rooftop parking, and underground parking, through flexibility in conditions of approval and in negotiations for any City financial participation in the development.

- C-31** Require surface parking lots to be designed so that it is feasible to use them for other uses, such as farmers' markets or community events, without reducing the landscaping requirements.
- C-32** Identify opportunities for parking pricing strategies. Work with property owners to price parking so as to discourage automobile trips that could be made by other modes.
- C-33** Prohibit parking lots and structures as a primary use in the Hillcrest Station Area, other than on land identified in the Station Area Plan for eBART parking.

eBART Parking

- C-34** Work with BART to identify funding sources for parking at the eBART stations, consistent with the following criteria:
- 1,000 spaces at the time eBART service begins; and,
 - 2,600 spaces by 2030, if the Hillcrest Station continues to be the terminus station for the eBART service. These spaces may be developed in phases.



Parking:
Public Parking Structure
with retail and restaurant
on the ground floor

Walnut Creek, CA

Transit

The Hillcrest Station Area Plan has been prepared based on the construction of the eBART line from Pittsburgh to Antioch, and the location of a new station in the median near Hillcrest Avenue. As discussed in Chapter 2, Background, the station location has not been finalized. The City's preferred location is the East Median location, approximately 2,175 feet from the Hillcrest Interchange. This location has several advantages for the development of the Hillcrest Station Area. It decreases the walking distance from the station to developable areas, improves the visual context of the station area (by not focusing on the PG&E substation), and provides more flexibility for shared parking and future eBART parking.

In addition, the new rail transit system must be integrated with the existing bus transit system in order to optimize rail and bus transit, and reduce automobile use. Tri Delta Transit uses the existing Park-and-Ride lot at Hillcrest Avenue and Sunset Avenue for nine routes. This bus transit hub will be integrated into the parking area near the eBART station.



Transit:
Tri-Delta Transit will provide bus service to the eBART station, creating a multi-modal transit center.

Transit Policies

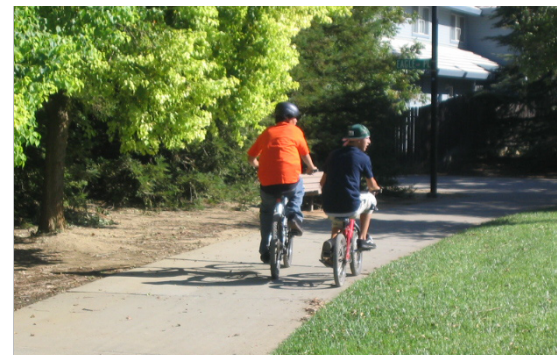
- C-35** The City shall continue working with BART, CCTA, Caltrans, and property owners to study design, funding, and construction options for the Hillcrest eBART station, including but not limited to the East Median Station, which is the City's preferred station location. The design and location of the station should be modified from the current Median Station plan to achieve the following goals:
- Provide a more direct pedestrian and bicycle route from the Transit Village pedestrian center to the eBART station, with a distance of no more than one-quarter mile, and the minimum number of grade changes;
 - Provide shorter, more direct vehicular access between the Transit Village Area to the eBART station;
 - Maximize developable land, especially properties with freeway visibility, and properties in the Transit Village Area; and
 - Provide an attractive view from the eBART station, that includes a direct line of sight to the Transit Village, and screens the view of the PG&E station; and
 - Maximize opportunities for shared parking between BART patrons and other land uses.
- C-36** Develop a multi-modal transit center at the median eBART station that provides access to eBART, buses, taxis, and shuttles. Design the transit facilities to include:
- Bus transit center and approximately 8-12 bus bays (moved from the Hillcrest Park-and-Ride lot to the eBART Station parking area);
 - Kiss-and-ride limited term parking area;
 - Disabled parking;
 - Shuttle pick up and drop off area; and,
 - Safe and attractive pedestrian and bike crossings to the station.
- C-37** Work with Tri-Delta Transit to minimize impacts to existing service while serving the Station Area.
- C-38** Design arterials and arterial intersections, particularly near pedestrian-oriented streets, to accommodate transit services, including bus stops, pull-outs, and shelters.

Pedestrian and Bicycle Access and Circulation

The Hillcrest Specific Plan aims to create attractive, inviting, and safe pedestrian and bicycle connections for residents, workers, and visitors. Pedestrian and bicycle circulation systems should be created throughout the Station Area, with specific linkages over East Antioch Creek and the railroad, and between the western and eastern areas. Major destinations such as the transit station(s), parks, and retail or shopping districts, should have clearly defined access paths.

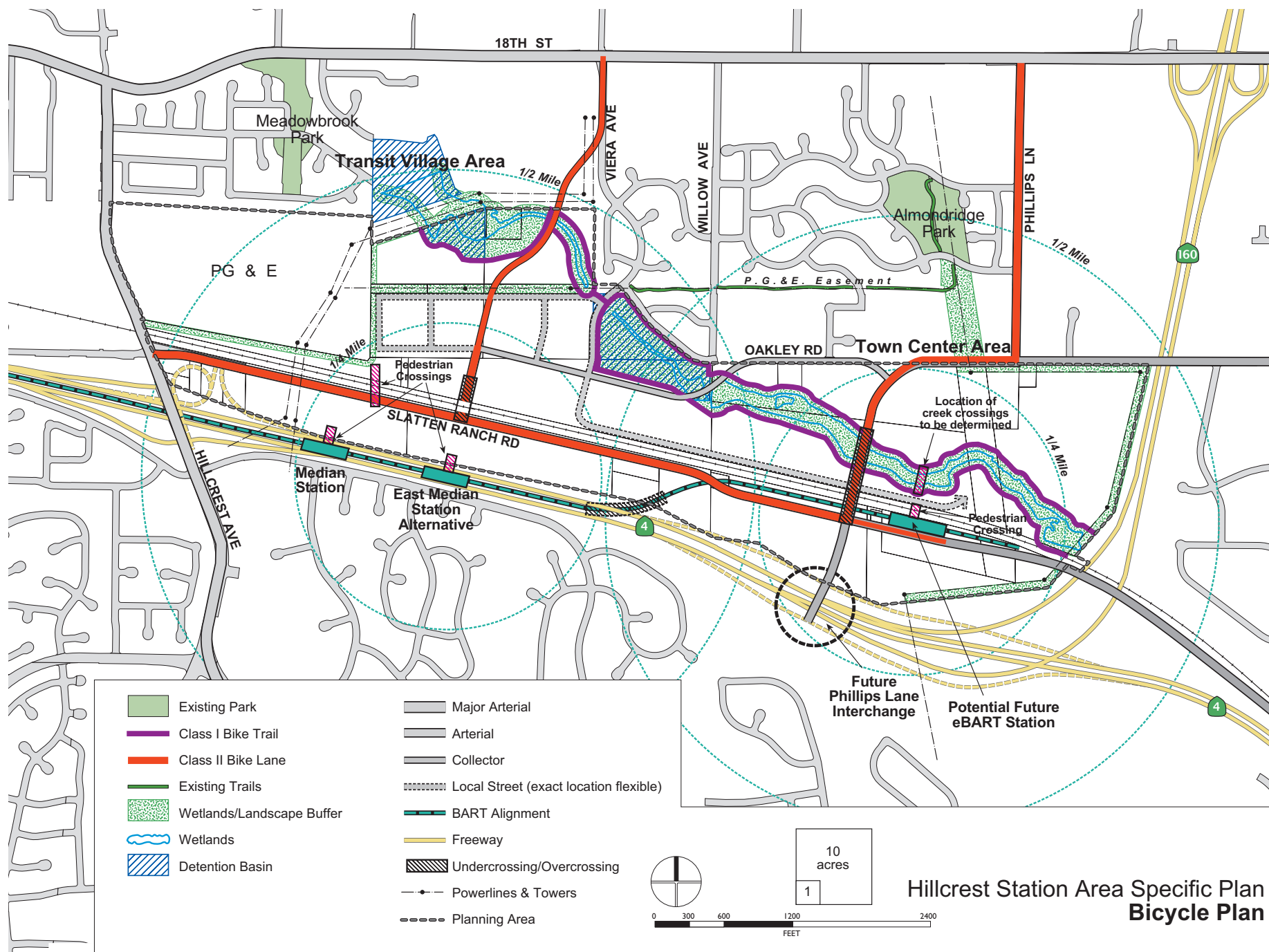
The backbone of the pedestrian and bicycle networks will be the internal street network, plus the multi-use trail around East Antioch Creek. Bicycle lanes will be provided on key internal roadways. Figure 3-6 shows key bicycle routes within the Station Area that should be established and maintained. All new streets are to be equipped with sidewalks or other adjacent pedestrian facilities, as illustrated in the street sections in Chapter 4, Urban Design. Mid-block pedestrian pathways are encouraged to create greater pedestrian and bicycle access through the Station Area. Likewise, internal ground-level circulation and open spaces can be encouraged through new development. The Plan policies seek to ensure that pedestrian and bicycle networks are linked beyond the Station Area to the greater City and neighboring communities.

Pedestrian Connections: Pedestrian connections will be created throughout the Hillcrest Station Area. Projects will provide routes directly to major destinations such as parks, pedestrian centers, and eBART stations.



Bicycle Paths: Bicycle paths will be provided along East Antioch Creek; and bicycle lanes will be provided on major roadways.

Figure 3-6: Bicycle Plan



Hillcrest Station Area Specific Plan
Bicycle Plan

PEDESTRIAN AND BICYCLE CIRCULATION POLICIES

- C-39** Prioritize pedestrian and bicyclist safety at intersections and street crossings with measures such as:
- Contrasting and/or textured paving crosswalks;
 - In-ground, blinking crosswalk lights; and,
 - Pedestrian refuges and bulb-outs.
- C-40** Implement a way-finding signage program for common destinations.
- C-41** Require development projects to provide walking and biking routes directly to major destinations such as parks, pedestrian centers, and eBART stations.
- C-42** Adopt minimum bicycle parking requirements for residential and commercial projects. Bicycle parking should be designed with the following criteria:
- Short-term parking should be visible from the main entrance of buildings.
 - Long-term parking should be provided in secure, well-lighted areas.
- C-43** Encourage employers to provide showers and lockers.
- C-44** Limit the number of curb cuts allowed on each block face.
- C-45** On pedestrian-oriented streets, design streets and sidewalks consistent with the provisions in Chapter 4, Urban Design, including:
- Tree wells or planter strips with trees between the sidewalk and parking;
 - On-street parking between sidewalks and travel lanes;
 - Pedestrian-scale street lights;
 - Limited curb cuts that cross the pedestrian path of travel;
 - Outdoor seating for restaurants and cafes;
 - Projections into the right of way for awnings, canopies, pedestrian-oriented signs, bay windows, and other elements that enhance the pedestrian realm; and
- C-46** Sidewalks should have at least a five-foot wide clear path of travel.

Pedestrian and Bicycle Circulation Improvements

- C-47** Provide bike routes throughout the Station Area, as illustrated in Figure 3-6.
- Class 1: Continuous multi-purpose trail along East Antioch Creek and the detention basins
 - Class 2: Slatten Ranch Road, Phillips Lane, and Viera Avenue
- C-48** Allow bicycle circulation on all local streets, to the extent feasible.
- C-49** Design and implement a multi-use trail loop around the wetlands and East Antioch Creek. This loop should include at least two pedestrian crossings across the creek.
- C-50** Provide multi-use trails that connect from East Antioch Creek to existing neighborhood parks north of the Station Area.
- C-51** Provide at least two pedestrian and bicycle crossings across the railroad, at least one each in the Transit Village and the Town Center. If the Median Station is the selected eBART station location, provide a third pedestrian and bicycle crossing opposite the eBART station entrance, as shown in Figures 3-5 and 3-6.



VTA Bridge to Light Rail; Milpitas, CA

Pedestrian/Bicycle Bridges:

At least two pedestrian and bicycle crossings will be provided across the railroad, one in the Transit Village and one in the Town Center.

Freight Rail Service

The Union Pacific Railroad Mococo right-of-way traverses the entire east-west length of the Station Area. Union Pacific is planning to increase the number of trains using this corridor from very infrequent trips to up to 40 trains per day. Active freight rail service would have noise, air quality, and safety impacts on future residents and employees of the Station Area. The City will be working with Union Pacific to ensure that the resumption of freight rail service on the Mococo tracks does not create unacceptable public health and safety issues.

The Antioch General Plan indicates that a grade separation project is planned at Hillcrest Avenue. Construction of a grade separation would reduce the noise impact of the train since trains would not have to sound warning whistles. The design of the grade separation will significantly impact existing and future development and circulation access.

Freight Rail Policies

- C-52** Work with Union Pacific to ensure safe pedestrian and vehicular railroad crossings.
- C-53** Work with Union Pacific to limit rail noise impacts on building occupants, and circulation impacts on roadways, bike paths, and sidewalks.
- C-54** Work with federal, state, and other sources to secure funding for a grade separation at Hillcrest and the Union Pacific tracks.

Railroad Crossings: Work with Union Pacific to ensure safe pedestrian and vehicular railroad crossings. Work with federal, state, and other sources to secure funding for a grade separation at Hillcrest and the Union Pacific railroad tracks.



Redwood City, CA

Truck Access

In order to support the pedestrian-oriented nature of the Station Area, truck routes and loading areas should be carefully considered. Access to garbage and recycling areas should also be considered early in the project design process. Access should be provided in a way that facilitates truck service without detracting from the pedestrian realm.

Truck Access Policies

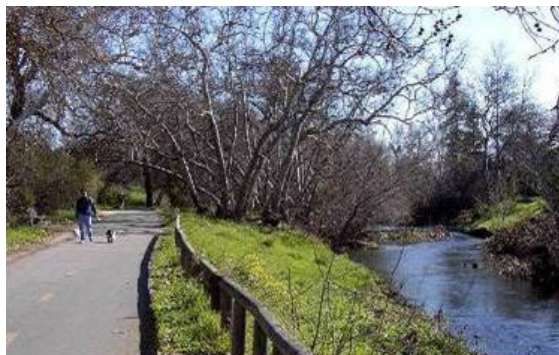
- C-55** Where truck routes are necessary, do not locate them on the core pedestrian streets in the pedestrian centers.
- C-56** Service and loading areas should be strategically located and screened so as not to impact the attractiveness and safety of the pedestrian realm. Therefore, they should be located to the side or rear of buildings, away from the primary pedestrian areas.
- C-57** Loading requirements for smaller building may be met through curbside loading zones. For larger developments that require loading docks, the docks should be located in the interior of the building or parking garage, to the maximum extent feasible.

3.5 PARKS AND OPEN SPACE

Parks and open spaces are critical features in pedestrian-oriented areas and other high-density areas. They provide greenery and breathing room between buildings, and contribute to the overall character of the district. Streetscape improvements and landscaping also help to identify major activity centers and primary walking routes. In addition to serving as visual and recreational amenities, open spaces are critical to the environmental health and safety of the development area. Landscaped areas also help manage stormwater by providing short-term and long-term storage areas, which help filter the water before it re-enters the natural systems.

Typically, parks in compact, pedestrian-oriented districts are small, ranging from 3,000 square foot public plazas to neighborhood parks of about two acres. The City of Antioch has established a parks standard of five acres per 1,000 residents. The Hillcrest Station Area should include a variety of public and private open spaces, distributed throughout the area to ensure that all properties benefit from the amenities and that adequate open space is available for residents and employees. Open space areas in the Station Area may include: multi-use trail areas, public and private recreational facilities such as tot lots or picnic areas, passive recreation areas, and public parks and plazas. The Open Space Plan is illustrated in Figure 3-7.

Park and Trail System:
Create a unique park and trail system that enhances the natural features and functions of East Antioch Creek and wetlands.



Parks and Open Space Principles

The Open Space Plan is based on the following principles:

- Create a unique park and trail system that enhances the natural features and functions of East Antioch Creek and wetlands.
- Provide adequate developed park space to meet the recreation needs of Station Area residents and workers.
- Use landscape buffers to limit the visual impacts of PG&E and utilities.
- Provide an attractive, dynamic public realm that includes urban plazas, enhanced streetscapes, landscaped setbacks, and landscaped buffer areas.



Neighborhood Parks:
Small neighborhood parks should be located within walking distance of homes and pedestrian centers.

Davis, CA

East Antioch Creek Linear Park

The unique features of the Station Area will help to define the open space elements. The most dynamic of these features is East Antioch Creek and its surrounding wetlands. The Army Corps of Engineers has delineated the wetlands along East Antioch Creek. The creek is a prominent component of the local stormwater management system, including two detention basins in the Station Area. The riparian habitat along the creek is protected by state and federal law for its role in flood control, erosion protection, water quality protection, and as wildlife habitat.

In order to protect the natural stormwater management and habitat functions of the wetlands, a minimum 50-foot buffer has been established from the delineated wetlands. Landscaping within the 50-foot buffer area may be allowed to enhance the visual aspects of the creek, as long as the improvements are consistent with habitat conservation best practices. A fence shall be built at the outer edge of this 50-foot buffer to minimize intrusions from people and pets. An additional 25-foot buffer has been established outside the fence. This buffer will be landscaped and enhanced to create a linear park with a multi-purpose trail.

The new East Antioch Creek linear park will be created as a defining element of the Hillcrest Station Area. The park will include: a multi-use trail built as a walking, jogging, and biking loop; small recreation areas along the trail such as benches, tot-lots and picnic areas; and staging areas where people can park and enter the trail system. This linear park will be publicly owned and maintained.

Multi-Use Trail:
Provide a trail along East Antioch Creek that can be used for walking, jogging, and biking.



Public and Private Open Space

Additional open space areas will need to be provided to serve the recreation needs of residents and employees. In the Transit Village area, a small neighborhood park within walking distance of all residents is needed. It could be located adjacent to the multi-use trail. In the Town Center area, a neighborhood park with at least one sports field is needed.



Davis, CA

Creekside Recreation Facilities:
Locate small recreational areas along the trail such as benches, tot lots, and picnic areas.

Public Plazas

Urban plazas are to include both paved areas and landscaping, and provide seating and areas for interaction. Successful plazas usually feature a variety of flexible seating options (ledges, steps, or movable chairs), water features or art, connectivity to the street, environmental protection, and access to food (food carts or adjacent cafés). Plazas tend to be more used when they are adjacent to retail and restaurant uses rather than primarily office uses. Plazas should be large enough to accommodate a variety of active and passive uses while maintaining a human scale. The Open Space Plan, Figure 3-7, includes at least three public plazas that will be scaled to suit their location. There should be a plaza at the transit station(s) to serve as a gathering place and to help define the character of the Hillcrest Station Area. In addition there should be a “town square” in the pedestrian center of the Town Center area. A smaller plaza should be included in the heart of the Transit Village.

Urban Plazas:
Urban plazas will be provided in the pedestrian centers of the Transit Village and Town Center.



Walnut Creek, CA

Landscape Buffers

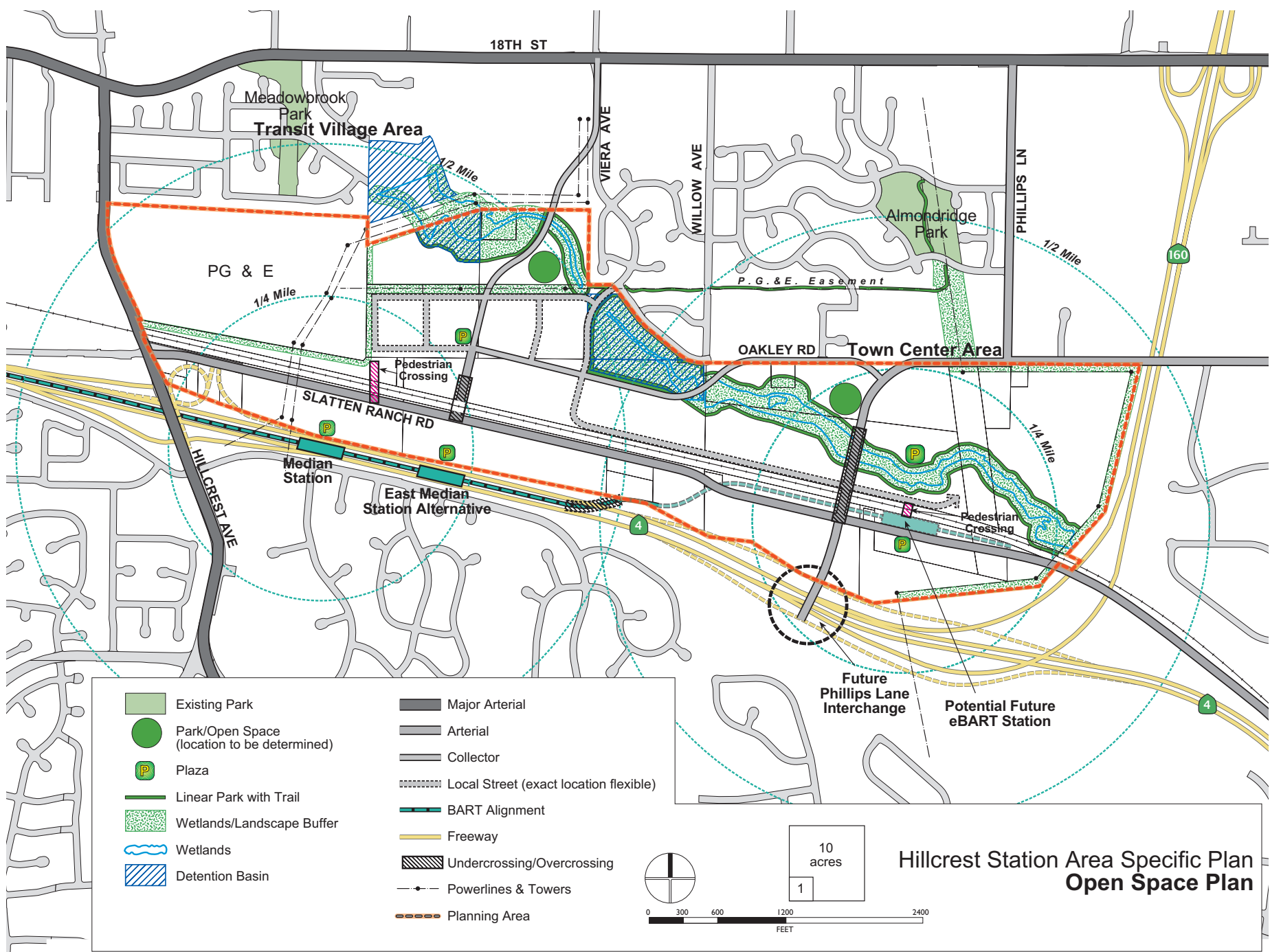
Landscape buffers will be used to provide a visual and noise separation between the railroad, highways, and high traffic streets, and the buildings that face them. The PG&E substation and easements with transmission towers are additional features that require landscaping to reduce the visual impact. See Chapter 4, Urban Design for standards and guidelines related to landscape buffers.



Redwood City, CA

Landscape Buffers:
Landscape Buffers will be used to provide a visual and noise separation between the railroad, highways, and high-traffic streets, and the buildings that face them.

Figure 3-7: Open Space Plan



PARKS AND OPEN SPACE POLICIES

Parks

- OS-1** Prepare parks plans as part of the required Master Plans for the Transit Village and Town Center areas, in order to meet the recreational needs of the residents and employees of the Station Area. The parks components of the Master Plans should fulfill the following criteria:
- An integrated network of public open spaces, parks, plazas, and trails should be created to connect the Transit Village, Town Center, and existing neighborhoods.
 - Open space types and locations should be generally consistent with Figure 3-7.
 - All new employees and residents should be within a five- to ten-minute walk of a park or plaza.
 - For all new public parks, the design, program, and facilities must be approved by the City.
- OS-2** Park and open space land must be provided as part of new development. Park dedication requirements will be based on the number of units and size of residential units proposed in an individual development project, following the provisions of the City's ordinances. With City approval, impact fees may be paid in lieu of park dedication for small properties where no parks are shown on the Open Space Plan.
- In the Transit Village area, provide a small neighborhood park approximately two acres in size within walking distance of the residential units. This park could be located adjacent to the East Antioch Creek Linear Park trail.
 - In the Town Center area, provide a neighborhood park approximately three acres in size, with at least one sports field.

- OS-3** Provide a comprehensive maintenance program for all open spaces, parks, plazas, and landscape buffers. Any parks or open spaces less than five acres in size should be maintained by private property owners, rather than by the City of Antioch, using mechanisms such as Homeowners' Associations (HOAs) or Street Lighting and Landscaping Maintenance Districts (LLMDs).
- OS-4** Incorporate wind protection and shade structures into new parks.
- OS-5** Encourage the use of drought-tolerant and/or native plant materials and trees in all open spaces.
- OS-6** Project sponsors may apply for partial credit of park requirements by improving utility easement landscape buffers with trails, benches, and other recreational amenities.

Creekside Trail and Creek Improvements

- OS-7** Connect trails and parks to the City's existing trail network.
- OS-8** Create a linear public open space at least 25 feet wide around the wetlands and detention basins. Design the open space consistent with the following criteria:
- A multi-use trail 8-12 feet wide is provided around the perimeter of the 50-foot inner wetland buffer area;
 - The trail connects to public streets, public parks, and plazas;
 - At least two pedestrian and bike paths are available to cross the creek;
 - At least one staging area with parking is provided adjacent to the trail in the Transit Village area and one in the Town Center area;
 - Recreational facilities, such as seating, picnic tables, tot lots, and exercise areas or par course, are provided adjacent to the trail;
 - Viewing platforms may be built to observe the natural areas; and
 - If feasible, informational signage is provided so that the riparian habitat can be used as an educational destination for local schools.

- OS-9** Improve the creek and wetlands so that they are visually attractive, and at the same time protect wildlife habitat, movement corridors, special status species, and stormwater management functions, consistent with the criteria below.
- Any creek, wetland, and wetland buffer improvement must be reviewed and approved by a certified biologist.
 - Appropriate types of fencing must be provided between the wetlands and the park areas to ensure that pets and children do not disturb sensitive habitats.
 - Plants must be native and appropriate to East Antioch Creek.
- OS-10** Development sponsors may apply for credit toward a portion of the park land dedication requirements for creek and wetlands restoration and/or improvements.
- OS-11** Improve areas around the detention basins with trails, trees, landscaping, and other amenities so they become an integral and attractive portion of the open space network within the Station Area.

Public Plazas

- OS-12** Incorporate public plazas in commercial and mixed use development within the pedestrian center areas. Plazas should be designed consistent with the following criteria:
- The size of the plaza is to be commensurate with the size of the development project and the height and scale of the buildings.
 - Plazas must be located adjacent to a public street.
 - Plazas must be open to the public during all daylight hours.
 - Plazas must be located generally adjacent to retail and restaurant uses, rather than primarily office uses.
 - Both paved areas and landscaping must be included, and seating and areas for interaction must be provided.
 - A variety of flexible seating options (ledges, steps, or movable chairs), water features or art, connectivity to the street, environmental protection, and access to food (food carts or adjacent cafés) must be provided.

4

URBAN DESIGN

4.1 URBAN DESIGN OVERVIEW

An urban design framework is needed to establish a distinctive character and identity for the Hillcrest Station Area, and ensure that the public realm is attractive, comfortable, and pedestrian-oriented. The urban design framework establishes street design dimensions, street landscaping, trail dimensions and landscaping, building to street relationships, and other components of the public realm. An environmentally sensitive and memorable landscape must underpin the establishment of a strong identity for the Hillcrest Station Area.

Natural features and man-made structures are major defining elements of the Hillcrest Station Area. They create an overall urban design framework for the development of the area. Figure 4-1 presents a diagram of the urban design framework for the Hillcrest Station Area.

Urban Design Principles

- Create a special and distinctive character in the Hillcrest Station Area that is unique in Antioch and East Contra Costa County.
- Natural areas such as East Antioch Creek should be preserved and improved with landscaping, to preserve habitat value and enhance the visual quality of the Hillcrest Station Area.
- In the areas around the eBART station(s), development should exhibit a pedestrian-oriented character. Buildings should front onto public streets. An attractive, inviting, and comfortable network of streets and sidewalks needs to be created throughout the area.
- Pedestrian centers should be created in both the east and west sub-areas of the Hillcrest Station Area, centrally located so residents and workers can walk to shops, restaurants, and services. Streets need to be pedestrian-oriented, with active storefront windows at the ground floor, and top-quality building materials at the ground floor.
- Create an attractive, comfortable, and safe pedestrian and bicycle connection from the eBART station to the Transit Village and its pedestrian center.
- All streets within the Hillcrest Station Area should have street trees that shade the sidewalk and create a distinctive and attractive image. Local streets should have planter strips, except in the pedestrian centers. Medians should be incorporated on streets with more than two lanes.
- Landscape buffers with trees and plantings should be created in all areas adjacent to freeways, railroads, electrical lines, and utilities.
- Buildings should face onto public streets, and building facades that face public rights-of-way or parks should incorporate high quality design and materials.
- Preserve views of hills and water from public streets, trails, and parks.

Development Areas

The creek, the rail lines, the eBART facilities, and the major roads define separate development sub-areas within the Hillcrest Station Area. These are illustrated in Figure 5-1, Urban Design Overview. Each of these sub-areas will have a distinctive character based on the natural and man-made features that exist as well as the future land uses and types of development. They need to be designed to take into account their unique location, adjacent development, the relationship to the creek and detention basins, the relationship to the future eBART station(s), and the relationship to the rail line.

The Hillcrest Station Area essentially breaks down into three areas: the “Transit Village Area” on the west that will be closest to the new eBART station (Median or East Median); the “Town Center Area” on the eastern side of the project site; and the “Freeway Area” along the linear corridor between the rail line and SR 4. The rail line is a major divider that can only be bridged with under-crossings or over-crossings. The half-mile walking distance is also a major determinant in defining the development sub-areas. A half-mile distance is a 10-minute walk at an average walking speed, which is the estimated maximum walking distance that most people will walk to go to shops, restaurants, services, and transit. There are two half-mile radius areas within the Hillcrest Station Area, one on the western side and one on the eastern side.

Transit Village Area

The Transit Village Area is centered around the eBART station. The main streets are Viera Avenue and Oakley Avenue, and a pedestrian center is located near the intersection of the two streets. The boundaries of the area are East 18th Avenue on the north, the railroad line on the south, the PG&E site on the west, and Willow Avenue on the east. The area is bisected by the railroad line, and a PG&E easement with electrical towers and lines.

Town Center Area

The Town Center Area is surrounded by Oakley Road, the SR 4 and SR 160 freeways, and Willow Avenue. The area is focused around East Antioch Creek and Phillips Lane, where there will be a pedestrian-oriented “Town Center.” The pedestrian center will connect to the future eBART station if that is ultimately constructed. The area is bisected by the railroad line and Slatten Ranch Road in the east-west direction. Phillips Lane will also be a major through-street if a Phillips Lane interchange is ultimately constructed on SR 4.

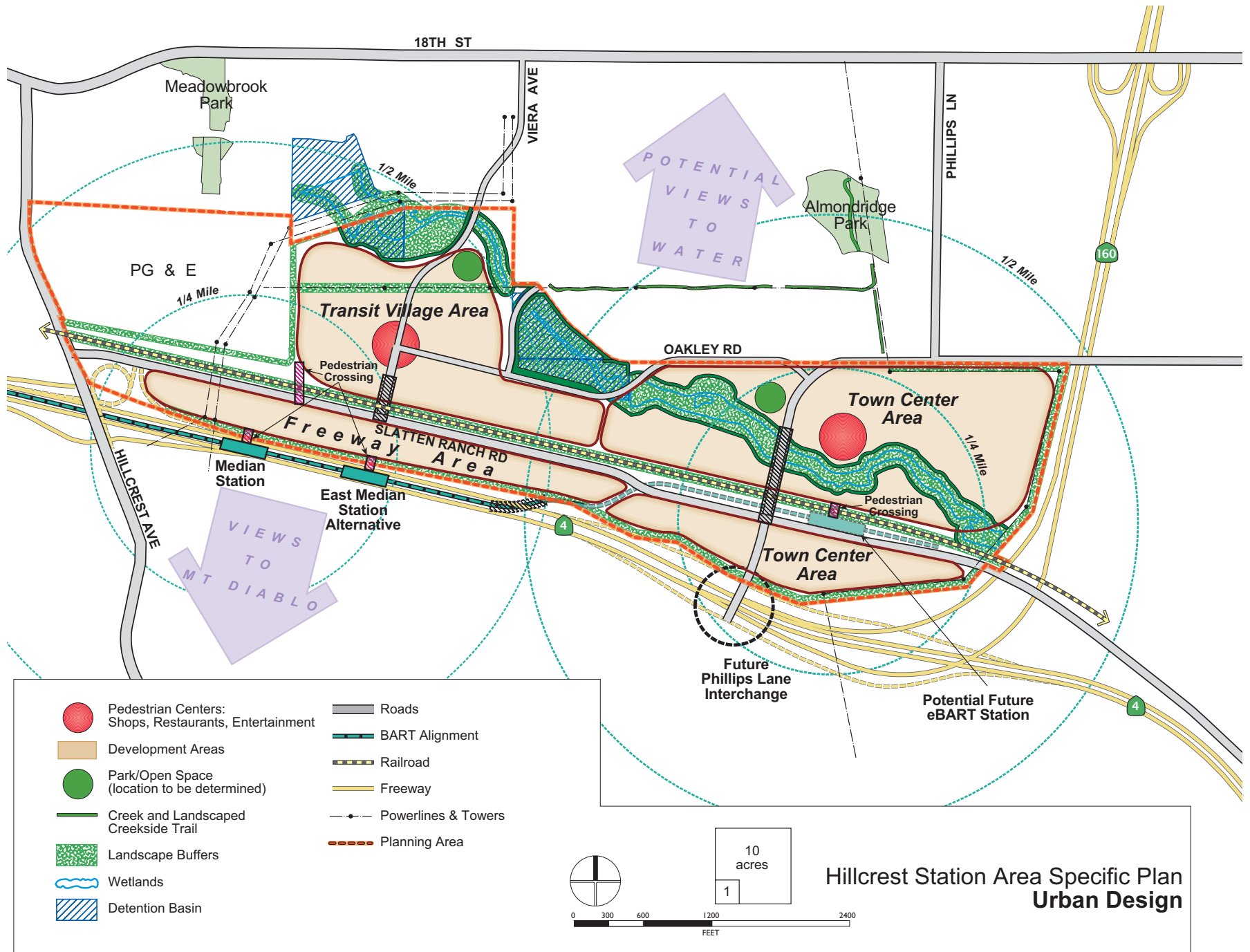
Hills are located between the rail line and the freeways, at the junction of SR 4 and SR 160. These hills may be graded for development at some point during the planning period of the Specific Plan.

Both the Transit Village Area and the Town Center Area need to have a pedestrian center where shops, restaurants, and services are located within a 10 minute walking distance of most of the residents and workers. These pedestrian centers need to be located on or near major road intersections, so there is also automobile access and visibility for businesses. Figure 4-1 shows the approximate locations of the required pedestrian centers. Exact locations will be determined during the development review process.

Freeway Area

The Freeway Area is the narrow corridor approximately 300 feet deep between SR 4 and the rail line. This is a linear area that is oriented to the freeway and the eBART station located in the SR 4 median. Slatten Ranch Road, which will run east-west adjacent to the railroad line, provides the only direct access to properties in this area. The Freeway Area is connected to the Transit Village via the Viera Avenue railroad crossing, and a pedestrian/bicycle bridge opposite the eBART station.

Figure 4-1: Urban Design Framework



DEVELOPMENT AREAS POLICIES

Transit Village Area

- UD-1** Locate a pedestrian center with shops, restaurants, and services within the Transit Village Area near the intersection of Oakley Road and Viera Avenue. Design the area as a “Main Street” or “Town Square” type of destination where buildings line the street and pedestrians can walk along a generous sidewalk and look into storefront windows.
- UD-2** Design the roads and site plans for the Transit Village Area with a connected network of streets and open spaces that connect to the pedestrian center and to the eBART station.

Town Center Area

- UD-3** Locate a pedestrian center with shops, restaurants, and services within the Town Center Area. Design the area as a “Town Center” or “Town Square” type of location where buildings line the street and pedestrians can walk along a generous sidewalk and look into storefront windows.
- UD-4** Design the roads and site plans for the Town Center Area with a connected network of streets and open spaces that link the pedestrian center to the East Antioch Creek trail and other areas of development.

Freeway Area

- UD-5** Design the Freeway Area such that businesses can take advantage of the freeway visibility and access, and SR 4 becomes a visually attractive freeway corridor.
- Provide landscape buffers adjacent to the rail line and the highway per the policies regarding landscape buffers.
 - Commercial facades facing the freeway and Slatten Ranch Road should both be designed with high-quality materials due to their visibility. Design the freeway-facing building facades with windows, equivalent in design quality to a front façade, in order to present an attractive appearance from the freeway.
 - Limit the number of freeway-oriented signs allowed within the Hillcrest Station Area. Work with businesses and property owners to create high-quality, consistent freeway signage for the Hillcrest Station Area. Design any freeway-oriented signs such that SR 4 remains a corridor that is eligible for Scenic Highway designation.

East Antioch Creek and Trail

The creek and adjacent riparian habitat areas are central elements of the station area, and will define an open space network that traverses the site from northwest to southeast. The Specific Plan includes the creation of a public trail system along the creek. In addition, the creek-side buffer area and the creekbed itself will be enhanced with natural vegetation and native plants, which will improve the visual quality of this natural resource while at the same time protecting the biological resources and habitat.

Landscaped Creek-side Trail Policies

UD-6 Create a creek-side trail system along the edge of the East Antioch Creek as a major natural feature and focal point for development and public open space.

- Provide a minimum 50 foot buffer area between the creek and the trail consistent with the biological resources policies in Chapter 5.
- Provide a landscaped trail at least 25 feet wide, outside the 50 foot buffer area.
- Plant trees and landscaping on both sides of the trail in order to create an attractive landscaped setting.

