FINAL

CITY OF HERCULES GENERAL PLAN LAND USE AND CIRCULATION ELEMENTS UPDATE AND REDEVELOPMENT PLAN AMENDMENTS

Environmental Impact Report

Volume I: EIR Text

June 9, 1995

Prepared for:
The City of Hercules, California

Environmental Science Associates, Inc.

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DRAFT ENVIRONMENTAL IMPACT REPORT

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I. INTRODUCTION

A. PROJECT OVERVIEW

The purpose of this Environmental Impact Report (EIR) is to provide an environmental analysis of updates to the Land Use and Circulation Elements of the Hercules *General Plan*. The City of Hercules proposes an update to its Land Use Element based in part on input and recommendations from a local citizens' "Community Panel." The proposed project includes new land use designations for 24 properties. Constraints to development of 14 of the parcels were previously evaluated in the *Hercules Master Environmental Assessment* (MEA) (City of Hercules, 1991). The Community Panel evaluated the 14 parcels addressed in the MEA and made recommendations for land use designations on them. The City's staff has also revised the land use designations of 10 smaller properties in the vicinity of Interstate 80, State Route 4 and San Pablo Avenue that were not discussed in the MEA. Some of the properties proposed for new designations are partially developed with the recommended land uses. Redesignation of land uses for the 24 parcels could result in development of up to about 5.0 million square feet of commercial and industrial uses, and approximately 3,800 new multi-family residences, based on typical development densities identified in the proposed Land Use Element.

The Circulation Element would be updated at the same time as the Land Use Element, creating an opportunity for a combined environmental review that will lead to a more useful EIR. Impact projections assume build-out of the 24 properties at the typical land use densities by the year 2010. The Element's impact analysis incorporates data from Contra Costa County's West County Traffic Model and the Association of Bay Area Governments (ABAG) demographic and employment projections. The draft Circulation Element recommends transportation improvements that generally would not lead to substantial changes in the existing street system. With implementation of the Land Use Element Update, streets would be needed to serve the currently undeveloped properties west of San Pablo Avenue (south of the North Shore Business Park). The draft Circulation Element identifies a conceptual alignment for new roadways west of San Pablo Avenue, pending submittal to the City of development plans for the affected properties. The draft Circulation Element includes existing plans for upgrading State Route 4 (SR4) to freeway standards between Interstate 80 and Cummings Skyway and a new local street that would provide access between the proposed SR 4 freeway and the residential neighborhoods of Refugio Valley.

In addition to the Land Use and Circulation Elements, the project includes updating the Redevelopment Plan for the Dynamite Redevelopment Project, administered by the Hercules Redevelopment Agency. The Dynamite Redevelopment Project, created in 1984, encompasses all or parts of about half of the 24 parcels, including the larger parcels west of San Pablo Avenue. As part of the project, the Redevelopment Plan would be amended to reflect changes in the Land Use Element. The Dynamite Redevelopment Project Area is shown in Figure III.2 in Chapter III, Project Description. The Redevelopment Plan is discussed further in Section IV.A., Land Use, Zoning and Plans.

B. RELEVANT STATE REQUIREMENTS

GENERAL PLAN

California Government Code Section 65300 requires every city and county to prepare and adopt a "comprehensive, long-term general plan for the physical development of the community" (State of California, 1990). Conceptually and legally, the general plan guides the exercise of city and county police powers through land use regulation and the exercise of corporate power through provision of capital facilities. Government Code section 65302 states that the general plan shall consist of a statement of development policies and shall include an exposition of objectives, principles, standards, and plan proposals. The plan must include, at a minimum, the following elements: land use, circulation, housing, conservation, open space, noise, and safety. In addition to the state-mandated elements, the Hercules *General Plan* includes an Economic Development Element and a Growth Management Element. The City does not propose changes to elements of its *General Plan* other than the updates to the Land Use and Circulation Elements.

ENVIRONMENTAL REVIEW

The adoption or amendment of a general plan, or element of a general plan, constitutes a project for the purposes of the California Environmental Quality Act (CEQA) and State CEQA *Guidelines*. If it is determined that any aspect of the proposed general plan document or amendment, either individually or cumulatively, would cause a significant effect on the environment, an environmental impact report (EIR) must be prepared. The City of Hercules has determined that this EIR is required for the proposed Land Use and Circulation Elements updates.

C. AUTHORITY AND SCOPE OF THE EIR

This EIR has been prepared as a Program EIR, which may be prepared for a project characterized as a series of actions that involve the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program. (CEQA *Guidelines*, Section 15146(b))

This EIR identifies general areas of environmental sensitivity and the potential general, cumulative effects of the proposed Land Use and Circulation Elements (based on the projected buildout of Hercules in the year 2010). The EIR does not evaluate the impacts of potential development on a project-specific level; specific development proposed after adoption of the updated *General Plan* Elements could be subject to subsequent, project-specific environmental review. Under CEQA *Guidelines* Section 15168, however, this EIR may be used to eliminate the need for or reduce the scope of EIRs for subsequent development projects within the City. Projects that would affect land use designations on individual parcels during or after adoption of the Land Use and Circulation Elements updates would not necessarily affect the overall analysis of cumulative effects in this program-level EIR.

CEQA requires assessment of impacts on the physical environment (CEQA *Guidelines* Sec. 15358 and 15360). While the updated Land Use and Circulation Elements would be part of the *General Plan* and would therefore apply to the entire City of Hercules, this EIR focuses on the effects of development made possible and anticipated by changes in land use designations on the 24 affected parcels. For purposes of this report, those 24 parcels and surrounding roadways are referred to collectively as the "Study Area." Where applicable, the EIR discusses changes that would occur elsewhere in Hercules and/or outside the City. For example, increased traffic generated by development on one of the 24 parcels would directly affect intersections outside the Study Area and roadways outside the City. Conversely, direct effects of development on that same parcel on particular plant or animal species would be more localized. (Indirect and cumulative impacts are typically felt over a wider area for all issues.)

D. ORGANIZATION OF THE EIR

This EIR is organized into nine ~~eight~~ chapters. This introductory chapter presents an overview of the proposed project and the relevant state requirements and guidelines for planning and environmental review. Chapter II summarizes the project description, the significant environmental effects of the proposed project, and the mitigation measures identified to reduce or avoid those effects. Chapter III presents a more detailed description of the project, including the

location and boundaries of the planning area, the project's characteristics, the project sponsor's objectives, and discretionary approvals required from the City of Hercules.

Chapter IV includes an assessment of the environmental setting, potential impacts under buildout of the updated Land Use and Circulation Elements (organized by environmental topic), and mitigation measures. Chapter V provides an overview of the unavoidable significant adverse impacts and the cumulative effects of the proposed elements' updates. Chapter VI provides an analysis of three possible alternatives to the proposed project. Chapter VII lists those involved in the preparation of this EIR.~~, and~~

Chapter VIII presents comments made on the Draft EIR during the public review period and responses to those comments. The Comments and Responses are discussed further in Section I.E. Public Review, below.

Chapter IX~~VIII~~ (included in a separate volume) presents the appendices to this document including the Initial Study, Notice of Preparation and responses thereto, Transportation Appendix, Biology Appendix, Hazardous Materials Appendix, Fiscal Analysis, and the draft Land Use Element, draft Redevelopment Plan Amendments, and draft Circulation Element. The draft Land Use and Circulation Elements will be revised prior to adoption of each element by the City Council.

E. PUBLIC REVIEW

The Draft EIR (DEIR) was published on February 3, 1995, and the public comment period extended through April 3, 1995, which is longer than the required 45 days. During the comment period, the Hercules Planning Commission and City Council held three joint workshops on the DEIR and the draft Land Use and Circulation Elements; each workshop was open to the public. A formal public hearing to solicit comment on the DEIR was held on April 3, 1995, after which the public comment period was closed.

Chapter VIII of the EIR includes letters of comment received by the Community and Business Development Department during the public comment period. Chapter VIII also includes minutes of the three Planning Commission-City Council workshops and the public hearing and responses to substantive comments on the adequacy of the DEIR made in the comment letters and orally at the workshops and public hearing.

In some cases, the response to a comment on the DEIR includes a change to the EIR text. In these instances, the new text is indicated by double underlining, and deletions are shown in strikethrough (see indented paragraph below for an example). Where the text includes a change, there is also a vertical line in the margin, as shown at left. (The only exceptions are in some tabular data and minor editorial changes (*e.g.*, change of singular word to plural, change of case, etc.), where, for clarity and ease of reading, new text is shown double underlined, but deletions are not shown in strikethrough.) This is also true in Table II.1, Summary of Impacts and Mitigation Measures, for instances in which an entire measure has been replaced.

> This paragraph is an example of EIR text that has been revised between the Draft EIR and Final EIR. The new text is indicated by double underlining, and deletions are shown in ~~strikethrough~~. A bar is also shown in the left margin.

Note also that, in some instances, the addition of text to the Final EIR has changed the pagination of the document from that of the DEIR. Every effort has been made to adjust internal references. Where an internal reference (for example, "see p. IV.B-22") cannot be located as indicated, the reader might check the following page.

~~The Draft EIR will be available for public review for 45 days. During this period, comments on the EIR's accuracy and completeness may be submitted by public agencies, interest groups, and concerned individuals. Written comments should be submitted to Mr. Gary Hembree, Community and Business Development Director, City of Hercules, 111 Civic Drive, Hercules, California, 94547. Oral comments can be made at a public hearing on the project, to be scheduled and publicly noticed by the City. All oral and written comments relevant to the content of the Draft EIR received during the public comment period will be addressed in the Final EIR.~~

REFERENCES - Introduction

State of California, *CEQA: Statutes and Guidelines*, 1992.

State of California, *General Plan Guidelines*, November 1990.

City of Hercules, *City of Hercules: Master Environmental Assessment*, December 1991.

II. SUMMARY

PROJECT DESCRIPTION

The General Plan is considered to be the "constitution" for growth within cities and counties in California. The pattern of land use and image of the community are outlined within the General Plan and its respective elements. The updated Land Use Element proposal is guided by four major concepts, which were defined by a Community Panel. The concepts include extending the linear park along Refugio Creek westward from San Pablo Avenue to San Pablo Bay; developing retail uses near the I-80/SR 4 interchange; new jobs and business opportunities can be accommodated between the aforementioned commercial area and existing employment areas; and a limited amount of new residential development should be allowed on vacant properties that adjoin existing neighborhoods rather than the employment or commercial areas. The Community Panel recommendations are incorporated within the updated Land Use Element. (The Element's goals and objectives are enumerated in Chapter III, Project Description.) Master or Specific Plans may be needed to further define objectives for development in certain areas of the City, such as the historic town center and bay shore areas.

The current Circulation Element was adopted by the City Council in October 1988. The draft Circulation Element Update would be consistent with the development assumptions in the Land Use Element Update, as required by state law. Generally, the existing Circulation Element objectives and policies are continued in the draft Circulation Element Update, with the primary exception being a change in traffic level of service standards necessitated by the passage of Contra Costa County Measure C (1988) and the City's subsequent adoption of a *General Plan* Growth Management Element. The two objectives remain as in the current Circulation Element: provide for the movement of people and commodities in the City and plan for the preservation and enhancement of visual qualities as viewed from designated scenic routes.

With regard to traffic levels of service, whereas the existing Circulation Element stated that peak-hour traffic on arterial streets and intersections should operate at Level of Service D or better, the draft Circulation Element Update reflects the adopted level of service (LOS) standards in the Growth Management Element, ranging from LOS D on most Basic Routes to LOS "Low" E on Sycamore Avenue and Bayberry Avenue. A complete description of the standards is provided in Section IV.B, Transportation and Circulation.