UD-7 Orient buildings to face the landscaped trail areas and the creek, so that windows look out over attractive landscape areas, and there are building entrances that allow people direct access to the trail system.

Creek Enhancement with Landscaping Policy

UD-8 Landscape the creek-side buffer area and the creekbed with natural vegetation and native plants that will improve the visual quality of the creek area and at the same time protect biological resources, habitat value, and stormwater management qualities to the extent feasible.

Figure 4-2 shows a typical section of East Antioch Creek, including the required wetland buffers for habitat protection, and the multi-purpose trail for public open space. Key features include:

- Wetland open space area where wetlands, natural habitats, and biological resources must be protected. Water flows in varying amounts depending on the season. In the Specific Plan, this area must be enhanced with native plants to improve the visual quality of the creekbed year round.
- A 50-foot wide wetland buffer area between the defined wetland and the developable areas of the project site. This is required to ensure that plant, animal, and insect species, and other biological resources are not harmed by adjoining development.
- A 25-foot wide multi-purpose trail area that includes an 8 to 12-foot wide trail that can be used by pedestrians and bicycles, and landscaped areas with trees on both sides.
- Minimum 15 foot setbacks between buildings and the trail right-of-way.

In certain areas, the creek-side trail borders detention basins that are located in the Hillcrest Station Area. Figure 4-3 shows a typical section of this condition. Key features include:

- A 25-foot wide multi-purpose trail area is located adjacent to the detention basin, which includes an 8 to 12-foot wide trail that can be used by pedestrians and bicycles, and landscaped areas with trees on both sides.
- Minimum 15 foot setbacks between buildings and the trail right-of-way.

Figure 4-2: Creek, Creek Buffer, and Creek-side Trails

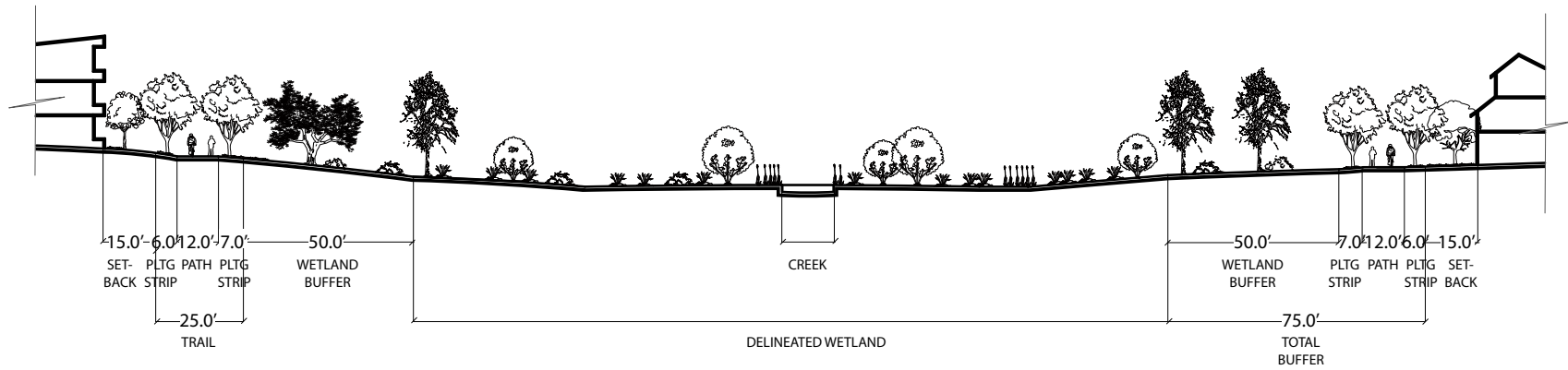
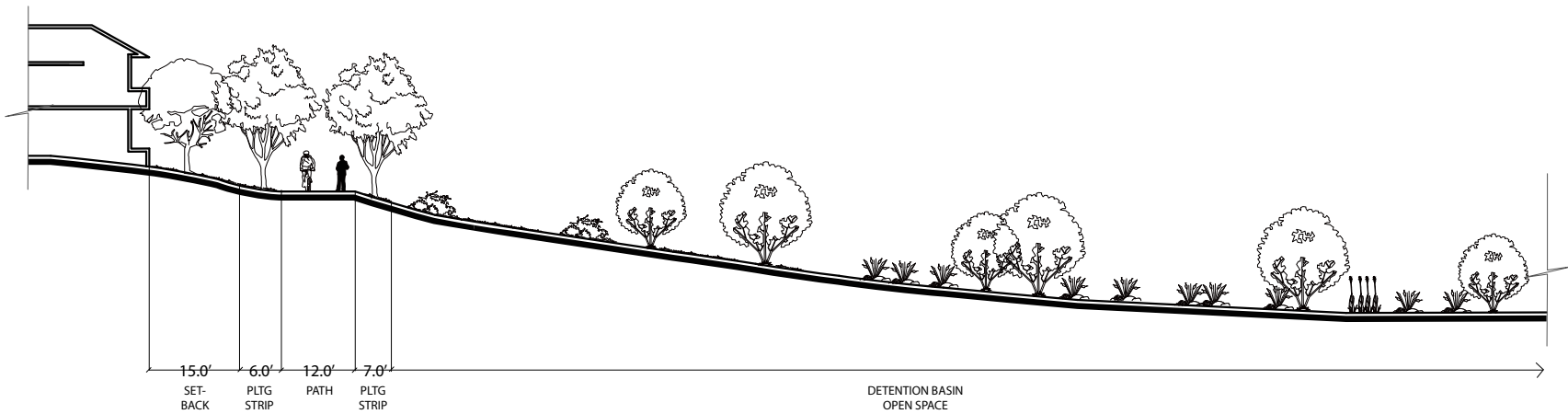


Figure 4-3. Trail adjacent to Detention Basin



Building Form and Height

Building heights in the Hillcrest Station Area will range from two to six stories. Some office buildings could be as high as eight stories with City Council approval. The tallest buildings will be clustered in the Office TOD areas and near the pedestrian centers. Building heights will be lower in the areas close to existing residential neighborhoods. The building heights are critical to the achievement of four major goals for the Hillcrest Station Area:

- Creating compact, higher-intensity development near eBART that generates transit ridership and gives people the opportunity to use transit for commuting and other trips;
- Creating a greater variety of housing types in Antioch in order to meet the needs of the many different types of residents in Antioch;
- Creating compact neighborhoods where residents can walk to shops, restaurants, and services; and
- Creating neighborhoods with many residents and employees in close proximity, so that pedestrian areas are active, vibrant and lively.

Building Form and Height Policies

UD-9 Maximum building heights in the Hillcrest Station Area shall be as follows:

- Residential buildings: four stories
- Residential Mixed Use buildings: five stories
- Office buildings: six stories; up to eight stories subject to the approval of the City Council

UD-10 Buildings adjacent to existing residential neighborhoods should not exceed three stories in height. This policy applies specifically to all properties along the northern border of the Hillcrest Planning Area.

UD-11 Buildings over four stories tall should be clustered in the Office TOD areas, and near the pedestrian centers in the Transit Village and Town Center.

4.2 VIEWS AND SCENIC RESOURCES

Views to Hills and Water

The Specific Plan aims to capitalize on opportunities for residents, workers, and visitors to enjoy views of Mount Diablo and the San Joaquin River from streets, public spaces, and within buildings. Views are a major visual asset of the site that improve quality of life and help make the site competitive in the market place. View opportunities should be structured into the overall site planning for any development projects. Buildings should be designed to take advantage of views to Mount Diablo, and views of the San Joaquin River from taller buildings.

UD-12 Site or design projects to consider their intrusion into important view-sheds towards Mount Diablo and the San Joaquin River.

UD-13 Incorporate view opportunities towards Mount Diablo into site plans, such that views of Mount Diablo are available from both public streets and public open spaces at specified locations.

UD-14 Design buildings to take advantage of views to Mount Diablo, and views of the San Joaquin River from taller buildings.

Scenic Resources

State Route 4 and SR 160 have been deemed eligible to be designated as State Scenic Highway Corridors. Contra Costa County has designated SR 160 as a Scenic Route, while the portion of SR 4 near the station area is designated as a “connecting highway.” The Hillcrest Station Area should be designed to preserve the state designation eligibility by incorporating natural open space, creek preservation, landscape buffers, and other similar measures that are called out in this plan.

UD-15 Design project site plans and buildings to preserve the potential for Scenic Highway designation for SR 4 and SR 160 adjacent to the Hillcrest Station Area.

UD-16 Work with Contra Costa County and Caltrans to consider the “complete” highway system and minimize impacts on the quality of the views or visual experience, particularly for projects greater than 40 acres in scope.

UD-17 Reduce the visibility of construction yards and staging areas to the maximum extent possible.

- Construction yards and staging areas shall be located as close to construction areas to the extent practicable away from residential and commercial areas, community traffic, pedestrian use, and local views.
- Low contrast fencing and screening shall be used to minimize contrast with surrounding environment.

Grading and Natural Features

The hillsides and low-lying wetlands establish the natural forms of the Hillcrest Station Area. The hills may be graded to accommodate development, and fill may be used to create level development sites. Changes in elevation should be respected in the overall site planning and design of development projects.

UD-18 The hillside areas of the site adjacent to SR 4 may be graded to accommodate development. Low-lying areas may be filled to create level development sites.

- All grading and cut and fill activities must be consistent with the environmental protection and hazard policies in Chapter 5.
- Graded slopes and exposed earth surfaces shall be re-vegetated at the earliest opportunity.

UD-19 Design projects to minimize abrupt changes in scale and massing between the project and surrounding natural or man-made forms, such as hillsides, adjacent freeways, and low-lying wetlands. Where appropriate, step buildings up or down to be compatible with the scale of natural features.

4.3 LANDSCAPE BUFFERS

The Hillcrest Station Area is surrounded by highways on the southern and eastern sides, and has a major rail line that crosses through the middle of the site from east to west. There is also a large PG&E substation immediately adjacent to the eastern side of the Hillcrest Station Area. Towers and electrical lines cross the site in two easements – one oriented east-west between East 18th Street and the rail line, and one oriented north-south near Phillips Lane. Project site plans need to incorporate buffers to provide a landscaped separation from these large-scale man-made features. This is critical in order to create attractive outlooks and quality of life for both residential and employment uses.

The section drawings that follow illustrate the different types of landscape buffers in the Hillcrest Station Area. See also Figure 4-12, Street Section Key, which identifies the locations of the section cuts in a plan view of the Hillcrest Station Area.

Landscape Buffers:
Provide landscape buffers with trees to screen residential areas from unattractive views.



PG&E Substation:
Provide landscape buffers adjacent to the PG&E substation.



PG&E Overhead Lines:
Provide landscape buffers adjacent to the overhead PG&E lines.



Union Pacific Railroad:
Provide landscape buffers adjacent to the Union Pacific Railroad.

Railroad Line Buffers

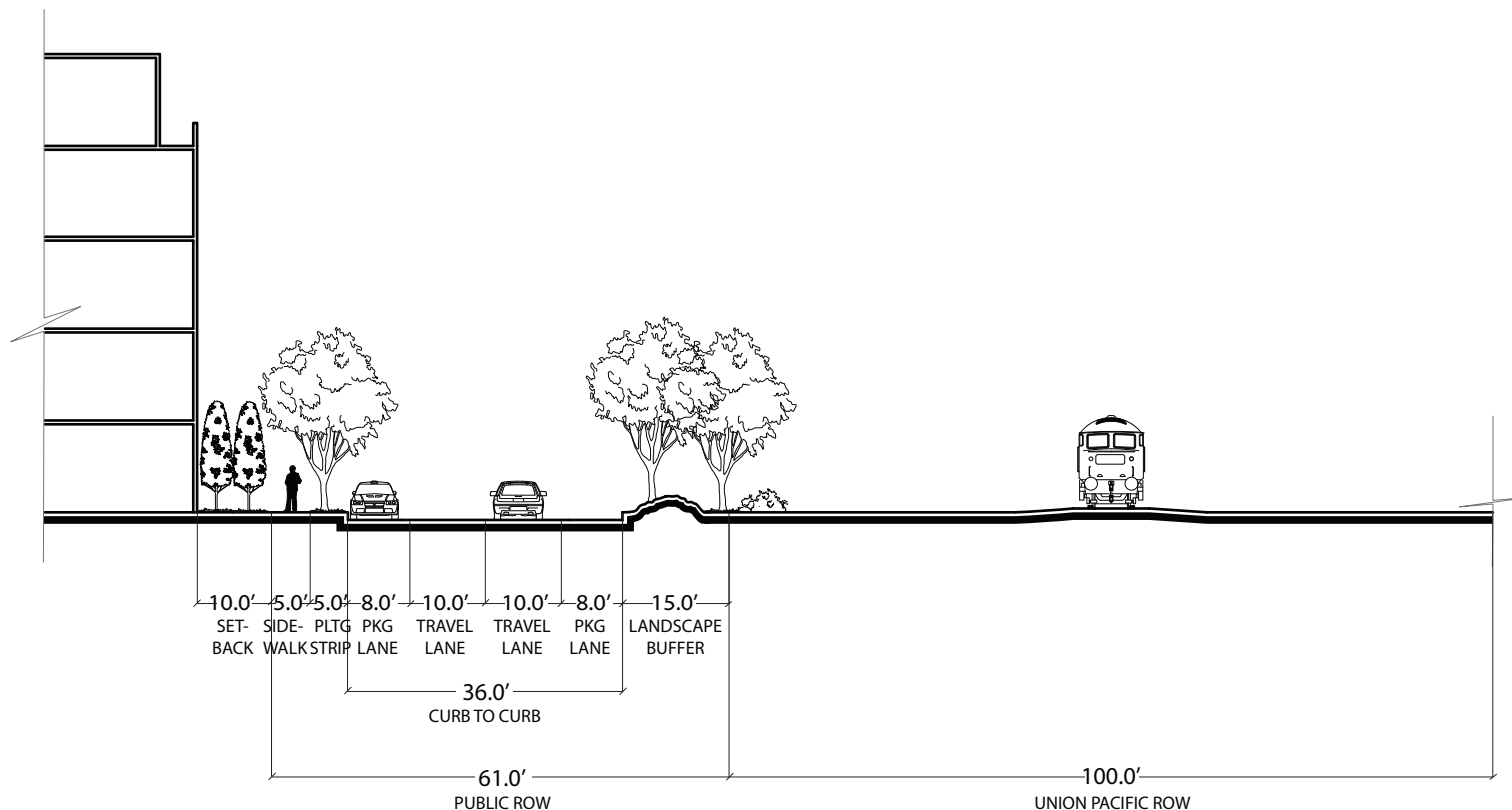
Railroad Line Buffer Policy

UD-20 Provide a continuous landscape buffer along both sides of the rail line corridor, outside of the Union Pacific and Chevron easements. The minimum width of the landscaped buffer shall be 25 feet if adjacent to a building; and 15 feet if adjacent to a street.

- Include landscaping, berming (typically 4 to 5 feet high), and at least one continuous row of trees throughout the area.
- This landscape buffer may be located within the Chevron easement if permission, encroachment permits, and maintenance agreements are obtained prior to final approval for a development project.

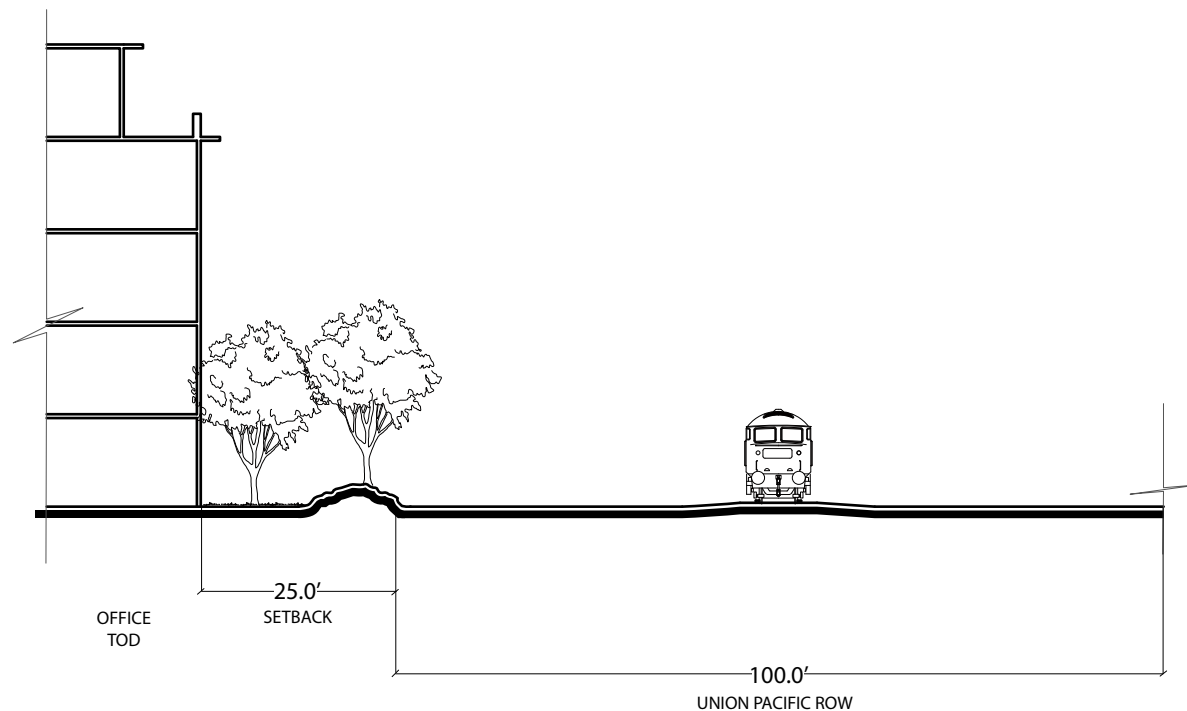
Figure 4-4 illustrates how streets should be designed and dimensioned when adjacent to the railroad right-of-way. There should be a fifteen-foot landscaped area with a continuous row of trees adjacent to the railroad. A berm should be incorporated. The road should be designed as a typical local street with two lanes and parking on both sides. On the side of the street adjacent to a building, there needs to be a planter strip and a sidewalk. Buildings and parking areas need to be separated from the sidewalk by a landscaped area setback of approximately 10 feet or greater.

Figure 4-4. Street adjacent to the Railroad



The Union Pacific Railroad right-of-way is 100 feet wide. The train tracks are located in the center of the right-of-way. There may be existing utilities within and adjacent to the right-of-way, and there may be additional train tracks or utilities added in the future. Figure 4-5 illustrates how a building should be located adjacent to the railroad right-of-way with a 25 foot landscaped setback.

Figure 4-5. Office TOD Employment Area next to the Railroad



Freeway Buffers

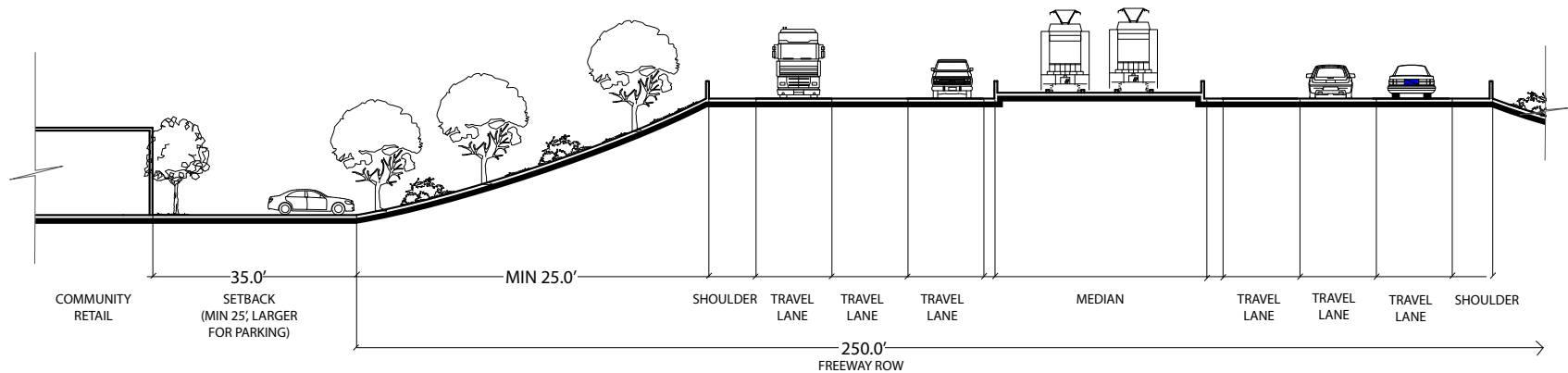
Freeway Buffer Policy

UD-21 Provide a continuous landscape buffer, with a minimum width of approximately 25 feet, immediately adjacent to both SR 4 and SR 160.

- Design landscaping along highway corridors to add significant natural elements and visual interest to soften the hard edged, linear travel experience that would otherwise occur.
- Include landscaping and a double row of trees.
- This landscape buffer may be located within the Caltrans right-of-way if permission, encroachment permits, and maintenance agreements are obtained prior to final approval for a development project

Figure 4-6 below shows development adjacent to the SR 4 right-of-way, including the eBART line and the sloped embankment. A landscape buffer at least 25 feet deep needs to be provided when buildings are located immediately adjacent to the SR 4 right-of-way. If parking is located adjacent to SR 4, it may be sited adjacent to the SR 4 right-of-way, provided that trees and landscaping are planted in a 25 foot deep landscaped area on the embankment of SR 4.

Figure 4-6. Development adjacent to SR 4



In the Plan, the PG&E electrical towers that run north-south through the town center are shown to be relocated adjacent to SR 160 and SR 4. Figure 4-7A to the right shows the SR 160 freeway right-of-way, which includes the embankment, and an assumed 80-foot easement for the PG&E towers. A landscape buffer at least 25 feet deep needs to be provided adjacent to the easement area. Figure 4-7B shows the alternative condition, without the electrical lines next to the freeway, since it is possible that the electrical lines may not be relocated.

Figure 4-7A. Development and Power Lines adjacent to SR 160

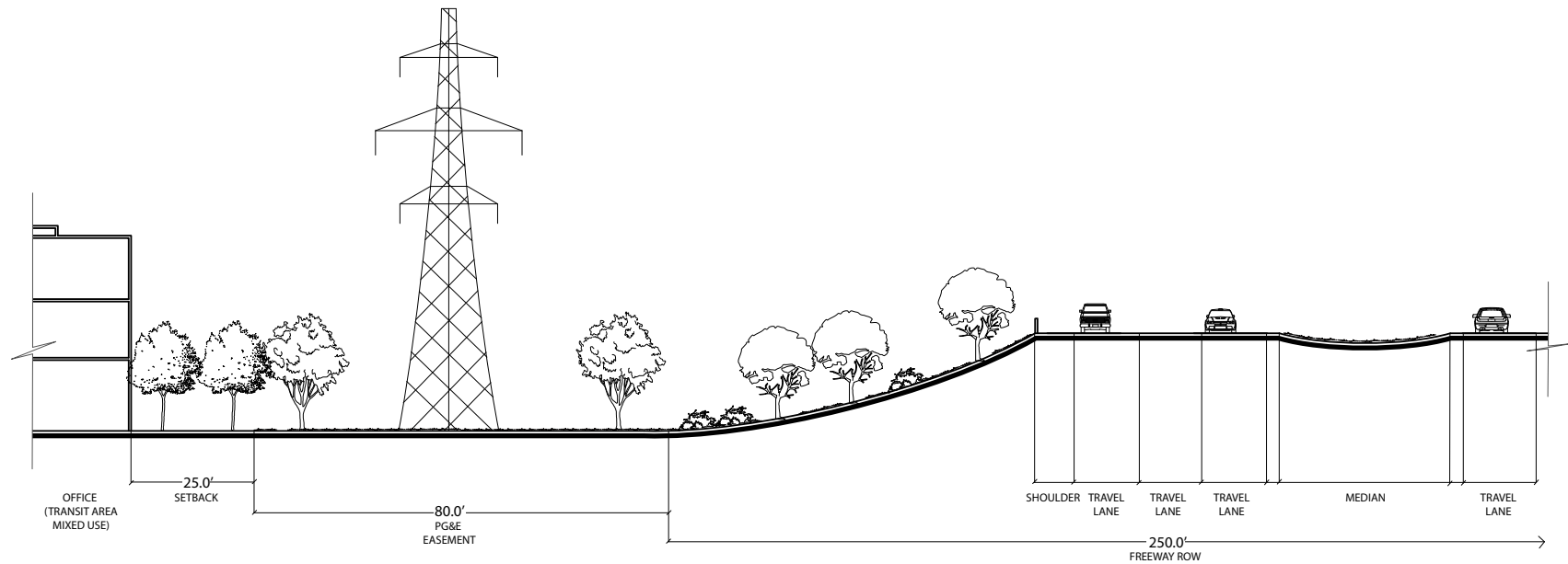
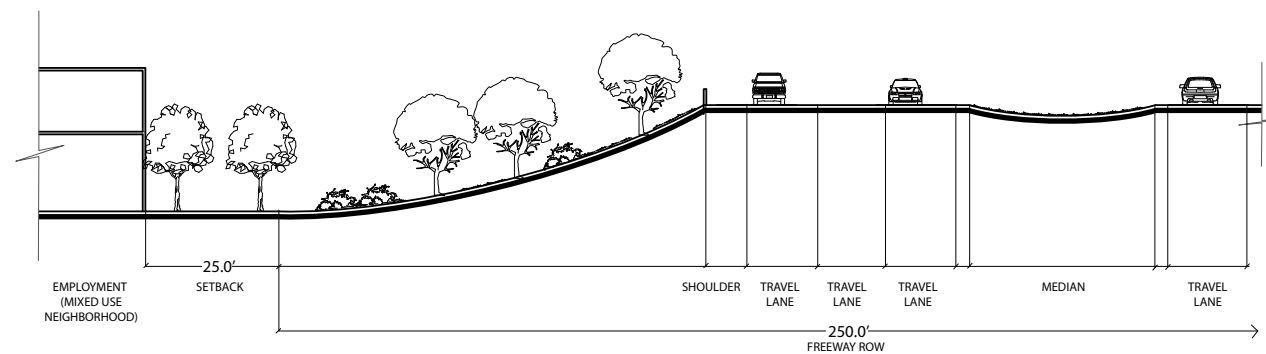


Figure 4-7B. Development adjacent to SR 160 if Power Lines are Not Relocated



Electrical Facilities Buffers

Electrical Facilities Buffers Policies

UD-22 Provide a continuous landscape buffer, with a minimum width of approximately 25 feet, around the southern and eastern edges of the Hillcrest PG&E Substation.

- Include landscaping and a continuous double row of trees to screen the facility from new development, SR 4, and the eBART station.
- Work with PG&E when the company decides to expand substation operations within their site, to ensure an adequate separation is retained between the substation and development.

UD-23 Provide a continuous landscape setback, with a minimum width of approximately 25 feet, between buildings and any PG&E easements that will contain electrical towers and transmission lines, now or in the future.

- Include landscaping and at least one row of trees.
- Some or all of the landscape buffer may be located within the PG&E easement, subject to the permission of PG&E; however there shall always be a minimum 50-foot separation between the electrical towers and any buildings.

UD-24 Incorporate landscaping and a pedestrian trail in the PG&E overhead line easements, provided that a suitable agreement can be negotiated with PG&E.

- Provide a continuous, clearly defined pedestrian trail that connects to the trail system throughout the Hillcrest Station Area and northeast Antioch.
- If areas in the PG&E easements are landscaped and improved with active and passive recreation facilities, they may be eligible to count towards the City's park requirements.
- If PG&E easement areas are used for parking, a landscape setback between the towers and any parking, with a minimum width of approximately 25 feet, must be provided.

In the Transit Village Area of the Hillcrest Station Area, buildings and streets will be located adjacent to the PG&E substation. In these cases, a 25 foot landscaped buffer is required. Figure 4-8 shows a typical local street located adjacent to the PG&E substation. The local street has two travel lanes, parking aisles on both sides of the street, planter strips and sidewalks. Between the PG&E substation and the street right-of-way is a 25-foot wide landscape buffer. Landscape buffers should all include a double row of trees.

Figure 4-8. Street adjacent to PG&E Substation

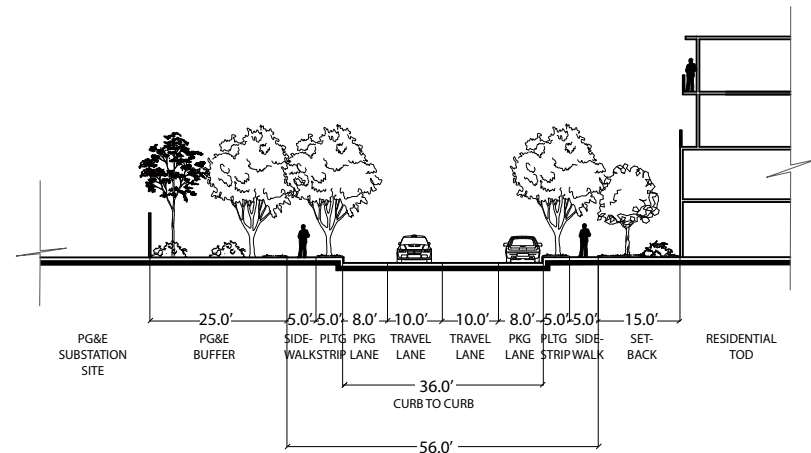


Figure 4-9 shows residential development located adjacent to the PG&E substation, with no intervening street. In this case, a 25-foot landscape buffer is required in addition to the rear yard setback, such that the total distance between a building and the PG&E substation is at least 50 feet. Between a building and the PG&E substation, a double or triple row of trees should be planted to screen the view of the substation.

Figure 4-9. Development adjacent to PG&E Substation

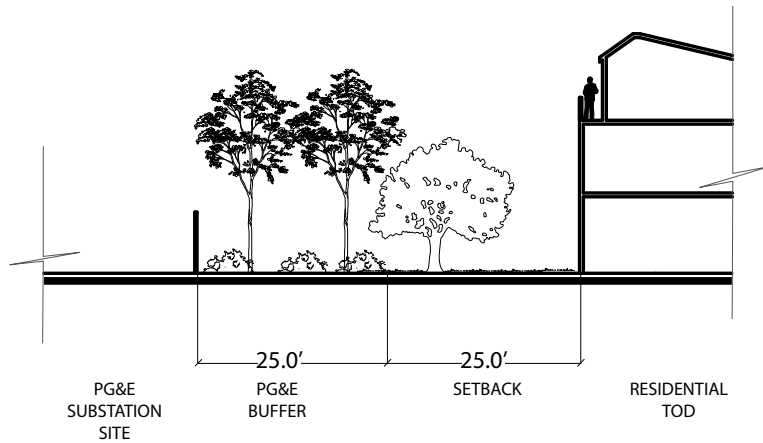
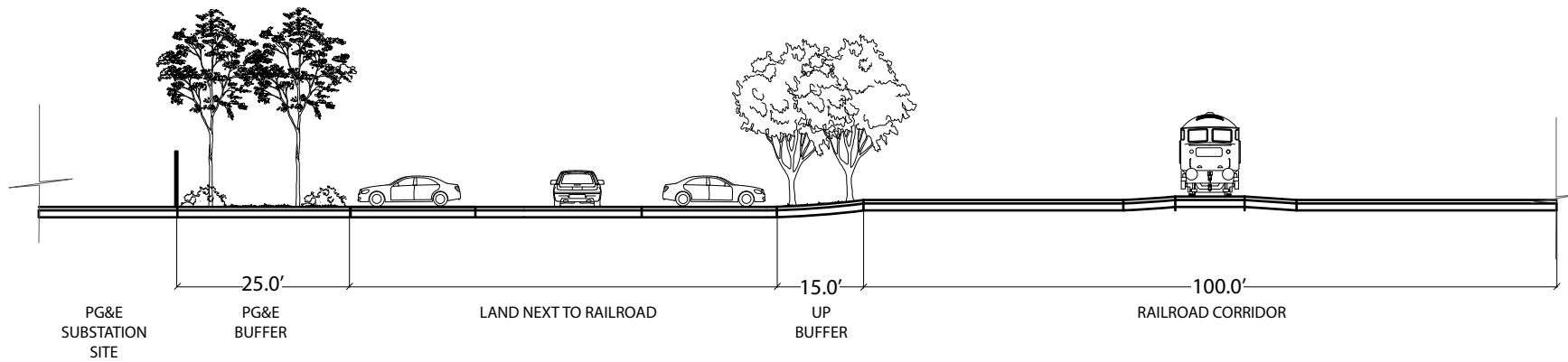


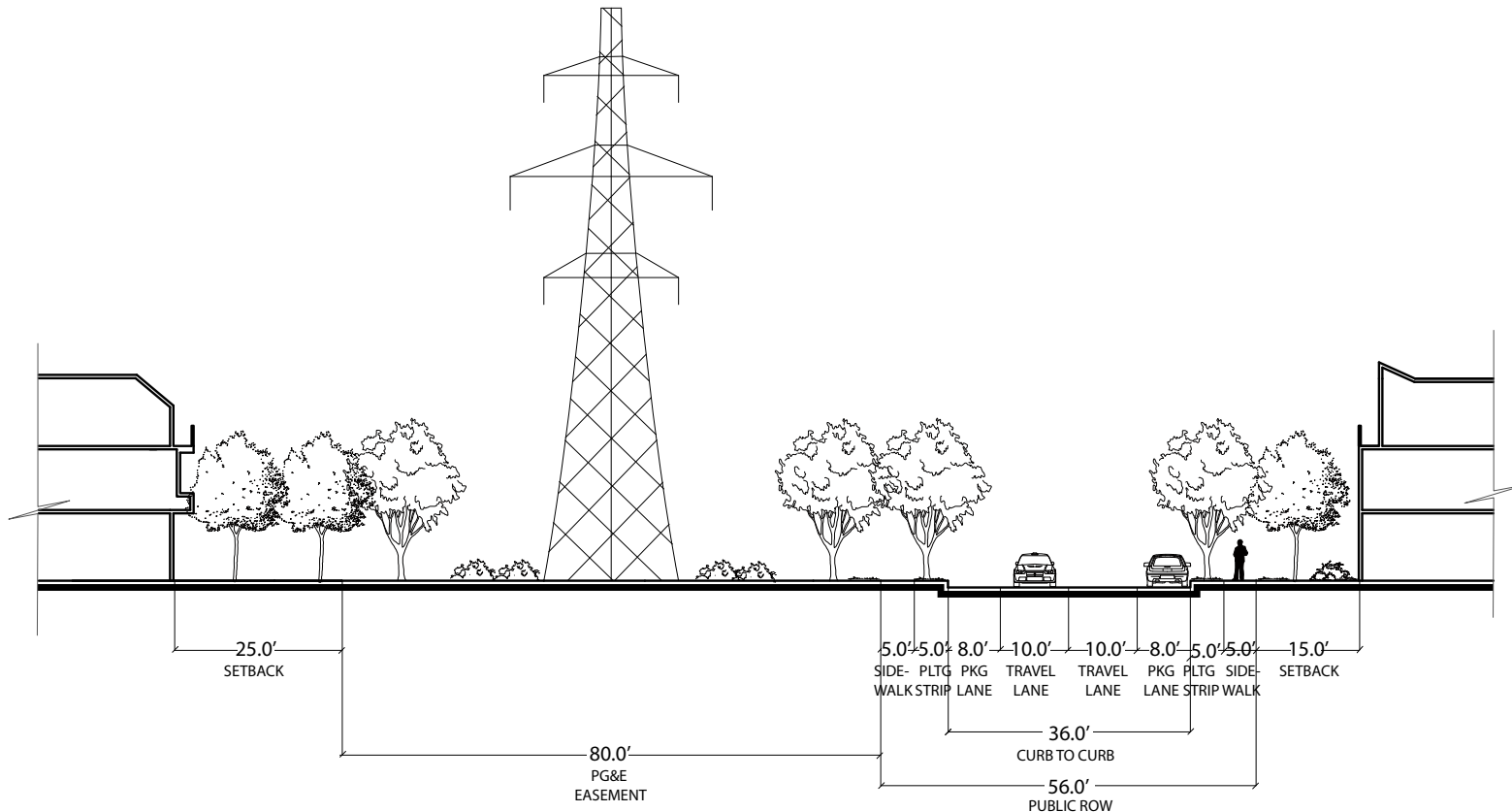
Figure 4-10 shows the narrow strip of land between the PG&E substation and the railroad right-of-way. Due to its limited width, it may not be feasible to locate buildings in this area. However it is a good location for parking. A fifteen-foot landscape buffer is required adjacent to the railroad right-of-way, with a double row of trees. The standard 25 foot landscaped buffer is required adjacent to the PG&E substation, to screen views of the substation from the freeway and from Hillcrest Station Area development.

Figure 4-10. Land between PG&E Substation and Railroad



Local streets may be located adjacent to the easements where PG&E electrical towers are located, as illustrated here in Figure 4-11 for the Transit Village Area. In these cases, the typical local street shall be located outside the PG&E easement area. Front yard setbacks for buildings should also be incorporated, approximately 15 feet deep. Buildings that back onto the PG&E easement should be set back at least 25 feet from the PG&E easement area. All of these setbacks and buffers are necessary to ensure adequate separation and landscape buffering between residential buildings and the PG&E towers.

Figure 4-11. Local Street next to PG&E Electrical Towers and Lines



4.4 STREET DESIGN

Streets define the character of the community; they are the public realm that everyone experiences on a daily basis. This section presents the street designs for the Hillcrest Station Area, showing the total public right-of-way required, street dimensions, sidewalks, street trees, landscaping, and the relationship of buildings to the street. The number of traffic lanes on all the streets has been designed to accommodate the ultimate buildout of the Hillcrest Station Area. All projects and subdivisions should be consistent with the specifications in this chapter. There is a need to modify the street designs to accommodate specific land uses or specific site constraints. Final decisions will be made during the development review process, at the earliest stage of master planning. However the basic components of the street sections shown in this chapter should not be compromised, specifically including: sidewalks, street trees, street landscaping, landscape buffers, and buildings lining the street.

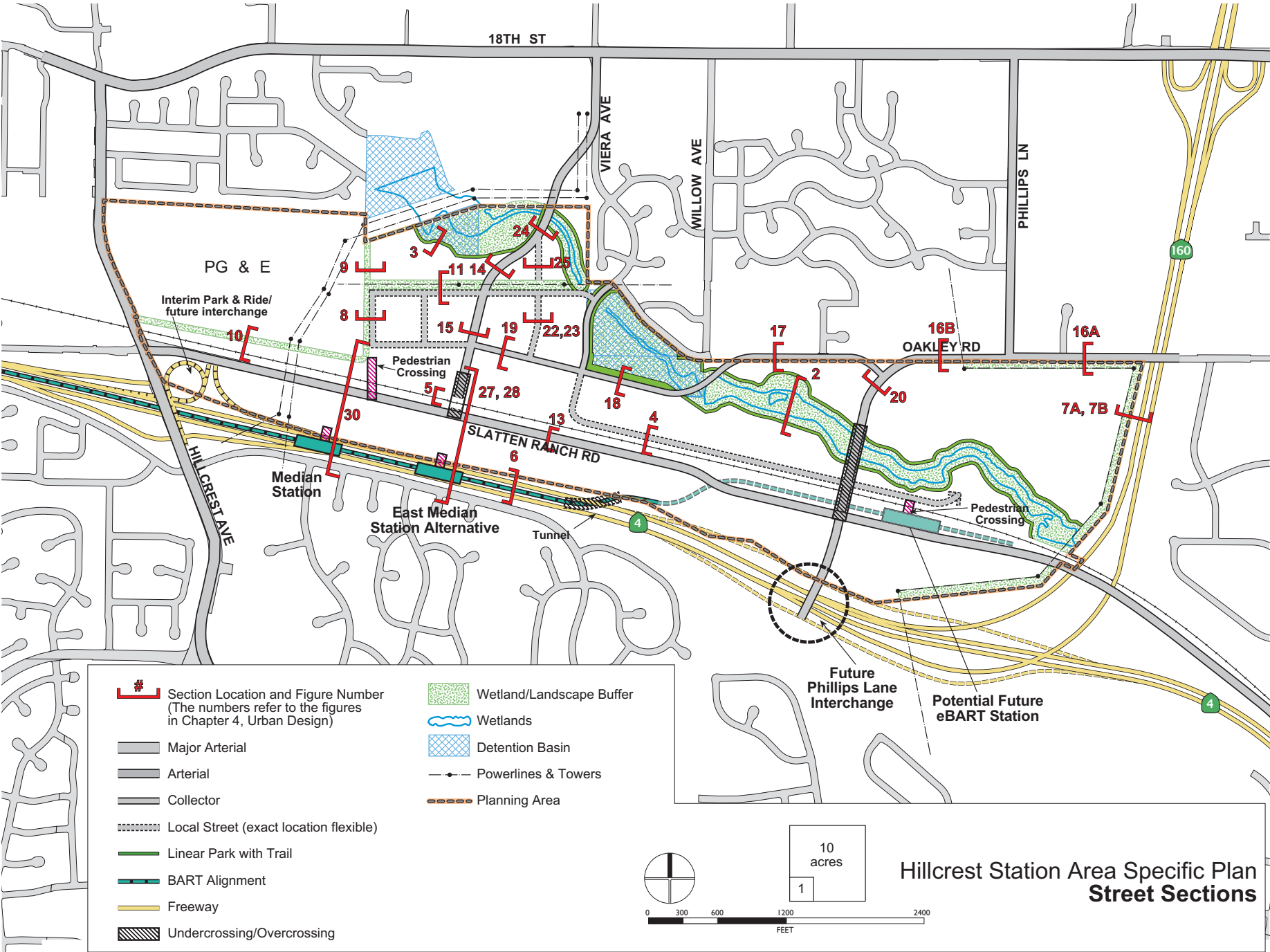
Sections have been prepared to show all the different street design and landscape buffer conditions throughout the Hillcrest Station Area. Figure 4-12 shows the locations of all the street sections in this chapter. These street design sections are more specific than the City's street classifications, in that they address the overall design character of each street, define the building to street relationships, and specify the landscaping details. The dimensions of the proposed streets differ from standard City street dimensions in certain aspects, in order to achieve the unique pedestrian-oriented character in the Hillcrest Station Area. The building heights shown are consistent with the proposed building height policies. Residential buildings range in height from two to four stories; office buildings range in height from two to six stories; and commercial retail buildings are assumed to be one-story buildings 18-25 feet tall. Eight story buildings may be permitted in the Hillcrest Station Area with City Council approval; however no buildings of that height are shown in the street section drawings.

Street Design Policies

In addition to the circulation policies in Chapter 3, the following policies apply to street design within the Hillcrest Station Area:

- UD-25** Design all streets in a manner consistent with the street section diagrams shown in this Chapter, Figures 4-13 through Figure 4-28.
 - There may be the need to modify the street designs to accommodate specific land uses or specific site constraints. However the basic components of the street sections shown in this chapter should not be compromised, specifically including: sidewalks, street trees, street landscaping, landscape buffers, and buildings lining the street.
 - Exact dimensions of travel lane widths, bicycle routes, sidewalks, medians, planter strips, street tree wells, and building setbacks shall be established as part of a project Master Plan application. See Chapter 7, Implementation, for Master Plan requirements.
- UD-26** Locate streets adjacent to parks, pedestrian trails, and detention basins, in order to allow public access to and public views of these recreation and water areas. Avoid locating private rear yards along these public recreation and water areas; this precludes public access and views and can also pose security problems.

Figure 4-12: Street Section Key



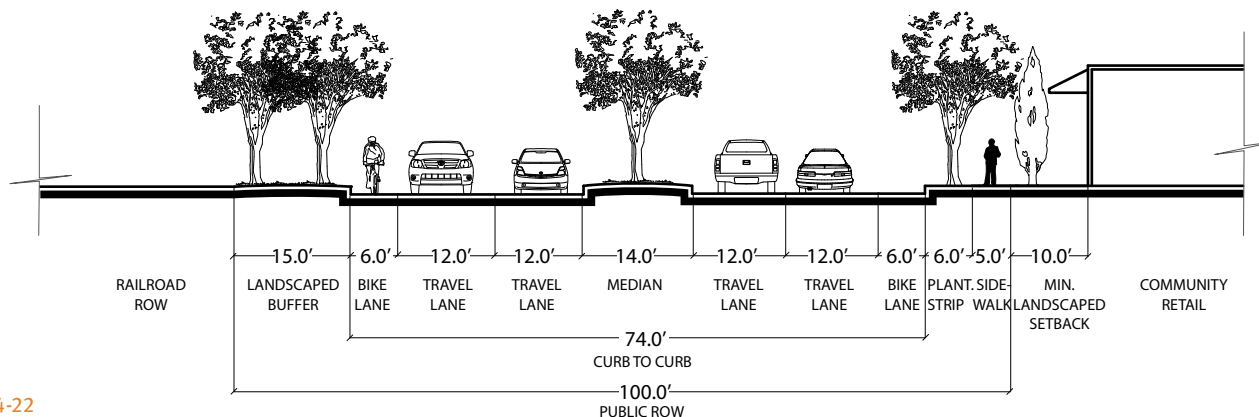
Arterials and Collector Streets

Slatten Ranch Road

Slatten Ranch Road is an arterial street that will connect from Hillcrest Avenue to SR 160, and then down to Laurel Avenue. Slatten Ranch will be a four-lane road through the Hillcrest Station Area, and it will narrow down to a two-lane road as it leaves the eastern edge of the project area and goes under State Route 160. It will function as a regional arterial to bring people to the eBART station and the Hillcrest Station Area. Key features include:

- Total right-of-way of approximately 100 feet
- Two travel lanes in each direction (four lanes total)
- A landscaped median in the middle of the street, with a continuous row of street trees, which becomes a left turn lane at intersections
- Bicycle lanes on each side of the street
- A minimum 15-foot wide landscape buffer adjacent to the railroad right-of-way
- Buildings that line the street on the southern side should have landscaped setbacks, and should include extensive front yard trees.

Figure 4-13. Slatten Ranch Road, adjacent to Community Retail



Viera Avenue (New)

Viera Avenue is a new offshoot of the existing Viera Avenue, and is therefore referred to as “Viera Avenue (New)”. It is designed to be a north-south collector street through the Viera Avenue Sub-Area, and to limit through-traffic in existing neighborhoods. Viera Avenue (New) will have an over-crossing or under-crossing across the railroad right-of-way, connecting to Slatten Ranch Road. It functions as a major north-south pedestrian and bicycle circulation spine for the transit area, and provides a connection to the eBART parking lot.

Figure 4-14 shows a typical segment of Viera Avenue (New). Key features include:

- Total right-of-way of approximately 60 feet
- Two travel lanes in each direction between Slatten Ranch Road and Oakley Road, and one lane each direction north of Oakley Road
- Bicycle lanes on each side of the street, to connect to the bike lanes on Slatten Ranch Road
- Wide sidewalks with street trees in street wells. The sidewalks should be at least 10 to 12 feet wide since this is a major pedestrian spine of the area.
- Landscaped setbacks between buildings and the sidewalk, which include a continuous row of front yard trees. This allows the residential units on upper floors to have a landscape buffer from the street traffic.
- Ground floor uses may be either residential or commercial.

Figure 4-15 shows the segment of Viera Avenue (New) that extends from the PG&E east/west easement to the railroad line. It includes turn lanes to accommodate turning movements.

Figure 4-14. Viera Avenue (New)

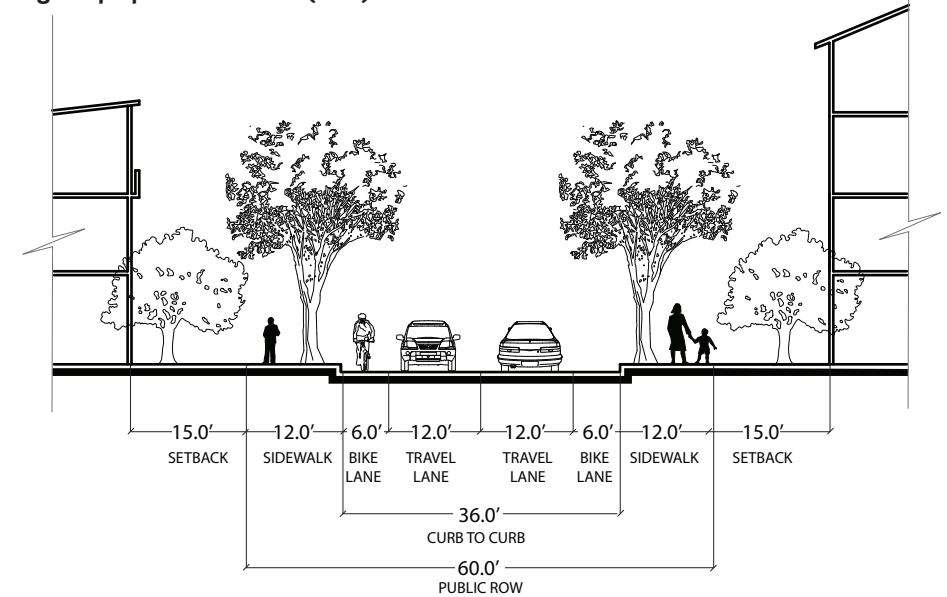
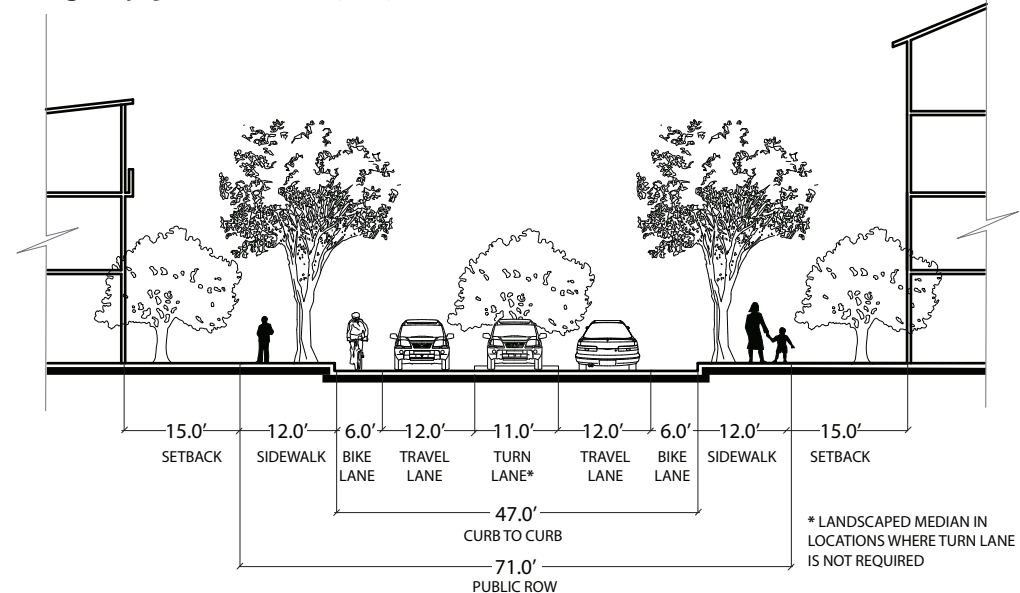


Figure 4-15. Viera Avenue (New) between PG&E East/West Easement and the Railroad



Oakley Road

Oakley Road is an arterial that crosses over SR 160 and continues to Phillips Lane. At that point Oakley Road becomes a collector from Phillips Lane to Viera Avenue (New). In the Transit Village Area, Oakley Road becomes a pedestrian-oriented retail street within the pedestrian center. Key features of each segment of Oakley Road are described below.

Oakley Road near Phillips Lane

- Total right-of-way of approximately 84 feet
- Two travel lanes in each direction
- Landscaped median with a continuous row of street trees, that changes to a left-turn lane at intersections
- Planter strip along both sides of the street with a continuous row of street trees
- Sidewalks adjacent to the planter strip
- Landscaped front yard setbacks approximately 25 feet deep, consistent with the required setbacks across the street on Oakley Road and the need to buffer development from the PG&E electrical towers and lines.
- In the Plan, the PG&E Easement is re-routed along the edge of Oakley Road, and then along the edge of the freeway, to relocate the overhead towers and lines that currently go right through the middle of the Town Center Area. Figure 4-16A shows this condition. If the PG&E lines are not relocated, and remain in their current north-south alignment, then the street would be designed as shown in Figure 4-16B.

Figure 4-16A. Oakley Road Near Phillips Lane with Relocated Electrical Lines

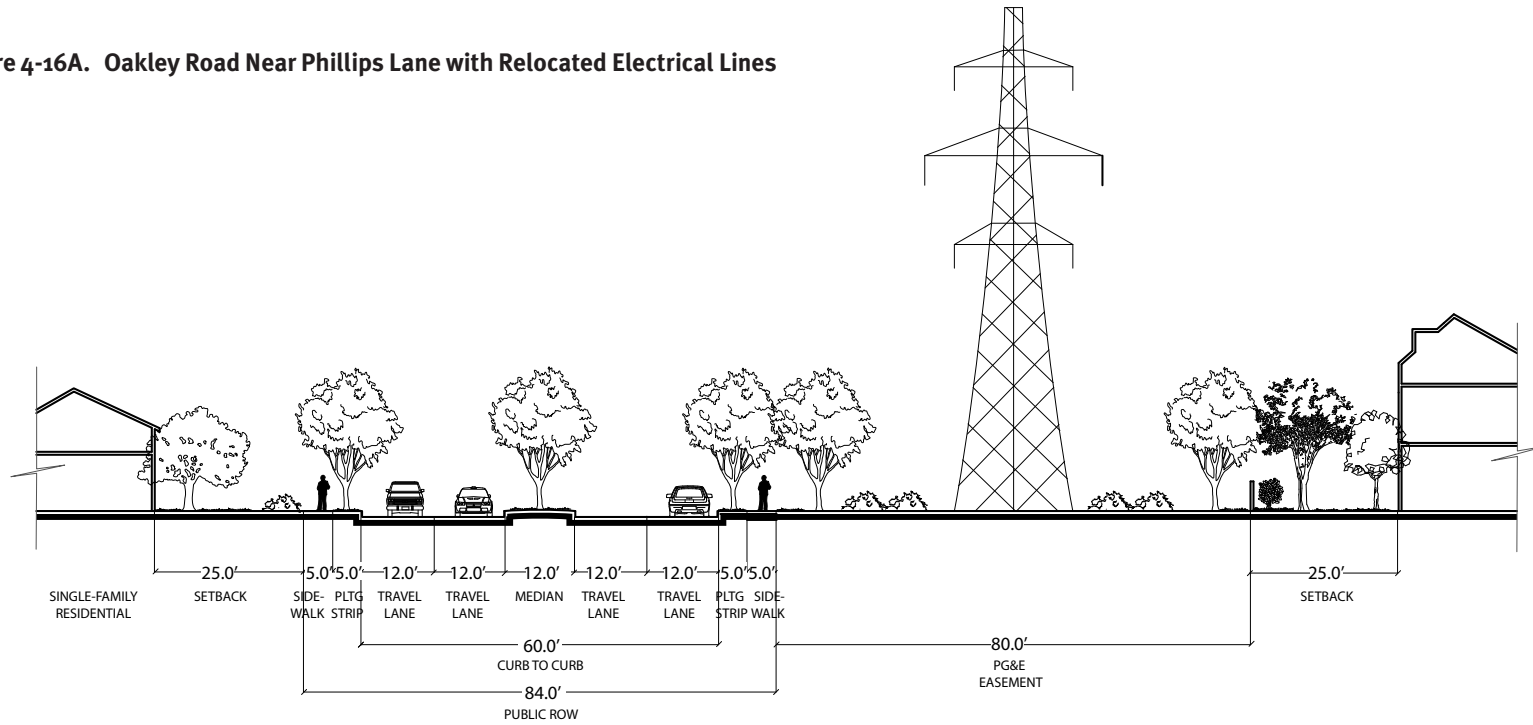
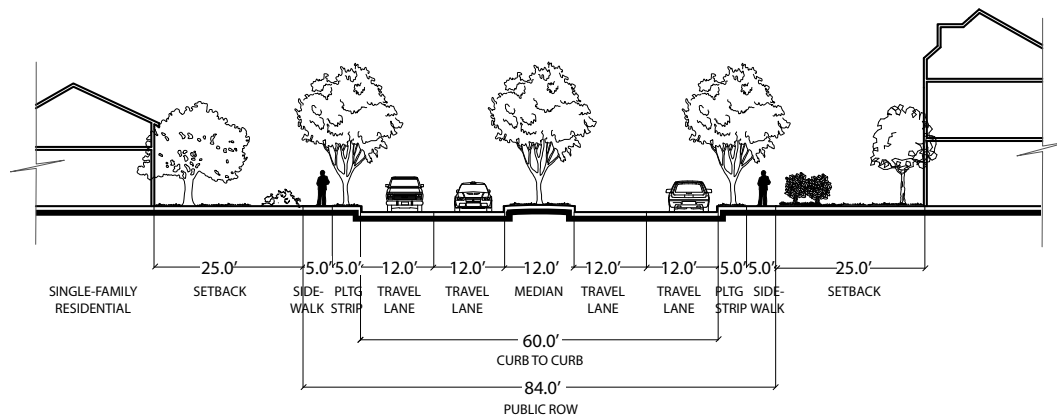


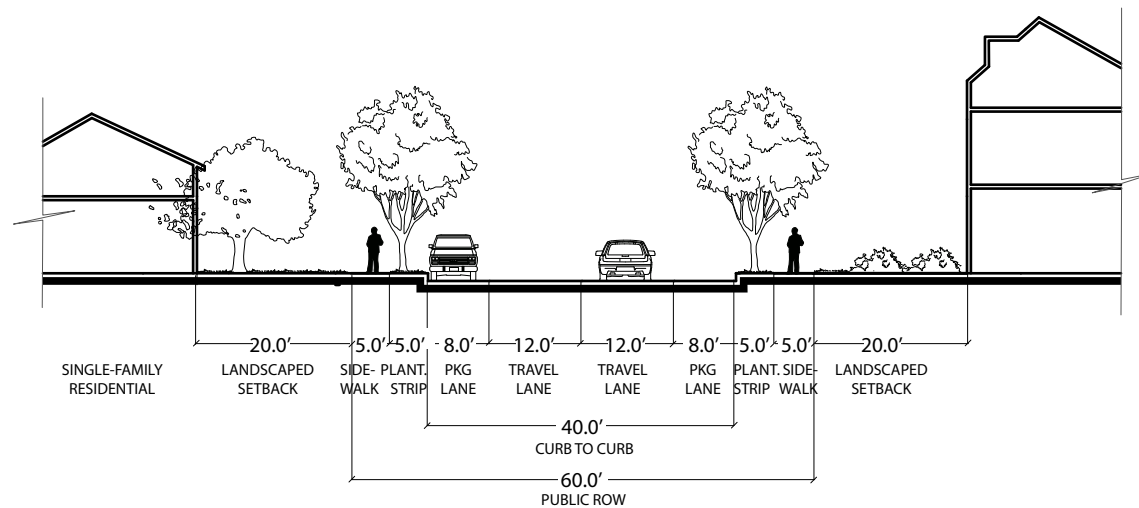
Figure 4-16B. Oakley Road Near Phillips Lane – Alternative without Electrical Lines



Oakley Road between Phillips Lane and Willow Avenue

- Total right-of-way of approximately 60 feet
- One travel lane in each direction
- Planter strip along both sides of the street with a continuous row of street trees
- Sidewalks adjacent to the planter strip
- Landscaped front yard setbacks, approximately 20 to 25 feet deep, consistent with the required setbacks across the street on Oakley Road

Figure 4-17. Oakley Road between Phillips Lane and Willow Avenue

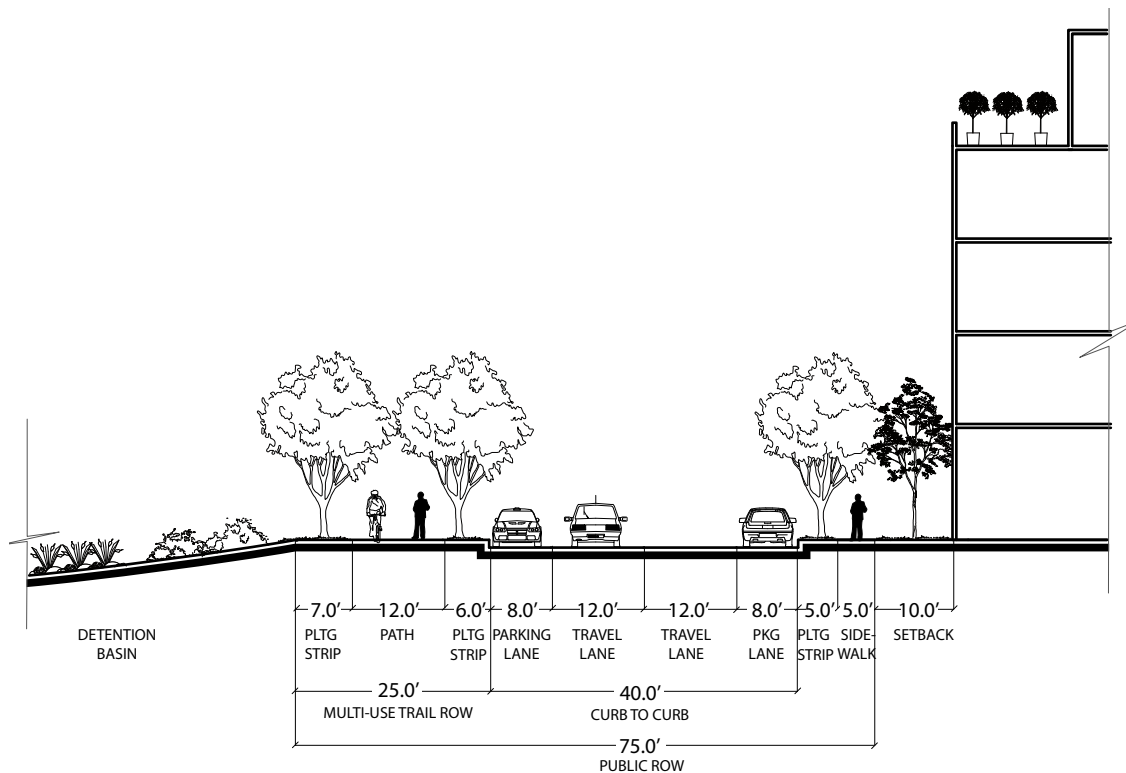


Oakley Road between Viera Avenue (New) and Willow Road, adjacent to the Detention Basin

- Total right-of-way of approximately 75 feet
- One travel lane in each direction
- Parallel parking aisles on both sides of the street
- Planter strip along both sides of the street with a continuous row of street trees

- Sidewalks adjacent to the planter strip on the south side. On the north side, the multi-use path may act as the sole pedestrian way.
- Landscaped front yard setbacks for employment uses, which will look out over the detention basins
- The Pedestrian Trail along East Antioch Creek runs along the detention basin at this point. The trail includes an 8 to 12 foot multi-use path for pedestrians and bicycles (some of which may be unpaved), with a continuous row of trees in landscaping on each side. The total right-of-way for the Pedestrian Trail is a minimum of 25 feet wide.

Figure 4-18. Oakley Road between Viera Avenue (New) and Willow Avenue, adjacent to the Detention Basin

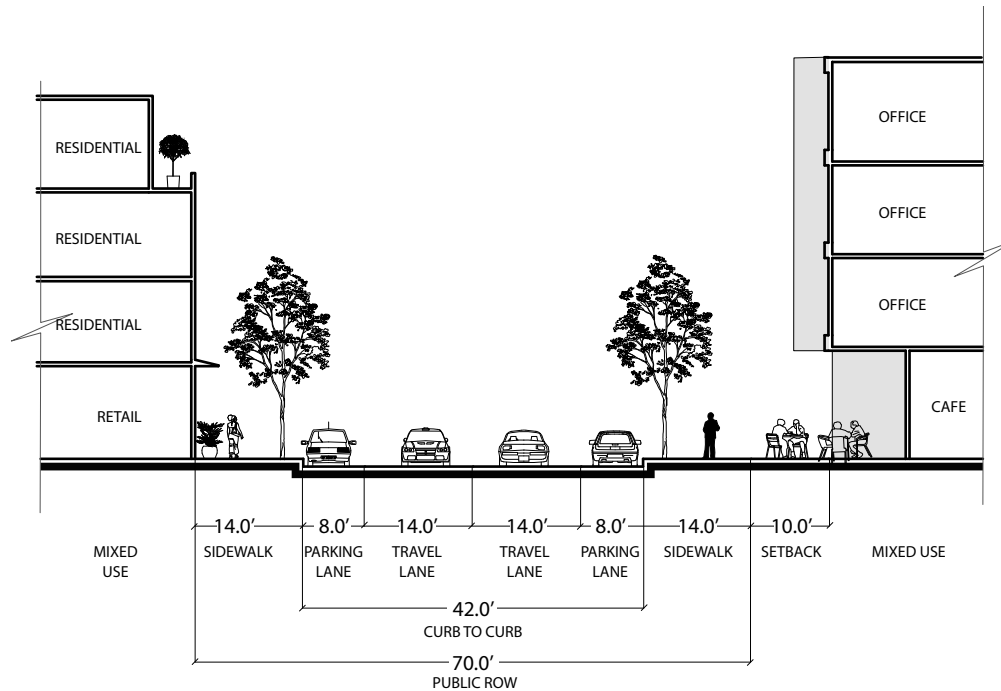


Oakley Road in the Pedestrian Center

- Pedestrian-oriented shopping street
- Total right-of-way of approximately 70 feet
- One travel lane in each direction
- Parallel parking aisles on both sides of the street
- Wide sidewalks, at least 10 to 12 feet wide, to allow adequate room for pedestrians to window shop and stroll on this pedestrian-oriented street

- Continuous row of street trees in tree wells, in the sidewalk
- Buildings line the street, and are built at or close to the property line.
- Buildings may be set back up to 10 feet to accommodate arcades, outdoor eating areas, and building entrance plazas.
- Bay windows, balconies, and other similar projections may project into the public right-of-way, projecting over the sidewalk.
- Awnings, overhangs, pedestrian signs perpendicular to the building, and other similar projections may project into the public right-of-way, projecting over the sidewalk

Figure 4-19. Oakley Road in the Pedestrian Center

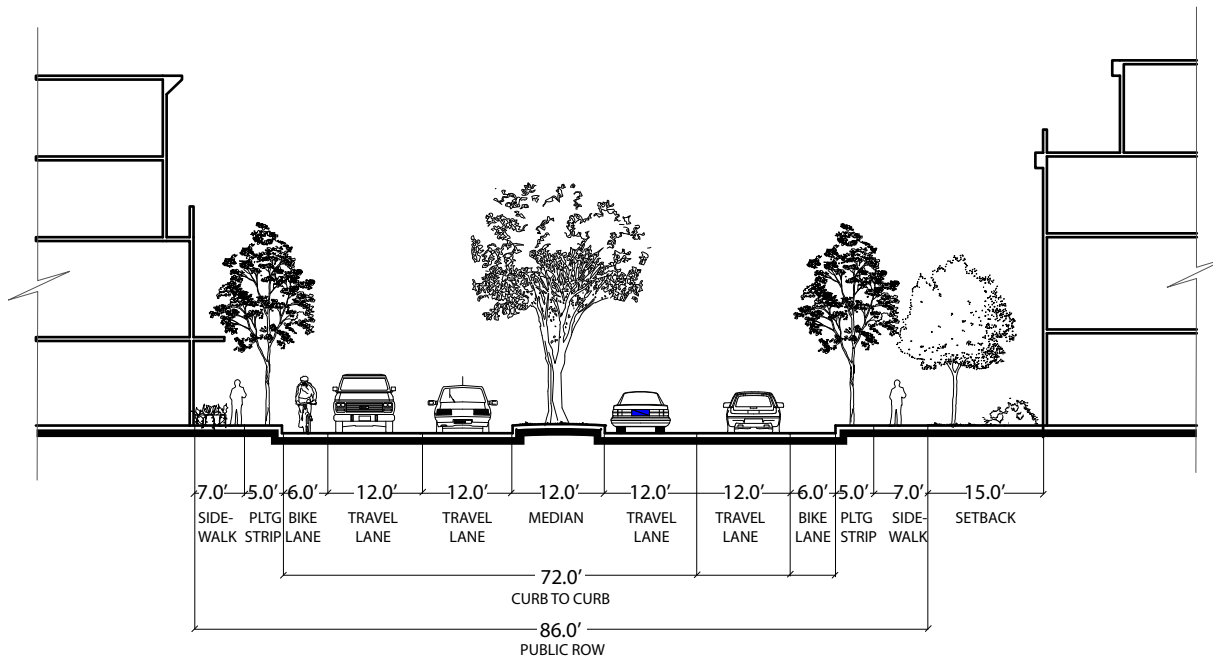


Phillips Lane

Phillips Lane is a four-lane arterial, connecting to a potential future Phillips Lane Interchange on SR 4. Phillips Lane will connect to Slatten Ranch Road with an over-crossing over the railroad right-of-way. Figure 4-20 below shows a section of Phillips Lane. Key features of Phillips Lane are as follows:

- Total right-of-way of approximately 86 feet
- Two travel lanes in each direction
- Landscaped median with a continuous row of street trees, that changes to a left-turn lane at intersections
- Planter strip along both sides of the street with a continuous row of street trees
- Sidewalks adjacent to the planter strip
- Where residential uses are located on the ground floor, landscaped front yard setbacks of approximately 10 to 15 feet are required in order to buffer residential units from traffic and provide privacy.
- Where commercial uses are located on the ground floor, they may have a landscaped setback, up to approximately 15 feet.

Figure 4-20. Phillips Lane



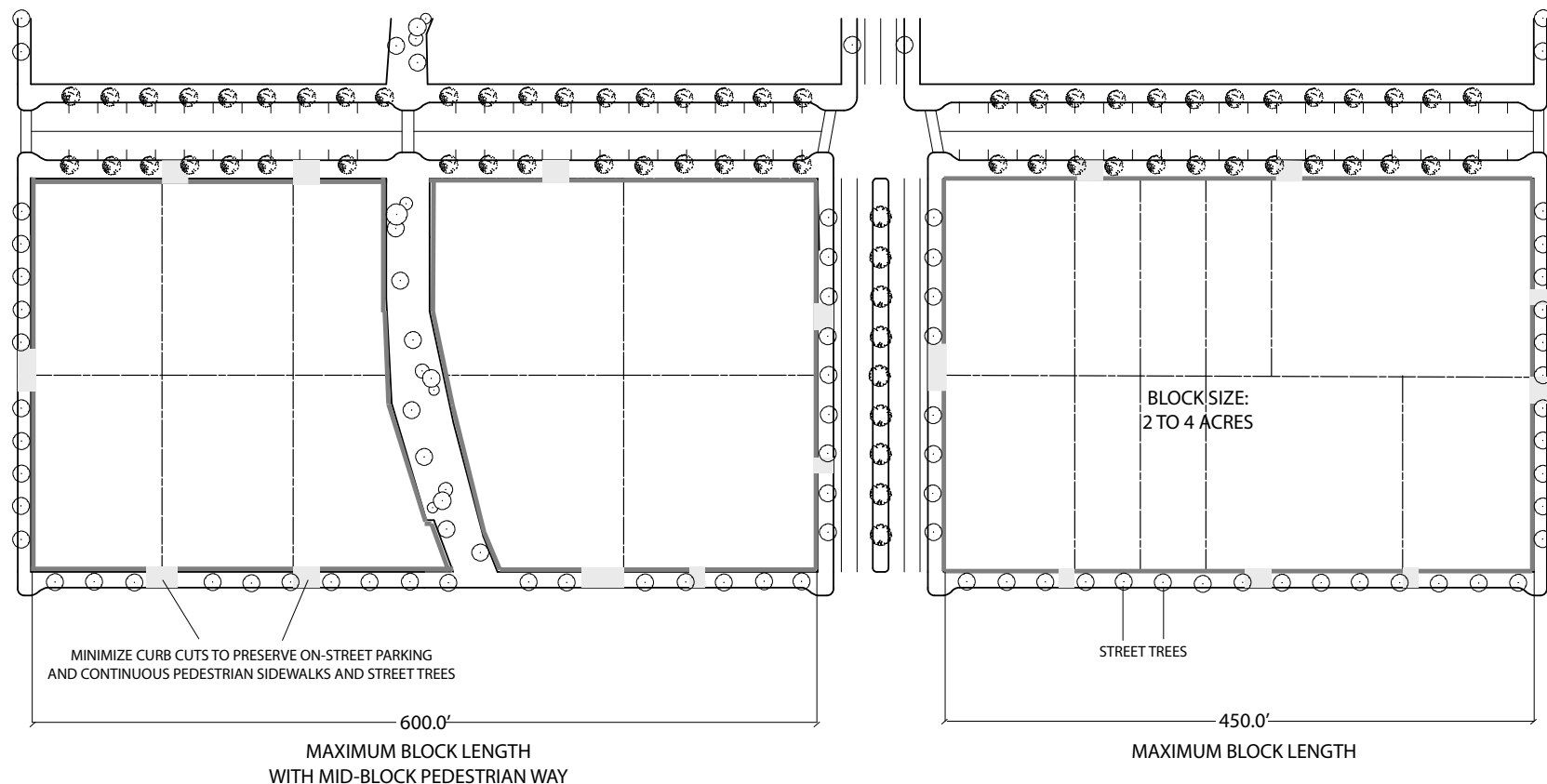
Local Streets and Block Size

Block Sizes and Dimensions

A connected network of pedestrian-oriented streets designed for slow traffic speeds is one of the most important elements of the Hillcrest Station Area Specific Plan. A connected street grid allows people to walk and bicycle in short, direct routes to stores, restaurants, services, parks, and employment. Streets are designed to be attractive, inviting, and comfortable, with street trees, attractive landscaping, and buildings lining the street.

Local street locations are not established in fixed locations; they will be determined as part of development proposals and project review. However the Specific Plan establishes maximum block size and dimensions, in order to ensure that there is an adequate network of local streets, with direct routes to pedestrian centers. These are described in the circulation policies, and illustrated in Figure 4-21: Block Size Diagram. The maximum block dimension is approximately 450 feet (on the longest side), and block sizes should be between two and four acres. Blocks may be up to 600 feet long (on the longest side), if a mid-block pedestrian connection through the block is provided.

Figure 4-21. Block Size Diagram



Local Street Design

Within the Hillcrest Station Area, local streets will be located in residential, office, or mixed-use areas. Local streets should be designed for slow traffic speeds and comfortable pedestrian circulation. Local streets are two-lane streets; parking is included on both sides to provide guest parking for residential and employment uses. Planter strips with a continuous row of street trees will be located on all local streets, along with a pedestrian sidewalk adjacent to the planter strip, detached from the curb. A landscaped front yard (approximately 15 feet deep) with trees is specified, in order to provide privacy for ground floor residences and offices, and to create an attractive landscaped character for the neighborhoods within the Hillcrest Station Area. Figures 4-22 and 4-23 show the local street sections. The street dimensions are the same in both sections; building heights are varied to show the different building types that are likely for different land use designations. Key features of local streets are as follows:

- Total right-of-way of 56 feet
- One travel lane in each direction
- Parallel parking aisles on both sides of the street
- Planter strip along both sides of the street with a continuous row of street trees
- Sidewalks adjacent to the planter strip
- Landscaped front yard setbacks are required in order to provide privacy and an attractive landscaped character for both residential and office uses. They should be approximately 15 feet deep, with variations appropriate to the specific project and location.