The main feature of the updated Land Use Element is the redesignation of 24 parcels that total approximately 600 acres or 0.9 square miles. The sizes of parcels affected by the changes in land use designation range from parcels of less than two acres to larger combined properties of up to 130 acres. The proposed parcels to be redesignated are located mainly west of I-80, and along the SR4 corridor; most of the acreage is west of I-80. They can be generally grouped into two categories: land that was used as production, buffer area, and storage for the old Hercules Powder Company (about 430 acres) and land located in the SR 4 and I-80 corridors (about 165 acres). One parcel (about 2.5 acres) is in the eastern portion of the City on Refugio Valley Road.

The parcels are generally undeveloped or underdeveloped with structures consisting of mostly sheds, stables and parcel used for open storage. Three of the parcels are partially developed and are being utilized by businesses, while one is under construction as a transit center and a retail development has been approved for another.

The Land Use Element Update has redefined the land uses in the current General Plan, incorporating existing land uses' type and density. In addition, new categories are specifically designed for some of the 24 parcels. A permissible floor-area-ratio (FAR) range and a "typical" FAR is also designated for each commercial land use. The Land Use Element states that the typical FAR would be the maximum development intensity allowed unless a development were to meet a specific goal, policy, objective or program of the Element, in which case, development may be built to the higher end of the permissible range; additional site-specific study of traffic and other impacts then might be required.

For residential uses, density ranges could be adjusted pursuant to state and city laws and policies: higher densities would be permitted if consistent with the state policy on density bonuses for affordable housing, while lower densities may be permitted when specific findings outlined below are made by the Planning Commission. Generally, these projects would have to be compatible with and not detrimental to surrounding development while not preventing the city from achieving its goals for low and moderate income housing.

The analyses of impacts in this EIR generally are based on development at the typical density level. Additional environmental review may be required for specific commercial, industrial, or residential projects that propose development above the densities described in this EIR and typical densities in the Land Use Element Update.

The updated land use categories include the following (for residential units, population density is units per gross acre times 2.89 persons per household):

General Commercial, including retail, wholesale (open to the public) and office use. FAR range: 0.20 to 1.00. Typical FAR: 0.30.

Historic Town Center, including offices, restaurants, and specialty shops, and multi-family residential in existing historic buildings and new architecturally compatible structures. FAR range: 0.15 to 0.40. Typical FAR: 0.20. Residential density: up to 17 units per acre (maximum 40 units total).

Waterfront Commercial, including restaurants, food and beverage shops, recreational equipment sales, bait-and-tackle shops and visitor-oriented uses. FAR range: 0.15 to 0.30. Typical FAR: 0.20.

Community Commercial, including retail, office and service uses that would serve residents and employees. FAR range: 0.20 to 1.00. Typical FAR: 0.25.

Recreational Commercial, including recreational activities such as a golf course, driving range, batting cages, athletic clubs, and cafes and bars. FAR range: 0.20 to 0.40. Typical FAR: 0.30.

Commercial/Public, a BART-owned parcel under development as a transit center. FAR not to exceed that allowed in "General Commercial."

Planned Office/R&D, including research and development, manufacturing, administrative offices, and warehouse and distribution centers. FAR range: 0.25 to 1.00. Typical FAR: 0.30. Development to be governed by specific area plans or master plans.

Planned Commercial/Industrial, including retail, office, research and development, manufacturing, and business industrial services. FAR range: 0.25 to 0.50. Typical FAR: 0.30. Development to be governed by specific area plans or master plans.

Planned Commercial/Residential, including mixed commercial and multi-family residential uses. FAR range: 0.20 to 0.40. Typical FAR: 0.30. Residential density: up to 30 units per ~~net~~ acre. Development to be governed by specific area plans or master plans.

Industrial/Residential, combining work space and residential space in the same structure. FAR: up to 0.50. Residential density: up to 25 units per acre.

~~Industrial, including heavy industrial uses, refineries, and storage facilities. FAR range: 0.30 to 0.50. Typical FAR: 0.40.~~

Multi-Family Low Density, including single- and multi-family residences, townhouses, duets, condominiums or apartments. Density: 7 to 12 units per acre, with some supporting uses such as schools, churches, and day care facilities.

Multi-Family Medium Density, including multi-family residences (primarily condominiums, apartments and townhouses) on five-acre or larger parcels. Density: 12 to 30 units per ~~net~~ acre, with the intention of including affordable housing, and some supporting uses.

In addition, the following designations are included but do not apply to any of the 24 study area parcels: Industrial (Heavy Industry; FAR range - 0.30 to 0.50; typical FAR - 0.40); Single Family Estate (1 to 2 units per acre); Single Family Low Density (2 to 7 units per acre, with some secondary units and support uses); Single Family Medium Density (7 to 12 units per ~~net~~ acre, with some support uses); and Multi-Family High Density (30 to 55 units per ~~net~~ acre).

The Circulation Element addresses the traffic and circulation constraints associated with each of the 24 affected parcels and recommends several improvements to Hercules' existing road network as a whole to accommodate the potential build-out of such land uses to the year 2010. Transportation-related parcel-specific improvements are not identified because individual development plans are not proposed. Traffic analysis for the Circulation Element Update was based on the West County Travel Demand Model, a regional traffic model developed since the existing Circulation Element was adopted. As noted, the draft Circulation Element Update also includes revised traffic level of service standards.

The Circulation Element Update describes several roadway and other transportation improvement projects that are either already funded or are otherwise expected to be complete by 2010. Those projects include, among others, construction of the SR 4 freeway, including interchanges at Willow Avenue and east of Sycamore Avenue and extension of Willow to Bayberry Avenue; construction of a new local street connecting the new SR 4 interchange to residential neighborhoods in Refugio Valley; Refugio Valley Road improvements; and the previously noted transit center. The draft Circulation Element Update includes a conceptual alignment for a new roadway that could be constructed to serve development west of San Pablo Avenue. Such a roadway likely would be constructed in the future, once specific development proposals were received for some of the parcels west of San Pablo Avenue. To date, no specific proposals have been developed for the roadway alignment. Further site-specific environmental review could be required for this project.

The draft Circulation Element Update concludes that local peak-hour traffic conditions within Hercules generally would be acceptable in 2010, the year assumed for buildout under the Land Use Element Update, with the exception of two key intersections on San Pablo Avenue: at John Muir Parkway and at Sycamore Avenue. At those intersections, peak-hour traffic conditions are projected to be substantially worse than the Level of Service E objective established by the West Contra Costa County Transportation ~~Traffic~~ Advisory Committee for San Pablo Avenue, largely as a result of traffic that uses San Pablo Avenue as an alternate to the congested conditions on Interstate 80. At the same time, the City and other local jurisdictions do not propose to increase

capacity on San Pablo Avenue, but instead to attempt to reduce traffic on I-80 as a means of improving traffic conditions on the freeway and on San Pablo Avenue. The draft Circulation Element Update calls for promoting commuter rail and a train station in Hercules to divert traffic from Interstate 80. In addition, the draft Circulation Element Update includes an implementation action under which the City would establish a traffic mitigation fee program.

The project would also would include updating the Dynamite Redevelopment Project plan, encompassing a large part of the study area, to reflect changes in the Land Use Element.

The proposed Land Use Element provides for the physical development of the City. For the purposes of this EIR, it is assumed that "build-out" of the City (the development of all the designated land uses at the typical density level) would occur by the year 2010, a conservative assumption. The analysis assumes, separate from the project, construction of 800 residential units and a hotel (plus existing golf course) at the recently annexed Franklin Canyon area of eastern Hercules. Development consistent with the updated Land Use Element would allow for a 64 percent increase over the existing City population, compared to a 25 percent increase under the existing Land Use Element.

In order to adopt the revised Land Use and Circulation Elements, the City of Hercules' Planning Commission and City Council must hold public hearings and certify the EIR. Consistent with state law, amendments to mandatory general plan elements may occur four times within a calendar year. The approved Land Use and Circulation Elements would be considered an amendment because the elements are being replaced and incorporated within the General Plan. The City must also must ensure consistency with other General Plan elements and its Zoning Ordinance.

IMPACTS AND MITIGATION MEASURES

Project impacts identified in this EIR are summarized in Table II.1, Summary of Impacts and Mitigation Measures, which follows p. II-12. This table lists impacts and mitigation measures in three major categories: significant impacts that would remain significant even with mitigation; significant impacts that can be mitigated to a level of less-than-significance; and impacts that would not be significant. For each significant impact, the table includes a summary of mitigation measure(s) identified by the EIR, followed by a column that indicates whether the impact would be mitigated to a less-than-significant level. Please refer to Chapter IV,

Environmental Setting, Impacts, and Mitigation Measures, for a complete discussion of each impact and associated mitigation.

ALTERNATIVES TO THE PROPOSED PROJECT

A. NO-PROJECT ALTERNATIVE

A.1. No Development Alternative

A No Development alternative is not considered feasible, in that it would require that the City refuse to approve development proposals in the Study Area. Should such an alternative come to pass, the resulting impacts would be maintenance of existing environmental conditions for those conditions that would otherwise change with development in Hercules. Certain impacts would occur whether or not additional development were to occur in Hercules. For example, even with no future development in Hercules, traffic conditions on I-80 and San Pablo Avenue would be congested due to traffic traveling through Hercules to and from other destinations; increased background traffic unrelated to Hercules development would also affect air quality.

A.2. Existing Land Use and Circulation Elements

This alternative would involve no change to the City's existing *General Plan* Land Use and Circulation Elements; buildout would occur under the existing elements. Existing *General Plan* land use designations are shown in Figure IV.A.1 in Section IV.A, Land Use. Under this alternative, there would be no residential uses and no mixed-use designations on any of the 24 Study Area parcels. As a result, population growth would be substantially less, and the year 2010 buildout population of Hercules would be approximately 23,600, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 7,000, compared to about 18,350 with the project.

Under this alternative, land use would be a lower intensity, particularly in the area west of I-80, where the Industrial designation would predominate. If large-scale industrial development were not feasible, employment growth could be even less. Impacts related to the intensity of development generally would be less substantial with this alternative than with the project. Land use incompatibilities could still occur, however, particularly between potential industrial development west of I-80 and existing residential development. Less employment, particularly west of I-80, would diminish traffic impacts, compared to the project. However, background growth plus development under this alternative would result in Level of Service F at the

San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project; other Hercules intersections would operate acceptably. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Emissions of criteria air pollutants would be less, but would be a significant and unavoidable effect, as with the project. This alternative would not result in increases in population and employment beyond ABAG projections, and therefore would be consistent with the *1991 Clean Air Plan;* compared to the project. Hazardous materials impacts would be expected to be greater with this alternative, compared to the project, if industrial uses that were developed would employ hazardous materials in their production processes; existing laws and regulations would largely govern the handling of those materials. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County and would result in a significant unavoidable effect. Demand for public services would be less substantial than with the project because of the lower population and employment forecasts. As with the proposed Land Use and Circulation Elements Update, projected elementary school enrollment would exceed capacity, and school effects would be significant and unavoidable. Park impacts would be less-than-significant, in contrast to the project, due to the reduced residential population. Impacts related to existing site-specific conditions, such as cultural resources, vegetation and wildlife, and geology, would be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; the population potentially exposed to the 100-year floor would be smaller than with the project.