Figure 4-22. Typical Local Street with Buildings 3 to 4 Stories

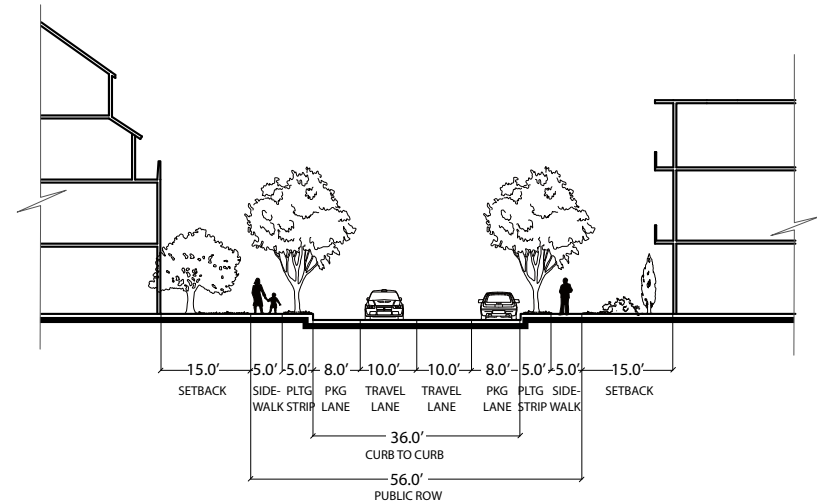
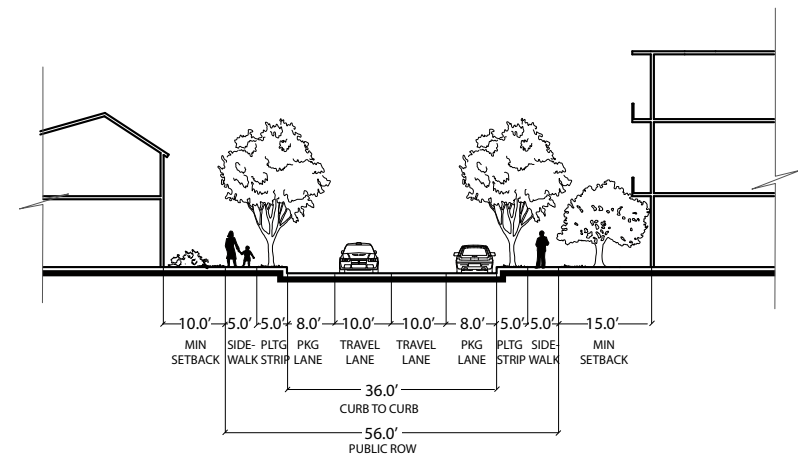


Figure 4-23. Typical Local Street with Buildings 2 to 3 Stories

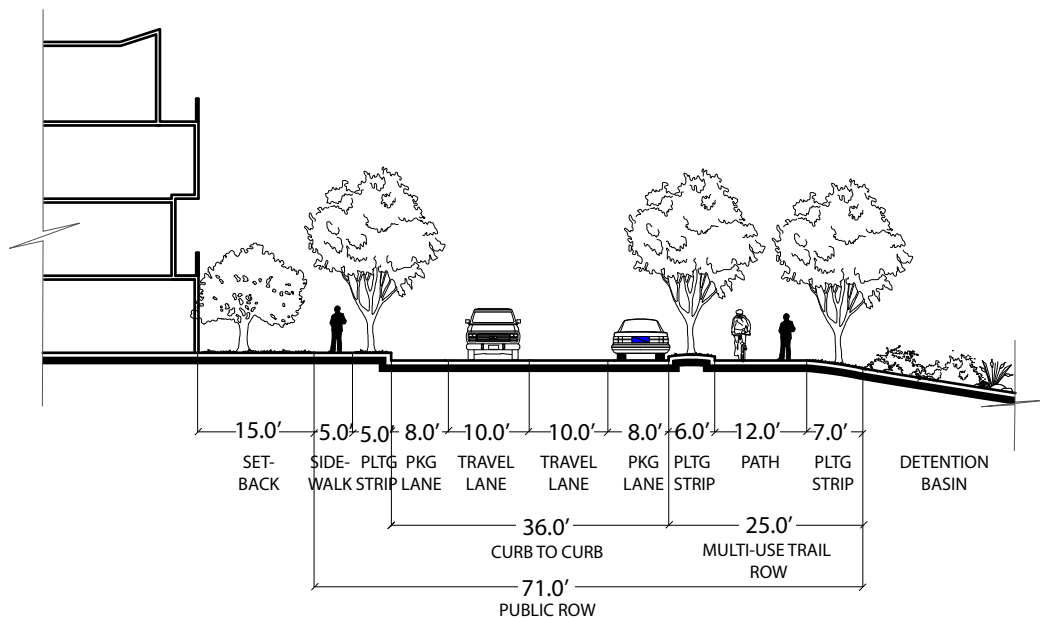


Streets next to Parks, Detention Basins, and Trails

There are several locations where conditions warrant special street design considerations. Special conditions include local streets next to pedestrian trails, detention basins, and parks. These are illustrated and described in the sections below. Local streets should be located adjacent to parks, pedestrian trails, and detention basins, in order to allow public access to and public views of these recreation and water areas. Do not locate private rear yards along these public recreation and water areas; this precludes public access, limits public views, and can also raise security issues.

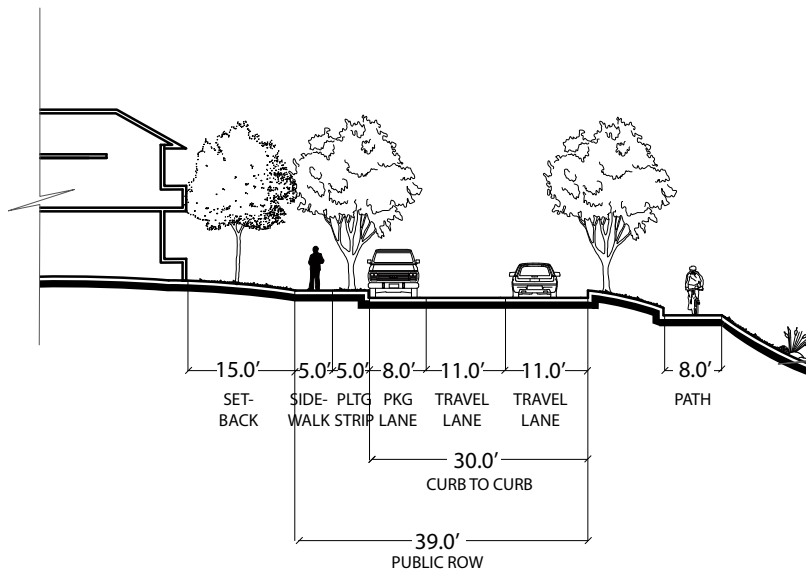
Where a street is next to a pedestrian trail, the street should be designed as shown in Section 4-24. The 25 foot wide pedestrian trail area is immediately adjacent to the street. A multi-use trail is included, which needs to be 8 to 12 feet to serve bicyclists, joggers, and pedestrians. Some portion of the multi-use trail may be better left unpaved to serve joggers and promote stormwater infiltration. Landscape areas with trees should be located on both sides of the trail to provide shade and create an distinctive and identifiable image for the trail.

Figure 4-24. Viera Avenue (New) next to Pedestrian Trail and Detention Basin (north of Oakley Road)



In some areas, local streets will be located immediately adjacent to a pocket park or a detention basin as shown in Figure 4-25. In those cases, the standard street and sidewalk dimensions may be applied, but it may not be necessary to include a parking aisle on the side of the street where the park or detention basin is located.

Figure 4-25. Local Street next to Park or Detention Basin



4.5 PEDESTRIAN AND BICYCLE ROUTES TO eBART

One of the most important components of the Hillcrest Area Specific Plan is to create safe, attractive pedestrian connections from the eBART station to the pedestrian center and to the employment and residential buildings in the Transit Village Area. This will enable residents and workers to walk or bicycle to the eBART station. There is a significant distance from the eBART station to the developable areas of the site. There are also many elevation changes; pedestrians have to cross up and over SR 4, cross over Slatten Ranch Road, and cross over or under the 100-foot wide railroad right-of-way. It is critical to make this route as direct, safe, and comfortable as possible.

Figures 4-26 and 4-29 on the following pages illustrate the pedestrian and bicycle routes for two station locations in plan view, showing the entire context of Slatten Ranch Road, Viera Avenue, Oakley Road, and the eBART parking lot. The red dashed line shows the pedestrian and bicycle route from the eBART station to the pedestrian center on Oakley Road and beyond into the Transit Village Area. Figures 4-27, 4-28, and 4-30 illustrate the pedestrian and bicycle routes to the eBART stations in section views.

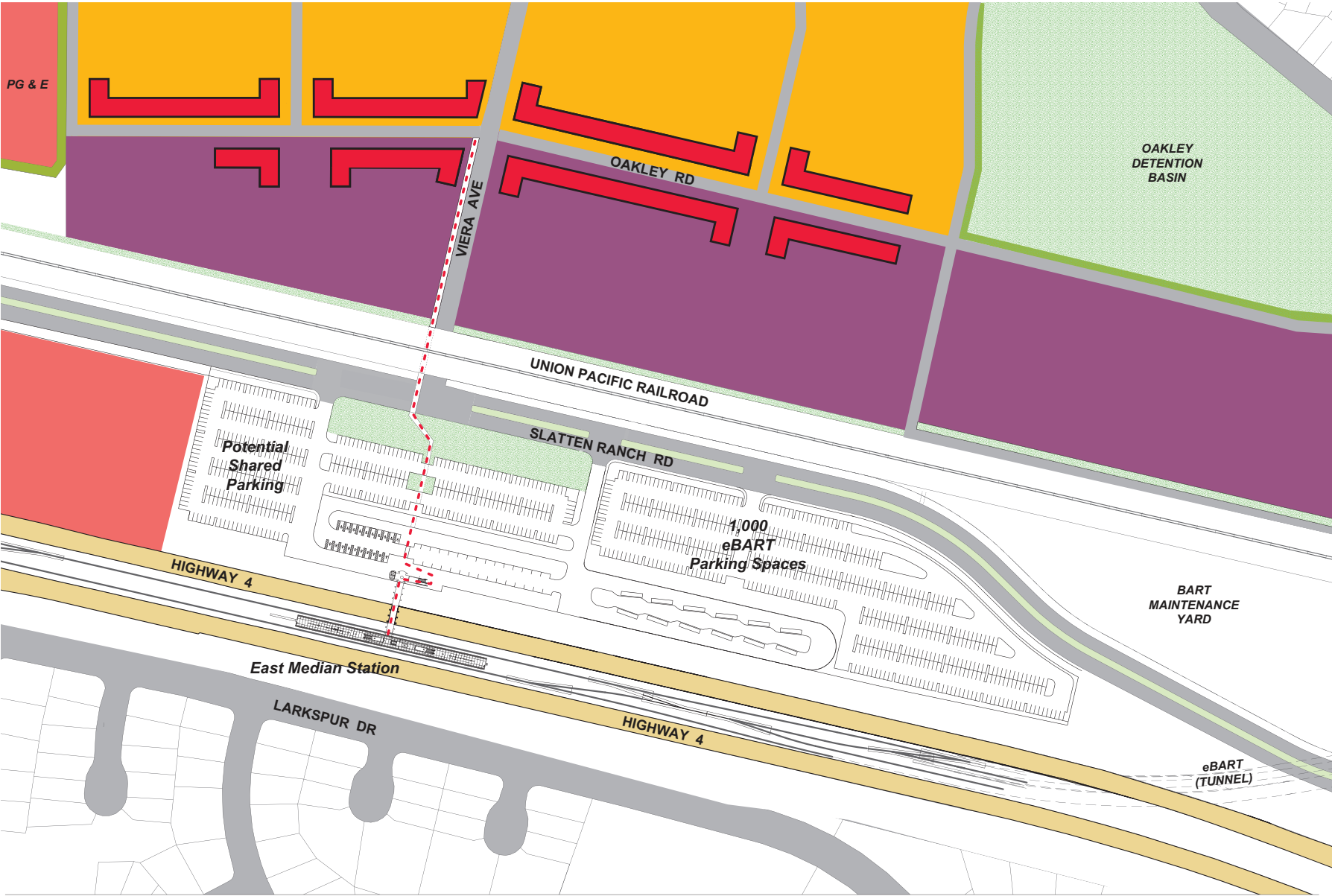
City Preferred Location: East Median Station

In the East Median Station option, there is a direct pedestrian and bicycle route from the eBART station to the pedestrian center at Viera Avenue and Oakley Road. The route is directly aligned with Viera Avenue (New). This is one of the major advantages of the East Median Station location. The rail line crossing is shown in Figure 4-27 as an under-crossing, though it could also be designed as an overcrossing. The Viera Avenue (New) intersection with Slatten Ranch Road is at a low elevation in order for the two streets to function as a T-intersection, and preserve developable land between the railroad line and the freeway.

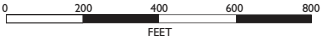
To get to the Transit Village, passengers exit the eBART train, and walk up and over a bridge over the SR 4 freeway. They then walk out onto the eBART plaza, and walk straight on a pedestrian pathway that crosses the eBART parking lot. The parking lot grades are established such that pedestrians then walk directly onto a bridge over Slatten Ranch Road. The bridge connects seamlessly onto the walkway under the railroad right-of-way. The walkway then ramps back up and becomes the sidewalk along Viera Avenue. The walking distance is approximately 1,200 feet from the station to the Oakley Road/Viera Avenue intersection. The total walking time is approximately five minutes.

The design of the Viera Avenue under-crossing, the Slatten Ranch Road/Viera Avenue intersection, and the pedestrian bridge will need further study to evaluate optimum layouts and to minimize costs and storm drainage requirements.

Figure 4-26: Pedestrian and Bicycle Route to eBART: East Median Station



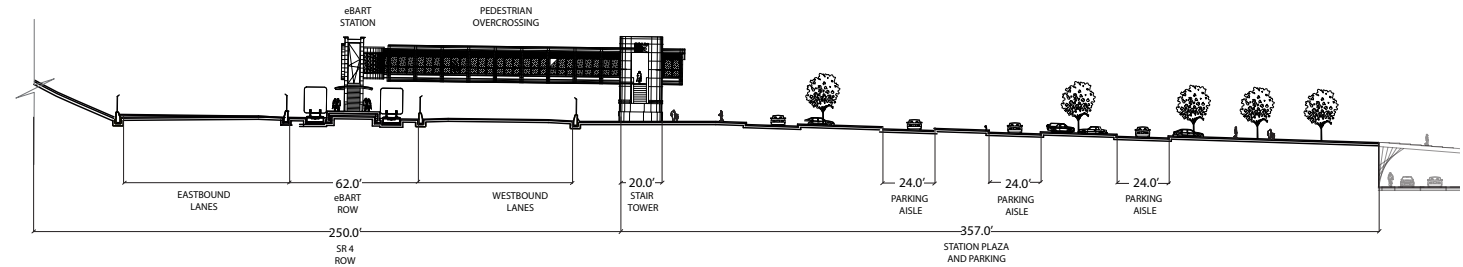
- Office TOD
- Community Commercial
- Walking Route
- Residential TOD
- Landscaping & Median
- Pedestrian Commercial
- Trail



Walking Distance to Oakley Rd: 1,200 Feet

Figure 4-27, East Median Station, shows the pedestrian/bicycle connection from the eBART East Median Station to the Transit Village pedestrian center. A pedestrian walking from the eBART station would cross the freeway on an overhead pedestrian bridge and then walk approximately 350 feet across the eBART parking lot. Next they would cross on a pedestrian/bicycle bridge over Slatten Ranch Road and under the railroad, and then walk up a ramp and be near the heart of the pedestrian center at Oakley Road and Viera Avenue (New). The total walking distance is 1200 feet, and the total walking time is 5 minutes.

Figure 4-27. East Median Station: Pedestrian/Bicycle Connection to eBART



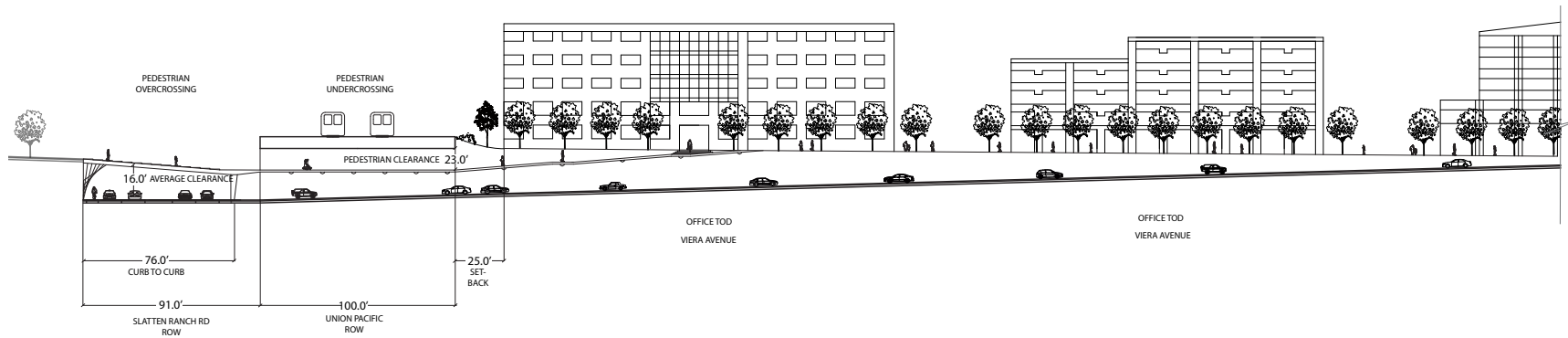


Figure 4-28 shows a detailed view of the pedestrian bridge over Slatten Ranch Road, and the straight connection to a pedestrian/bicycle walkway under the railroad. With the proposed undercrossing, there is an opportunity to make a straight direct connection from the eBART station to the Transit Village without extensive stairs, switch-back ramps, or elevators.

Figure 4-28. East Median Station: Pedestrian/Bicycle Connection Detail

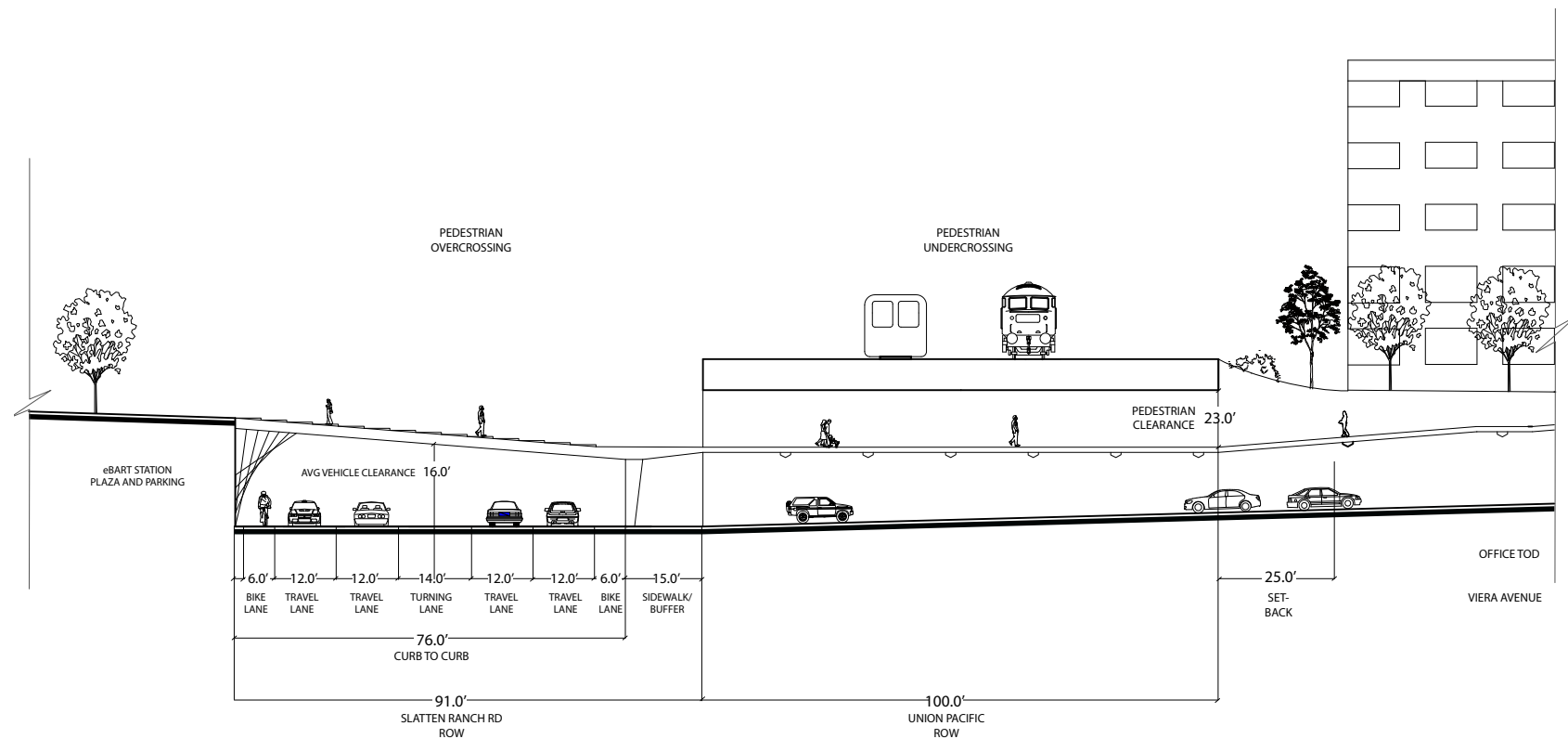
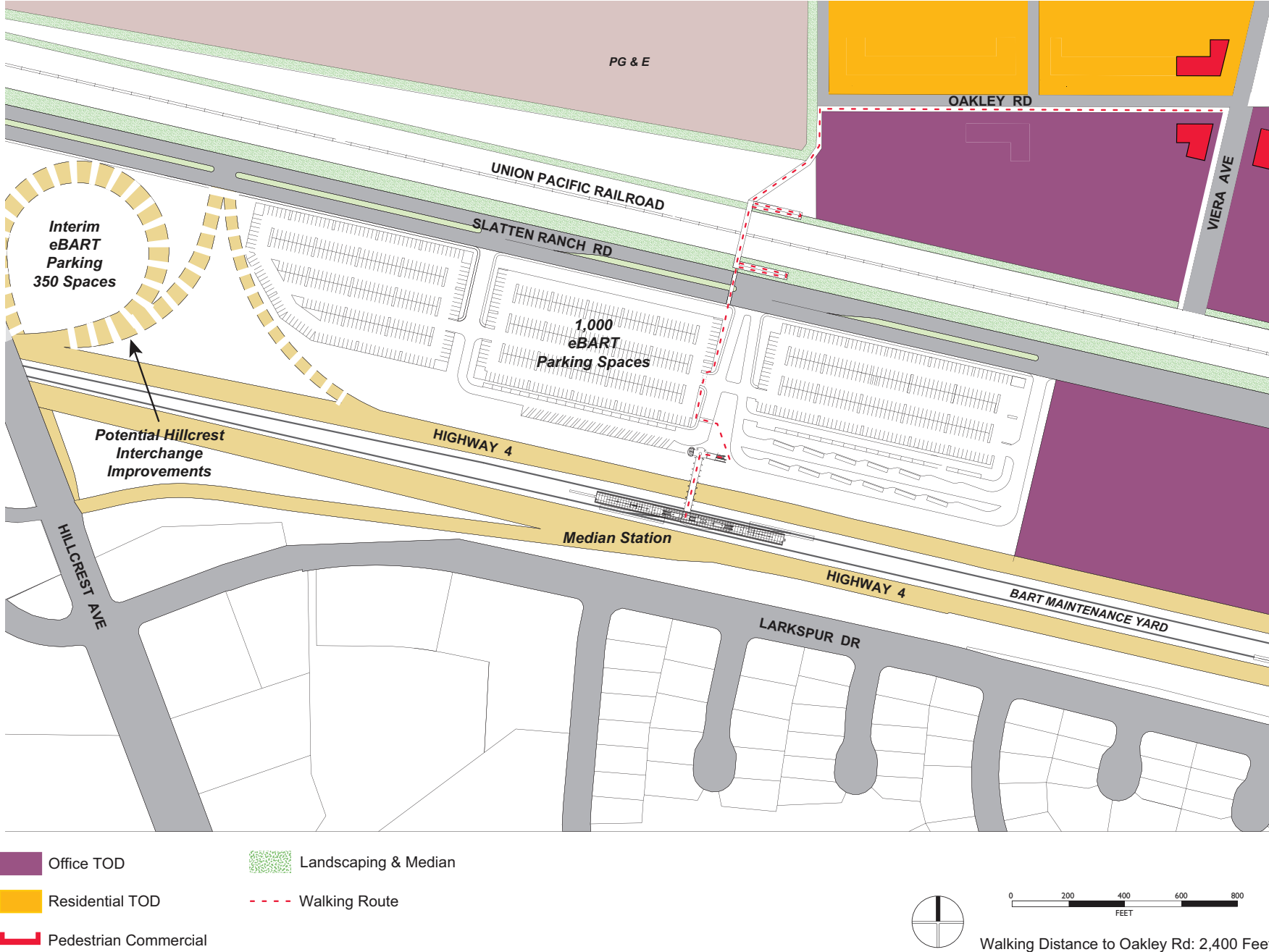


Figure 4-29: Pedestrian and Bicycle Route to eBART: Median Station



Median Station

If the eBART station is located as BART has proposed, the pedestrian connection to the eBART Station would occur towards the western edge of the site, opposite the PG&E substation. Pedestrians will need to walk west on Oakley Road to the end, and then onto a pedestrian path that heads south. Then they cross the railroad right-of-way via an overhead pedestrian bridge, which can be designed with either elevators or a long switch-back ramp. Once over the railroad right-of-way, pedestrians then cross Slatten Ranch Road at a grade-level crossing, which would need to have pedestrian-activated signals. Then they can walk along a sidewalk through the eBART parking lot, and cross the street into the eBART entrance plaza. Finally, pedestrians would need to go up an escalator or

elevator and walk over the freeway and then back down to the eBART platform. The walking distance is approximately 2,400 feet from the station to the Oakley Road/Viera Avenue intersection. The total walking time is approximately 10 minutes, plus any waiting time at signals and elevators. Figure 4-29 shows the pedestrian/bicycle route in plan view, and Figure 4-30 shows it in section view.

Pedestrians can also walk to the eBART station on Viera Avenue, and then turn right onto Slatten Ranch Road. The design of the Viera Avenue under-crossing would be the same as for the East Median Station. The sidewalk goes under the railroad right-of-way on Viera Avenue. Then it connects into the sidewalks on Slatten Ranch Road, with ramps to bridge the elevation changes.

Figure 4-30. Median Station: Pedestrian/Bicycle Connection to eBART

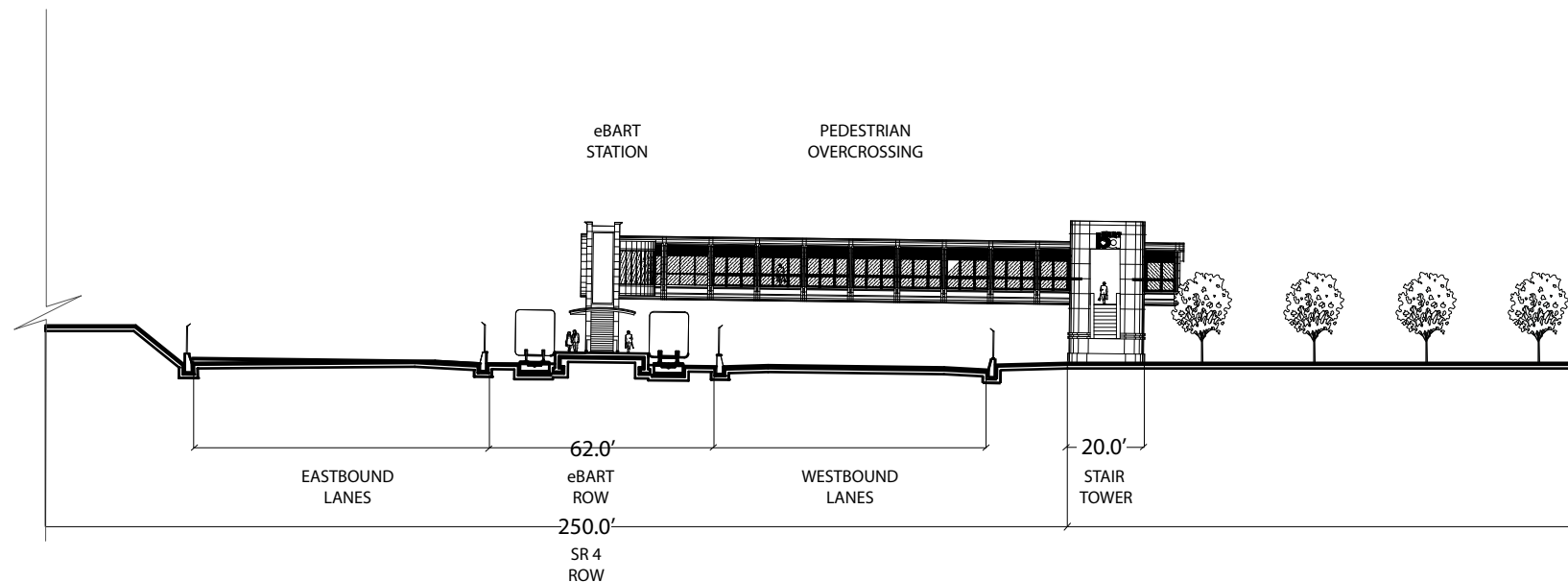
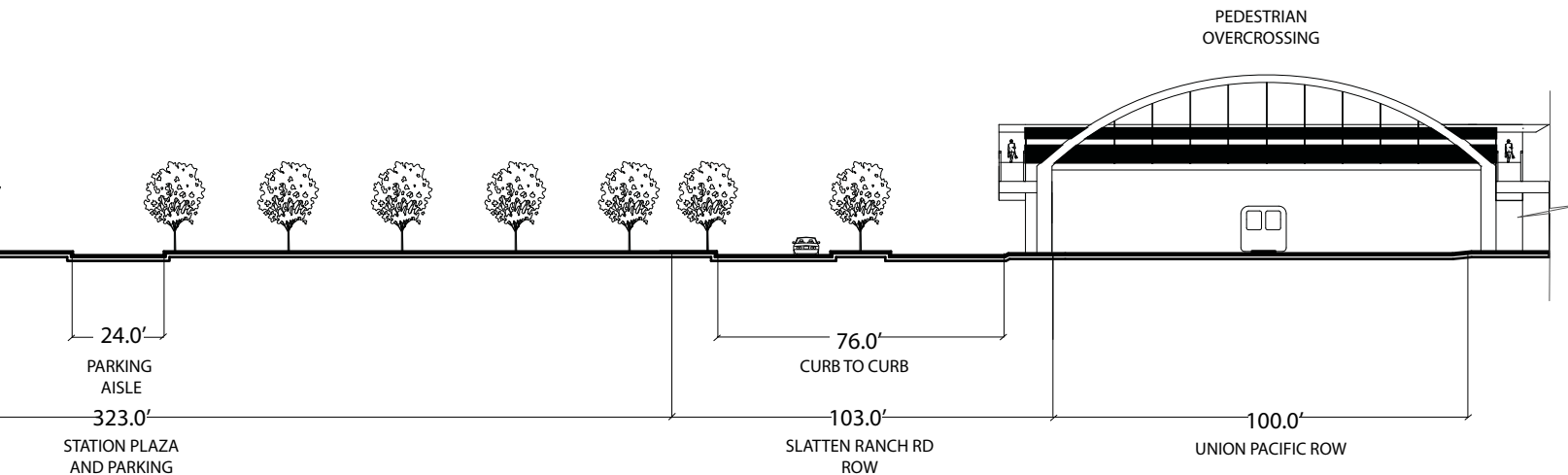


Figure 4-30, Median Station, shows the pedestrian/bicycle connection from the eBART Station to the Transit Village pedestrian center. A pedestrian walking from the eBART station would cross the freeway on an overhead pedestrian bridge and then walk approximately 325 feet across the eBART parking lot. Next they would cross Slatten Ranch Road at grade, and then walk up and over a pedestrian/bicycle bridge over the railroad right-of-way. Then they would walk up down Oakley Avenue two blocks to the pedestrian center at Viera Avenue (New) and Oakley Road. The total walking distance is 2,400 feet, and the total walking time is approximately 10 minutes, plus any waiting time at signals and elevators.



Pedestrian and Bicycle Routes To eBART Policies

UD-27 Create pedestrian and bicycle routes from the pedestrian centers of the Transit Village and Town Center to the eBART station(s) that are direct, safe, attractive and well-lit. Minimize the travel time and travel distance, and minimize the number of road crossings and the elevation changes such as tunnels, bridges, and ramps.

UD-28 Incorporate bicycle and pedestrian facilities into the design of the railroad crossing at Viera Avenue and the design of Slatten Ranch Road, to create a comfortable and attractive pedestrian and bicycle route to eBART. If the railroad crossing is an undercrossing, minimize the width of the tunnel and maximize the daylight to the pedestrian/bicycle route.

UD-29 If the East Median station location is selected for the eBART station, create a good quality pedestrian/bicycle connection from the Transit Village pedestrian center to the eBART station entrance.

- Design the Viera Avenue undercrossing/overcrossing to provide a reasonably straight pedestrian/bicycle connection to the eBART station entrance.
- Incorporate a pedestrian path from the eBART station entrance to the Viera Avenue undercrossing (or overcrossing).
- Provide a signalized pedestrian/bicycle crossing at Slatten Ranch Road, or a pedestrian/bicycle bridge.
- The pedestrian and bicycle routes should be generally be consistent with the diagram shown in Figure 4-26, Pedestrian and Bicycle Route to eBART: East Median Station.
- Conduct further studies to optimize the design of the Viera Avenue under-crossing, the Slatten Ranch Road/Viera Avenue intersection, and the pedestrian connections, in order to achieve good quality connections, and at the same time minimize costs and storm drainage pumping facilities.

UD-30 If the Median Station location is selected for the eBART station, create a good quality pedestrian/bicycle connection from the Transit Village pedestrian center to the eBART station entrance.

- Build a pedestrian/bicycle crossing over the railroad line, in a location that is generally in a straight line with the eBART station entrance.
- Incorporate a pedestrian path from the eBART station entrance to the railroad crossing.
- Provide a signalized pedestrian/bicycle crossing at Slatten Ranch Road.
- The pedestrian and bicycle routes should be generally be consistent with the diagram shown in Figure 4-29, Pedestrian and Bicycle Route to eBART: Median Station.



Redwood City, CA

Railroad Crossing: Incorporate a pedestrian/bicycle path into the design of the railroad crossing at Viera Avenue. If the railroad crossing is an undercrossing, maximize the openness and daylight to the pedestrian bicycle route.

4.6 PARKING AND BUILDINGS: RELATIONSHIPS TO THE STREET

Parking Location and Design

Parking location and access must be carefully planned so that parking lots and structures do not detract from the pedestrian character of streets, and so that parking access does not interfere with pedestrian access and safety. In the transit village and pedestrian center areas, the provisions described below are essential in order to achieve a comfortable and attractive pedestrian environment. These provisions should also apply to the maximum extent feasible in other areas of the Hillcrest Station Area.

Parking Location

Parking should be located to the rear or side of buildings, or underground, to the maximum extent feasible. In the pedestrian centers, the Residential TOD area, and the Office TOD areas, surface parking should not be located between the street and building entrances. Where surface parking lots are constructed, they should be heavily landscaped with trees and plantings, in order to be an attractive part of the Hillcrest Station Area.

Parking Garage Design and Ground Floor Uses

A lively attractive pedestrian center needs engaging street frontages. Blank, inactive walls and parking structure perimeters are detrimental to a continuous and lively street environment. Where parking garages are located along a street or sidewalks in pedestrian retail areas, at least 70% of the ground floor frontage facing onto a street should be stores or offices. Garages should be designed such that the elevations are attractive. They should be designed like a building façade with punched openings similar to window openings, cornice or other details at the top of the building, and should conceal any sloping floors.

Curb Cuts and Garage Entrances

In order to promote continuous and safe pedestrian access, curb cuts should be limited to a maximum of one curb cut per lot on each street frontage. The width of parking garage entrances should be minimized, and the parking access point set back from the curb so that cars can pull up to the entry gate or ticket machine without blocking the sidewalk. In addition, parking garage entrances should be designed with quality materials surrounding the opening, so they have an attractive appearance that contributes to the pedestrian street environment.

These curb cut and garage provisions are essential in the pedestrian centers. Each curb cut creates a break in the continuity of buildings and storefronts, and a place where cars cross the pedestrian sidewalk. Continuous, unbroken street frontages with active ground floor uses, however, link the many destinations together, creating a comfortable and inviting environment for walking.

Parking Location and Design Policies

- UD-31** Locate parking lots and structures to the rear or side of buildings, or underground, to the maximum extent feasible. In the pedestrian centers and transit villages, parking lots and above-ground parking structures may not occupy more than 30 percent of the street frontage of a lot.
- UD-32** Parking lots should not be located between the street and building entrances, especially in the pedestrian centers, the Residential TOD area, and the Office TOD area.
- UD-33** Design parking garages so that street-facing elevations are attractive. They should be designed like a building façade with punched openings similar to window openings, cornice or other details at the top of the building, and should conceal any sloping floors. Whenever feasible, design parking garages to have retail and commercial service uses wrapping the ground floor.
- UD-34** In the pedestrian centers and Transit Village, limit curb cuts to no more than one curb cut per block per lot.

Building Relationships to the Street

In order to achieve a place with an attractive pedestrian character, buildings need to be located along the street. Buildings located along the street provide interesting things to look at for pedestrians – store windows, architectural details, office activities, and views of people entering or exiting the buildings. Buildings also provide shade over the street and sidewalk.

In the Hillcrest Station Area, buildings should be located generally as shown in the street sections contained in this chapter. Building setbacks may be as much as five or ten feet greater than the minimum setbacks, depending on the land use and location. Building projections such as porches, building entry canopies, bay windows, and balconies may project into required street yard setbacks. Such projections are encouraged to add architectural interest and articulation.

Building Relationships to the Street Policies

- UD-35** Locate buildings generally as shown in the street sections contained in this chapter. Building setbacks may be as much as five or ten feet greater than the minimum setbacks, depending on the land use and location.
- UD-36** Building projections such as porches, building entry canopies, bay windows, and balconies may project into required street yard setbacks. Such projections are encouraged to add architectural interest and articulation.

5

ENVIRONMENTAL PROTECTION AND HAZARD MITIGATION

The Hillcrest Station Area Specific Plan is subject to and must comply with the provisions of the Antioch General Plan, Municipal Code, and various federal, state, and regional environmental regulations. Health, safety, and other environmental issues stem from the Planning Area's location near freeways, a railroad, East Antioch Creek and associated wetlands; previous heavy industrial land uses; seismic, geologic, and flooding hazards; and the presence of protected animal and plant species. Proactively reducing or avoiding risks associated with these conditions and providing appropriate protection for the existing assets will create a safer, more livable environment. This chapter provides background information and policies to reduce the potential impacts to human health and safety, and the environment. In addition, this chapter addresses climate change issues by incorporating policies pertaining to energy efficient site planning and structures.

Environmental Protection and Hazard Mitigation Principles

- Preserve biological resources associated with East Antioch Creek and other biological resource areas, including wetlands, wildlife habitat, and all plant and animal species that are threatened or endangered.
- Preserve natural environmental processes that protect health and safety, such as water filtration through soil that protects water quality, and riparian vegetation that minimizes erosion and flooding.
- Minimize the use of energy resources so as to ensure a sustainable long-term supply.
- Minimize air pollution.
- Remediate soil and groundwater contamination.
- Minimize the potential for loss of life, injury, property damage, and economic and social disruption resulting from natural and man-made hazards, including earthquakes, floods, landslides, and liquefaction.

5.1 AIR QUALITY

The air quality in the Bay Area does not meet state and federal standards for the following criteria air pollutants: ozone and particulate matter. Ozone levels have been trending down in the Bay Area in general, and specifically in Contra Costa County, since 1988. Based on implementation of state and district programs and controls, this trend is expected to continue, though at a slower rate. In the Bay Area, on-road motor vehicles are the major sources of ozone precursors. The Plan Framework, Chapter 3, contains many policies that are intended to reduce vehicle trips and improve traffic flow in and around the Station Area.

In 2007, the Pittsburg Air Monitoring Station at 10th Street registered four days where the respirable particulate matter (PM-10) exceeded the state standard. The main sources of particulate matter (PM) are combustion of fossil fuels, wood burning, airborne dust entrained by motor vehicles and construction, and cooking. The City has regulations in place to reduce PM generation, including compliance with the Bay Area Air Quality Management District's construction dust control measures, and requiring that all new wood burning stoves and fireplaces comply with EPA and BAAQMD approved standards.

Toxic air contaminants (TACs) are another category of air pollutants that may cause or contribute to adverse human health effects. There are many different types of TACs, but diesel particulate matter is of particular concern in the Station Area since the area is located near heavily traveled highways, the proposed eBART project, and freight railroad tracks. Implementation of the following policies will help to minimize the health risk to future residents and other sensitive receptors.

Air Quality Policies

- EH-1** Require air quality analysis based on project-specific development when permit applications are submitted for sensitive receptor uses (such as hospitals, schools, residential uses, and nursing homes) within 300 feet of SR 4, SR 160, the Union Pacific Railroad tracks, or stationary toxic air contaminant sources. If the results show that the carcinogenic human health risk exceeds the BAAQMD standards for toxic air contaminants, the City shall require upgraded ventilation systems with high efficiency filters or equivalent mechanisms to minimize health risks for future residents.
- EH-2** Require project sponsors to inform future and/or existing sensitive receptors of any potential health impacts resulting from nearby sources of dust, odors, or toxic air contaminants, and where mitigation cannot reduce these impacts.

5.2 BIOLOGICAL RESOURCES AND HABITAT PROTECTION

The grasslands and wetlands within the Hillcrest Station Area currently provide habitat for a variety of protected and common plant and animal species. Along East Antioch Creek, more than 16 acres of wetlands have been delineated by the Army Corps of Engineers, which serve as common plant and animal habitat and are critical to the natural hydrologic systems. Grassland, ruderal, and disked habitats comprise the primary types of habitat in the Station Area. These habitat types provide foraging habitat for a variety of threatened and common animal, bird, reptile, and bat species. Stands of trees, generally along the creek, and abandoned buildings provide potential nesting and roosting sites for birds and bats, while elderberry shrubs may support the federally-protected Valley Elderberry Longhorn Beetle. Figure 5-1 presents a map of Vegetation and Habitat Types.

Various surveys have been completed to observe whether endangered or threatened species occur in the Station Area. Burrowing owls, Swainson's hawks, and white-tailed kites have been observed foraging and nesting in and near the Station Area. Burrowing owls are protected by California law as a Species of Special Concern. A breeding pair was observed north of East Antioch Creek in 2008. The Swainson's hawk is a California threatened species. A pair of Swainson's hawks was observed flying over the Station Area and a nest was seen in a Peruvian Pepper Tree near the creek in 2008. A white-tailed kite was also seen flying over the area. This species is a California Species of Special Concern. Figure 5-2 shows the types and location of Special Status Species.

A tree survey was completed for most of the Station Area. The survey inventoried and rated the condition of 112 trees that are 10 or more inches in diameter at breast height or above. More than half of the trees are in good or fair condition. Of these, one black locust tree is considered mature and two Peruvian pepper trees are considered landmark trees. Dense stands of the non-native Tree of Heaven occur near the middle

of the Station Area. This species is extremely invasive and should be controlled. Approval must be obtained to remove any established trees subject to the City's Tree Ordinance.

Development in the Station Area will result in the removal of or disturbance to habitat, so the following policies are intended to provide protection and mitigation for the affected species and habitats.

Figure 5-1: Vegetation and Habitat Types

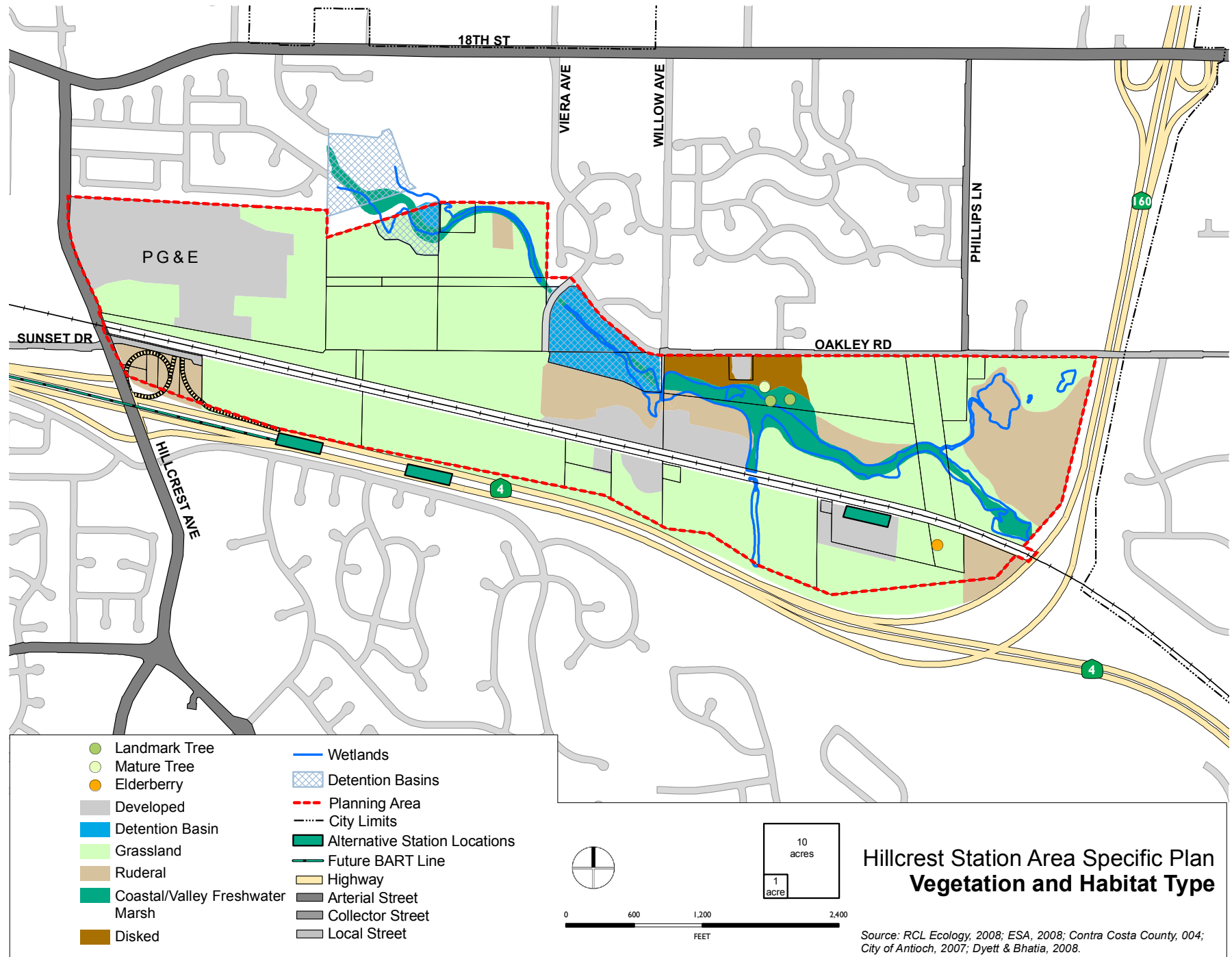
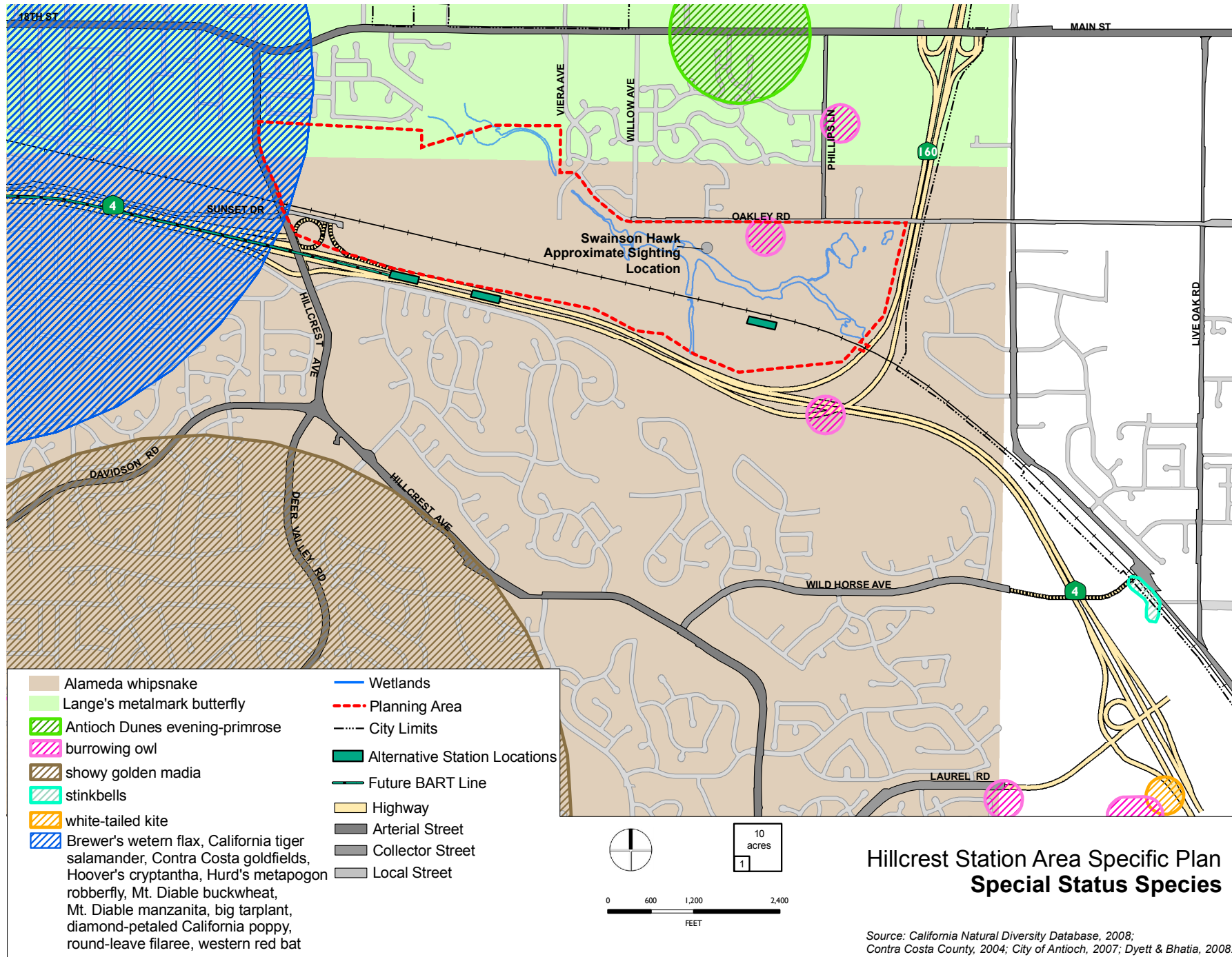


Figure 5-2: Special Status Species



BIOLOGICAL RESOURCES & HABITAT PROTECTION POLICIES

Nesting Birds

- EH-3** Prior to approval of any subdivisions or development projects, project sponsors shall comply with mitigation measures to avoid impacts to nesting bird species protected under the federal Migratory Bird Treaty Act, as follows:
- Project sponsors will avoid disturbing nesting raptors and other special-status birds by performing construction activities (i.e., ground clearing and grading, including removal of trees or shrubs) outside of the breeding season (February 1 through August 31), to the extent possible.
 - If construction activities are scheduled to occur during the breeding season (February 1 through August 31), the project sponsor will implement the following measures to avoid potential adverse effects on nesting raptors and other special-status birds:
 - The project sponsor will retain a qualified wildlife biologist to conduct preconstruction surveys of all potential nesting habitat within 500 feet of construction activities, where access is available. Surveys shall be conducted no more than 14 days prior to the first day of construction activities.
 - If active nests are found during preconstruction surveys, the project sponsor will create a no-disturbance buffer (size to be determined in consultation with CDFG) around active raptor nests and nests of other special-status birds during the breeding season, or until it is determined that all young have fledged. The size of these buffer zones and types of construction activities restricted in these areas will be based in part on existing noise and human disturbance levels in the project site. Nests initiated during construction are presumed to be unaffected, and no buffer would be necessary. However, the “take” (harm) of any individuals will be prohibited.
 - If preconstruction surveys indicate that nests are inactive or potential habitat is unoccupied during the construction period, no further mitigation is required. Trees and shrubs within the construction footprint that are determined to be unoccupied by special-status birds or that are located outside the no-disturbance buffer for active nests, may be removed.

Swainson’s Hawk

- EH-4** Surveys for nesting Swainson’s hawks shall be conducted semi-annually by a qualified biologist during the nesting season (March 1-September 15), beginning in the spring of 2009 and continuing until Planning Area development begins.
- Surveys shall be conducted at the beginning of the breeding season (March/April) and towards the end of the season (August/September) to determine the extent of nesting activity.
 - Surveys shall be conducted within the Planning Area and extending out 0.25 miles from the Planning Area where possible.
 - If potentially occupied nests are within 0.25 miles of the Planning Area and public access is not possible, then their occupancy will be determined by observation from public roads or by observations of Swainson’s hawk activity (e.g., foraging) near the Planning Area.
 - Documentation of Swainson’s hawk presence shall be submitted to the CDFG California Natural Diversity Database, and annual reports summarizing the results of the surveys shall be submitted to the City.
 - Project sponsor(s) shall provide funding to the City of Antioch to contract for the biologist’s services.
- EH-5** Prior to the approval of a development permit in the Planning Area, the City shall determine whether Swainson’s hawks are present in or within 0.25 miles of the Planning Area. Using the semi-annual survey results required in Policy EH-4 and the most recent CEQA environmental review documents for the Planning Area, it will be determined:
- Whether nesting sites are active or have been vacant for the five consecutive years (and therefore “inactive”) preceding the application date; and
 - If active, the total acreage of Swainson’s hawk habitat, both nesting and foraging, that may be disturbed.

EH-6 If active Swainson's hawk nests are identified, a permanent 100-foot buffer shall be created around the dripline of the nest trees.

- No development shall occur within this buffer.
- The buffer shall be fenced to prevent the nests from being disturbed.

EH-7 If it is determined through Policy EH-5 that the Swainson's Hawk nest is "active", then the project sponsor shall mitigate for lost Swainson's hawk nesting and foraging habitat using mitigation ratios prepared in consultation with CDFG, through mitigation credits or conservation easements.

- As of 2008 the CDFG recommended the following mitigation ratios, which are subject to change:
 - 1:1 for foraging habitat within one mile of an active nest;
 - 0.75:1 for foraging habitat within one to five miles of an active nest; and
 - 0.5:1 for foraging habitat within five to ten miles of an active nest.
- Mitigated land should be as close as possible to the Planning Area.

EH-8 During the nesting season (March 1–September 15), a qualified biologist shall conduct a preconstruction survey no more than 14 days prior to ground disturbance, to establish whether Swainson's hawk nests within 0.25 mile of the project site are occupied (unless this was already accomplished through Policy EH-4).

- If potentially occupied nests exist within 0.25 mile of the Planning Area, then their occupancy will be determined by observation from public roads or by observations of Swainson's hawk activity (e.g., foraging) near the Planning Area.
- If active Swainson's hawk nests are identified during these preconstruction surveys, no construction activities shall occur during the nesting season within 0.25 mile of occupied nests or nests under construction, unless CDFG/USFWS agrees to a smaller buffer based on environmental conditions such as steep topography or dense vegetation. If young fledge prior to September 15, construction activities can proceed normally.

Burrowing Owl

EH-9 No more than 14 days before construction, a survey for burrowing owls and their burrows shall be conducted by a qualified biologist within 500 feet of the project (access permitting). The survey will conform to the protocol described by the California Burrowing Owl Consortium (1995), which includes up to four surveys on different dates if there are suitable burrows present.

EH-10 If occupied owl burrows are found within the survey area, a determination will be made by a qualified biologist, in consultation with the CDFG, as to whether or not work will affect the occupied burrows or disrupt reproductive behavior.

- If it is determined that construction will not affect occupied burrows or disrupt breeding behavior, construction will proceed without any restriction or mitigation measures.
- If it is determined that construction will affect occupied burrows during the non-breeding season (August through February), the subject owls shall be passively relocated from the occupied burrow(s) according to a plan approved by the CDFG. The plan will include installation of one-way doors in occupied burrows at least 48 hours before the burrows are excavated, and will provide for the owl's relocation to nearby lands that possess available nesting habitat.
- If it is determined that construction will physically affect occupied burrows or disrupt reproductive behavior during the nesting season (March through July), then avoidance is the only mitigation available. Construction will be delayed within 300 feet of occupied burrows until it is determined that the subject owls are not nesting or until a qualified biologist determines that juvenile owls are self-sufficient or are no longer using the natal burrow as their primary source of shelter.

EH-11 If the project requires the mitigation of Swainson's hawk foraging habitat, lost burrowing owl nesting and foraging habitat will be considered effectively mitigated with the acquisition of habitat or habitat credits, which replaces Swainson's hawk foraging habitat (see Plan Policy EH-7).

- EH-12** If the project does not require the mitigation of Swainson's hawk foraging habitat, lost burrowing owl habitat shall be compensated by the acquisition or conservation of 6.5 acres per breeding pair using the site, at the time of disturbance.

Bats

- EH-13** The project sponsor will avoid disturbance of hibernating or maternity bat roosts, by performing preconstruction surveys and creating no-disturbance buffers.
- EH-14** Prior to construction activities (i.e., ground clearing and grading, including removal of trees or shrubs) within 200 feet of trees and buildings that potentially support special-status bats, the project proponent will retain a qualified bat biologist to survey for special-status bats. If no evidence of bats (i.e., direct observation, guano, staining, strong odors) is present, no further mitigation is required.
- EH-15** If evidence of bats is observed, the project sponsor will carry out the following measures to avoid potential adverse effects to bats:
- A no-disturbance buffer (acceptable in size to the CDFG) will be created around active roosts during the breeding season (April 15 through August 15). Bat roosts initiated during construction are presumed to be unaffected, and no buffer would be necessary. However, the take of individuals will be prohibited.
 - Removal of trees/buildings showing evidence of bat activity will occur during the period least likely to affect bats, as determined by a qualified bat biologist (generally between February 15 and October 15 for winter hibernacula, and between August 15 and April 15 for maternity roosts). If exclusion is necessary to prevent indirect impacts to bats due to construction noise and human activity adjacent to trees showing evidence of bat activity, these activities will also be conducted during these periods.

Valley Elderberry Longhorn Beetle

- EH-16** The project sponsor shall avoid Valley Elderberry Longhorn Beetle (VELB) habitat or prepare a VELB Mitigation Plan:

- Regardless of whether or not VELB exit holes are present, all elderberry shrubs with stems at least one inch in diameter shall be avoided, and a 100-foot buffer shall be established around the dripline of the shrubs. The 100-foot buffer may be adjusted in consultation with the USFWS. If avoidance is achieved, a letter report confirming avoidance shall be sent to the USFWS and no further mitigation would be required.
- If disturbance within 100 feet of the dripline of the elderberry shrubs with stems greater than or equal to one inch in diameter is unavoidable, then the project sponsor will: (1) conduct surveys for the VELB in accordance with the Conservation Guidelines for the Valley Elderberry Longhorn Beetle (USFWS, 1999); and (2) mitigate for impacts in accordance with these guidelines (USFWS, 1999).

Wetlands and Riparian Habitat

- EH-17** The project sponsor will avoid or minimize effects on streams, ponds, wetlands, and riparian habitat when possible. If underground utility crossings are required underneath East Antioch Creek, contractors shall employ jack-and-bore construction techniques for these crossings.
- EH-18** For impacted wetlands, the project sponsor shall restore/create wetlands on or off site at a 2:1 ratio. A wetland mitigation and monitoring plan (referred to in General Plan Policies 10.3.2(e) and 10.4.2(d) as a Resource Management Plan) shall be developed and submitted to the Corps and any other applicable agencies, that includes the following:
- description of wetland types;
 - performance standards and monitoring protocol to ensure the success of the mitigation wetlands over a period of five to ten years;
 - engineering plans showing the location, size, and configuration of wetlands to be created or restored, as applicable;
 - an implementation schedule showing when construction of mitigation areas shall occur, as applicable; and
 - a description of legal protection measures for preserved wetlands, as applicable (i.e., dedication of fee title, conservation easement, and/or an endowment held by an approved conservation organization, government agency, or mitigation bank).

EH-19 As part of the development review process for projects adjacent to or including East Antioch Creek, the project sponsor shall create a Resource Management Plan for the creek corridor, as required by the General Plan Policy 10.4.2(d), in order to retain native vegetation in and along East Antioch Creek and prevent its degradation. Components of this Plan shall include but are not limited to: a vegetation palette consisting of native species for any landscaping that the project sponsor would like to do within the corridor, and methods for plant installation; vegetation monitoring; herbivore and weed control; irrigation; and site protection.

EH-20 The project sponsor shall establish a minimum 50-foot buffer from the delineated edge of the wetlands and the freshwater marsh vegetation. No development shall occur within this buffer.

- In an effort to avoid impacts to wildlife, including nesting birds and sensitive habitats, a fence shall be erected between the outer edge of the buffer area and the development, to keep pets out. The fence shall be at least four feet in height.
- A 25-foot additional buffer containing a recreation trail composed of permeable or semi-permeable surface may be located outside of the 50-foot buffer.

EH-21 Pedestrian and vehicle bridges proposed to cross over East Antioch Creek shall be designed to span the bed and bank of streams and avoid or minimize bridge piers or footings within the stream, within bridge safety limits.

- If possible, the span of bridges that cross streams should also include some upland habitat beneath their spans to provide dry areas for wildlife species that do not use creeks or for use during storms.
- Native plantings, natural debris, or rocks should be installed under bridges to provide wildlife cover and encourage the use of crossings.

Wildlife Corridors

EH-22 Provisions shall be made for wildlife under-crossings for new roads near East Antioch Creek. Tunnels or culverts must be the minimum length, height, and width necessary to provide safe passage under the road. Culvert designs will be based on the best available data at the time of the development application.

Trees

EH-23 All “established” trees that will be retained shall be adequately protected during grading and construction.

- Trees to be preserved immediately adjacent to the construction area should be protected with a minimum four-foot construction fence placed at least three feet outside the tree’s dripline.
- Care should be taken not to change the grade of the protected trees either by fill or grading. Any proposed grading within the dripline of protected trees will require further site investigation and recommendations by a certified arborist.

EH-24 Trees to be retained at the edge of the construction area should be pruned prior to the start of construction to remove dead wood that might present a safety hazard. Trees to be retained in landscape buffers and open space areas should be pruned of dead wood to minimize human hazards.

EH-25 The project sponsor will guarantee the health of all trees to be preserved within and adjacent to the proposed project site for three years. The project sponsor will replace any tree that is to be retained but that dies as a result of project construction activities during the guarantee period, with two 24-inch box, native trees, and the City of Antioch may require the posting of a bond pursuant to the Municipal Code.

EH-26 A plan for control of the Tree of Heaven species should be prepared and implemented in order to prevent root and sprout damage to concrete and asphalt pavement and building foundations.

5.3 CULTURAL RESOURCES

Cultural resources include archaeological resources, historic resources, contemporary Native American resources, and paleontological resources. Federal, state, and local regulations establish requirements for the study and protection of cultural resources. There are no recorded prehistoric archaeological sites within the Planning Area. In addition, no archaeological resources were observed during a walking survey conducted in July 2007 or during mechanical subsurface presence/absence testing conducted in October 2008. However, there is a low to moderate possibility that construction related activities will affect buried prehistoric archaeological resources. Paleontological resources, including fossil remains, have been found in other areas of Antioch, so it is plausible that fossils may be found during excavation and grading activities. There are no identified contemporary Native American resources in the Station Area. The Antioch General Plan contains detailed policies about the protection of cultural resources, which apply to all projects in the Hillcrest Station Area.

Historic Resources

There are no federal-, state-, or county-listed historic sites within the Station Area. However, a background report prepared by Holman & Associates identified four sites that may contain potentially significant historic resources and require additional research to establish whether they are eligible for listing. These sites include:

1. The “Foundry,” a complex of three modern (post 1960s) buildings located in the southeast corner of the Station Area;
2. A small homestead located at 2500 Willow Lane;
3. Two large debris piles located south of Oakley Road and east of Willow Road, which may be associated with structures from 1916 and 1953; and,

4. An abandoned segment of Southern Pacific’s San Pedro and Tulare Railroad (1878-1925) alignment (formerly the Central Pacific Railroad) located at the eastern edge of the Station Area.

The policies listed below establish the procedures and requirements for the protection of specific cultural resources in the Hillcrest Station Area.

Cultural Resources Policies

EH-27 Require the project sponsor to complete the California Department of Parks and Recreation site forms for submittal to the California Archaeological Inventory located at Sonoma State University for each of the sites listed below. As part of the effort, require the project sponsor to complete focused historical archival research for the project area to chronicle historic development since the late 19th Century. This will help inform the determination of whether the sites are eligible to be designated as historic resources.

- The “Foundry” (APN: 052-052-002)
- 2500 Willow Lane
- Two debris piles south of Oakley Road and east of Willow Road
- Abandoned railroad spur

EH-28 If any resource is found to be eligible for inclusion on the California Register of Historic Resources, the project sponsor shall consult with the State Historic Preservation Officer (SHPO) to document the existing condition, in order to establish for posterity a record of the historic property prior to its alteration, relocation, or demolition, and to identify any further requirements for environmental review and/or mitigation.

5.4 GEOLOGICAL AND SEISMIC HAZARD MITIGATION

The City of Antioch, as well as the San Francisco Bay Area as a whole, is located in one of the most seismically active regions in the United States. Several active faults are located seven to 40 miles away from the Station Area, as shown in Figure 5-3, Faults. The inactive Antioch fault has been mapped less than one mile northeast of the Station Area and is not zoned under the Alquist-Priolo Earthquake Fault Zoning Act. Observation of calichefied soils in the Station Area indicate that the Antioch Fault may pass through the area and additional investigation may be necessary. The risk of surface rupture due to earthquakes is low. However, the risk of ground-shaking, which varies depending on the size and location of the earthquake, could be severe.

Seismic events may also cause liquefaction or settlement in areas with sandy soils, or slope instability in the hills in the southeastern quadrant of the Station Area. Figure 5-4 shows the topography of the Hillcrest Station Area.

Mandatory compliance with the building codes and construction standards established in the California Building Code, the requirements of the City of Antioch Municipal Code, and policies contained in the City of Antioch General Plan will ensure the safety of people and structures within the Station Area. Mandatory compliance with the City of Antioch Municipal Code and NPDES General Construction Permit requirements will reduce erosion and related hazards. In addition, the following policies address the potential site-specific seismic and geologic hazards.

Geologic & Seismic Hazard Mitigation Policies

- EH-29** Evaluate areas of calichefied soils for evidence of the Antioch fault within the Hillcrest Station Area to ensure that buildings are designed to mitigate potential seismic risks.
- EH-30** A slope stability analysis of the hillsides along the southernmost portion of the Planning Area shall be conducted prior to the issuance of any grading permits in this area.
 - If slope stability and/or landslides are expected to be an issue, the slope stability analysis shall recommend measures to ensure that future development projects in this area be designed and constructed to avoid seismically-induced landslides or other slope failures. Recommendations can include:
 - Requiring that the slope is cut at a flatter angle, such as 2.5:1 or 3:1 for slopes greater than 30 feet high; or,
 - Requiring that the slope is excavated and re-built as engineered fill buttress slopes inclined at 2:1 for slopes up to 30 feet high and inclined at 2.5:1 for slopes greater than 30 feet high.
 - Detailed grading plans and construction drawings incorporating the recommended measures shall be submitted to the City of Antioch Building Department for approval prior to the issuance of building permits.

Figure 5-3: Faults

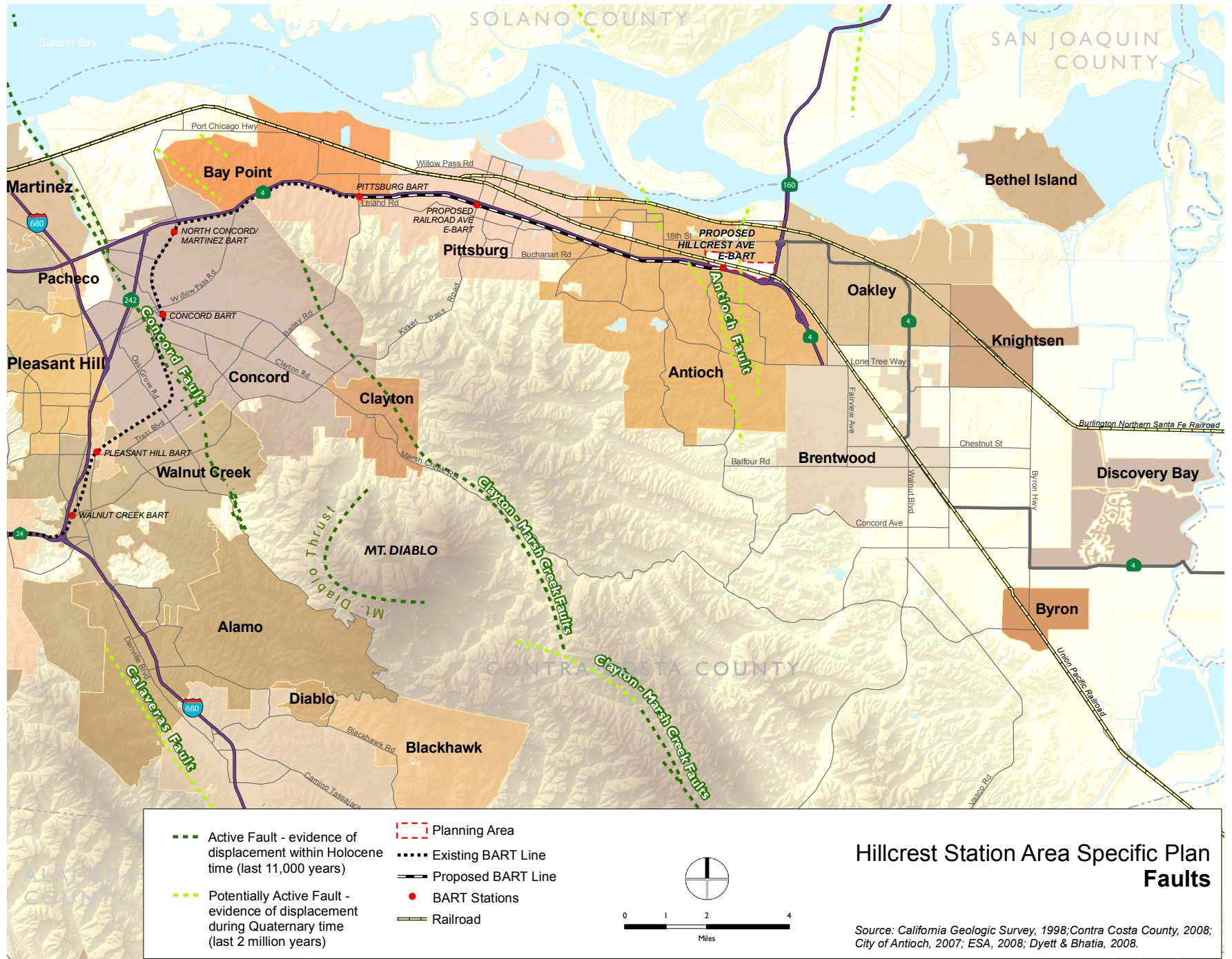
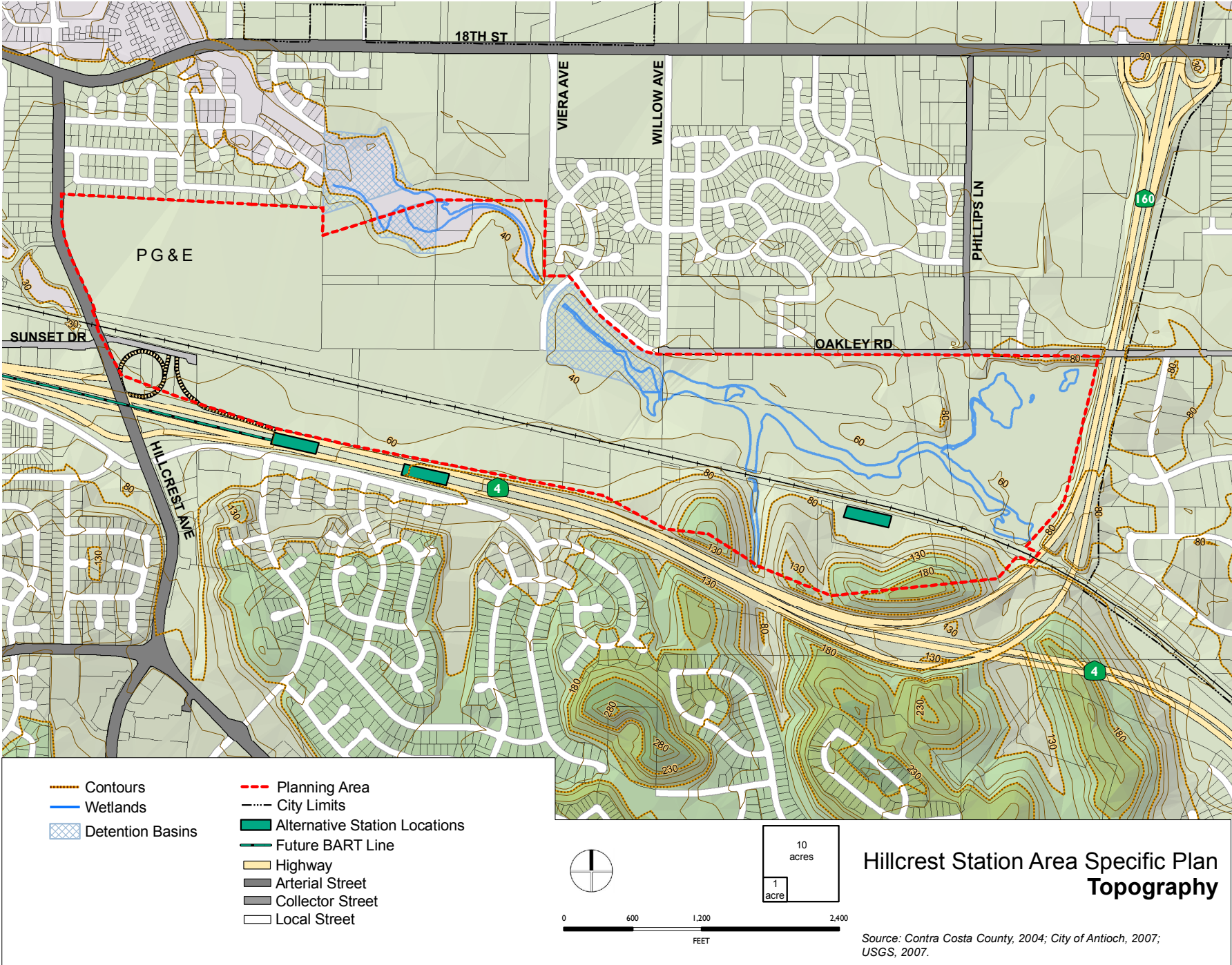


Figure 5-4: Topography



5.5 GREENHOUSE GAS EMISSIONS AND RESOURCE EFFICIENCY

According to the California Climate Action Team, accelerating global climate change has the potential to cause a number of adverse impacts in California, including but not limited to: a shrinking Sierra snow pack that would threaten the state's water supply; public health threats caused by higher temperatures and more smog; damage to agriculture and forests due to reduced water storage capacity, rising temperatures, increasing salt water intrusion, flooding, and pest infestations; critical habitat modification and destruction; eroding coastlines; increased wildfire risk; and increased electricity demand. Many scientists believe that greenhouse gas (GHG) emissions contributing to global climate change are attributable in large part to human activities associated with the transportation, industrial/manufacturing, energy generation, utility, residential and commercial building, and agricultural sectors.