B. COMMERCIAL EMPHASIS ALTERNATIVE

The Commercial Emphasis Alternative would change (compared to the project) the anticipated land uses of portions of three parcels, resulting in an increase in the square footage of commercial development proposed and a decrease in the number of residential units proposed. This alternative would result in approximately 5.75 million square feet of commercial development, compared to about 5.01 million square feet with the proposed Land Use Element Update (about 14.8 percent more). This alternative would result in about 1,870 multi-family residential units, compared to about 3,815 with the proposed Land Use Element Update (about 51 percent fewer). On Parcel 3, up to 1,350 dwelling units would be replace by up to 588,060 sq. ft. of commercial development; on Parcel 4, up to 42,471 sq. ft. of commercial development and up to 98 dwelling units under the Land Use Element Update would be replaced by up to 84,942 sq. ft. of commercial development; and on Parcel 13, up to 54,880 sq. ft. of

commercial development and up to 502 dwelling units would be replaced by up to 164,657 sq. ft. of commercial development. Under this alternative, there would be about 1,950 fewer dwelling units compared to the proposed project, and population growth therefore would be somewhat less. The year 2010 buildout population of Hercules would be approximately 24,300, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 20,000, compared to about 18,350 with the project.

Effects of this alternative would be similar to those of the proposed Land Use and Circulation Elements Update, because the overall level of development would be similar, although certain parcels would contain more commercial and less residential development. Impacts related to the intensity of development generally would be similar with this alternative compared to the project. Land use compatibility would be similar to that with the proposed project, but the decreased residential development, compared to the project, would reduce somewhat the potential for sensitive receptors west of I-80 to be exposed to air quality effects, noise, and light and glare generated by commercial land uses. Greater employment, particularly west of I-80 and along Sycamore Avenue, would increase related traffic impacts, compared to the project, although that increase would be partially offset by a smaller number of residential units. Background growth plus development under the Commercial Emphasis Alternative would result in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Emissions of criteria air pollutants and lack of compliance with the *1991 Clean Air Plan* would be significant unavoidable effects, as they would with the proposed Land Use and Circulation Elements Update. Demand for public services would be comparable to the demand that would be anticipated with the proposed Land Use and Circulation Elements Update because, despite the lower total population, employment would increase, relative to the proposed project. School impacts would be significant and unavoidable, as with the project. Park impacts would be less-than-significant, in contrast to the project, due to the reduced residential population. Impacts related to existing site-specific conditions, such as vegetation and wildlife, geology, and cultural resources, would be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; the population potentially exposed to the 100-year floor would be smaller than with the project. Impacts related to hazardous materials could be marginally greater than with the project due to the greater commercial development with this

alternative; existing laws and regulations would largely govern the handling of those materials. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County, and would result in a significant unavoidable effect. Visual impacts could be greater than with the project, because commercial development would be expected to result in larger structures than with residential development.

C. RESIDENTIAL EMPHASIS ALTERNATIVE

The Residential Emphasis Alternative would change (compared to the project) the anticipated land uses of portions of three parcels, resulting in a decrease in the square footage of commercial development proposed and an increase in the number of residential units proposed. This alternative would result in approximately 4.89 million square feet of commercial development, compared to about 5.01 million square feet with the proposed Land Use Element Update (about two percent less). This alternative would result in about 4,200 multi-family residential units, compared to about 3,815 with the proposed Land Use Element Update (about 10 percent more). On Parcel 4, up to 42,471 sq. ft. of commercial development and up to 98 dwelling units would be replaced by up to 195 dwelling units; on Parcel 5, up to 13,068 sq. ft. of commercial development would be replaced by up to 30 dwelling units; and on Parcel 13, up to 54,880 sq. ft. of commercial development and up to 502 dwelling units would be replaced by up to 753 dwelling units. Under this alternative, there would be about ~~1,950 fewer~~200 more dwelling units compared to the proposed project, and population growth therefore would be incrementally greater.~~somewhat less.~~ The year 2010 buildout population of Hercules would be approximately 31,000, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 18,100, compared to about 18,350 with the project.

Effects of this alternative would be similar to those of the proposed Land Use and Circulation Elements Update, because the overall level of development would be similar, although certain parcels would contain less commercial and more residential development. Impacts related to the intensity of development generally would be similar with this alternative compared to the project. Land use compatibility would be virtually the same as with the proposed project, with the only sizable area where residential development would replace commercial development being Parcel 13. There, residential development could be affected by the adjacent Santa Fe Railroad tracks and by commercial uses north of the tracks. Less employment, particularly west of I-80 and along Sycamore Avenue, would decrease related traffic impacts, compared to the project; that decrease would be partially offset by a greater amount of residential development. Background growth plus development under the Commercial Emphasis Alternative would result

in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Emissions of criteria air pollutants and lack of compliance with the *1991 Clean Air Plan* would be significant unavoidable effects, as they would with the proposed Land Use and Circulation Elements Update. Demand for public services would be comparable to the demand that would be anticipated with the proposed Land Use and Circulation Elements Update because, despite the greater total population, employment would decrease, relative to the proposed project. Impacts on school enrollment would be significant and unavoidable, as with the proposed project, and would be somewhat greater than with the project. Park impacts would be significant and unavoidable, as with the project. Impacts related to existing site-specific conditions, such as vegetation and wildlife, geology, and cultural resources, would be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; the population potentially exposed to the 100-year floor would be greater than with the project. Impacts related to hazardous materials could be marginally less substantial than with the project due to the lesser commercial development with this alternative; existing laws and regulations would largely govern the handling of those materials. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County, and would result in a significant unavoidable effect. Visual impacts would be similar to those of the proposed Land Use and Circulation Elements Update.

D. REDUCED-DENSITY ALTERNATIVE

The Reduced-Density Alternative represents a variety of scenarios that could result in less intensive development than that envisioned by the project. For purposes of analysis, the Reduced-Density Alternative assumes the same land use designations for all parcels as does the project, and assumes that development would occur at a density that reflects the low end of the density range for each designation. The Reduced-Density Alternative could also represent a substantially greater reduction in permitted development on certain parcels (such as parcels containing potential wetlands or important visual features), compared to the project, while retaining the same level of development on other parcels as would the project. For purposes of analysis, the Reduced-Density alternative would result in approximately 3.78 million square feet of commercial development, compared to about 5.01 million square feet with the proposed Land

Use Element Update (about 24.4 percent less). This alternative would result in about 1,572 multi-family residential units, compared to about 3,815 with the proposed Land Use Element Update (about 59 percent fewer). Under this alternative, there would be about 2,240 fewer dwelling units compared to the proposed project, and population growth therefore would be less. The year 2010 buildout population of Hercules would be approximately 23,400, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 14,700, compared to about 18,350 with the project.

Impacts related to the intensity of development generally would be less substantial with this alternative than with the proposed Land Use and Circulation Elements Update; that is, traffic, air quality, traffic-related noise, and demand for public services, including schools, would be reduced. Despite the reduced trip generation, background growth plus development under the Reduced-Density Alternative would result in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Emissions of criteria air pollutants would be a significant unavoidable effect, as with the proposed Land Use and Circulation Elements Update. Population would be comparable to that with the existing Land Use Element (No Project Alternative), but employment would be substantially greater (although less than with the proposed project), and this alternative likely would not be in compliance with the *1991 Clean Air Plan;* this would be a significant, unavoidable effect, as with the project.

Land use compatibility would be similar to that with the proposed project, but the decreased residential development, compared to the project, would reduce somewhat the potential for sensitive receptors west of I-80 to be exposed to air quality effects, noise, and light and glare generated by commercial land uses. Demand for public services would be less than the demand that would be anticipated with the proposed Land Use and Circulation Elements Update because of reduced population and employment. Because of the reduced population, compared to the project, school impacts would be less than with the project. However, because elementary school capacity would not be sufficient to accommodate demand and this alternative would not result in sufficient fees to construct a new school, this impact would be significant and unavoidable, as with the project. Park impacts would be less-than-significant, in contrast to the project, due to the reduced residential population. Impacts related to existing site-specific conditions, such as vegetation and wildlife, geology, and cultural resources, could be similar to those with the proposed project, depending on whether specific parcels were designated for substantially less density. As those impacts would be largely a function of whether a particular

parcel were developed and would be less dependent on the nature of development, a uniform reduction in permitted density would not itself result in substantially different impacts compared to the project. If development on more environmentally sensitive parcels were more highly restricted, this alternative could have less impact than the project on those parcels. Impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; as with the No Project Alternative, the population potentially exposed to the 100-year floor would be smaller than with the project. Impacts related to hazardous materials would be somewhat less than with the project due to the lesser commercial development with this alternative; existing laws and regulations would largely govern the handling of those materials. (This alternative would expose substantially fewer residents to hazards.) As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County, and would result in a significant unavoidable effect. Visual impacts could be less substantial than with the project due to the smaller amount of development. This would be particularly true if certain visually sensitive parcels were designated for substantially less development.

Because impacts of this alternative related to the intensity of development generally would be less substantial than with the proposed project, and because this alternative would not have significant, unavoidable effects on park and recreation services or on air quality relative to the 1991 Clean Air Plan, in contrast to the proposed project, the Reduced Density Alternative is considered the environmentally superior alternative. However, this alternative would also result in less financial benefit for the City.

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. SIGNIFICANT UNAVOIDABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.B Transportation and Circulation				
Transportation-1: Traffic generated by development consistent with the proposed Land Use and Circulation Elements Update would contribute to unacceptable levels of service at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections in the a.m. and p.m. peak hours.	**Land Use Element Goal:** Preserve and enhance the community's quality of life with well balanced growth and development. **Land Use Element Objectives 2, 3, 11, 12, 13; Policies 2A, 2B, 3A, 3B, 3C, 3D, 11A, 11B; Programs 3A.1, 3A.2** **Circulation Element Objectives 2e, 2f, 2h; Policies 2a, 2e; Implementation Actions 6, 7, 9, 10, 11, 14**	**Growth Mangement Element, Goal C.1, Goal C.2, Goal C.3, Goal C.4; Implementing Policy/Program E.2, E.4, E.5, E.6, E.7, E.8, E.9, E.10**	**Transportation-1a:** With an objective of maintaining LOS E or better, the City of Hercules could implement the following measure: • Explore the feasibility of construction of a second northbound right turn lane on San Pablo Avenue between Sycamore Avenue and SR 4 to allow right turns from westbound Sycamore Avenue while preserving the public investment in the City of Hercules transit transfer station (the park-and-ride lot under construction on Parcel 10) **Transportation-1b:** With an objective of maintaining LOS E or better, WCCTAC jurisdictions could implement the following measures (many of these measures would be outside the authority of the City of Hercules): • monitor level of service on San Pablo Avenue; • encourage completion of Richmond Parkway; • discourage through traffic on I-80 from diverting onto to local streets through improvements to I-80 such as the HOV lane construction by Caltrans scheduled to begin in 1995, and by requesting CCTA to develop, in conjunction with Caltrans and Solano County, a Traffic Operation	SU

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A. SIGNIFICANT UNAVOIDABLE IMPACTS

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			System Management plan For I-80 that will regulate the flow of traffic on I-80 to respect the freeway's system's constraints and bottlenecks; • adopt design standards for new development to minimize turning movements on and off San Pablo Avenue (try to minimize the number of access points on and off San Pablo Avenue); • synchronize signal timing throughout the San Pablo Avenue corridor; • emphasize HOV use of I-80 and encourage transit use in the corridor; • encourage diverted traffic to return to I-80 on the next downstream feeder road through improved signage; • clearly identify feeder roads for diverted motorists to return to I-80; • support WestCAT's efforts to assess need for improved transit service along San Pablo; and • support extension of bicycle lanes to encourage more usage by commuters and shoppers.	