The State of California and communities in the San Francisco Bay Area have been taking active roles in regulating the major pollutants that contribute to greenhouse gas emissions. The Global Warming Solutions Act of 2006 (AB 32) requires the State of California to limit the total statewide greenhouse gas emissions in 2020 to the level of emissions in 1990. In 2007, Contra Costa County adopted the long-term reduction target set by the U.S. Cool Counties Climate Stabilization Declaration. This declaration calls for the County to work closely with local, state, and federal governments and other leaders to develop a regional plan to reduce county geographical GHG emissions to 80 percent below current levels by 2050.

In addition to working cooperatively with state and local governments to reduce greenhouse gas emissions from transportation, utilities, and agriculture, the City of Antioch can take an active role in reducing GHGs from commercial and residential buildings and support efficient use of natural resources. The following policies establish resource efficiency standards for the new development projects within the Hillcrest Station Area.

Greenhouse Gas Emissions and Resource Efficiency Policies

- EH-31** The City shall continue to work with the county, and other local, state, and federal governments, to develop a regional plan to reduce county geographical GHG emissions to 80 percent below current levels by 2050.
- EH-32** Projects that receive financial assistance from the City or the Redevelopment Agency, including but not limited to assistance with public infrastructure, shall demonstrate the incorporation of energy efficiency measures beyond the minimum standards of Title 24 and the use of alternative energy sources such as solar power.
- EH-33** All electrical appliances installed in development projects in the Hillcrest Station Area shall be Energy Star rated.
- EH-34** All projects shall demonstrate that recycled materials have been incorporated into new construction.
- EH-35** Non-residential projects shall meet whichever standard is lower:
 - The current energy efficiency standard at the time that the development application is submitted, or
 - A 20 percent reduction in energy from the 2003 Title 24 Standards, consistent with Executive Order S-20-2004 issued by Governor Schwarzenegger.
- EH-36** Locate, orient, and shade the building, where feasible, as follows:
 - Provide exterior shade for south-facing windows during the peak cooling season.
 - Provide vertical shading against direct solar gain and glare due to low altitude sun angles for east- and west-facing windows.
 - When site and location permit, orient the building with the long sides facing north and south.
 - Protect the building from thermal loss, drafts, and degradation of the building envelope caused by wind and wind-driven materials such as dust, sand, and leaves with building orientation and landscape features.
 - Wherever possible, use vegetation to shade buildings to limit direct solar gain and glare.

5.6 HAZARDOUS MATERIALS REMEDIATION

Exposure to hazardous materials can cause harm over time and must be mitigated to ensure public health and safety. Past and present land uses in the Station Area include industrial, utility, residential, and agricultural uses. The Contra Costa County Health Services Department and the California Regional Water Quality Control Board (RWQCB) are monitoring the remediation of four areas of soil and groundwater contamination in the Station Area. Other areas have not been fully evaluated for potential soil and groundwater contamination. Figure 5-5 shows open remediation case sites and potential contamination sites.

TABLE 6-1 CONTAMINATED SITES

OPEN REMEDIATION CASE SITES	POTENTIAL CONTAMINATION SITES
1 – Former Hickson-Kerley (FKP) Property	A – PDQ Products
2 – Chevron Old Valley Pipeline	B – Former Orchards
3 – TAOC New Love Pump Station Site	C – PG&E Substation
4 – PG&E Oakley Metering Station	D – Railroad Right-of-Way
	E – Petroleum Pipeline Alignments

Source: Engeo Inc., 2008

Compliance with federal, state, and local hazardous materials and waste regulations is required for all development projects in the Station Area. Implementing established protocols and the following policies can reduce public health risks to negligible levels.

HAZARDOUS MATERIALS REMEDIATION POLICIES

All Parcels

EH-37 Prior to approval of any discretionary permits for subdivisions or new construction, property owners shall work with the Contra Costa County Fire Protection District (CCCFPD), the Contra Costa County Health Services Department (CCCHSD), the California Department of Toxic Substances Control (DTSC), and/or the California Regional Water Quality Control Board (RWQCB), whichever has jurisdiction, to resolve issues related to contamination that could potentially impact future land uses in the project area.

Parcels with Known Contamination

EH-38 For parcels with known contamination, the lateral and vertical extent of contamination shall be determined; cleanup activities shall be undertaken per state and federal regulations; and appropriate land use restrictions implemented, as necessary, prior to the issuance of development permits on parcels with known contamination.

EH-39 As part of the project entitlement process, appropriate studies shall be conducted for each site with an open remediation case based on proposed land uses by a qualified environmental professional. The studies shall compare maximum soil, soil gas, and groundwater concentrations to relevant environmental screening levels (ESLs) and evaluate all potential exposure pathways from contaminated groundwater and soil. As required by the appropriate responsible agency, studies shall be prepared for the:

- Former Hickson-Kerley (FKP) Property (APN: 052-051-034);
- Chevron Old Valley Pipeline;
- TAOC New Love Pump Station Site (APN: 052-051-034); and,
- PG&E Oakley Metering Station (APN: 052-051-035)

EH-40 At sites with known contamination issues, a Construction Risk Management Plan (RMP) shall be prepared and approved prior to commencement of construction, to protect the health and safety of construction workers and site users adjacent to construction activities.

Parcels with Potential Contamination

EH-41 Soil and water contamination assessments are required to ensure public health for projects on the following properties:

- PDQ parcel (APN: 052-052-002);
- Former orchards;
- Parcels adjacent to the PG&E Substation property;
- Parcels adjacent to the railroad right-of-way;
- Parcels adjacent to active and inactive petroleum pipelines;
- Park-n-ride lot (APNs: 052-011-009, 052-011-010, 052-011-011, 052-011-015, 052-011-016); and,
- Detention basins (APN: 051-170-004, 051-170-053, 051-333-001, 052-030-022).

EH-42 If soil or groundwater contamination is identified on any parcel in the Hillcrest Station Area, the lateral and vertical extent of contamination shall be determined; cleanup activities shall be undertaken per state and federal regulations; and appropriate land use restrictions implemented, as necessary, prior to issuance of development permits.

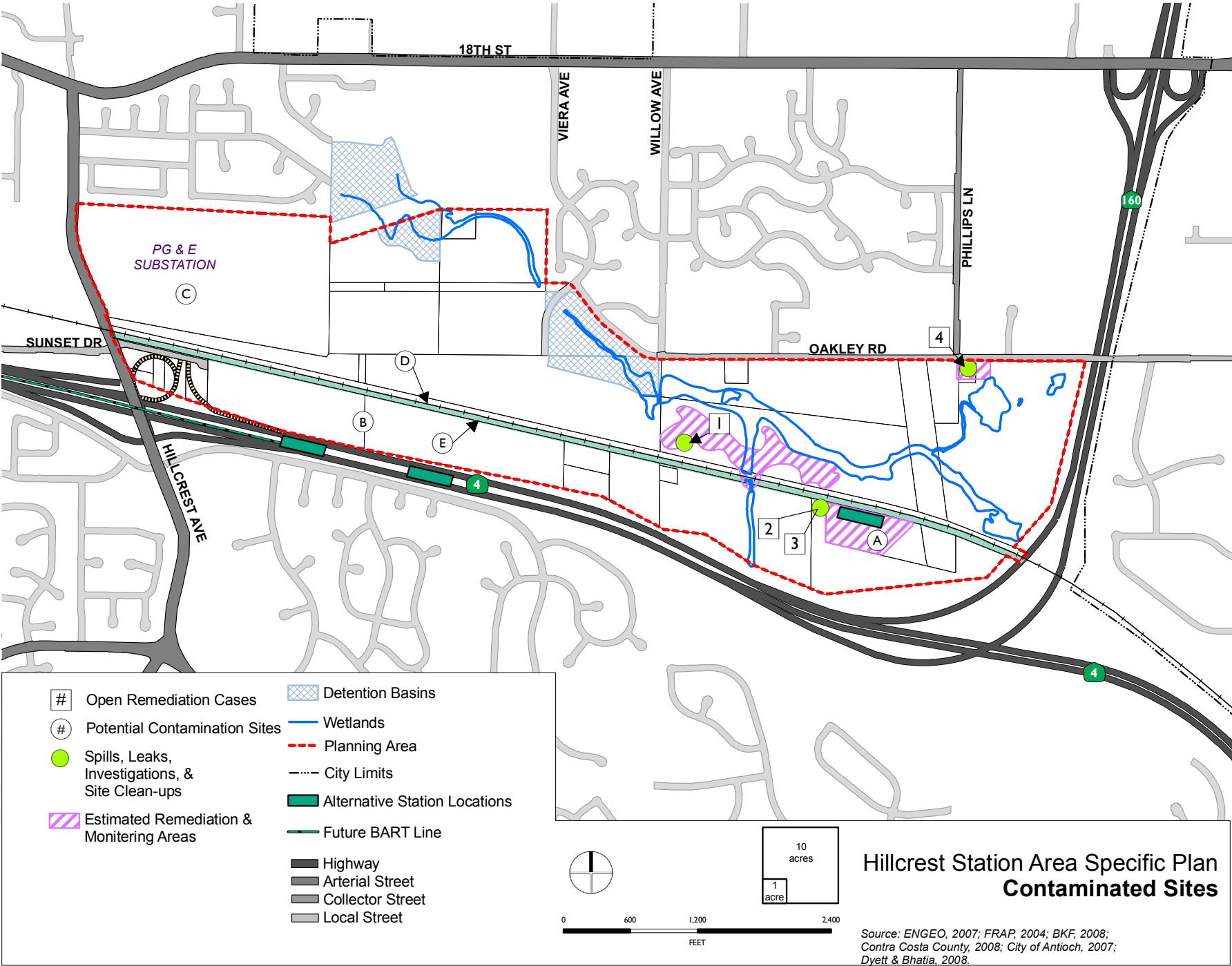
EH-43 The City of Antioch and property owners shall contact and work with Union Pacific to ensure that planned railway improvements that disturb potentially contaminated soils do not impact nearby properties or development, or cause a public health hazard.

Hazardous Building Materials

EH-44 On parcels with existing structures, project sponsors shall submit to the City a project Demolition Plan that addresses onsite and offsite chemical and physical hazards. The Demolition Plan shall contain:

- Information for any existing structures or buildings, regarding the presence of hazardous building materials such as asbestos-containing building materials, PCBs, and lead-based paint in existing buildings proposed for demolition, additions, or alterations;
- Protocols for ensuring the safety of workers and the public during demolition or construction activities, as approved by the City. These protocols will include, but are not limited to:
 - Prior to demolition, hazardous building materials shall be removed and appropriately disposed of in accordance with all applicable guidelines, laws, and ordinances.
 - The demolition of buildings containing asbestos requires that licensed asbestos abatement contractors are retained and the Bay Area Air Quality Management District (BAAQMD) is notified ten days prior to initiating construction and demolition activities.
 - The Cal-OSHA-specified method of compliance for demolition activities involving lead-based paint including required respiratory protection, protective clothing, housekeeping, hygiene facilities, medical surveillance, and training shall be required.
 - Any electrical transformers and fluorescent light ballasts that do not have labels stating that they do not contain PCBs, shall be treated as hazardous waste and are subject to all hazardous waste regulations.

Figure 5-5: Contaminated Sites



5.7 WATER QUALITY

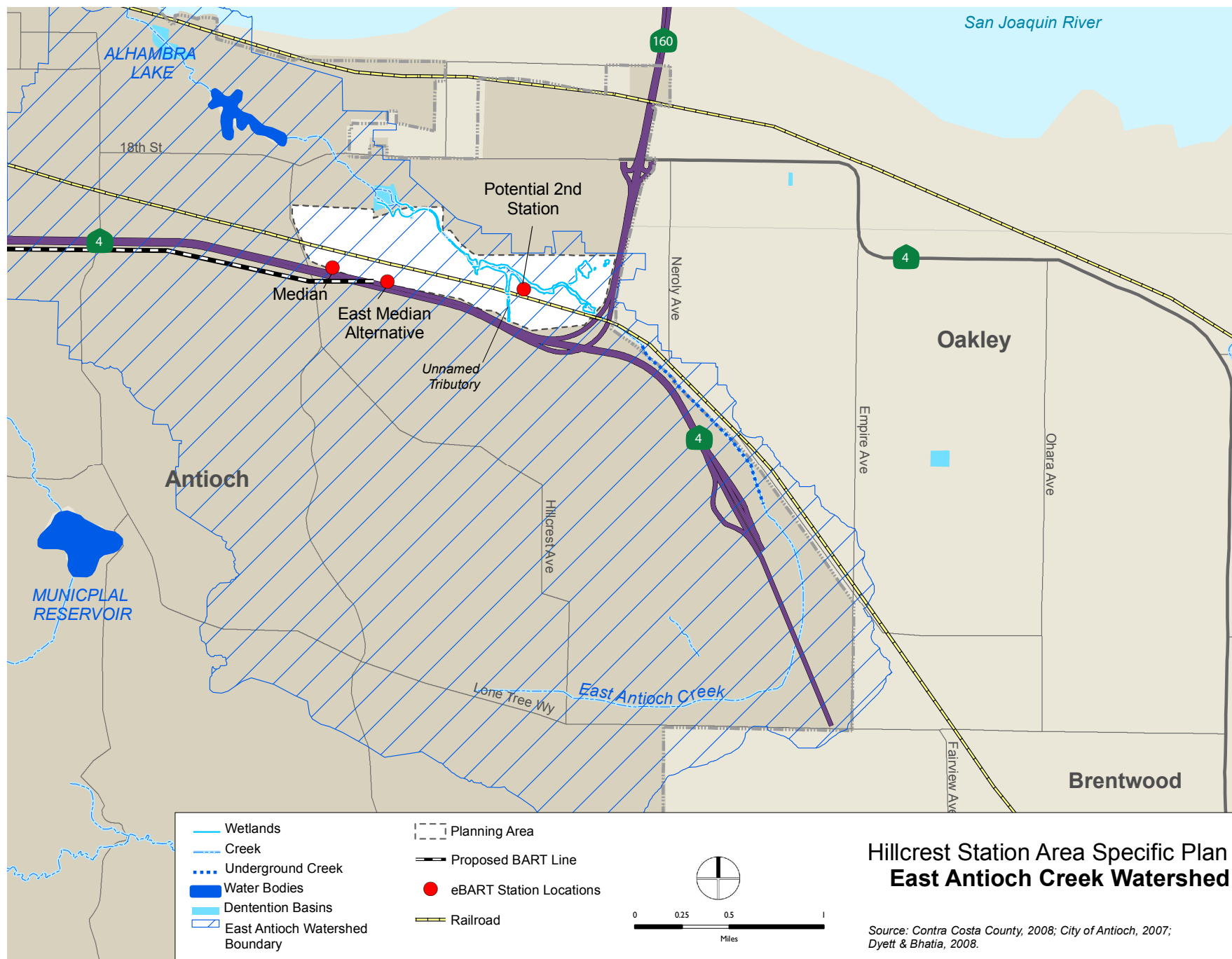
East Antioch Creek and surrounding wetlands functions as the primary hydrologic feature in the Hillcrest Station Area. The creek's watershed drains approximately 11 square miles through the Station Area to Alhambra Lake, and eventually to the Sacramento-San Joaquin River Delta, as shown in Figure 5-6, Watershed. The creek is critical to the natural and man-made stormwater management systems, as it has been improved with detention basins. Maintaining and improving stormwater and urban runoff quality before it enters surface waters or groundwater is essential to protecting public health, wildlife, and the overall environment. Water pollution can be reduced through effective stormwater management, construction practices, and appropriately designed development.

All project construction activities are required to comply with the City of Antioch's standard conditions of approval regarding grading, drainage, erosion and sedimentation control, and NPDES General Construction Permit requirements, in order to limit the amount of new pollution added to the river and groundwater. In addition, projects in the Station Area must comply with C.3 of the NPDES Municipal Stormwater Permit, which reduces the pollutant load in storm water discharges and manages runoff flows. Policies related to flood hazard mitigation and improving the stormwater management system in the Station Area are contained in Chapter 6, Utilities and Public Services. The following policies will ensure that stormwater runoff will not severely impact surface water or groundwater quality.

Water Quality Policies

- EH-45** Development projects in the Station Area shall comply with the requirements of Provision C.3 of the NPDES Municipal Stormwater Permit issued to the Contra Costa County Clean Water Program. As required by the C.3 Provisions, building permit applications must be accompanied by a Stormwater Control Plan, for review and approval by the City Engineer, which specifies the treatment measures and appropriate source control and site design features that will be incorporated into project design and construction to reduce the pollutant load in storm water discharges and manage runoff flows.
- EH-46** Design storm drainage and flood control structures to minimize erosion and creek sedimentation, and to preserve and enhance the wildlife habitat and vegetation of East Antioch Creek.

Figure 5-6: Watershed



5.8 NOISE AND VIBRATIONS

As in most urban areas, vehicular traffic along highways, particularly SR 4 and SR 160, is the principal noise source in the Hillcrest Station Area. Vehicular traffic along Hillcrest Avenue and Oakley Road contribute to the noise environment to a lesser degree. The Union Pacific Mococo Railroad right-of-way traverses the Planning Area on an east-west axis. While very few trains currently use this right-of-way, Union Pacific has stated their intent to increase usage to as many as forty trains per day.

As the Station Area is developed, new uses will be built in this noisy environment. Some of the uses, such as residential units, will be sensitive to increases in the noise environment. Other uses, such as mixed-use areas with restaurants and retail requiring delivery trucks, will contribute to the noise environment. Traffic volumes will continue to increase, the eBART project will be built, and Union Pacific has indicated that freight trains will begin regular service. The area will become significantly noisier and the trains will add a source of intermittent vibrations that may need to be mitigated. Figure 5-7 presents a map of the projected noise contours.

Mitigating disruptive and harmful noise levels is necessary to create a livable environment. The City has established exterior and interior noise standards; and there are federal standards related to vibration. Compliance with the noise standards involves avoiding the development of noise sensitive uses in proximity to the sources, and integrating noise attenuation components in building design to reduce interior noise levels. The intermittent noise from the train rumblings and crossing-horns may be very loud and disruptive. The City of Antioch will be working with Union Pacific to reduce the potential impacts, with the intent of providing a grade separation at Hillcrest Avenue, thereby removing a crossing-horn location. Residential uses are limited within 300 feet of the highways and the railroad in order to limit noise and air quality impacts, as established in the Plan Framework, Chapter 3. The following policies will further help to limit noise and vibration impacts in the Station Area.

NOISE AND VIBRATIONS POLICIES

Noise

EH-47 Require developers to comply with relevant noise insulation standards contained in Title 24 of the California Code of Regulations (Part 2, Appendix Chapter 12A).

EH-48 Require acoustical analysis performed by a licensed acoustical engineer to determine appropriate noise mitigations in order to meet the City's standards for projects as described below. Building permit applications shall demonstrate that noise mitigations are included in construction documents.

- Residential projects within:
 - 730 feet of the SR 4 centerline;
 - 310 feet of the SR 160 centerline;
 - 170 feet from the centerline of the Union Pacific Mococo Rail Line right-of-way; and,
 - 850 feet from the intersection of Hillcrest Avenue and the Union Pacific Mococo Rail Line (or the location(s) where freight trains sound horn).
- Institutional and Office projects within:
 - 340 feet of the SR 4 centerline;
 - 150 feet of the SR 160 centerline;
 - 80 feet from the centerline of the Union Pacific Mococo Rail Line right-of-way;
 - 400 feet from the intersection of Hillcrest Avenue and the Union Pacific Mococo Rail Line (or the location(s) where freight trains sound horn);
 - 30 feet of the eBART track centerline; and
 - 60 feet from the eBART at track crossovers (“frogs”).

EH-49 Where projects in the Hillcrest Station Area incorporate noise mitigations and still cannot achieve City standards for exterior noise levels, as determined by acoustical analysis by a licensed acoustical engineer, project sponsors may apply for an exception to City exterior noise standards.

- Such exception requests will be considered through a discretionary development entitlement process.
- Projects requesting exceptions to exterior noise standards should demonstrate that:
 - (1) all feasible noise mitigations have been incorporated to lower exterior noise levels as close as possible to City standards; and
 - (2) noise mitigations that lower interior noise levels below the City and state standard of 45 dB have been incorporated, to compensate for the high exterior noise levels which make outdoor activities uncomfortable.

EH-50 In new residential projects, provide noise buffers other than sound walls, such as vegetation, storage areas, or parking, and site planning and locating bedrooms away from noise sources.

EH-51 Work with Union Pacific to minimize noise issues related to freight rail by implementing a grade separation at Hillcrest Avenue, and establishing a quiet zone through the Station Area.

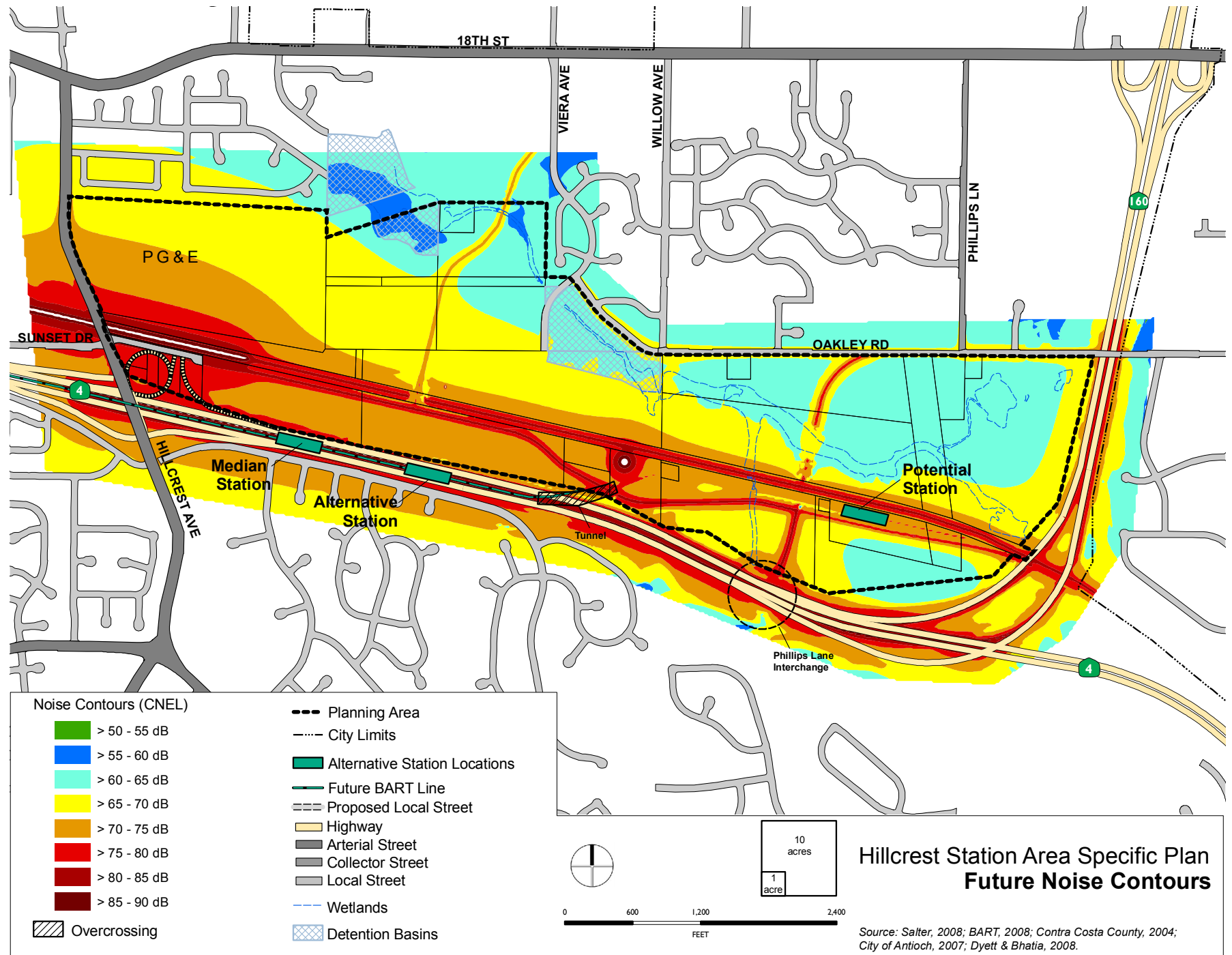
EH-52 Require developers to mitigate noise exposure to sensitive receptors from construction activities. Mitigation may include a combination of techniques that reduce noise generated at the source, increase the noise insulation at the receptor, or increase the noise attenuation as noise travels from the source to the receptor (e.g., through the incorporation of barriers).

Vibrations

EH-53 Require vibration velocity analysis to determine appropriate mitigations for proposed:

- Residential projects within 200 feet from the centerline of the Union Pacific Mococo Rail Line right-of-way;
- Institutional and Office projects within 120 feet from the centerline of the Union Pacific Mococo Rail Line right-of-way; and,
- High-sensitivity use projects (e.g. hospitals and medical labs) within 600 feet from the centerline of the Union Pacific Mococo Rail Line right-of-way.

Figure 5-7: Future Noise Contours



5.9 PIPELINES

Existing pipelines are shown in Figure 5-8. In the early 1900s, Chevron's predecessors built the Tidewater Associated (TAOC) and Old Valley (OVP) pipelines to transport heavy crude oil and Bunker C fuel oils from the oilfields in Kern County to its Richmond refinery located in Richmond, California. The pipelines were operated until the early 1970s when they were emptied, cleaned, and decommissioned. The pipelines are no longer active and the bulk of the pipe has already been removed. The OVP and TAOC pipelines were generally parallel to the southern edge of the railroad right-of-way.

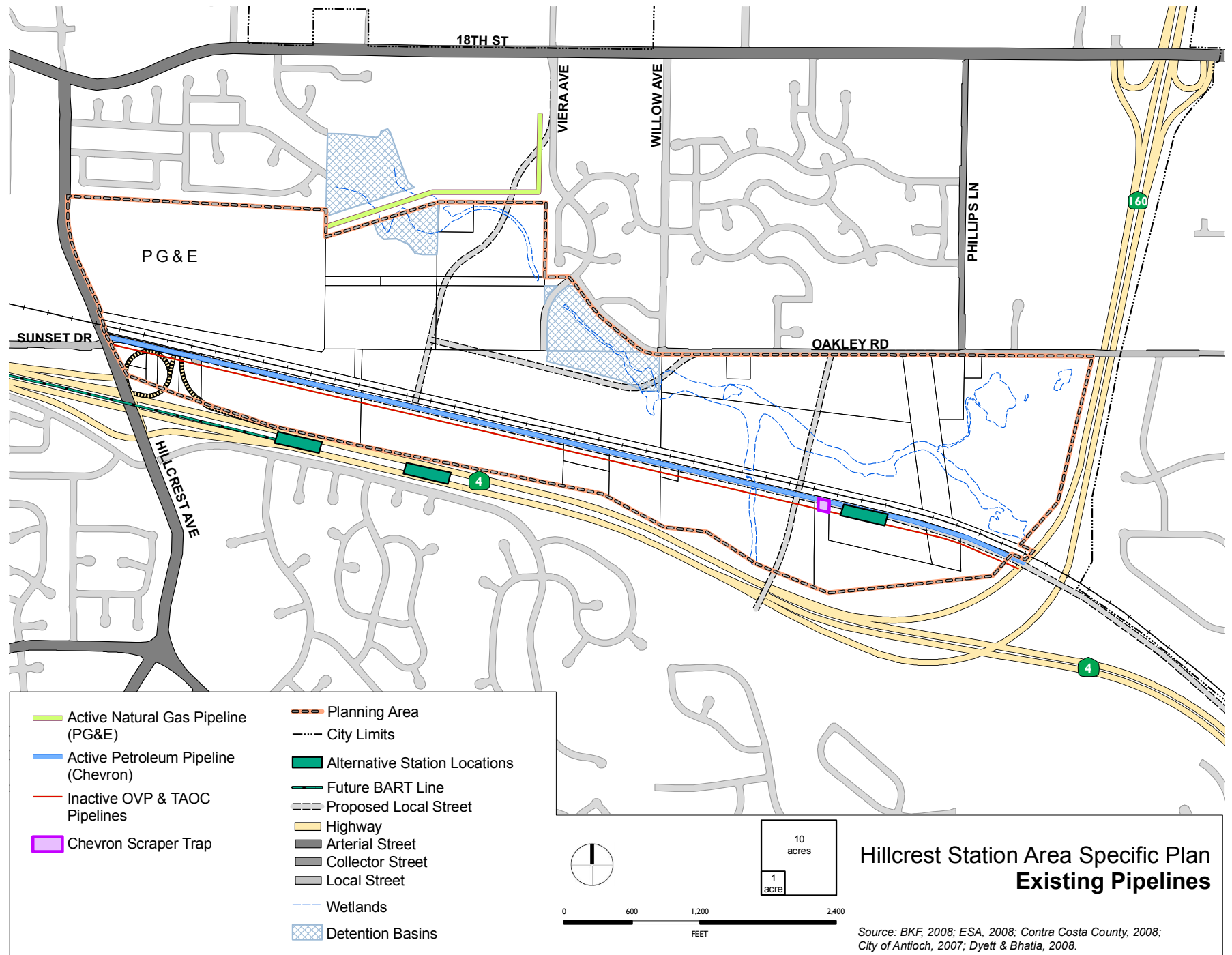
Chevron operates one active pipeline parallel with the southern edge of the Union Pacific railroad right-of-way. This 8-inch steel high pressure pipeline transports refined petroleum products. In addition, Chevron operates a scraper trap/block valve site on parcel APN: 052-052-008.

While there is a general recognition that high-pressure petroleum pipelines pose a hazard to people, property, and the environment, the extent of the danger is not well understood. Risk can be reduced and managed, but it cannot be eliminated. According to federal and state law, pipeline operators are required to comprehensively assess, identify, and address the safety of pipeline segments that are located in areas where the consequences of a pipeline failure could be significant. However, these requirements may be insufficient to protect life, property, and the environment from the effects of a pipeline incident. The following policies are intended to help delineate and reduce the potential hazards of building near an existing pipeline.

Pipelines Policies

- EH-54** Prior to the approval of development permits, require a disposition plan for all petroleum pipelines so that required mitigations (relocation, abandonment or protection) can be determined.
- EH-55** The City of Antioch and property owners shall work with Chevron to evaluate the risk factors related to the active high-pressure petroleum product pipelines, including product transported, operating pressure, age of pipeline, and depth of cover, and to provide adequate access to the oil pipelines in the Hillcrest Station Area. If it is determined that there is a significant risk to adjacent residential development, prepare a Risk Management Plan or comparable risk reduction action plan.

Figure 5-8: Existing Pipelines



Hillcrest Station Area Specific Plan Existing Pipelines

Source: BKF, 2008; ESA, 2008; Contra Costa County, 2008; City of Antioch, 2007; Dyett & Bhatia, 2008.

6

UTILITIES & PUBLIC SERVICES

Public utilities and community services will need to be expanded to support development in the Hillcrest Station Area. A strong framework of infrastructure, utilities, and amenities is critical to the development of the Area. This chapter describes the infrastructure needed to efficiently integrate new development with the services already provided by the City of Antioch. It establishes the policies and describes the improvement projects necessary for upgrading and expanding public facilities, including:

- Municipal utilities, such as storm drainage, sanitary sewer, potable water, and waste disposal;
- Community services provided by public agencies, such as schools, public safety facilities, and community centers.

This chapter includes policies to reduce the demand placed on utility systems, thereby promoting environmental and economic sustainability. Private utilities, such as electrical transmission and distribution, are also discussed.

Circulation improvements, parks and trail improvements, and public space design policies are defined in Chapter 3, Plan Framework, and Chapter 4, Urban Design.

Utilities and Public Services Principles

- Meet or exceed City standards by providing high-quality, efficient public utilities services and facilities to serve the Hillcrest Station Area.
- Encourage sustainable building practices, operations, and maintenance.
- Partner with private utility providers to limit disruptions to existing systems, and ensure comprehensive utility service for all future development.
- Partner with the Antioch Unified School District to ensure that elementary, junior, and high school facilities are available to serve Station Area residents without causing overcrowding in existing schools.
- Ensure that adequate emergency services facilities and staffing are in place to serve new residents and employees.
- Design new development and public spaces with consideration for public safety.

6.1 PUBLIC UTILITIES

Flooding and Stormwater Management

Flood Hazard Zones

Regional flooding hazards, as evaluated by the Federal Emergency Management Agency (FEMA), are presented in community Flood Insurance Rate Maps (FIRMs) as part of the flood hazard mapping program. The FIRMS indicate that portions of the Station Area are subject to inundation during a 100-year flood event (a storm with a likelihood of occurring every 100 years). The 100-year flood hazard zone is generally located along East Antioch Creek, the delineated wetland complex, and the detention basins. There are also small areas near the detention basins that have been mapped as part of the 500-year flood hazard zone. Figure 6-1 shows Flood Hazard Zones in the Station Area.

The policies of the Antioch General Plan and Municipal Code limit development within the 100-year flood hazard zones, minimize encroachment along floodways, and establish development standards required for permitted uses in flood hazard areas. However, it is anticipated that some areas of the 100-year flood hazard zone, north of East Antioch Creek and east of Phillips Lane, will be graded and filled.

Detention Basins

Drainage facilities in the Planning Area are under the jurisdiction of the City of Antioch and Contra Costa County Flood Control and Water Conservation District (FCD). The FCD is responsible for Drainage Area 56 which includes the Oakley and Trembath Detention Basins, as well as the Lindsey Detention Basin located southeast of the Planning Area along East Antioch Creek. Generally, the FCD purchases the land needed for detention basins, makes the improvements, and then works with the City to operate and manage the basins.

The Oakley and Trembath detention basins provide flood protection for the portions of the City of Antioch within the East Antioch Creek Watershed, including the Station Area. Since 1982, the FCD has planned to expand Oakley Basin and Trembath Basin to accommodate increased storm flows from new development, increase flood storage, and control downstream flooding. The first phase of the Basin Expansion Project was constructed in 1986. Since then, FCD has secured the funding necessary for the next phase through Drainage Area 56 development fees. The next phase of expansion improvements are expected to be implemented in 2010-2011.

Oakley Basin was built to serve development in the City of Oakley and has a storage capacity of 50 acre-feet. The City of Antioch owns a portion of the existing basin. The FCD has plans to expand the basin to approximately 70 acre-feet storage capacity, which would place the dam at Oakley Basin under the jurisdiction of the California Department of Water Resources Division of Safety of Dams (DSOD). The dam would be retrofitted to meet current state standards.

The storage capacity of Trembath Basin is designed for 100 acre-feet. The district plans to use the soil excavated from the Oakley Basin to build a dam at the western edge of Trembath Basin. The 14-foot high embankment dam would better control flow released to Lake Alhambra. With the improvements in place, the two basins will have a combined storage capacity to accommodate the 100-year flood event. Funding for these drainage improvements has been secured. FCD plans to acquire temporary or permanent rights-of-way to accommodate elevated floodwaters during the final design process.

The planned improvements to the basins were designed to accommodate runoff from the Station Area. However, the land use assumptions that were used to plan these improvements must be compared to the land uses and densities proposed in the Specific Plan. Additional detention may be required, which may be accommodated by the additional expansion of the existing basins and/or implementation of smaller, auxiliary basins within future development.

Figure 6-1: Flood Hazard Zones

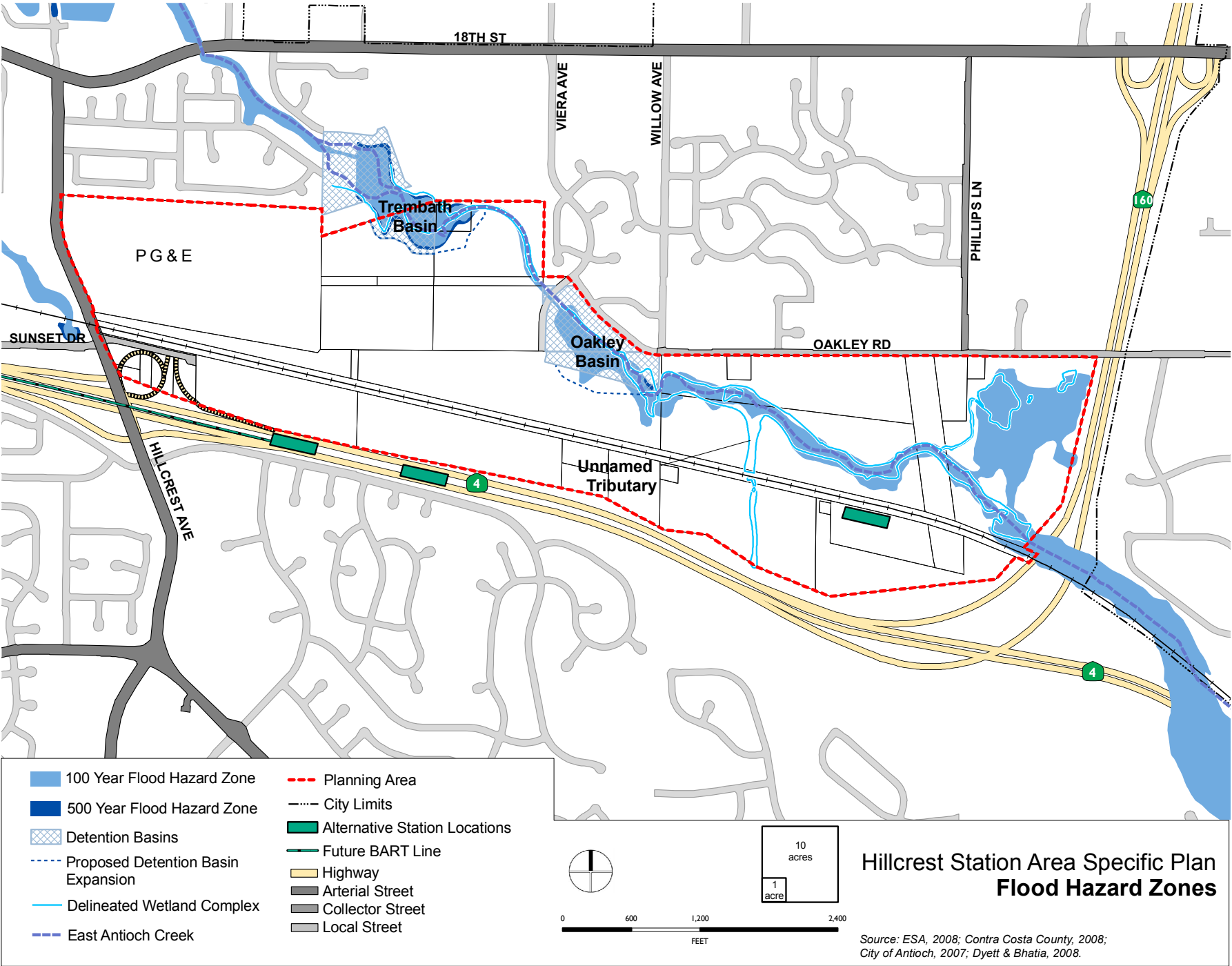
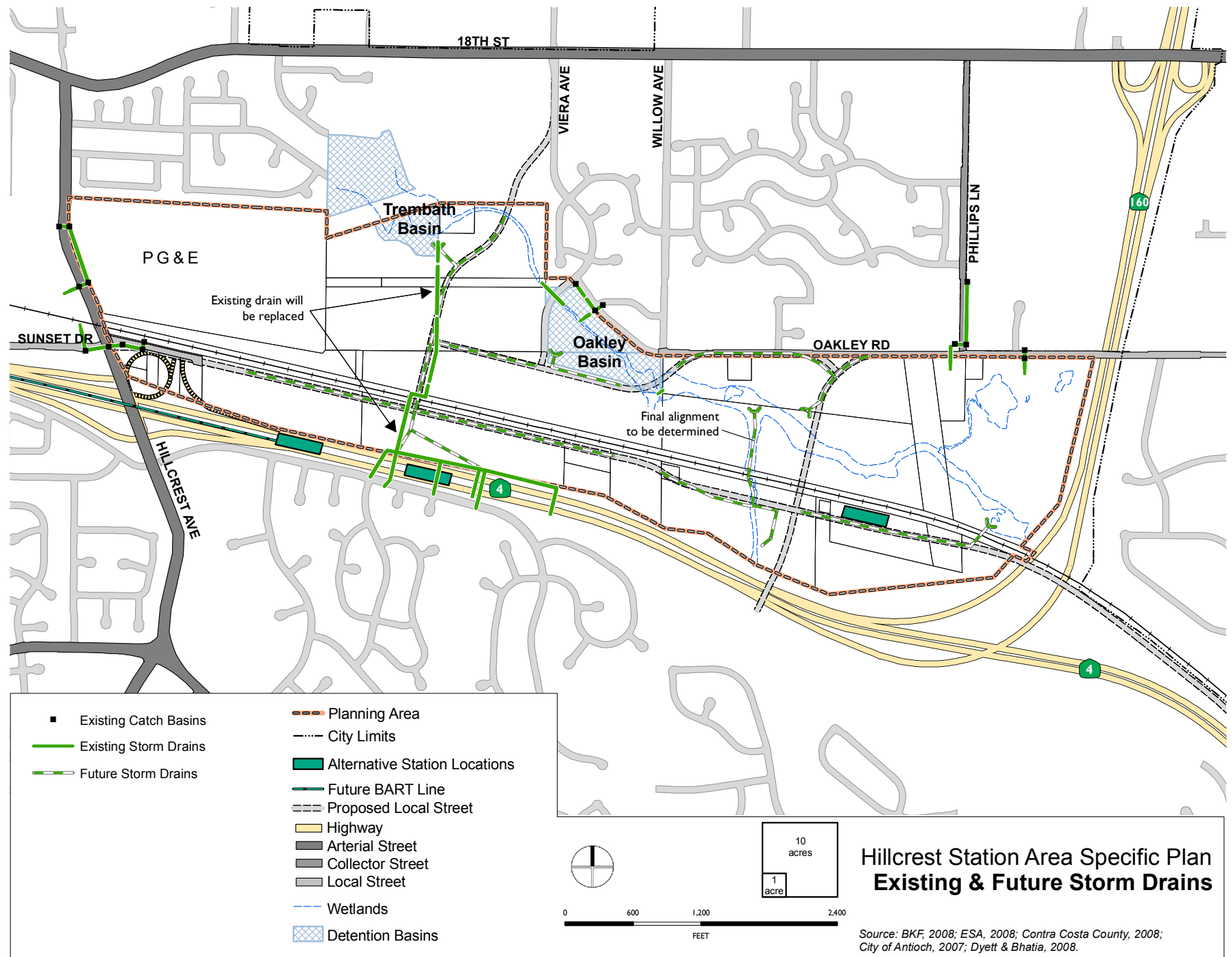


Figure 6-2: Existing and Future Storm Drains



Storm Drainage

The City of Antioch maintains the necessary storm drainage systems that handle stormwater runoff. Drainage infrastructure is financed through a variable drainage area flood control improvement fee on new development. At this time, very little storm drainage infrastructure is in place in the Station Area. A large storm drain line carries collected runoff from south of SR 4 to Trembath Basin. Catch basins are located near the intersections of Sunset Drive and Hillcrest Avenue, Phillips Lane and Oakley Road, and Viera Avenue and Brazil Drive.

Stormwater runoff is expected to significantly increase as the Station Area develops. Many areas that are now vacant soil will be covered with buildings and paving. New trunk mains will be located along the backbone street alignments and discharged into East Antioch Creek, as illustrated in Figure 6-2, Existing and Future Storm Drains. The following Specific Plan policies require a Drainage and Flood Management Master Plan for the Hillcrest Station Area. Policies related to stormwater quality are contained in Chapter 5, Environmental Protection and Hazard Mitigation.

Stormwater Management Policies

- UT-1** Prior to approval of any land subdivisions or development projects within the Hillcrest Station Area, a Drainage and Flood Management Master Plan shall be prepared in collaboration with Contra Costa County Flood Control and Water Conservation District, the City of Antioch Public Works Department, the City of Antioch Planning Department, and the City of Antioch Parks and Recreation Department. The Plan shall:
 - Document the overall drainage and flood control concept to be employed within the Hillcrest Station Area to ensure adequate and safe storm flows and to minimize flooding;
 - Address funding and responsibility for long-term maintenance of the flood control improvements;
 - Demonstrate how the natural hydrologic functions of the site are integrated with the storm drainage system and the overall site design, to the maximum extent feasible; and,
 - Identify how improvements can be phased for each development area.
- UT-2** Continue the Contra Costa County Flood Control and Water Conservation District Drainage Area Fee Program to fund flood control improvements in the Hillcrest Station Area.
- UT-3** Ensure that new development provides needed drainage and flood protection improvements in proportion to a project's impacts, to assure an equitable distribution of costs to construct and maintain drainage infrastructure. Construct new trunk mains along the backbone street alignments and provide connections into East Antioch Creek, as shown conceptually in Figure 6-2, Existing and Future Storm Drains.
- UT-4** Minimize total impervious areas by allowing narrow road sections and shared driveways, and using pervious materials on driveways, gutters, and off-street parking areas, where appropriate.

Potable Water

Water Supply and Demand

Potable water supply for the Hillcrest Station Area is provided by the City of Antioch through its municipal water system. The City currently purchases surface water primarily from the San Joaquin River and the Delta from Contra Costa Water District (CCWD). The Contra Costa Water District has a water supply contract through 2045 with the U.S. Bureau of Reclamation for water from the Central Valley Project, and is prepared to sell the City all its projected water needs through year 2028, unless constrained by drought conditions. The total available water supply for the City of Antioch is projected to be 49,140 acre feet per year in 2025. This is almost double the projected water demand for the whole City, as analyzed in the 2006 Urban Water Management Plan. Thus the City will have an adequate water supply during normal, single dry years, and multiple dry years. A Water Supply Assessment for the Hillcrest Station Area will be completed to confirm this. However, the anticipated water demand from the Station Area will not cause the City's total demand to exceed the total available supply. Nor will it require that the water treatment plant capacity be increased more than the existing plans.

Water Treatment and Distribution System

The City of Antioch operates a water treatment, storage, and distribution system which serves the entire City. Raw water is stored in the Municipal Reservoir (735 acre foot capacity), located adjacent to the Lone Tree Golf Course, and then treated at the Antioch Water Treatment Plant (WTP), located on Putnam Street. The WTP currently has a maximum capacity of 38 mgd and there is room to expand it to 48 mgd; and thus has adequate capacity to serve new development in the Station Area. The Antioch Water Treatment Plant (WTP) produces high-quality drinking water that meets all state and federal primary and secondary standards.

After treatment, water is transmitted through a distribution system of 4 to 30 inch pipelines throughout the City. The majority of the Station Area is in

Pressure Zone II, though the southeastern portion of the site is in Pressure Zone III East. Due to the limited development in the Station Area, few water mains have been installed. The existing lines include Oakley Road (12-inch diameter), Honeynut Street (8-inch diameter), Willow Avenue (8- to 16-inch diameter), Willow Avenue/Oakley Road/Viera Avenue (16-inch diameter), Hillcrest Avenue (20-inch diameter), and Sunset Drive (8-inch diameter). In addition, there are a few pipelines (8 to 16-inch diameters) which are not built within the road improvements, but serve the existing housing units near the south end of Willow Avenue.

Water lines will be installed as required to serve new development in the Hillcrest Station Area as conceptually shown in Figure 6-3, Existing and Future Water System. The 16-inch waterline that extends from Willow Avenue/Oakley Road/Viera Avenue will be relocated. An additional 16-inch line will be built to connect this line to the one in Hillcrest Avenue. Final sizing of all water lines will be based on updated demand models that reflect the proposed development and corresponding fire and domestic water demands.

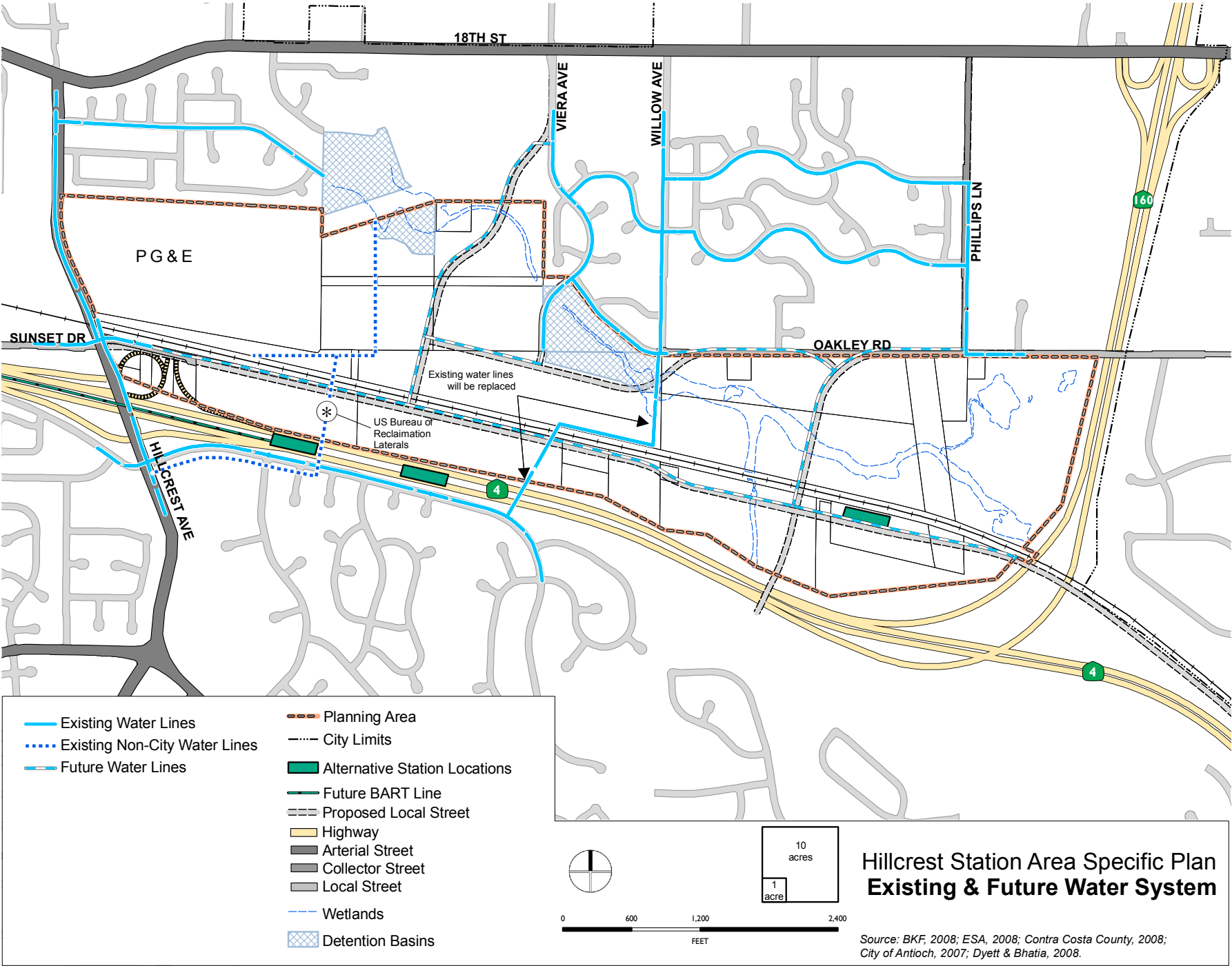
Potable Water Policies

- UT-5** Expand the water distribution system such that it is adequate to serve new development in the Hillcrest Station Area, as conceptually illustrated in Figure 6-3, Existing and Future Water System.
- UT-6** Work with the Contra Costa County Fire Protection District to determine required fire flow and the need for water pressure boosting systems.

Water Conservation Policies

- UT-7** To reduce water consumption, require the installation of:
 - Low-flow showerheads, faucets, and toilets;
 - Low-flow irrigation systems in public rights-of-way, public parks, and recreation areas; and,
 - Drought-tolerant plant palettes in all new streetscape areas.
- UT-8** To reduce water consumption, recommend the installation of:
 - Low-flow irrigation systems in private landscaped areas; and
 - Drought-tolerant plant palettes in private landscaped areas.

Figure 6-3: Existing and Future Water System



Sanitary Sewer and Wastewater Management

Wastewater Collection System

The City is responsible for collection of wastewater and maintenance of local sanitary sewer lines. The main outfall sewer line serving the Station Area ends at the intersection of Oakley Avenue and Willow Avenue. This line serves the northerly and central sections of the City and flows to the Fulton Shipyard (Antioch) pump station. There is an 8-inch wastewater line located in Sunset Drive at the southwesterly corner of the project site and southerly of the Union Pacific Railroad tracks. At the easterly edge of the project site, there is a 33-inch wastewater line located adjacent to the Highway 4 right-of-way. The wastewater line serves the southern part of the City and the line flows from the southeast, crosses the Union Pacific Railroad right-of-way, continues along SR 4, crosses Oakley Road and continues north to the Bridgehead pump station. The 2003 Wastewater Collection System Master Plan recommended that 3,567 feet of this pipeline starting at the Union Pacific Railroad north to East 18th Street be upgraded to help serve development in the southern part of the City. New development within the Hillcrest Station Area will have new public wastewater mains constructed in the public streets that connect to the existing system, as conceptually illustrated in Figure 6-4, Existing and Future Sewer System.

Treatment and Discharge

Delta Diablo Sanitation District (DDSD) provides sewer treatment service to Antioch, as well as to Pittsburg and Bay Point. The Delta Diablo Sanitation District is also responsible for conveyance of wastewater from City pipelines to interceptor sewers, which convey the sewage to the Bridgehead and Fulton Shipyard (Antioch) pump stations. The wastewater is treated at the DDSD Water Pollution Control Facility (WPCF), located near the border of Antioch and Pittsburg.

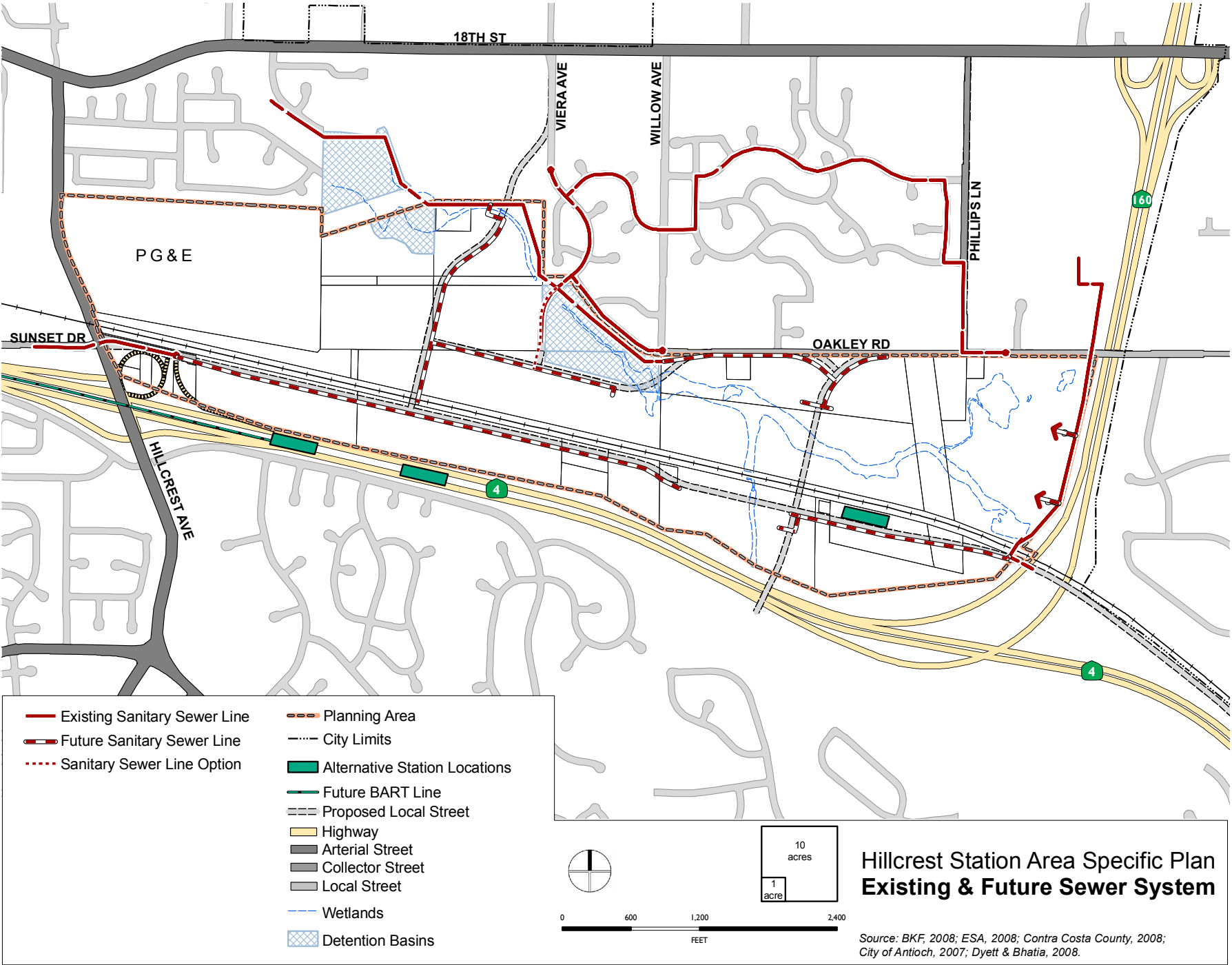
DDSD is currently planning WPCF improvements to increase the capacity from 16.5 mgd to approximately 18.0 mgd. New capacity should be operational in March 2010. Capacity improvements are constructed gradually as demand increases, based on the District's master plan. In 2020, DDSD anticipates increasing capacity to 22.5 mgd, and after 2030, capacity is expected to be 24.0 mgd. (Delta Diablo Sanitation District, 2007) Revenues for expansion projects come from Capital Facility Capacity Charges. The fees were evaluated in fiscal year 2005-2006, and new fees were established in 2007.

Based on per capita projections and the water conservation programs in place in 2003, it is estimated that average annual flows will increase to 24.0 mgd by 2025. (City of Antioch, 2006) This amount is consistent with the planned WPCF capacity improvements to handle 24.0 mgd by 2030. The full capacity may need to be provided sooner, depending on the actual timing of new growth. The Antioch General Plan performance standards require that prior to approval of discretionary development projects, the City must receive written verification from the DDSD that the proposed project will not cause the rated capacity of treatment facilities to be exceeded during normal or peak flows.

Wastewater Management Policies

- UT-9** Expand the wastewater collection system such that it is adequate to serve new development in the Hillcrest Station Area, as conceptually illustrated in Figure 6-4, Existing and Future Sewer System. The 2003 Wastewater Collection System Master Plan identifies the sewer main on the eastern edge of the Planning Area between the Union Pacific Railroad tracks and East 18th as needing substantial additional capacity.
- UT-10** Amend sewer fees and/or other financing mechanisms if necessary such that Hillcrest Station Area project sponsors pay their fair share of the costs for sewer main improvements.

Figure 6-4: Existing and Future Sewer System



Solid Waste Management

Pleasant Hill Bayshore Disposal currently provides solid waste collection, disposal, recycling, and yard waste services to the City through a franchise agreement. Solid waste and recyclables from Antioch are taken to the Contra Costa Transfer and Recovery Station located in Martinez, where recyclables are separated out and stored before shipment to recycling markets. Solid waste is transferred from the transfer station to the Keller Canyon Landfill in Pittsburg. The operators of the landfill estimate its life span to be beyond 2060, even accounting for expected growth throughout Contra Costa County. Household hazardous waste is collected by the Delta Diablo Sanitation District.

Implementation of the following policies will help ensure the efficient use of resources, reduce greenhouse gas emissions, and reduce the amount of solid waste that must be landfilled.

Solid Waste Management Policies

- UT-11** All new development shall participate in all solid waste source reduction and diversion programs in effect at the time of the issuance of building permits.
- UT-12** All projects in the Hillcrest Station Area shall comply with the City's Construction and Demolition Debris recycling regulations by preparing a Waste Management Plan and diverting at least 50 percent of all construction and demolition debris.
- UT-13** Restaurants should use on-site composting systems if a food waste recycling program is not available.
- UT-14** Trees, stumps, vegetation, and soils associated with excavation and land clearing shall be composted, recycled, or reused, except when soils may be contaminated with hazardous materials, or where other conditions make this infeasible as determined by the City.

6.2 NON-MUNICIPAL UTILITIES

Numerous utility-owned parcels and service corridor easements are located within the Hillcrest Station Area, including water lines, natural gas and oil transport pipes, and electricity transmission and distribution lines and towers.

Water Pipelines

In addition to the municipal water system pipelines, there are three water pipelines that the Contra Costa Water District maintains on behalf of the United States Bureau of Reclamation within the Planning Area. Lateral 9.1 crosses from north to south in the western portion of the Station Area. Lateral 9.1-1 connects to lateral 9.1 along the southern edge of the PG&E substation parcel. Lateral 7.3 is parallel with Oakley Road and Phillips Lane at the northeastern edge of the Station Area. Any impacts to these laterals will require NEPA (National Environmental Policy Act) review and Reclamation approval. See Figure 6-3.

Natural Gas and Electricity

Pacific Gas & Electric provides electricity and natural gas to the Station Area. PG&E does not foresee any issues meeting the gas and electricity needs for the development area.

In addition to the existing electrical substation in the northwest quadrant of the Station Area, PG&E electrical transmission and distribution lines crisscross the area as shown in Figure 6-5, Existing and Relocated Electrical Lines. Three sets of large towers (between 80 and 100 feet tall) support 230 kV lines; two sets run approximately north-south at both the east and west ends of the Station Area; and a third set runs east-west from the substation at the northern edge of the Station Area. PG&E maintains a 175-foot easement on parcel APN: 052-030018 for the western line. PG&E owns the 175-foot right-of-way parcel for the east-west line. PG&E also owns a 200-foot wide parcel for the eastern set of lines and towers. This

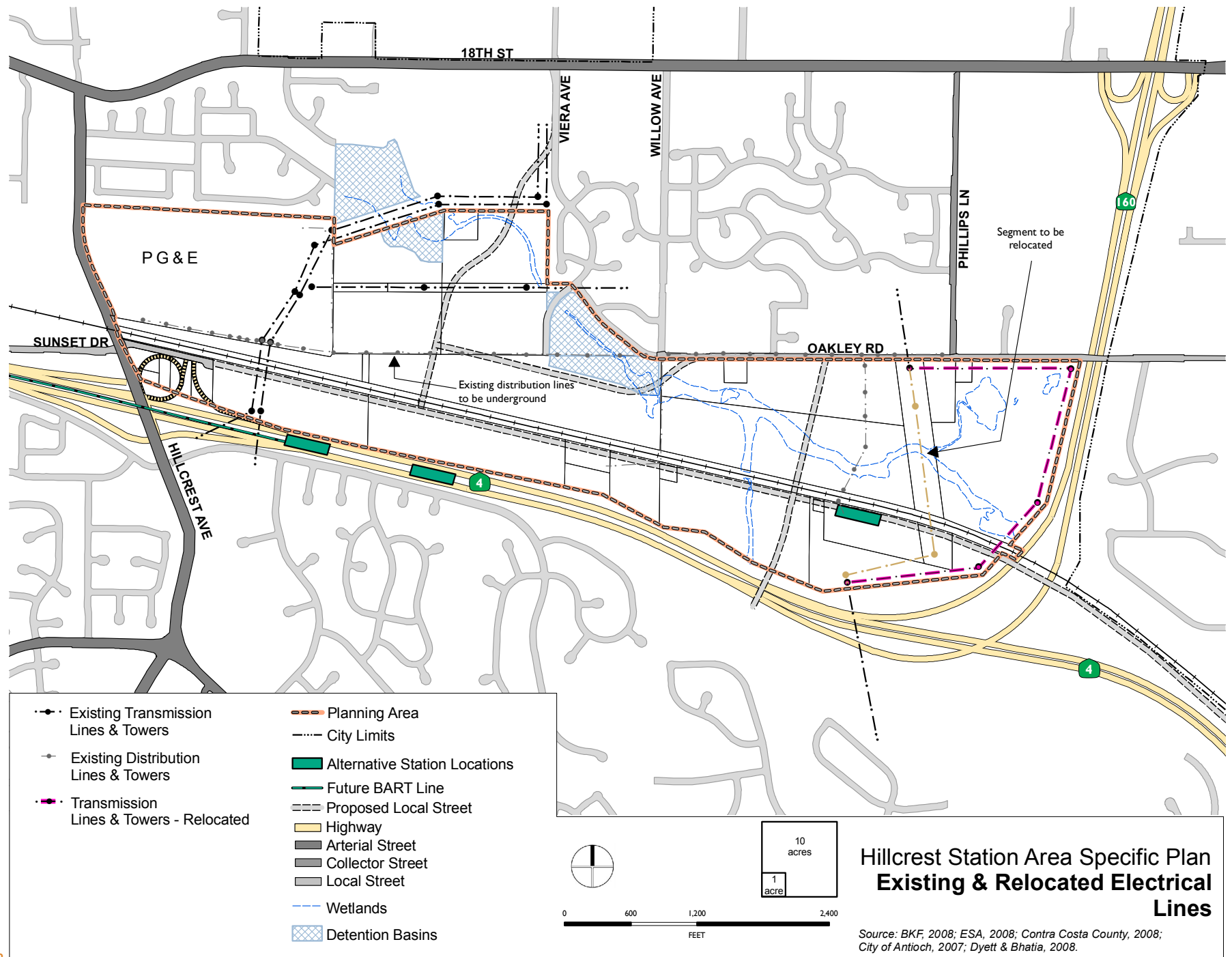
right-of-way has been planned for an additional line in the future. This set of lines may be relocated along the SR 4/SR 160 right-of-way to allow more cohesive development opportunities in the future, as conceptually illustrated in Figure 6-5.

Distribution lines, typically 12 and 21 kV, extend east-west near Oakley Road, across Oakley Detention Basin to the substation. Another set of distribution lines extend north-south from Oakley Road to the PDQ Products property. It is the City's policy to underground utility lines where feasible. PG&E also owns two gas distribution pipelines that run from the Hillcrest Substation along the northwestern border of the Station Area under the electricity transmission towers and line.

Telecommunications

The City of Antioch's Economic Development goals and strategies recognize the importance of telecommunications infrastructure as part of a positive business climate and high quality of life. The General Plan policies require the provision of fiber optic networks and other advanced telecommunications in new employment-generating developments, such as the Hillcrest Station Area.

Figure 6-5: Existing and Relocated Electrical Lines



Non-Municipal Utilities Policies

- UT-15** Develop a comprehensive map showing all existing service corridor and utility easements to ensure proper inter-agency coordination prior to issuing any grading permits. Maps should show the location and dimensions of each pipeline within the easement or right-of-way. Coordinate with:
- Chevron to map all active and abandoned petroleum product pipelines;
 - PG&E to map all active natural gas pipelines;
 - City of Antioch Public Works Department to map all stormwater pipelines;
 - Delta Diablo Sanitation District to map all sewer pipelines; and,
 - Contra Costa Water District to map all water pipelines.
- UT-16** Work with Contra Costa Water District to provide appropriate levels of environmental review, if the U.S. Bureau of Reclamation water laterals will be impacted by proposed development.
- UT-17** Work with PG&E to minimize impacts on the natural gas pipelines in and near the Hillcrest Station Area.
- UT-18** Coordinate with PG&E to relocate the electricity transmission towers and power lines currently located in the eastern portion of the project site to the eastern edge of the Hillcrest Station Area along SR 4/SR 160, to the extent feasible.
- UT-19** Coordinate with PG&E to minimize the impact of the electrical transmission towers and power lines on new development in the western portion of the Station Area.

6.3 PUBLIC SERVICES

Community services and amenities are critical to public safety and the overall quality of life for the residents and employees of the Hillcrest Station Area and the City of Antioch. Facilities for emergency services affect livability and safety. Increasing the population and density of development in the Hillcrest Station Area will likely increase the demand for emergency services. In addition, new residents and employees will create new demand for community facilities such as day care, libraries, and community centers. Securing construction and operational funds for new public facilities will be challenging, and will require commitment, leadership, and perseverance from City officials, stakeholders, and residents. Existing and proposed public services are located on Figure 6-6.

Fire Protection

The Contra Costa County Fire Protection District (CCCYPD) provides fire and emergency services to residents of the City of Antioch and adjacent unincorporated areas, including fire fighting and rescue, fire prevention and training, and emergency medical care. The CCCYPD is the first responder providing supplemental basic life support (BLS) and advanced life support (ALS). Transportation is provided by Emergency Medical Response (AMR), a private ambulance service contracted by the CCCYPD. The District's current ISO rating is Class 3.

The adopted City standard for fire response is a maximum five-minute response time for 80 percent of emergency fire, medical, and hazardous materials calls on a citywide response area basis. Based on an estimated 30 mile per hour travel speed, the five-minute response time roughly correlates with a 1.5-mile service radius from each station. At this time, there are no fire stations that are able to provide service to the Station Area within the adopted response time standard.

In order for CCCYPD to meet the City standard for service in the Station Area, either significant access and circulation improvements would need to be built and existing fire facilities, equipment, and staffing would have to be upgraded; or a new station would need to be built, in or near the Hillcrest Station Area. CCCYPD will need to conduct an analysis to determine their precise needs to adequately serve the Station Area.

Fire Protection Policies

- UT-20** At the time of any development application, subdivision, or master plan submittal, inform the CCC Fire Protection District, and involve them in the development review process. Prior to approval of any discretionary development project in the area, require written verification from the CCC Fire Protection District that a five minute response time (including three minute running time) can be maintained for 80 percent of emergency fire, medical, and hazardous materials calls on a citywide response area basis.
- UT-21** Project sponsors are required to submit a minimum of three (3) copies of a site plan for each phase of development so that Contra Costa County Fire Protection District is able to determine the placement of fire hydrants, required fire flow, and review of access in order to ensure compliance with minimum requirements as set forth in the California Fire Code.
- UT-22** The City and project sponsors in the Planning Area shall work with the Contra Costa County Fire Protection District to provide a 1-acre building site at a location subject to approval by the Contra Costa County Fire Protection District.
- UT-23** Fire access roadways and fire hydrants shall be installed and in service prior to construction.
- UT-24** Traffic signals, which are installed or modified as part of this Specific Plan, shall have preemption devices (Opticom) installed.

Police Services

The Antioch Police Department (APD) provides crime prevention and law enforcement services within the City's boundaries. In addition to city police and the California Highway Patrol (CHP), BART has a police department which provides the full range of police services for their transit facilities.

Operating from a central station in Rivertown, the APD maintains a combination of professional sworn officers and non-sworn positions, along with volunteer positions. APD currently meets the current City standard for police services, which is a minimum of 1.2 and a maximum of 1.5 officers per 1,000 residents. The APD also meets the City's objective to provide average response times to emergency calls of between seven (7) and eight (8) minutes from the time the call is received to the time an officer arrives on scene.

To maintain current levels of service, staffing and equipment will need to be increased as the City's population grows. To maintain the City's minimum standard, approximately six new officers will be needed at buildout of the Hillcrest Station Area.

Police Services Policies

- UT-25** Ensure that the Antioch Police Department has adequate police staff and equipment to serve the new development in the Hillcrest Station Area.
- UT-26** As part of new development applications, require a fiscal impacts analysis related to police services. The analysis must either demonstrate that total estimated tax revenues to the General Fund will pay for the total estimated cost of police services, or propose additional funding sources for ongoing police services to the Hillcrest Station Area.
- UT-27** Coordinate with the Antioch Police Department on project site design to increase public safety. Consider lighting and minimizing hiding spots in building and street design.

Schools

Public education for students in the Hillcrest Station Area will be provided by the Antioch Unified School District (AUSD). Students living in the Station Area are likely to attend the following schools:

- Elementary and Middle School: Orchard Park School
- High School:
 - Deer Valley High School
 - Dozier-Libbey Medical High School
 - Delta Academy for Performing Arts

Based on student generation rates used by AUSD to project student enrollment, projected housing development in the Station Area would generate students as shown in Table 6-1:

TABLE 6-1: STUDENT ENROLLMENT PROJECTIONS (2035)

SCHOOL TYPE	STUDENTS
Elementary	250
Middle	113
High	200

Source: Antioch Unified School District; Dyett and Bhatia, 2008

AUSD anticipates that elementary schools will be at 101% of capacity without any Station Area development. It is likely that 250 new elementary school children from the Station Area would exacerbate the problem and cause overcrowding. This problem is compounded by limited access to other elementary schools south of the Station Area. It is foreseeable that Orchard Park School will need to be expanded or an additional elementary school will be needed to serve northeast Antioch and northwest Oakley. AUSD currently has no plans to expand any existing schools or build new ones; however, the AUSD Facilities Master Plan is currently

being updated. Existing middle and high school facilities are projected to be adequate to serve anticipated need.

Existing General Plan policies, City regulations, and School District policies and fees require that project applicants pay all legally established fees or participate in land-based financing districts for school facilities.

The General Plan policies also highlight the need for higher education facilities in the City of Antioch. Certain higher education uses, such as public and private university satellite campuses and trade schools, often locate near large employment centers in traditional office buildings. The Hillcrest Station Area, where students can conveniently use the eBART and bus transit systems, provides a good location for this type of educational facility.

Schools Policies

- UT-28** Require new development to pay all legally established fees or participate in land-based financing districts established by local school districts for the acquisition and development of school sites with adequate, permanent classroom space, as required by the local school district.
- UT-29** Prior to approval of any development projects or subdivisions that include residential units, the City and project applicants shall work with the Antioch Unified School District to identify any additional elementary school facilities needed to serve students from the Planning Area. If it is determined that students from the project or subdivision will cause the capacity of the elementary school serving the Hillcrest Station Area to be exceeded, the City and the project sponsor shall work with AUSD to provide the additional required facilities prior to occupancy of the residential units.
- UT-30** Promote the recruitment of a public or private university satellite campus or trade school to the Hillcrest Station Area.