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Transportation-3: Traffic generated by development consistent with the proposed Land Use Element would contribute to unacceptable cumulative levels of service on the I-80 freeway.	**Land Use Element Goal:** Preserve and enhance the community's quality of life with well balanced growth and development. **Land Use Element Objectives 2, 3, 11, 12, 13; Policies 2A, 2B, 3A, 3B, 3C, 3D, 11A, 11B; Programs 3A.1, 3A.2** **Circulation Element Objectives 2e, 2f, 2h; Policies 2a, 2e; Implementation Actions 6, 7, 9, 10, 11, 14**	**Growth Mangement Element, Goal C.1, Goal C.2, Goal C.3, Goal C.4; Implementing Policy/Program E.2, E.4, E.5, E.6, E.7, E.8, E.9, E.10**	**Transportation-3a:** The following planned capital projects for I-80 are included in the Circulation Draft of the West Contra Costa County Action Plan (most of these measures would be outside the authority of the City of Hercules): 1990-2000 a. Widen for HOV lanes from Bay Bridge toll plaza to Atlas Road b. Construct Atlas Road interchange, including HOV ramps c. Construct eastbound auxiliary lane between Richmond Parkway and Appian Way d. Install ramp metering hardware at all on-ramp locations e. Construct 200-stall Park and Ride lot at Atlas Road interchange f. Construct auxiliary lanes from Central Avenue to San Pablo Dam Road g. Construct Park and Ride lot at the SR 4 interchange 2000-2010 a. Reconstruct SR 4 interchange b. Add transit off-ramp and modify interchange at Cutting Boulevard c. Widen for HOV lanes from Atlas Road to Carquinez Bridge toll plaza (some portions in Pinole and Hercules to be complete by 1995)	SU

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			Transportation-3b: The following is a summary of the Traffic Service Objectives and Actions for I-80 included in the Circulation Draft of the West Contra Costa County Action Plan. Responsibility for implementation rests with the West Contra Costa Transportation Advisory Committee, its member jurisdictions (including Hercules), and applicable transit agencies (many of these measures would be outside the authority of the City of Hercules). Objective:Increase peak-direction vehicle occupancy on I-80 by 15 percent by 2005. Actions: Support construction of HOV lanes between SR 4 and Carquinez Bridge. Seek MTC funding to analyze Richmond/Rodeo-to-San Francisco ferry. Promote maximum use of new HOV lanes (through bridge toll incentives). Objective: Increase peak-direction transit ridership in I-80 corridor by 20 percent by 2000. Actions: Support timed bus/train transfer between BART, AC Transit, and others. Support continued shuttle service to BART stations. Participate in I-80 corridor study. Promote increased frequency of El Sobrante-Richmond-San Francisco buses. Support expansion of express buses in I-80 corridor. Encourage adequate parking and bus service at West County BART stations.	

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SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Objective: Achieve 50 percent midday utilization of park and ride lots by 2000. Actions: Support greater security and amenities at park and ride lots. Promote adequate transit service to park and ride lots.	
			Objective: Increase daily West County BART ridership by 10 percent by 2000. Actions: Support high-level ongoing maintenance and improvements at stations. Support increased security at stations.	
			Objective: Achieve daily commuter rail ridership of 6,400 by 2000. Actions: Support commuter rail from Fairfield and Brentwood to West Oakland. Assist in determination of appropriate West County station locations. Support rail stations in Hercules and elsewhere to intercept I-80 vehicle traffic.	
			Objective: Increase daily trips on Solano County BART feeder bus by 20 percent by 1995. Actions: Obtain 1990 ridership data from BART. Promote enhancements to Solano County BART feeder bus service.	

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			Transportation-3c: Although no significant impact was identified, the following planned capital projects for SR 4 are included in the Circulation Draft of the West Contra Costa County Action Plan (these measures would be outside the authority of the City of Hercules): 1990-2000 a. Construct ramps at Bayberry /a/ b. Modify Sycamore from intersection to interchange /a/ c. Construct grade separation; on/off ramps for westbound SR 4 at Willow Avenue /a/ 2000-2010 a. Construct four-lane freeway from I-80 to Cummings Skyway /a/ b. Improve interchange at Sycamore Avenue /a/ c. Improve current SR 4 alignment as two-lane arterial parallel to freeway /a/ These improvements are included in Committed Roadway Network Changes in Table IV.B.6 on p. IV.B-22 of this section and are already assumed in the analysis but are included here in the interest of providing the complete list of improvements. **Transportation-3d:** Although no significant impact was identified, the following is a summary of the Traffic Service Objectives and Actions for SR 4 included in the Circulation Draft of the West Contra	

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SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Costa County Action Plan. Responsibility for implementation rests with the West Contra Costa Transportation Advisory Committee, its member jurisdictions (including Hercules), and applicable transit agencies (many of these measures would be outside the authority of the City of Hercules). Objective: Achieve LOS E or better by 2000. Actions: Make SR 4 freeway the highest priority highway project in West County. Actively pursue funding through MTC for SR 4 freeway. Advocate use of federal and state funds for SR 4 freeway and I-80 HOV lanes. Monitor SR 4 level of service. Encourage WestCAT to maintain existing Richmond-Martinez bus service. Encourage WestCAT to provide service between Richmond and Concord Encourage WestCAT to increase frequency of Richmond BART service. Encourage WestCAT to provide timed transfer at Martinez Amtrak station. Objective: Reduce annual accident rate on SR 4 by 10 percent by 2000. Actions: Obtain accident data from Caltrans. Pursue federal, state, and local funds for SR 4 freeway. Promote construction of SR 4 freeway.	

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A. SIGNIFICANT UNAVOIDABLE IMPACTS

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IV.F Public Services and Utilities				
Schools-1: Development consistent with the proposed Land Use and Circulation Elements Update would increase the number of students served by the West Contra Costa Unified School District.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	None identified.	**Schools-1a:** For specific development proposals that require legislative action (*e.g., General Plan* Amendment, adoption of Specific Plan, amendment to Zoning Ordinance) and that would have a substantial effect on school facilities through a projected increase in enrollment, the City shall enter into consultation with the West Contra Costa Unified School District and the project proponent(s) to determine whether there can be determined a mutually agreeable contribution to the school district by the proponent(s) (including, but not limited to cash payment, land dedication, and/or provision of school facilities) to offset the impacts of increased enrollment. For such development proposals requiring legislative action, the City shall consider imposition of a development fee that is greater than that required for non-legislative proposals, if such fee is justified by economic analysis. **Schools-1b:** In the case of new residential developments having a significant impact on school facilities, the City shall take steps to ensure that developers in each case coordinate and work closely with the District (via the City) regarding timely and proper submittal of the required development impact fees. **Schools-1c:** The City could establish, through the Zoning Ordinance update, a procedure for imposing a school impact fee higher than the state-mandated maximum (currently $1.72 per square foot of residential construction). Alternatively, the City could support other options for enhancing school financing, such as participation in a Mello-Roos district by a	SU

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A. SIGNIFICANT UNAVOIDABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			property proposed for development and working with the West Contra Costa Unified School District and property owners to arrange donation of land for school sites.	
Park-1: Development consistent with the Land Use and Circulation Elements Update would increase the need for neighborhood and community parks.	**Land Use Element Programs 2C.1, 3A.3, 14A.1, 14A.2, and 14A.3; Objectives 3 and 14; Policy 14A**	The following measures are included in the Growth Management Element: A minimum of 1.5 acres of neighborhood parks shall be provided for each 1,000 residents. A minimum of 3.5 acres of community parks shall be provided for each 1,000 residents. **Growth Management Element Performance Standard III.E.3** The following measures are included in the Open Space/Conservation Element: The City should develop a master drainage plan [for Refugio Creek] which provides for: Open Space/Conservation Element, V.B.3.b.1, V.B.3.b.3, V.B.3.b.4; Objectives 1a, 1c, 1d; Community Development Requirement V.D.2.a, V.D.2.b, V.D.2.c **Economic Development Element Objective II.C.2**	**Park-1a:** The City shall continue to work closely with the East Bay Regional Park District (EBRPD) in implementing the Shoreline Trail through Hercules. **Park-1b:** The City shall ensure that new development funds its share of costs associated with the provision of park facilities by attaching project-specific mitigation as conditions of approval. **Park-1c:** The City shall consider development agreements that would provide additional community parks and recreation facilities, such as ballfields and other areas for organized recreation, in exchange for allowing development at greater than the "typical" FAR, as specified in the proposed Land Use Element Update.	SU

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IV.G Hazardous Materials				
Hazard-7: Generation of hazardous waste by new industries in the project area (as discussed under Impact Hazard-3) would add to cumulative hazardous waste disposal requirements in the County. Cleanup and disposal of any contaminated soils within the project area (as discussed under Impact Hazard-1) would increase the cumulative burden on existing landfill storage capacity.	**Hazard-7a:** The Source Reduction and Recycling Element of the City's General Plan encourages waste minimization and includes plans and programs for handling special wastes that might be hazardous, such as contaminated soil and industrial sludge (City of Hercules, 1991a). **Hazard 7b:** The City's Hazardous Waste Management Plan (Network Environmental Systems, 1990) also addresses waste minimization by encouraging waste minimization by local businesses through source reduction, product substitution, development of alternative technologies, recycling, or other effective means. The Hazardous Waste Management Plan goes on to recommend that the City provide staff and work with the local business community to undertake and encourage a program of identifying waste minimization opportunities or procedures for local industry. Procedures developed should encourage source reduction, recycling, reuse, and on-site treatment.	None identified.	None identified.	SU

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SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.K Air Quality				
Air-3: Projected development under the proposed Land Use and Circulation Elements Update would generate criteria air pollutants that would increase total air pollutant emissions in the region.	**Land Use Element Policies 2B, 3A and 11A; Programs 3A.1 and 3A.2** **Circulation Element Objective 2.h; Policy 2.e; Implementation Programs 6, 10, and 14**	**Economic Development Element Implementation Program 3**	**Air-3a:** The City could prepare an Air Quality Element of its *General Plan.* The BAAQMD recommends that an Air Quality Element be developed for cities subject to rapid growth and change. An Air Quality Element can be used in the preparation of subsequent specific area plans, EIRs, and for the achievement of ambient air quality standards. The BAAQMD's philosophy is that air quality concerns should be an early input into the planning process. The purpose of the Air Quality Element would be to: • contain the air quality goals of the City, based on background conditions including local and regional meteorological influences on air quality, emissions inventory data, and existing City sources of criteria, odorous and toxic air pollutants. • provide City-approved mitigation measures for mobile sources, stationary sources, and a commitment to implementation of these measures in specific projects that are subsequently proposed.	SU

SU=Significant and Unavoidable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

A. SIGNIFICANT UNAVOIDABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			• serve as a land-use planning tool by identifying sensitive receptors in the City. • encourage mixed-use development that could minimize vehicle use. **Air-3b:** Coordinate with the BAAQMD in planning future growth, implementing regional transportation plans and trip reduction measures, and controlling stationary source emissions. Incorporate the recommendations of the BAAQMD in General Plan policies and directing for regional growth and development.	
Air-5: The Land Use Element Update would result in increases in population and employment beyond ABAG projections and, therefore, would not be consistent or in conformance with the *1991 Clean Air Plan*.	**Land Use Element Policies 2B, 3A, and 11A, and Programs 3A.1 and 3A.2**, discussed in mitigation for Impact Air-3, would help minimize air quality effects and therefore facilitate compliance with *'91 CAP*. **Circulation Element Objectives 2.h and 2.e; Implementation Programs 6, 10, and 14**	None identified.	Mitigation Measure Air-3a and Air-3b, discussed in mitigation for Impact Air-3.	SU

SU=Significant and Unavoidable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.A Land Use, Plans and Policies				
Land Use-1: Development consistent with the proposed Land Use Element could result in conflicts between incompatible land uses.	**Planned Commercial-Residential definition:** The definition of the proposed Planned Commercial-Residential land use designation includes the stipulation that "development of these properties shall be carefully planned to insure that the benefits of mixed-use development are fully realized, and the potential negative impacts of one use on another are minimized." In addition, commercial structures and uses "shall be developed according to a master plan. . . ." **Land Use Element Policies 2A, 3D, 5A and 13A; Concept 4**	None identified.	The City shall incorporate the following policies into the proposed Land Use Element Update of the City's General Plan: • Encourage commercial and industrial facilities to enhance and complement the surrounding areas by utilizing compatible architecture and landscaping. • Accommodate planned commercial-industrial and industrial-residential uses in areas buffered from adjacent uses that may be incompatible. • New commercial development should not adversely affect the quality of the City's residential neighborhoods or Hercules Historic District. • Require new development along the bay shoreline to provide a reasonable degree of buffering between such development and adjacent salt and mud flat areas. • Require proposed new development with potential conflicts to demonstrate that such conflicts can be minimized or mitigated to an acceptable level before the development is approved.	LS

LS=Less than Significant

B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Land Use-2: Implementation of the proposed Land Use Element Update would allow increased density and increase the urban land use within the City and would change the distribution of land uses. Development consistent with the proposed Land Use Element Update would result in patterns of development that differ from existing development patterns, resulting in impacts related to both traffic patterns and changes in land use compatibility.	**Land Use Element Policies 3A, 3B, 3C, 6B, 14A**	**Growth Management Policies II.E.1 and II.E.2**	None identified.	LS
Land Use 3: Development consistent with the Land Use Element Update could result in development in areas not adequately served by the necessary public services, including storm drainage, water and wastewater treatment.	Refer to Mitigation Measures Proposed as Part of the Project in Section IV.F, Public Services and Utilities.	**Growth Management Policies III.F.1, III.F.2 and III.F.3** Please see also Mitigation Measures identified in other General Plan Element in Section IV.F, Public Services and Utilities.	Refer to Section IV.F, Public Services, for mitigation measures that address adequacy of public utilities.	LS

LS=Less than Significant

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.B Transportation and Circulation				
Transportation-2: Traffic generated by development consistent with the proposed Land Use Element would increase volumes at other intersections in Hercules.	**Land Use Element Goal:** Preserve and enhance the community's quality of life with well balanced growth and development.	**Growth Mangement Element, Goal C.1, Goal C.2, Goal C.3, Goal C.4; Implementing Policy/Program E.2, E.4, E.5, E.6, E.7, E.8, E.9, E.10**	**Transportation-2a:** The City shall design and construct the proposed Sycamore/Claeys intersection and constructed such that there is adequate space between this intersection and the proposed Claeys/SR 4 EB Ramp intersection to allow for potential signalization of the Sycamore/Claeys intersection.	
	Land Use Element Objectives 2, 3, 11, 12, 13; Policies 2A, 2B, 3A, 3B, 3C, 3D, 11A, 11B; Programs 3A.1, 3A.2		**Transportation-2b:** If the level of service at the unsignalized Sycamore/Claeys intersection, once constructed, were LOS E or worse, as projected by this analysis, the City would install a traffic signal at this intersection.	LS
	Circulation Element Objectives 2e, 2f, 2h; Policies 2a, 2e; Implementation Actions 6, 7, 9, 10, 11, 14			
IV.D Vegetation and Wildlife				
Biology-1: Introduction of invasive non-native species used in landscaping would be detrimental to the native habitats within the Hercules General Plan Update project area.	**Land Use Element Objective 14; Program 14A.3**	None identified.	**Biology-1a:** The City shall require that native plants from local area be used in landscaping, and in areas with a lower water table, native drought tolerant species shall be used in landscaping.	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Biology-2: Seasonal freshwater wetlands would be directly affected (lost or damaged) by development within the Land Use Element Update study area.	**Land Use Element Program 14A.3**	**Open Space/Conservation Element Objective V.C.1c**	**Biology 2a:** The City shall require project proponents to design construction footprints to avoid any wetlands and CDFG- and or COE-approved~~place 100-foot~~ buffer zones around the wetlands in the project area~~, or as determined by CDFG or the COE~~. If avoidance is not possible projects shall be redesigned so as to impact the least amount of wetlands. Any areas that are classified as wetlands and would be affected by project development shall be recreated either on or off site in accordance with CDFG and COE. **Biology 2b:** Prior to construction in areas of wetlands, the City shall support CDFG and Corps permitting process. A project sponsor shall be required to obtain a Streambed Alteration Agreement from CDFG and/or a Section 404 Corps permit prior to any development within any wetland. **Biology 2c:** If flood control improvements are required along Refugio Creek the City shall work with~~direct~~ the Corps to create the flood control area wide enough to provide for establishment within the flood control area of native vegetation to provide for wildlife habitat. The City shall allow a transition area between proposed land uses and this natural community, as described in Program 13B of the proposed Land Use Element.	LS

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Biology-3: Development of Parcel A would directly encroach upon the Refugio Creek riparian corridor.	**Land Use Element Objective 14; Program 14A.3**	**Open Space/Conservation Element Objective V.C.1c**	**Biology-3a:** Prior to construction in areas of riparian corridors or wetlands, the City shall support CDFG and Corps permitting process. A Streambed Alteration Agreement from CDFG and/or a Section 404 Corps permit shall be obtained by the project applicant prior to any development within any creek or discharge of fill into any creek. **Biology-3b:** Design of building footprints along any riparian corridors shall be outside the CDFG- and/or COE-preapproved~~100-foot~~ buffer zone ~~(from the top of the bank, 50 feet on each side)~~. Sensitive riparian habitats shall be marked by a qualified biologist to deter any destruction by equipment during construction. **Biology-3c:** Development along any riparian corridor shall incorporate measures to avoid impacts during construction, including: i) Construction of any access bridge shall be limited to the bridge footprint area only. ii) Parking of large equipment shall be on the upland grassland area or on the paved street. Construction workers cars shall have designated parking areas. iii) Basins for oil leaks from the equipment shall be installed if equipment is parked on-site over night.	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Biology-4: The proximity of development to riparian and wetland communities could cause degradation of these communities through introduction of urban pollutants in stormwater runoff.	**Land Use Element Objective 14; Program 14A.3**	**Growth Management Policy III.E.5**	**Biology-4a:** The City shall require project proponents to design facilities to prevent degradation of riparian and wetland communities from urban pollutants in storm runoff. **Biology-4b:** To minimize pollution downstream from sedimentation, the City shall require installation of sedimentation and grease basins in the storm drain system in parking lots in accordance with NPDES regulations and shall require that property owners maintain the basins annually, or as required by NPDES regulations. Parking lots shall be swept periodically to decrease the amount of debris that could potentially contaminate the riparian or wetland habitat.	LS
Biology-5: Development on Parcels 1 and 2 under the updated Land Use Element could result in the disturbance of salt marsh zones along San Pablo Bay, due to the proximity of urbanization.	**Land Use Element Objective 14**	**Open Space/Conservation Element Objectives V.C.1.b and V.C.1c**	**Biology-5a:** The city shall review development proposals for consistency with minimizing impacts to salt marsh zones. The City shall incorporate the following policies and programs for development near San Pablo Bay: • Buildings shall be located on existing developed or graded areas, where practicable.	

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

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			• The City shall work with CDFG, BCDC, East Bay Regional Park District, and the Corps to determine appropriate buffer zones along the Bay to protect tidal habitat when designing a bay access trail linkage between Pinole and Rodeo. Public access and pedestrian pathways shall be limited within the buffer zone, and when possible, located along the edges of the buffer zone. Bicycles shall be encouraged to stay on bike paths through the use of signage and fencing. • The City shall require developers to provide signage and fencing to enforce leash laws around remaining areas of sensitive habitats such as salt marsh wetlands and mud flats.	
Biology-6: Habitat for several special status plant and animal species would be affected by construction within development areas in the study area.	None identified.	None identified.	**Biology-6a:** For projects not exempt from the California Environmental Quality Act, the City shall continue to utilize environmental review under CEQA to review development and for impacts on sensitive species and their habitat. **Biology-6b:** The City shall require that development within the General Plan area incorporate features to preserve foraging habitat for wildlife.	

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SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Biology-6c: Areas that could provide habitat for sensitive species shall be surveyed by qualified biologists provided by project sponsors prior to project design. Surveys in sensitive areas would have to be conducted prior to any development. Sensitive areas within the study area includes eucalyptus groves, freshwater wetlands and adjacent trees, open grasslands, ponds and creeks, and buildings which are abandoned or slated for destruction. If any species is present, coordination with the CDFG will be required for mitigation of impacts and redesigning of the project footprint to avoid any sensitive species or sensitive habitat. If avoidance is unavailable coordination with the CDFG will be required for relocation of these species and for determining replacement of habitat. i) If monarch butterfly is present, eucalyptus groves within the development should be retained during the winter roosting season. Removal of eucalyptus trees, if undertaken, should occur from August through October, before the butterfly's winter roosting season and after raptor nesting. ii) Surveys for Ricksecker's water scavenger beetle, red-legged frog, and northwestern and southwestern pond turtle should be conducted by a qualified biologist in all ponds prior to development.	

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

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			iii) If surveys find nesting black-shouldered kite, loggerhead shrike, or saltmarsh yellowthroat are present in trees along the freshwater marsh or in grasslands, respectively, suitable replacement foraging habitat should be evaluated for nesting availability. Construction should be timed to occur after the fledging seasons of the kite (June through August), the shrike (March through August), and the saltmarsh yellowthroat (April to mid-July), before the pairing season in February. iv) Surveys for Pacific western big-eared bat shall be conducted during the spring and winter seasons to determine if nursery colonies or winter colonies occur in the building. If individuals are found within the building during springtime, destruction of the building shall commence in August when the young have left with the females. If a winter roost occurs in the building blockage by a qualified pest control operator shall be conducted prior to destruction of the building. The City shall condition approval of individual development proposals on implementation of the following programs:	

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Biology-6d: As much open space as possible within sites proposed for development shall be retained as informal open space for wildlife habitat, rather than as formal, landscaped parks or grounds. Wildlife areas shall be revegetated with native or non-native grassland and native species of shrubs requiring no irrigation and little management beyond the first year after planting. **Biology-6e:** Wildlife habitat shall be consolidated into "preserves" that are as large as possible. **Biology-6f:** Habitats on adjoining parcels shall be as contiguous as possible, to create wildlife corridors. **Biology-6g:** Wildlife open space shall be placed adjacent to other wildlife habitat, to preserve the greatest ecological value. **Biology-6h:** Public access to wildlife habitat shall be minimized by placing trails close to buildings so as to provide the largest area of habitat possible with the least amount of impact from the public.	
Biology-7: Loss of open space within the Hercules City Limits would have a cumulative adverse impact on wildlife.	None identified.	None identified.	**Biology-7a:** Open space areas shall be designed into the footprint of proposed projects and shall be located adjacent to existing open space areas, providing a larger continuous area for wildlife to use.	LS