Community Facilities

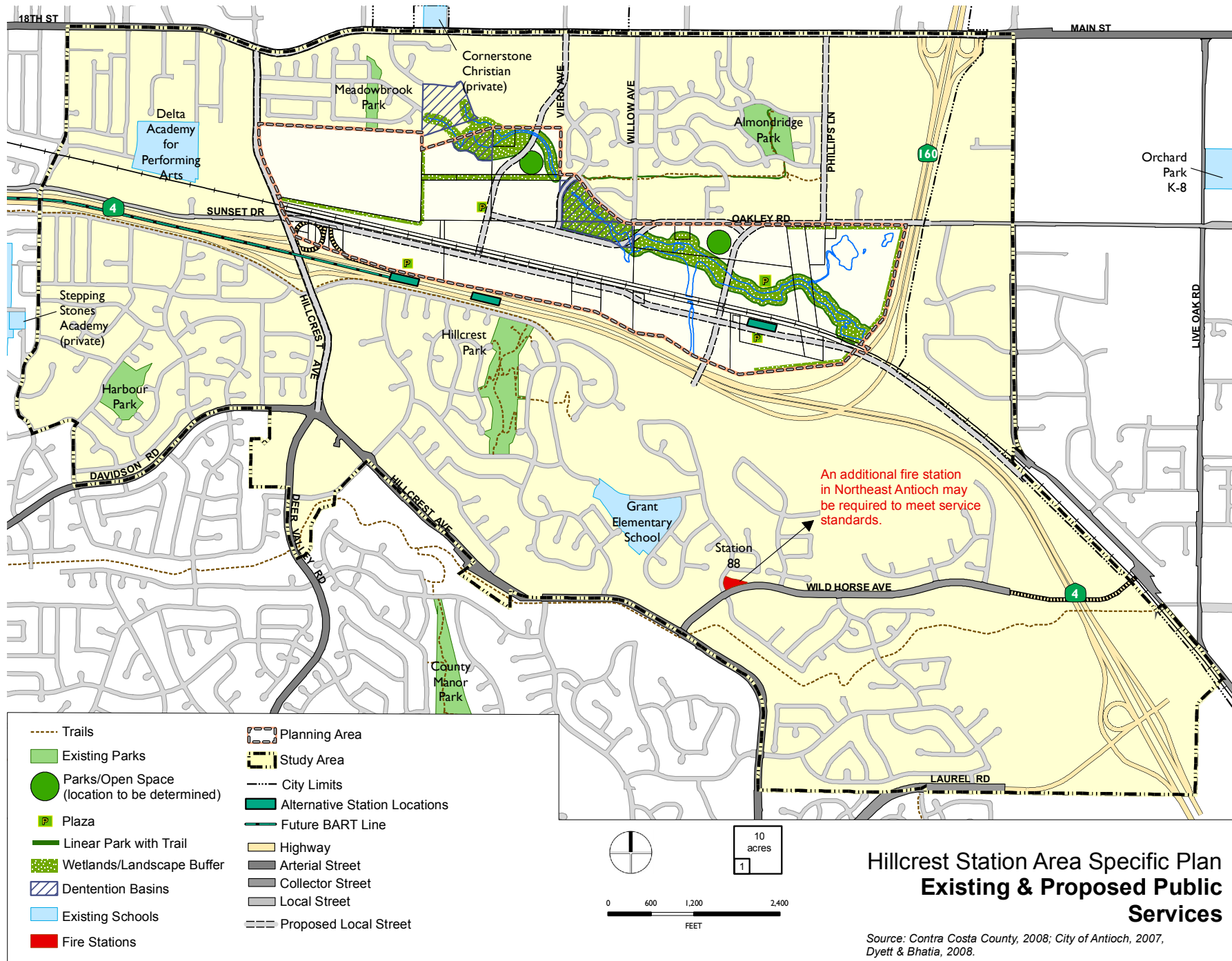
Antioch defines community facilities as buildings needed to support daily operations of the City, as well as other buildings designed for community meetings, indoor recreational and instructional programs, and social activities. Community centers can include space for day care, youth and teen activities, social services, libraries, and senior activities. These types of facilities contribute to neighborhood vitality, support diversity, and strengthen community relationships. The adopted City standard is to maintain a minimum of 750 square feet (sf) of community center space per 1,000 residents.

Childcare is a critical component of today's economy. Childcare services located near employment centers and transit provide important benefits for working families by allowing parents to use transit to commute, and decreasing traffic congestion.

Community Facilities Policies

- UT-31** Provide adequate community center space for new residents, either in development projects or through an in-lieu fee.
- Community center space must serve all the residents of the City, and be programmed with activities that meet the unmet needs of the Antioch community.
 - Exempt ground floor public community center space from floor area ratio (FAR) limits in mixed-use development projects.
- UT-32** Exempt the floor area devoted to day care and childcare from floor area ratio (FAR) limits in development projects.

Figure 6-6: Existing and Proposed Public Services



7

IMPLEMENTATION

This chapter provides the implementation plan for the Hillcrest Station Area, detailing how development will occur in phases over time, coordinated with the installation of required infrastructure. Overall the installation of infrastructure in the Station Area will be tied to the development of the three Development Areas: the Freeway Area, the Transit Village Area, and the Town Center Area. This chapter identifies the circulation improvements required for each Development Area, in order to ensure that adequate access is provided for all modes of circulation, in compliance with applicable service standards. This chapter also describes the required “Master Plans,” which will provide more detailed plans for infrastructure, project design, and coordination between property owners and public agencies. Finally the chapter discusses potential funding and financing strategies.

A detailed Infrastructure Financing and Phasing Plan will also be prepared following the completion of the Hillcrest Station Area Specific Plan. It will describe the costs of major infrastructure components; potential funding sources; and financing mechanisms. The Infrastructure Financing and Phasing Plan will also recommend allocations of financial responsibilities among property owners, the City, and other agencies that provide services and utilities.

7.1 DEVELOPMENT TIMING AND PHASING

Development and Phasing Projections

The amount of development projected in the Hillcrest Station Area is summarized in Table 7-1. These projections are based on the land use designations, development densities permitted, and the land acreage within each land use designation. As explained in Chapter 3, the projections do not assume the maximum density is built on every parcel. Instead, the projections reflect an approximate mid-point of development in each land use category.

TABLE 7-1 BUILDOUT PROJECTIONS

	RESIDENTIAL UNITS	OFFICE SF	RETAIL SF	HOTEL ROOMS
Transit Village	1,000	730,000	120,000	–
Freeway Area		170,000	150,000	–
Town Center	1,500	300,000	730,000	325
TOTAL	2,500	1,200,000	1,000,000	325

Source: Dyett & Bhatia, 2008.

Projections regarding the timing and geographic phasing of development were prepared in order to assess potential traffic impacts and develop implementation policies. These assumed phases of development are shown in Table 7-2. The assumptions are based on the estimated pace of development indicated by the market analysis that was conducted as part of the Specific Plan.

The development phasing projections are not binding or regulatory in any way; they are included here for informational purposes only.

TABLE 7-2 DEVELOPMENT PHASING PROJECTIONS

	RESIDENTIAL UNITS	RETAIL	OFFICE	HOTEL ROOMS
Phase 1: 2010 – 2015	0	50,000	0	0
Phase 2: 2015 – 2020	650	225,000	270,000	0
Phase 3: 2020 – 2025	650	225,000	270,000	0
Phase 4: 2025 – 2030	600	215,000	270,000	325
Phase 5: 2030 – 2035	300	220,000	270,000	0
Phase 6: 2035 – 2040	300	65,000	120,000	0
TOTAL	2,500	1,000,000	1,200,000	325

Source: Dyett & Bhatia, 2008.

Coordination of Development with State Route 4 and eBART

The widening of State Route 4 (SR 4) and the construction of the Hillcrest eBART station will be a major catalyst for development within the Hillcrest Station Area. The planning and design of land uses and circulation in the Hillcrest Station Area cannot be finalized until the exact location of SR 4 lanes and eBART facilities are known. Therefore policies are included to ensure that detailed design of these regional infrastructure projects is completed prior to approval of subdivisions or development projects in the Hillcrest Station Area.

Coordination of Development with State Route 4 and eBART Policies

- I-1** In the Hillcrest Station Specific Plan Area, no approvals of land subdivisions or development projects may be granted until the location of the eBART station is determined and the construction contract for the eBART project, including the Hillcrest eBART station, has been approved by the BART Board.
- I-2** Prior to final approvals of land subdivisions or development projects in the Transit Village and Freeway Areas, work with BART on a comprehensive eBART parking plan, which defines how eBART parking requirements for 1,000 spaces will be met when the Hillcrest Station opens, and how future eBART parking requirements of 2600 spaces can be met without reducing the available developable land in the Transit Village and Freeway areas.

Inclusion of Employment Uses in Development Projects

Development phasing policies are included to ensure that employment uses are developed as part of any subdivision or development project. The City's top priority for the Hillcrest Station Area is the development of employment uses, including office and retail uses. The Hillcrest Station Area is unique in the City of Antioch in terms of its freeway visibility, freeway access, and BART service. The City wants to make sure that any development at this prime location takes advantage of these key assets, and includes employment uses. Adding employment uses will also help the City achieve a better jobs/housing balance, reduce congestion on SR 4 during peak commute periods, and allow residents and employees to walk to retail, services, and employment. Residential development is also permitted in the Hillcrest Station Area, in order to meet goals for housing diversity and to provide the transit ridership needed to support eBART service. Therefore policies require a mix of land uses in Development Areas containing residential uses.

Inclusion of Employment Uses in Development Projects Policies

- I-3** Any master plan that includes residential units must also include employment uses. There should be at least 1.5 jobs per residential unit in the Town Center Area and at least 2.0 jobs per residential unit in the Transit Village Area. Project sponsors shall calculate consistency with this policy based on the following employment generation rates:
- Office: 350 square feet per employee
 - Retail: 500 square feet per employee
 - Hotel: 0.8 employee per room
- I-4** In each construction phase of a master plan, employment uses shall be built before or in conjunction with residential development.

7.2 CIRCULATION IMPROVEMENTS REQUIRED FOR DEVELOPMENT AREAS

Development will occur over time, based on the extension of roadways and utilities into the Hillcrest Station Area. The Plan is structured to allow development to occur in each of the three development areas, dependent on the installation of infrastructure to support the development. The text and policies in this section describe the minimum circulation improvement needed to serve each of the three development areas. Figure 7-1 shows the circulation improvements required for each Development Area in a graphic format.

Circulation Improvements for each Development Area

Freeway Area

The Freeway Area will be developed in the early years of the planning horizon. Construction of the eBART line, station, and maintenance facilities will occur between 2010 and 2015. A portion of Slatten Ranch Road will be constructed by eBART to provide access to the eBART station. Office development and community retail development can obtain roadway access by extending Slatten Ranch Road further east to Willow Avenue. There would also need to be improvements to Willow Avenue and the existing railroad crossing, in order to create an emergency access connection to Oakley Road. This emergency access connection is necessary because emergency vehicles, residents, and workers need an alternative route (other than Hillcrest Avenue) to exit the Hillcrest Station Area in the event of an emergency.

Transit Village Area

The Transit Village Area will be developed after the completion of the eBART station. The re-alignment and extension of Viera Avenue (New) to Slatten Ranch Road is a critical circulation improvement for the area. The connection of Viera Avenue (New) to Slatten Ranch Road requires

a grade separation at the railroad tracks. The Viera Avenue (New) alignment is located primarily along parcel lines, so that property owners share responsibility for land dedication and construction costs.. The alignment could shift to accommodate proposed development projects if the two property owners agree on the new alignment and meet the basic circulation requirements of this Specific Plan.

The other major roadway connection required for the construction of the Transit Village Area is Oakley Road from Viera Avenue (New) to the existing Oakley Road at Willow Avenue. The combination of the new Viera Avenue, the Oakley Road extension, and Slatten Ranch Road creates a complete circulation system that accommodates the full development of residential, office, and retail uses in the Transit Village Area.

A first phase of development in the Transit Village Area could occur with the construction of Viera Avenue (New) from East 18th Street to Oakley Road, without the vehicular railroad crossing and connection to Slatten Ranch Road. With this segment of Viera Avenue (New) in place, there would be two means of access into the area - East 18th Street and Oakley Road. Traffic studies would need to be completed to define the amount of development that could be accommodated in this first phase without the connection to Slatten Ranch Road.

The construction of a pedestrian/bicycle bridge connecting the Transit Village Area to the eBART station over the railroad tracks is another critical piece of the first phase circulation infrastructure for the Transit Village Area. Any development projects in this area need to include this crossing and identify a funding source. The crossing needs to connect pedestrians and bicyclists from the eBART station to Oakley Road and the pedestrian center of the Transit Village Area. If the eBART station is built at the East Median location, this crossing can be incorporated into the Viera Avenue connection to Slatten Ranch Road.

Town Center Area

The full development of the Town Center Area is contingent on regional transportation improvements that resolve the projected congestion at the SR 4/Hillcrest Interchange. While the Town Center Area can be accessed from the SR 160/East 18th Interchange and from Oakley Road, there needs to be major access onto SR 4 because that is the primary corridor that residents will use to access jobs. The SR 4/Hillcrest Interchange is projected to experience major congestion by the year 2020, to an extent that traffic will back up onto the travel lanes of SR 4 and affect circulation throughout this area of East County. The City of Antioch has prepared extensive transportation studies to examine alternative transportation improvements for northeast Antioch, and has identified the construction of the Phillips Lane Interchange as the recommended solution. However the proposed design of that interchange involves design exceptions to Caltrans standards, and the interchange project is still under study.

Policies in the Specific Plan state that development within the Town Center Area shall not occur until the Phillips Lane Interchange is officially approved by Caltrans and funding sources are identified, or other regional transportation improvements that resolve the congestion at the SR 4/Hillcrest Interchange are identified, approved, and funding sources identified. However, the City Council may approve a limited amount of development in the Town Center Area north of East Antioch Creek prior to the resolution of these regional transportation issues, if traffic studies submitted as part of a subdivision or development application demonstrate that City level of service standards for roadways and intersections can be met.

The internal circulation improvements for the Town Center Area north of East Antioch Creek include Oakley Road from SR 160 to Willow Avenue, and Phillips Lane from East 18th Street to Oakley Road. In order to prevent excess traffic through existing residential neighborhoods, the Specific Plan recommends that the connection between Oakley Road and Willow Avenue be modified when the Town Center Area begins to

develop. Willow Avenue would still connect to Viera Avenue (Existing), so that neighborhood residents would have several access routes in and out of their neighborhood. The design of the Oakley Road/Willow Avenue modification will need to be designed with the participation of neighborhood residents during the review of Town Center Area Master Plan process.

The circulation improvements necessary to develop the Town Center Area south of East Antioch Creek include the extension of Phillips Lane over the creek and railroad to Slatten Ranch Road and to the SR 4/Phillips Lane Interchange.

In addition, the feasibility of a second eBART station near Phillips Lane must be evaluated. The decision to build a second station depends on many factors, including projected eBART ridership, feasibility of BART operations, and the final alignment of future eBART extensions further into East County. The cost of the extension would be borne by property owners in the Town Center Area. The eBART station in the Town Center Area may or may not be feasible. If it is not feasible, a shuttle should be provided from the Town Center Area to the Hillcrest eBART station.

CIRCULATION IMPROVEMENTS POLICIES

Freeway Area

- I-5** Construct the following circulation improvements in conjunction with development of the Freeway Area:
 - Slatten Ranch Road from Hillcrest to SR 160
 - At least one emergency access route connecting Slatten Ranch Road to Oakley Road
- I-6** A first phase of retail development could occur in the Freeway Area with the completion of Slatten Ranch Road to Willow Avenue, with discretionary City Council approval. There would also need to be improvements to Willow Avenue and the existing railroad crossing, in order to create an emergency access connection

to Oakley Road. Traffic studies would need to be completed to demonstrate that adequate emergency access is provided and circulation through the Hillcrest Avenue/Slatten Ranch Road intersection is reasonably efficient for all users.

Transit Village Area

- I-7** Construct the following circulation improvements in conjunction with development of the Transit Village Area:
- Viera Avenue (New) from East 18th Street to Oakley Road
 - Viera Avenue Connection from Oakley Road to Slatten Ranch Road, with an Overcrossing or Undercrossing of the Railroad Line
 - Pedestrian/Bicycle Bridge over the Railroad Line to the eBART Station Entrance (required only if the Median Station is selected instead of East Median)
 - Oakley Road from Viera Avenue (New) to Willow Ave.
- I-8** A first phase of development in the Transit Village Area could occur with the construction of Viera Avenue (New) from East 18th Street to Oakley Road, without the railroad crossing and connection to Slatten Ranch Road. Traffic studies would need to be completed to define the amount of development that could be accommodated in this first phase without the connection to Slatten Ranch Road.

Town Center Area

- I-9** Development within the Town Center Area shall not occur until the Phillips Lane Interchange is officially approved by Caltrans and funding sources are identified, or other regional transportation improvements that resolve the projected congestion at the SR 4/ Hillcrest Interchange are identified, included in the Contra Costa County Regional Transportation Plan, and funding sources are identified.
- I-10** The City Council may approve a limited amount of development in the Town Center Area north of East Antioch Creek prior to the resolution of the regional transportation issues related to SR 4 and the Hillcrest Interchange. Traffic studies would need to be

submitted as part of a subdivision or development application, demonstrating that:

- Adequate access for the first phase of development can be provided,
- SR 4 and the Hillcrest Interchange will function adequately, and
- City level of service standards for roadways and intersections can be met.

- I-11** Construct the following circulation improvements in conjunction with development of the Town Center Area north of East Antioch Creek.

- Widen Oakley Road from SR 160 to Willow Avenue
- Redesign the Willow Avenue/Oakley Road Connection
- Phillips Lane from East 18th Street to Oakley Road

- I-12** Construct the following circulation improvements in conjunction with development of the Town Center Area south of East Antioch Creek.

- Phillips Lane Connection to Slatten Ranch Road: Overcrossing
- Phillips Lane and SR 4 Interchange
- Phillips Lane from Slatten Ranch Road to SR 4 and Interchange

eBART Extension to the Town Center Area

- I-13** Work with BART, the City, and other regional transportation agencies, to study an eBART extension from the Hillcrest station to a station in the Town Center area.
- Include the eBART extension and station in any Town Center Area Master Plan subdivisions and development projects, if such an extension is physically and financially feasible.
 - If the eBART extension and station is not feasible, provide a shuttle connection from the Town Center Area to the Hillcrest eBART station during peak commute hours.

Figure 7-1: Circulation Improvements Required for Development Areas

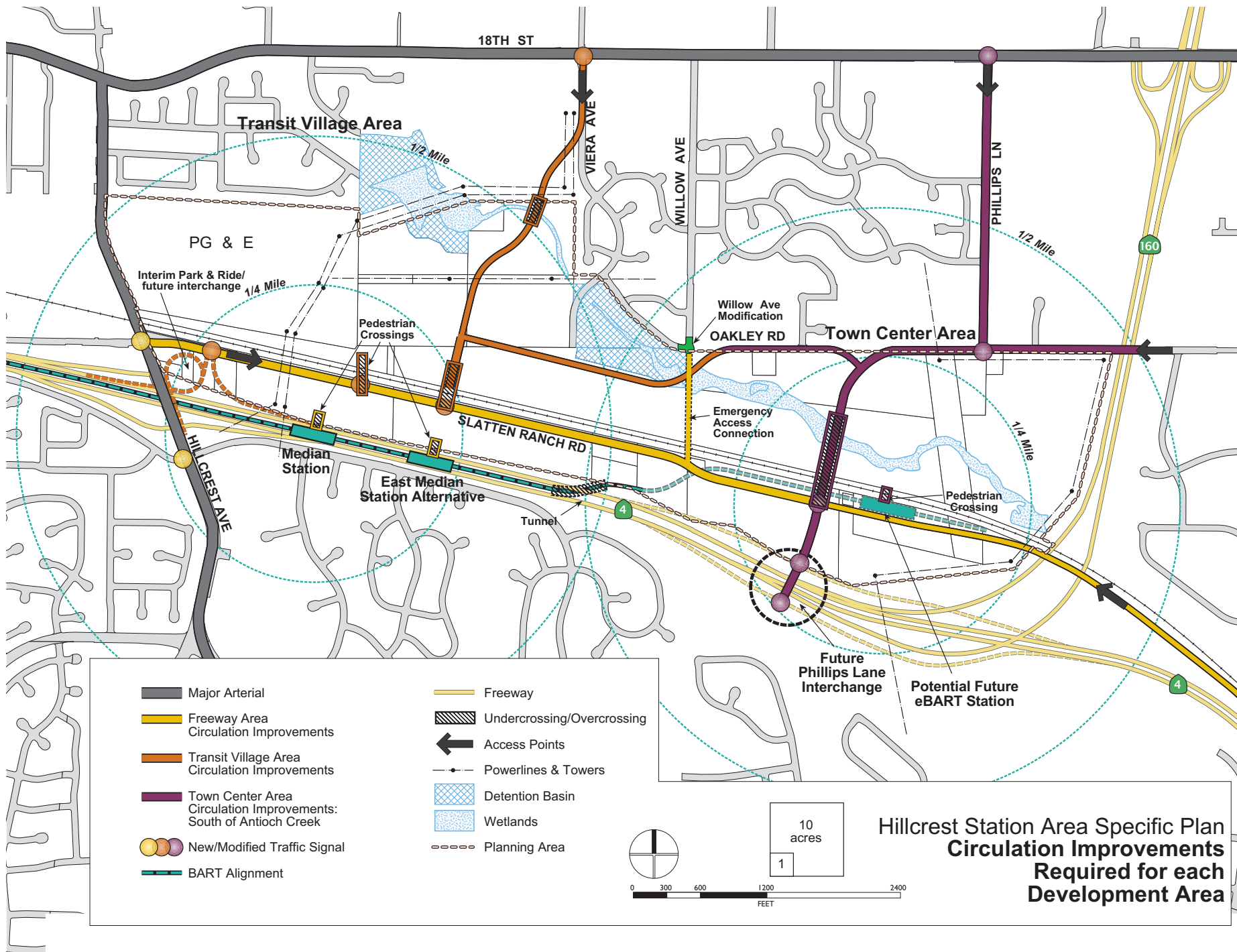


Table 7-3 shows the projected phases of circulation improvements, showing the projected timeframe and the Development Area that is served by the circulation improvements.

The timing of circulation infrastructure improvements is purely an estimate, and does not represent a binding schedule. The final phasing will be determined in the forthcoming Infrastructure Financing and Phasing Plan.

TABLE 7-3: PROJECTED PHASES OF CIRCULATION INFRASTRUCTURE AND DEVELOPMENT

PHASE	DEVELOPMENT AREA	IMPROVEMENT
Phase 1: 2010 – 2015	Freeway Area	- eBART line and Hillcrest Station; 1000 eBART parking spaces; - Slatten Ranch Road to eBART parking or Community Retail area
Phase 2: 2015 – 2020	Transit Village	- Viera Ave. (New) - Oakley Road (western segment); - Ped/Bike Bridge over Railroad; - Slatten Ranch Road to SR 160; - Hillcrest Interchange Improvements
Phase 3: 2020 – 2025	Transit Village	- Viera Ave. Connection to Slatten; - eBART additional parking; - Slatten Ranch Road connecting to Lone Tree Way
Phase 4: 2025 – 2030	Town Center north of East Antioch Creek	- Oakley Road (eastern segment) - Phillips Lane extension; - eBART additional parking - Phillips Lane Connection to Slatten; - Phillips Lane Interchange
Phase 5: 2030 – 2035	Town Center buildout	- Phillips Lane eBART Station, if feasible - Phillips Lane Interchange completion

Source: Dyett & Bhatia, 2008.

7.3 INFRASTRUCTURE, PUBLIC FACILITIES, AND ENVIRONMENTAL MITIGATIONS

Extensive infrastructure and new public facilities need to be installed in order to serve new development in the Hillcrest Station area. Environmental mitigations also need to be completed. A summary of the infrastructure, public facilities, and environmental mitigations is shown in Table 7-4. The primary infrastructure includes circulation, parks, trails, utility lines, and other public improvements.

A detailed Infrastructure Financing and Phasing Plan will be prepared following the completion of the Hillcrest Station Area Specific Plan. It will describe the costs of major infrastructure and public facilities components; potential funding sources; financing mechanisms; and recommended allocations of financial responsibilities among property owners, the City, and other agencies that provide services and utilities.

Infrastructure implementation should be guided by several key principles, as described in the policies below. These will be further refined during the preparation of the Infrastructure Financing and Phasing Plan.

Infrastructure, Public Facilities, and Environmental Mitigations Policies

- I-14** Prepare an Infrastructure Financing and Phasing Plan that identifies funding sources and financing mechanisms for all of the infrastructure, public facilities, and environmental mitigations shown in Table 7-4. Identify the person or agency that has the lead responsibility for planning, designing, and constructing each infrastructure component. Funding sources may include (but are not limited to) the following:
 - Infrastructure Impact Fees
 - Redevelopment Agency Funds
 - Assessment Districts, or similar financial mechanism
 - Federal grants
 - State grants
 - Regional funding sources such as Fee and Finance Authority
 - Property Owner Funds
- I-15** Any applications for new subdivisions or development projects must demonstrate that infrastructure and public facilities will be funded and constructed to serve the proposed development prior to occupancy.
- I-16** Construction and occupancy of new buildings must be phased with the installation of infrastructure and public facilities necessary to provide services and utilities for those buildings.
- I-17** Project applicants are responsible for all grading, utilities, and local roads internal to their project site; and for environmental mitigations.

HILLCREST STATION AREA SPECIFIC PLAN

TABLE 7-4: HILLCREST STATION AREA – INFRASTRUCTURE, PUBLIC FACILITIES, AND ENVIRONMENTAL MITIGATION

PROJECT	REGULATORY AGENCIES	GEOGRAPHIC AREA SERVED BY THE IMPROVEMENTS	SPECIFIC PLAN POLICIES THAT DESCRIBE THE REQUIREMENTS
CIRCULATION IMPROVEMENTS			
REGIONAL TRANSPORTATION IMPROVEMENTS			
Hillcrest Interchange improvements	CCTA, Caltrans	Region	C-16
Phillips Lane Interchange	CCTA, City of Antioch	Region/Town Center	LU-7, C-15, C-18
LOCAL ROADS AND BRIDGES <i>Roadways include land dedication, sidewalks, lighting, bicycle lanes, travel lanes, signals, and all other related improvements.</i>			
Slatten Ranch Road	City of Antioch	Region/City/Station Area	C-4, C-10, C-19
Viera Avenue (New)	City of Antioch	Transit Village	C-4, C-12
Viera Avenue Crossing	City of Antioch and Union Pacific Rail	Transit Village	C-4
Oakley Road	City of Antioch	Transit Village	C-4, C-13
Phillips Lane Crossing	City of Antioch and Union Pacific Rail	Town Center	C-4, C-15
Willow Road Modification	City of Antioch	Town Center	C-14
Wild Horse Road extension	City of Antioch	City	C-20
Grade separation at Union Pacific Railroad and Hillcrest Avenue	City of Antioch and Union Pacific Rail	City	C-17, C-54, EH-51
Hillcrest Avenue and 18th Street intersection improvements	City of Antioch	City	C-11
Neroly Road and Oakley Road intersection improvements	City of Oakley	Region	C-21
Pedestrian and bicycle improvements	City of Antioch	Station Area	C-39, C-41 through C-51, UD-25, UD-27 through UD-30
Wayfinding signage program	City of Antioch	Station Area	C-40
TRANSIT FACILITIES AND STATION ACCESS			
eBART line and station (Median Station)	BART	Region	C-35
eBART line and station (Phillips Station)	BART	Region	C-36
eBART parking	BART	Region	LU-24 through LU-26
Delta Transit bus bays at the eBART station	BART, Delta Transit	Region	LU-27, C-36
Bus, shuttle, and taxi stops	BART	Region	C-36
eBART Station Plaza(s)	BART	Region	OS-12
Pedestrian bridge to eBART	City of Antioch	Transit Village	UD-29
PARKS AND TRAILS			
Transit Village Area Park	City of Antioch	Transit Village	OS-1, OS-2
Town Center Area Park	City of Antioch	Town Center	OS-1, OS-2
Transit Village Area Plaza	City of Antioch	Transit Village	OS-12
Town Center Area Plaza	City of Antioch	Town Center	OS-12
East Antioch Creek Trail	City of Antioch	Transit Village/ Town Center	OS-7, OS-8, UD-6
Creek Resource Management Plan	City of Antioch, USFWS	Transit Village/ Town Center	EH-19
East Antioch Creek landscaping enhancements	City of Antioch, USFWS, Army Corps of Engineers, RWQCB	Transit Village/ Town Center	OS-9, UD-8
Detention basin landscape improvements	CCCCFCD; USFWS	Transit Village/ Town Center	OS-11
Rail Corridor landscape buffers	City of Antioch	Station Area	OS-5, UD-20
Highway landscape buffers	City of Antioch, Caltrans	Town Center/Freeway Area	UD-21
PG&E Substation landscape buffers	City of Antioch	Transit Village	UD-22
PG&E easements landscape buffers	PG&E/City of Antioch	Station Area	UD-23, UD-24
COMMUNITY FACILITIES			
Community Center meeting rooms	City of Antioch	Transit Village/ Town Center	UT-31
UTILITIES			
STORMWATER			
Detention basin expansion to serve the hillcrest Area	CCCCFCD	Station Area	UT-1
Drainage and flood protection improvements	City of Antioch; CCCFCD; also other regulatory agencies for wetlands	Station Area	UT-3, EH-46
WATER			
Water distribution expansion - main lines	City of Antioch	Station Area	UT-5
Water distribution expansion - local lines and connections	City of Antioch	Station Area	UT-5
SEWER			
Wastewater collection system expansion	City of Antioch, Delta Diablo Sanitation District	Station Area	UT-9
Sewer main improvements	City of Antioch, Delta Diablo Sanitation District	City	UT-10

PG&E ELECTRICAL LINES			
Relocate electrical lines along Oakley Road and SR 160 - Town Center Area	PG&E	Town Center	UT-18
PUBLIC SERVICES			
Land for new fire station	Contra Costa County Fire District	Station Area	UT-22
Fire station equipment	Contra Costa County Fire District	Station Area	UT-23, UT-24
Fire access roadways	Contra Costa County Fire District	Station Area	UT-23, UT-24
Police department equipment	City of Antioch	Station Area	UT-25
SCHOOLS			
Land and facilities for projected elementary school - 250 student capacity	Antioch Unified School District	Station Area	UT-29
BIOLOGICAL RESOURCES MITIGATIONS			
Wetlands loss mitigations	City of Antioch, USFWS	Town Center	EH-18, EH-20
Wildlife undercrossings near East Antioch Creek	City of Antioch, USFWS	Station Area	EH-22
Habitat loss mitigations (Swainson's Hawk and other Species)	City of Antioch, USFWS	Station Area	EH-3 through EH-16; EH-23
Swainson's Hawk semi-annual survey	City of Antioch, USFWS	Station Area	EH-4
HAZARDOUS MATERIALS REMEDIATION			
Former Hickson-Kerley (FKP) property	Contra Costa County Health Services Department, California RWQCB	Town Center	EH-39, EH-40
Chevron Old Valley pipeline	Contra Costa County Health Services Department, California RWQCB	Station Area	EH-39, EH-40
TAOC New Love pump station site	Contra Costa County Health Services Department, California RWQCB	Town Center	EH-39, EH-40
PG&E Oakley metering station	Contra Costa County Health Services Department, California RWQCB	Town Center	EH-39, EH-40
PDQ products	Contra Costa County Health Services Department, California RWQCB	Town Center	EH-41, EH-42
Former orchards	Contra Costa County Health Services Department, California RWQCB	Transit Village	EH-41, EH-42
Parcels adjacent to PG&E Substation	Contra Costa County Health Services Department, California RWQCB	Transit Village	EH-41, EH-42
Parcels adjacent to railroad right-of-way	Contra Costa County Health Services Department, California RWQCB	Station Area	EH-41, EH-42
Parcels adjacent to active and inactive petroleum pipeline alignments	Contra Costa County Health Services Department, California RWQCB	Station Area	EH-41, EH-42
Park-n-ride lot	Contra Costa County Health Services Department, California RWQCB	Freeway Area	EH-41, EH-42
Detention basins	Contra Costa County Health Services Department, California RWQCB	Transit Village	EH-41, EH-42
PIPELINES			
Disposition Plan for petroleum pipelines	City of Antioch	Station Area	EH-54
GEOLOGIC AND SEISMIC HAZARD MITIGATION			
Evaluation of area of caliche soils	City of Antioch	Station Area	EH-29
Slope stability analysis	City of Antioch	Town Center	EH-30
CULTURAL RESOURCES <i>Focused archival historic research, and mitigations if warranted.</i>			
The "Foundry" (APN: 052-052-002)	City of Antioch, SHPO	Town Center	EH-27
2500 Willow Lane	City of Antioch, SHPO	Town Center	EH-27
Two debris piles south of Oakley Road and east of Willow Road	City of Antioch, SHPO	Town Center	EH-27
Abandoned railroad spur	City of Antioch, SHPO	Town Center	EH-27

7.4 REQUIRED MASTER PLANS

In order to determine exact requirements for land subdivision, infrastructure, and site plans, it will be necessary to prepare master plans for the Transit Village Area and the Town Center Area. The Freeway Area does not require a master plan, but will entail coordination with eBART, Station Area circulation improvements, and Station Area utility line improvements. In the master plans, major development components need to be resolved, including: project land uses, densities and intensities, site plans, circulation facilities, civil engineering, utilities, parks and creek enhancements, stormwater management, and community facilities. These facilities need to be coordinated in areas where there are multiple property owners, so that infrastructure serves all properties and costs and land dedication requirements are shared proportionately. The cost allocations of environmental protection requirements also need to be finalized. The Master Plans will provide the details that are necessary for the ultimate buildout of the Hillcrest Station Area.

In addition, the master plans will define how each area will meet California planning goals. Senate Bill 375 was passed in 2008, amending the Sustainable Communities Strategy. The bill is intended to support jurisdictions' efforts to integrate land use and circulation planning in order to reduce greenhouse gas emissions. The bill allows for CEQA process streamlining or exemptions for projects that meet certain criteria and would potentially make the projects eligible for state funding.

The Master Plans will need to be reviewed by the Planning Commission and approved by the City Council. A Master Plan application may be combined with a tentative map application for a subdivision per the State Map Act.

REQUIRED MASTER PLANS POLICIES

Master Plan Components

- I-18** A comprehensive Master Plan, addressing both the development plans and the infrastructure plans, shall be prepared for the Transit Village Area and the Town Center Area, prior to or concurrent with the approval of any subdivisions or development projects in the areas. The Master Plan application may be combined with a tentative map application for a subdivision per the State Map Act. Each Master Plan shall include at least the following components:
- Development Program
 - Types of Land Uses and Locations
 - The total amount of development in the Master Plan area, specifying the total number and density of residential units, and the total square footage of office, retail, hotel, and other non-residential land uses
 - Building Types, specifying the uses for each floor, and the typical number of units or number of tenants per floor
 - Architectural guidelines
 - Proposed Zoning Districts or Proposed Planned Development
 - Site Plan Components
 - Parking Locations
 - Building Footprints
 - Landscape Buffers
 - Ground Level Plan, including building entrances, service and loading areas, ground floor commercial uses
 - Street Sections showing building to street relationships and setbacks

- Circulation Facilities
 - Street Alignments and Right-of-Way Dedications
 - Street Grades
 - Street Sections, including auto travel lanes, bike lanes, sidewalks, street lights, trash receptacles, benches, street trees, curbs, and other public infrastructure within the street right-of-way
 - Transit Facilities, including bus stops
 - Pedestrian and Bicycle Connections
 - Railroad Line Crossings
- Parks and Public Facilities
 - Park and plaza locations and size
 - Park and plaza facilities, including landscaping and passive or active recreation facilities
 - Conceptual designs for parks and plazas, focused on pedestrian and bicycle connections as well as park facilities
 - Trail locations, design, dimensions, and adjacent landscape areas
 - Community Center Meeting Rooms – locations and size
 - Delineation of the location, size, and amount of Public Parks and Private Open Space, showing how they satisfy City park standards

- Building Massing and Design Standards
 - Building Height
 - Building Scale and Maximum Building Dimensions
 - Building Massing
 - Building Façade Articulation
 - Screening of Parking Lots and Structures
 - Design Standards for Doors, Windows, and Architectural Details
 - Civil Engineering Plans
 - Grading
 - Storm Drainage Facilities
 - Flood Control Facilities
 - Utility Plans
 - Sewer Lines
 - Storm Drainage Lines
 - Water Lines

Transit Priority Projects Qualification

- I-19** The Transit Village Master Plan should ensure that the area north of the UP railroad within 0.5 miles of the eBART station complies with the criteria for transit priority projects, as defined by California Senate Bill 375 (and any subsequent updates.)
- I-20** The Town Center Master Plan should ensure that the area north of East Antioch Creek within 0.5 miles of either the Phillips Lane eBART station or shuttle stop for the Hillcrest eBART Station complies with the criteria for transit priority projects, as defined by California Senate Bill 375 (and any subsequent updates.)

Joint Master Plans for Multiple Properties

I-21 In Development Areas with multiple property owners, property owners shall work together to prepare the Master Plan application submittal. If joint applications and agreements are not feasible, property owners may request that the City either:

- (1) permit a smaller Master Plan area; or
- (2) prepare the Master Plan under City auspices in coordination with the property owners.

Master Plan Review Process

I-22 Master Plans in the Hillcrest Station Area shall be reviewed and approved by the City Council.

- The Planning Commission shall review the Master Plan prior to City Council consideration and provide a recommendation to the City Council, following the City's process for review of subdivisions and tentative maps.

7.5 ONGOING PLANNING FOR THE HILLCREST AREA

Construction of the transit-oriented development envisioned for the Hillcrest Station Area will require extensive ongoing coordination between the City of Antioch, property owners, and transportation agencies, including BART, the Contra Costa Transportation Authority, and Caltrans. Many transportation issues remain to be resolved, including the final location of the eBART station, the final design of the SR 4 widening, and the potential for a Phillips Lane Interchange. There are many issues that will need to be resolved as part of individual development project applications, including land uses, building types, street design, railroad crossing design, and infrastructure design. The Hillcrest Station Area Plan sets forth the framework for the ultimate development of this important piece of property in Antioch. Over time the Plan will need to evolve to reflect both opportunities and constraints, so that the ultimate City goals for the area can be achieved.

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