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SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Biology-7b: Open space areas, if disturbed during construction, shall be landscaped with native species.	
			Biology-7c: Trails, if any, shall be placed close to buildings so as not to disturb wildlife nesting/denning areas.	
IV.E Visual Quality				
Visual-1: Implementation of the proposed land use designations could result in development that impairs the existing scenic quality of the upper drainage and lower drainage ridges, plateaus and floodplain.	**Land Use Element Policy 6B, Objective 7, Program 7A.1**	**Open Space/Conservation Element Measures V.3.b1, V.3.b3, V.3.b4**	**Visual-1a:** Development proposals should be reviewed in terms of natural objects in the vicinity that have aesthetic significance. This may include open space, eucalyptus groves, or vegetation that serves as a view corridor or has important visual attributes. Development proposals should be sited to ensure that these features are retained <u>or replaced to the extent feasible</u>, resulting in minimal view impairment.	
			Visual-1b: Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, should be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors. <u>If specific trees are to be removed, such as eucalyptus trees, replace with trees, preferably native species, that would provide suitable screening while retaining important view corridors.</u>	LS

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			Visual-1c: Preserve the wooded tree-lined character of the proposed hiking/biking trail along Refugio Creek west of I-80 through retention of existing vegetation and/or planting of replacement trees and other vegetation.	
Visual-2: Adoption of the proposed land use designations could result in development that could result in obstruction of scenic vistas and views open to the public.	**Land Use Element Objective 7**		**Visual-2a:** Development should preserve important view corridors, where feasible, by identifying and preserving the attributes of the view corridor that characterize its significance (e.g. framing elements, surface water reflections, presence or absence of impinging details) as seen from roadways, pedestrian paths or other public vantage points to avoid view obstruction. Buildings should be sited so as to minimize view obstruction from sensitive viewpoints. The following views, from publicly accessible viewpoints, should be preserved to the maximum extent feasible as the City evaluates new development on a parcel-specific basis: • Upper drainage views from higher elevations of Parcel 13 easterly up the floor of Franklin Canyon. • Lower drainage views from Hercules Point north across open water to Lone Tree Point and beyond to Solano and Napa Counties. • Lower drainage ridge views from the promontory of San Pablo Bay, Lone Tree Point, Franklin Canyon and the Refugio Creek floodplain. • San Pablo Avenue views of specimen oak tree stands and, where feasible, of Eucalyptus.	LS

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			• Views of San Pablo Bay and the Hills of Marin, Sonoma and Napa Counties, and inland of the Briones Hills, that are available from various elevation points on Parcels 2, 3, 4, 5, 6, 7, and C and from the shoreline areas of Parcels 1, 2, and 6. • Views from the former Hercules Powder Company offices on the promontory to the west, north and east.	
Visual-3: Development in the upper drainage valleys, lower drainage floodplain and plateaus could introduce additional light and glare.	None identified.	None identified.	**Visual-3a:** The City of Hercules should evaluate the light and glare potential of new development on a parcel specific basis and apply the following measures: • Screening of parking areas by using vegetation or trees. This would reduce the amount of glare generated from painted and chrome automobile surfaces and prevent expanses of stationary and moving automobiles. • Hooded lights for nighttime illumination should be used for parking areas, shipping and receiving docks and industrial development. Hooded lights direct the light beam towards the ground, which if a dark pavement, will not reflect light and cause spillage into neighboring uses. • Regular windows should be used instead of the glass walls or massive reflective windows often used for research and development, and office park developments.	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

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IV.F Public Services and Utilities				
Fire-1: Development consistent with the proposed Land Use and Circulation Elements Update would result in increased demand on the Rodeo-Hercules Fire Protection District services in the City.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Growth Management Element Performance Standard III.E.1.** **Seismic Safety/Safety Element Policies VI.C.14.d.1, VI.C.14.d.3, VI.C.14.d.4; Implementation Programs VI.D.2.a, VI.D.2.b, VI.D.2.e**	The City shall add the following policies or implementation programs to the Land Use Element Update: **Fire-1a:** The City shall assist the Rodeo-Hercules Fire Protection District in processing the collection of fire impact fees from all new development within the District. **Fire-1b:** The City shall work with the Rodeo-Hercules Fire Protection District to determine specific needs for fire protection when a particular development proposal is reviewed and ensure the District's needs are met.	LS
Police-1: Development consistent with the proposed Land Use and Circulation Elements Update would result in increased demand on police services in the City.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Growth Management Element Performance Standard III.E.2.** **Seismic Safety/Safety Element Implementation Program VI.D.2.e** **Economic Development Element Objective II.C.2**	None identified.	LS
Water-1: Development consistent with the Land Use and Circulation Elements Update would increase demand for potable water and could require additional delivery and/or storage facilities.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Growth Management Element Performance Standard III.E.6.** **Open/Space Conservation Element, V.B.2.b**	**Water-1a:** The City shall include in the proposed Land Use Element Update the following programs under Policy 3A: • Ensure that the new development pays its share of the costs associated with the provision of facilities for water by attaching project-specific mitigation requirements as conditions of approval.	LS

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

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			• The City shall cooperate with East Bay Municipal Utility District planning efforts to help ensure an adequate water system for existing and future residents and to maintain adequate water reserves. • Encourage effective water conservation practices by residents and businesses including household conservation and use of drought-resistant landscaping and reclaimed wastewater. • The City will practice water conservation in management of parks and requirements for landscape design development. • The City will encourage the installation of dual plumbing systems in large developments to accommodate future use of reclaimed wastewater for non-domestic purposes such as landscape irrigation, commercial and industrial process uses and toilet flushing in non-residential buildings. The City shall condition approval of individual development proposals on the following implementation programs: **Water-1b:** The City shall require the installation of low-flush toilets and other low-flow plumbing fixtures for new residential and commercial development.	

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SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Wastewater-1: Development consistent with the proposed Land Use and Circulation Elements Update would increase the demand for wastewater treatment.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Growth Management Element Performance Standard III.E.4.** **Economic Development Element Objective II.C.2; Program III.A.1**	**Wastewater-1a:** The City shall include in the proposed Land Use Element Update the following program under Policy 3A: • The City shall ensure that new development funds its share of the costs associated with the provision of wastewater treatment facilities by attaching project-specific mitigation as conditions of approval. Prior to development on any of the parcels, the City shall implement the following programs: **Wastewater-1b:** The City shall initiate the wastewater treatment study discussed above (Program III.A.1 of the Economic Development Element), and shall implement programs to ensure adequate wastewater treatment capacity prior to approval of development that would generate demand for treatment in excess of capacity, including increased capacity improvements now planned. This study shall include the following information: • Inventory of existing facilities, including collection systems, treatment plants, and pumping stations. [This inventory has been accomplished as part of the planning for improvements described in the Setting.]	LS

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			• An alternative analysis of the City's three options to treat additional wastewater expected at buildout of the proposed Land Use Element Update. • Identification of funding sources. • Coordination with the City of Pinole, EBMUD and other agencies involved in wastewater treatment and/or water reclamation. • Appropriate uses of reclaimed water within the City. **Wastewater-1c:** The City shall implement a Capital Improvement Program (CIP) for the selected wastewater treatment alternative(s). The CIP shall include funding, scheduling and development programs for the selected alternative.	
IV.G Hazardous Materials				
Hazard-1: Cleanup of hazardous materials or wastes currently in the project area could pose a threat to workers or the environment.	None identified.	None identified.	**Hazard-1a:** At every potentially contaminated location to be developed within the City, the project applicant shall have the site inspected by a Registered Environmental Assessor (i.e. a professional environmental scientist or engineer registered as an REA in California) for the presence of hazardous materials and wastes.	LS

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			Hazard-1b: In the event that the site inspections of Mitigation Measure Hazard-1a uncover chemical contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes at a parcel, the inspection report preparer shall so notify the City and other agencies, as applicable, potentially including the state Department of Toxic Substances Control, the Regional Water Quality Control Board, and/or ~~. The City shall notify the~~ County Health Services Department. The City would also notify the proper agencies, as required by law. Under the direction of ~~these~~the appropriate agencies, a site remediation plan shall be prepared by the project applicant, in accordance with applicable regulations.	
			Hazard-1c: For the ~~two former~~ Hercules Properties Inc. Parcel 1 that is ~~Powder Co. parcels~~ currently being remediated parcels, the City shall obtain copies of closure reports prepared by Cal-EPA certifying that the property~~ies~~ has~~ve~~ been remediated and poses no threats to public health.	
Hazard-2: Potentially hazardous installations in or adjacent to the project area could pose a threat to occupants or residents should adjacent areas be developed.	**Land Use Element Objective 13; Policy 13a**	None identified.	**Hazard-2a:** No residential development shall be allowed within the "one-in-a-million" cancer risk isopleth enclosing Pacific Refining Company, as illustrated in the Pacific Refining Company Improved Fuels Modification Project EIR (Woodward-Clyde Consultants, 1993). This mitigation applies only to Parcels 6 and 7.	LS

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			Hazard-2b: If required by the Contra Costa County Health Services Department, a Risk Management and Prevention Plan (RMPP) should be prepared for acutely hazardous chemicals handled at the Hercules Wastewater Treatment Plant. The RMPP should be prepared by the operators of the Hercules Wastewater Treatment Plant. The RMPP should be prepared with the guidance of the Contra Costa County Health Services Department.	
			Hazard-2c: One policy of the City of Hercules *Hazardous Waste Management Plan* is to coordinate City emergency response procedures with the Rodeo-Hercules Fire Protection District, and to train city personnel in emergency response procedures through establishment of an interagency emergency response task force. The City shall include potential emergencies involving hazardous materials handled at the Hercules Wastewater Treatment Plant shall be included in the emergency planning.	
			Hazard-2d: If required by the RMPP prepared under Measure Hazard-2b, Ffuture residents or occupants of Parcels 1, 3, and 4 shall be informed of what actions to take in the event of an acutely hazardous materials release from the Hercules Wastewater Treatment Plant.	

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			Hazard-2e: Consistent with pipeline operators' standards, no buildings~~, pavement, landscaping,~~ or other ~~development~~ structures that could impede access shall be installed in any pipeline right-of-way~~, nor within ten feet of any pipeline right-of-way~~.	
			Hazard-2f: The City shall permit pipeline operators with pipelines and pipeline rights-of-way adjacent to parcels subject to Tentative Map approval to review these maps.~~consider establishing a buffer zone that would separate future residential development from existing petroleum and natural gas pipeline rights-of-way~~.	
			Hazard-2g: Prior to the start of construction on any parcel that includes or is bordered by a pipeline or pipeline right-of-way or easement, the City shall consult with the Rodeo-Hercules Fire Protection District and the operator(s) of affected pipeline(s) regarding the adequacy of safety procedures for pipeline accidents.	
			Hazard-2h: The City shall consider a requirement that sponsors of residential development notify homeowners of the presence of adjacent or nearby pipelines.	

LS=Less than Significant

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.H Cultural Resources				
Cultural-1: Development consistent with the proposed Land Use and Circulation Elements Update could result in damage to known or unknown prehistoric archaeological resources.	**Land Use Element Policy 8A; Programs 8A.1 and 8A.2**	None identified.	**Cultural-1a:** Prior to development on Parcels 1, 2, 4, A and C, an attempt should be made through a combination of archival research and in-field testing to identify areas that may have been used by Native American populations. Areas containing prehistoric deposits would be mapped; evaluation of their significance would follow only in those areas where future development might affect the resources (Holman, 1991) **Cultural-1b:** The City should enact the following program prior to any development in the vicinity of CA-CCO-370 and CA-CCO-248 on Parcels 1 and I, respectively. The program shall be conducted under the guidance of Appendix K of the CEQA *Guidelines*. The program would also apply to Parcels A, C, and 1-4, where the potential for Native American remains exists. • Prior to excavation and construction on the above parcels, the prime construction contractor and any subcontractor(s) would be cautioned on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, and other cultural materials from the project site.	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			• The project sponsor would identify a qualified archaeologist prior to any demolition, excavation, or construction. The City would approve the project sponsor's selection for a qualified archaeologist. The archaeologist would have the authority to temporarily halt excavation and construction activities in the immediate vicinity (ten-meter radius) of a find if significant or potentially significant cultural resources are exposed and/or adversely affected by construction operations. • Reasonable time would be allowed for the qualified archaeologist to notify the proper authorities for a more detailed inspection and examination of the exposed cultural resources. During this time, excavation and construction would not be allowed in the immediate vicinity of the find; however, those activities could continue in other areas of the project site. • If any find were determined to be significant by the qualified archaeologist, representatives of the project sponsor or construction contractor and the City, the qualified archaeologist, and a representative of the Native American community (if the discover is an aboriginal burial) would meet to determine the appropriate course of action. • All cultural materials recovered as part of the monitoring program would be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.	

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

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			Cultural-1c: If previously unknown subsurface cultural resources are discovered during excavation activities on the identified parcels or elsewhere in the study area, excavation would be temporarily halted and an archaeologist consulted as to the importance of the resources. Should the archaeologist determine that the resources are important, the project sponsor would follow the procedure described in Mitigation Measure Cultural-1b.	
Cultural-2: Development consistent with the proposed Land Use and Circulation Elements Update could result in damage to known or unknown historic archaeological resources.	None identified.	None identified.	Mitigation Measures Cultural-1b and Cultural-1c would also apply to future development proposals for Parcels A, C, and I.	LS
Cultural-3: Development consistent with the proposed Land Use and Circulation Elements Update could result in damage to known historical resources.	**Land Use Element Policies 8A.1 and 8A.2**	None identified.	**Cultural-3a:** Prior to development on Parcels I and C, the City should initiate an architectural evaluation of the remaining Hercules Powder Company buildings. Since the architectural evaluation was done in 1977, the State Historic Preservation Office has altered its definition of what is historically significant. At present any structure 45 years or older may qualify as significant under CEQA (Holman & Associates, 1991). The elements of architectural evaluation program should include:	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			• An architectural evaluation of remaining company buildings by a qualified architectural historian. • A determination of whether the remaining buildings are eligible for listing in the National Register of Historic Places. • On the basis of the above findings, the City should take action to commit the eligible buildings to permanent conservation by having them listed in the National Register of Historic Places. The City could encourage adaptive reuse of listed buildings, including historically sensitive restoration, as a means of preserving eligible structures. Restoration and renovation of buildings should be performed in accordance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties." The standards serve as guidelines for rehabilitation, restoration, preservation, retaining and preserving historic character of the property. • If the above findings show that a building is not eligible for the National Register of Historic Places, then the following measure should be implemented: Prior to development on many of the 24 parcels, a Phase II historic resources evaluation shall be conducted. Development is defined here as: Significant changes to building uses and/or land uses; The construction of new buildings;	

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Significant exterior alterations to existing buildings, including demolition; or An increase in development intensity on a parcel. If a Phase II evaluation identifies historic resources on a parcel, appropriate mitigation measures shall be incorporated into the project design using widely accepted standards for historic resources management, such as the *Secretary of the Interior's Guidelines for Rehabilitation* and the State Historic Building Code.	
IV.I Hydrology and Water Quality				
Hydrology-1: Development consistent with the proposed Land Use and Circulation Elements Update would place structures and an increased population in areas already subject to 100-year flooding from Refugio Creek and from coastal storms. Additionally, construction of new impermeable surfaces could increase runoff and contribute to flooding.	**Program 13B**	**Growth Management Element Performance Standard III.E.7.** **Seismic Safety/Safety Element Policies C.2.e.1, C.2.e.2, C.2.e.3, C.2.e.4 and C.2.e.5**	**Hydrology-1a:** The City shall review and refine, as necessary, its Master Drainage Plan, including specifics for drainage on individual parcels (except those such as Parcel 6 which already have a drainage infrastructure), prior to approval of any development in the study area. This is an important measure ~~since the City's wastewater system is at capacity, and~~ since new drainage and pollution prevention and control infrastructure would have to be built to accommodate the increase in runoff. **Hydrology-1b:** For each proposed development project, runoff increase calculations for the parcel at full build-out should be measured against estimates of existing runoff to ensure that no flooding would result.	LS

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Hydrology-2: Development under the Land Use and Circulation Elements Update could result in increased non-point-source and point-source pollution of surface waters from construction activity and vehicle use.	None identified.	None identified.	**Hydrology-2a:** Develop a Master Water Quality Control Plan for the City, including measures to clean up existing contaminated water resources in various parcels, to identify and remove or mitigate existing sources of pollution, and to develop ways of preventing further pollution such as specific water treatment policies for industries and retention basins for surface runoff suspected of carrying roadway pollutants. Such a plan must be approved by the City Engineer and should be reviewed by the Regional Water Quality Control Board and State Department of Water Resources for correctness and thoroughness, prior to implementation. **Hydrology-2b:** Develop a set of best management practices (BMPs) for developers to follow. Implementation of best management practices by the developers would further help to mitigate this impact. Such practices <u>may</u> include, but are not limited to: • Use of stormwater retention or detention structures; • he use of oil and water separators; and • The use of sediment traps.	LS

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

B. SIGNIFICANT BUT MITIGABLE IMPACTS

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			Particles of sediment adsorb many of the heavy metal pollutants from automobile exhaust, as well as trapping oil and grease within their pores. Through use of water separators, and sediment traps in conjunction with settling basins, many of the pollutants could be removed.	
IV.J Geology and Soils				
Geology-1: Development consistent with the proposed Land Use and Circulation Elements Update would involve construction of facilities in a seismically active zone, characterized by a high probability of strong ground shaking. Ground shaking could pose a threat to the structural integrity of any developed structures and associated underground utility lines, as well as a threat to the welfare and safety of people occupying the sites.	**Land Use Element Program 8A.1**	**Seismic Safety/Safety Element Policies C.1, C.2, C.3, C.4, C.5, C.6, C.7, C.8, C.9, C.10, C.11, C.12, C.13, and C.14, Implementation Actions 2.a and 2.b**	**Geology-1a:** No critical facility or school should be permitted in areas subject to very strong ground shaking or ground failure until an evaluation of alternative sites with reduced earthquake and flood hazards is completed. For each proposal, require a feasibility study to determine whether any proposed critical facilities (emergency response centers, police stations, and hospitals) and schools could be sited in areas with lesser earthquake hazards. An alternative site feasibility assessment should include a consideration of sites in areas with lesser earthquake (and flood) hazards in addition to considerations of service area, accessibility, and economic considerations. **Geology-1b:** For projects proposed in areas subject to very strong earthquake ground shaking or ground failure, conduct geotechnical studies and structural design evaluations for all critical facilities, schools, high-population facilities (such as shopping malls) and industries using or generating significant amounts of hazardous materials.	LS

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			If the alternative site feasibility study for a critical facility or school were to indicate that other less hazardous sites are not available for the critical facility, then geotechnical studies and structural design processes for the facility would be conducted in compliance with State of California requirements and recommendations of the Seismic Safety Commission. These could include detailed studies of the geologic materials at the site, seismic event response evaluations to identify design criteria, foundation design criteria and dynamic method analyses of proposed structures, and others. As these studies are costly and the resulting foundation and structural designs are often expensive to construct, it is recommended that the alternative site feasibility study be conducted first. For the other types of facilities, the alternative site feasibility assessment would be an optional requirement of the City (an alternatives site evaluation may be required under CEQA). A rigorous geotechnical evaluation and structural design process would be required to ensure that the proposed structures would perform in major earthquakes without creating a life safety hazard to occupants or people in surrounding areas. **Geology-1cb:** Prepare or update an Earthquake Preparedness and Emergency Response Plan for the City to deal with the specific effects of seismic-induced ground shaking, liquefaction, and lurching.	

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			Geology-1de: Require site-specific geotechnical investigations for every new development.	
Geology-2: Development consistent with the proposed Land Use and Circulation Elements Update would involve grading that would disrupt, compact, and overcover existing soil. This could alter the capacity of native soils to absorb precipitation and runoff and increase their erosion potential.	None identified.	Implementation of the Seismic Safety/Safety Element contained in the City's *General Plan* (described under Mitigation Measures for Impact Geology-1 would help reduce the impact to a less-than-signficant level.	**Geology-2a:** Development of the project sites should minimize the amount of native soils compacted by construction vehicles and structures, as well as the amount of soil disturbed through grading and excavation. As much as possible, native soils should be left undisturbed and used for open space and landscaping purposes. **Geology-2b:** Development of the project sites should also maximize the use of pervious materials, including fill, and incorporate proper drainage structures capable of handling anticipated increases in surface runoff. **Geology-2c:** Minimize amount of grading when building on hill sides.	LS
Geology-3: Development consistent with the proposed Land Use and Circulation Elements Update would accelerate natural erosion of native soils and fill by wind and water. If uncontrolled, increased erosion could undermine structures built upon the study area parcels. Eroded materials could also increase sedimentation in nearby Refugio Creek and in San Pablo Bay.	None identified.	**Seismic Safety/Safety Element Policies C.2, C.3, C.5, C.6, C.12, C.13 and C.14**	**Geology-3a:** No grading should occur on slopes steeper than 30 percent, and cut slope angles no greater than 33 percent be maintained (Griggs and Gilchrist, 1977). **Geology-3b:** The use of silt fencing, sediment trapping basins, runoff diversion devices, and hydroseeding of barren slopes can minimize or prevent this impact. It is recommended that applicants for construction permits within the City of Hercules submit an erosion control plan for the proposed development site, based on soil and underlying substrate conditions and using criteria obtained from the City's Grading Ordinance.	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

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			Grading in the City should occur with no increase in discharge of sediments to wetlands, Refugio Creek, or San Pablo Bay. Measures to be implemented by the developers should be identified in their erosion and sediment control plans, as required by the City's Grading Ordinance. Measures identified in the report should be incorporated as conditions of approval for the development.	
Geology-4: Development consistent with the proposed Land Use and Circulation Elements Update could result in changes in topography and construction on steep slopes in some portions of the study area that would accelerate the development of landslides or mudslides.	**Land Use Element Policy 6A**	**Seismic Safety/Safety Element Policies C.5, C.6, C.7, C.8, C.12, C.13 and C.14**	**Geology-4a:** Develop and implement hillside drainage plans to reduce the risk of further movement by existing landslides. Site new structures away from steep hillsides and the toes of existing landslide surfaces, reducing the potential for damage from landslide movement or burial. Require potential developers to perform site-specific slope stability analyses, including field estimation of the soil properties significant to slope stability, for those parcels or portions thereof identified as having the steepest slopes or greatest potential for landslides. In addition, the City should add the following policies to the proposed Land Use Element Update: **Geology-4b:** Develop the study area parcels in such a way as to minimize the potential for creating new landslides or reactivating old ones.	LS

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Geology-5: Development consistent with the proposed Land Use and Circulation Elements Update could expose people and structures to the hazard of differential settlement.	None identified.	**Seismic Safety/Safety Element Policies C.1, C.4, C.10 and C.11**	**Geology-5a:** For proposed structures in areas subject to settlement hazards, conduct a geotechnical engineering investigation to determine the degree of hazard and the appropriate approach to reducing the hazard to an acceptable level of risk.	LS
Geology-6: Development consistent with the proposed Land Use and Circulation Elements Update would result in construction on soils with high shrink-swell potential and corrosive potential, which could cause cracking of foundations and corrosion of concrete.	None identified.	**Seismic Safety/Safety Element Policies C.1, C.4, C.9, and C.11**	**Geology-6a:** Applicants for development of structures within the City of Hercules shall submit a report by a California certified engineering geologist documenting the geotechnical suitability of the site for the proposed development based on soil and underlying substrate conditions; and the measures required to ensure public safety and the protection of property.	LS
IV.K Air Quality				
Air-1: Fugitive dust generated by construction and demolition activities under the Land Use and Circulation Elements Update would add to ambient PM_{10} levels.	None identified.	**Economic Development Element Policy 3, Program 3**	**Air-1a:** The elements of the dust abatement program include the following dust control measures: • Sprinkle all construction areas with water (recycled when possible) at least twice a day, during excavation and other ground-preparing operations, to reduce fugitive dust emissions. Wetting could reduce particulate (dust) emissions by up to 50 percent.	LS

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			• Cover stockpiles of sand, soil, and similar materials, or surround them with windbreaks. This measure would substantially reduce wind erosion of stockpiled materials during demolition, and construction, reducing the potential of the project to contribute to excessive suspended particulate (dust) concentrations when the wind exceeded 10 miles per hour. • Cover trucks hauling dirt and debris to reduce spillage onto paved surfaces. • Post signs that limit vehicle speeds on unpaved roads and over disturbed soils to 10 miles per hour during construction. • Use canvas drapes to enclose building floors during the application of mineral-based fiber insulation to structural steel frames. • Sweep up dirt and debris spilled onto paved surfaces immediately to reduce resuspension of particulate matter through vehicle movement over those surfaces. • Require the construction contractor to designate a person or persons to oversee the implementation of a comprehensive dust control program and to increase watering, as necessary.	

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Air-2: Exhaust emissions from construction equipment would increase criteria air pollutant emissions during the construction periods for individual projects under the proposed Land Use and Circulation Elements Update.	None identified.	None identified.	**Air-2a:** Require construction contractors to maintain and operate construction equipment so as to minimize exhaust emissions. All internal combustion engines should be kept well-tuned with regular and periodic inspection and maintenance checks to minimize exhaust emissions. During construction, trucks and equipment should be running only when necessary. **Air-2b:** Require that construction of large projects be timed to avoid significant periods of overlap.	LS
IV.L Noise				
Noise-1: Development consistent with the Land Use and Circulation Elements Update would result in temporary noise impacts related to construction activities.	None identified.	**Noise Element Objective 1.d**	**Noise-1a:** For construction near sensitive receptors, ~~R~~require that noisy construction activities be scheduled for periods, such as between 8 a.m. and 6 p.m. on weekdays and 9 a.m. to 6 p.m. on Saturday, when loud noises would have the least impact on adjacent residents or other sensitive receptors~~and workers~~. **Noise-1b:** Develop a construction schedule that minimizes potential cumulative construction noise impacts and accommodates particularly noise-sensitive periods for nearby land uses (e.g., for schools, churches, etc). **Noise-1c:** Where feasible, ~~R~~require that holes for driven piles be pre-drilled to reduce the level and duration of noise impacts.	LS

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B. SIGNIFICANT BUT MITIGABLE IMPACTS

SIGNIFICANT IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Noise-1d: Where feasible ~~C~~construct temporary, solid noise barriers between source and sensitive receptor(s)~~receiver~~ to reduce off-site propagation of construction noise. This measure could reduce construction noise by up to five decibels. **Noise-1e:** Require internal combustion engines used for construction purposes to be equipped with a properly operating muffler of a type recommended by the manufacturer. Also, require impact tools to be shielded per manufacturer's specifications.	
Noise-2: Development consistent with the Land Use and Circulation Elements Update would result in a long-term increase in traffic noise levels along the City road network.	**Circulation Element Objectives 2.b and 2.g**	**Noise Element Implementation Measures 2.a, 2.d, and 3**	**Noise-2a:** The City shall limit truck traffic to between 7:00 am and 6:00 pm and prohibit heavy-duty diesel trucks on Hercules Avenue.	LS
Noise-3: Noise from stationary sources developed under the Land Use and Circulation Elements Update could raise ambient noise levels above City standards.	None identified.	The following measures are from the City's Noise Element: **"Normally Unacceptable" Land Use Compatibility:** New construction or development should generally be discouraged. If new	**Noise-3a:** As discussed in Impact Noise-1, the City could revise the Municipal Code to include a Noise Ordinance. The Noise Ordinance would encourage the scheduling of noisy activities during normal business hours so that they would have the least interrupting and intrusive effect at nearby residential land uses.	LS

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		construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features must be included in the design. Outdoor areas must be shielded. **Implementation Measures 1.a-1.b, 2.b, 2.c, 2.e, and 2.f**	**Noise-3b:** The City shall review new development proposals for noise sources that could impact existing land uses. Proposed projects must demonstrate that any new noise sources would not impact existing land uses.	
Noise-5: Development consistent with the proposed Land Use and Circulation Elements Update would expose future noise-sensitive land uses to traffic and railroad noise above the City's recommended standards.	**Circulation Element Objectives 2.b and 2.g; Policies 2.b and 2.c**	**Noise Element Implementation Measures 1.a, 1.b, 2.a, 2.b, 2.c, 2.d, 2.e, 2.f, 3,** and the **"Normally Unacceptable" Land Use Compatibility** guideline identified above.	Mitigation Measure **Noise-2a** identified above.	LS

LS=Less than Significant

SOURCE: Environmental Science Associates, Inc.

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.B Transportation and Circulation				
Transportation-4: Policies included in the proposed Circulation Element Update could result in increased use of alternatives to the single-occupancy vehicle.	No additional mitigation required.	No additional mitigation required.	No additional mitigation required.	NA
Transportation-5: Development that would occur pursuant to the proposed Land Use and Circulation Elements Update could encourage walking and bicycle use.	No additional mitigation required.	No additional mitigation required.	No additional mitigation required.	NA
Transportation-6: Traffic generated by development consistent with the proposed Land Use Element would contribute to congestion on local roadways.	No additional mitigation required.	No additional mitigation required.	No additional mitigation required.	NA

NA=Not Applicable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.C Population and Housing				
Population-1: Development consistent with the proposed Land Use Element would increase the number of jobs relative to employed residents, thereby decreasing the jobs/housing imbalance.	**Land Use Element Objectives 1-3, 5, 6, 11; Policies 5B and 5C; Programs 5B.1, 5B.2, and 5C.1**	**Housing Element Goal 1; Policies 1.2 and 2.2**	None identified.	NA
IV.E Visual Quality				
Visual-4: Development consistent with the proposed Land Use Element could degrade objects having aesthetic or historical significance.	**Land Use Element Objective 8; Policy 8A; Programs 8A.1 and 8A.2**	None identified.	**Visual-4a:** The City would review development proposals on a project-specific basis. New development would be subject to design review as part of the City's project review process.	NA
IV.F Public Services and Utilities				
Storm Drainage-1: Development consistent with the proposed Land Use and Circulation Elements Update would increase the demand for stormwater collection and, potentially, treatment.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Growth Management Element Performance Standard III.E.5** **Economic Development Element Objective II.C.2**	**Storm Drainage--1a:** The City shall include in the proposed Land Use Element Update the following program under Policy 3A: • The City shall ensure that new development funds its share of the costs associated with the provision of storm drainage facilities by attaching project-specific mitigation as conditions of approval.	NA

NA=Not Applicable

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			The City shall condition approval of individual development proposals on the following implementation programs (identified in the Hydrology and Water Quality analysis in this report [Section IV.I]): **Storm Drainage-1b:** The City shall review and refine, as necessary, its Master Drainage Plan, including specifics for drainage on individual parcels (except those such as Parcel 6 which already have a drainage infrastructure), prior to approval of any development in the study area. This is an important measure ~~since the City's wastewater system is at capacity, and~~ since new drainage and pollution prevention and control infrastructure would have to be built to accommodate the increase in runoff. **Storm Drainage-1c:** Develop a Master Water Quality Control Plan for the City, including measures to clean up existing contaminated water resources in various parcels, to identify and remove or mitigate existing sources of pollution, and to develop ways of preventing further pollution such as specific water treatment policies for industries and retention basins for surface runoff suspected of carrying roadway pollutants. Such a plan must be approved by the City Engineer and should be reviewed by the Regional Water Quality Control Board and State Department of Water Resources for correctness and thoroughness, prior to implementation.	

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TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Storm Drainage-1d: Develop a set of best management practices (BMPs) for developers to follow.	
Solid Waste-1: Development consistent with the Land Use and Circulation Elements Update would increase the demand for solid waste services.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Economic Development Element Program III.E.5**	The City shall condition approval of individual development projects on the following mitigation measure: **Solid Waste-1a:** Prior to development on any of the 24 parcels, the City shall consult with Richmond Sanitary Service to confirm that adequate capacity exists for solid waste that would be generated by the project. **Solid Waste-1b:** Prior to development on any of the 24 parcels, the City shall require that projects sponsor(s) demonstrate that project include adequate recycling facilities.	NA
Public Works-1: Development consistent with the Land Use and Circulation Elements Update would increase the demand for street maintenance and other public works services.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Economic Development Element Objective II.C.2**	Prior to project approval, the City would initiate expansion of the Landscaping and Street Lighting benefit assessment district to encompass all study area parcels not currently included within the district.	NA

NA=Not Applicable

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Government-1: Development consistent with the Land Use and Circulation Elements Update would increase the demand for community development and general government services.	**Land Use Element Programs 2C.1 and 3A.3; Objective 3**	**Economic Development Element Objective II.C.2**	None identified.	NA
IV.G Hazardous Materials				
Hazard-3: Development consistent with the Land Use and Circulation Elements Update would indirectly allow for the potential increased handling of hazardous materials and the potential increased generation of hazardous wastes by new industrial and commercial facilities occupying areas of the City designated and zoned for such uses.	None identified.	**The City of Hercules *Hazardous Waste Management Plan* Policy, Sec. 4.3; Program, Sec. 4.4**	**Hazard-3a:** The City shall ensure that use, storage, and handling of hazardous materials by businesses and industries within the project area is done in compliance with applicable City policies as well as State and local laws, guidelines, and regulations. **Hazard-3b:** Residents adjacent to new hazardous materials handling facilities shall be notified immediately by the City emergency response organizations of any accidental occurrences such as spills, leakages, or eruptions which may affect the health, safety and welfare of the public. **Hazard-3c:** New businesses in the project area shall be required to install their temporary hazardous waste storage areas on paved, impermeable surfaces with drainage controls and spill containment features.	NA

NA=Not Applicable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Hazard-3d: Waste stored temporarily at generator facilities shall be segregated by hazard category and stored in individual, sealed storage containers. Separate containers shall be used for flammables, acids, bases, poisons, and reactive wastes.	
Hazard-4: Development under the Land Use and Circulation Elements Update would result in increase in the generation, storage, and disposal requirements of household hazardous wastes.	None identified.	The City of Hercules *Hazardous Waste Management Plan* Policy, Sec. 4.3	None required.	NA
Hazard-5: Implementation of the proposed Land Use and Circulation Elements Update would result in locating hazardous materials adjacent to sensitive receptors.	Land Use Element Policies 3B.1 and 13A; Objective 13	The City of Hercules *Hazardous Waste Management Plan* Program, Sec. 4.4	None required.	NA

NA=Not Applicable

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
Hazard-6: Transport of hazardous materials and wastes would result indirectly in greater potential for accidents involving hazardous materials.	None required.	None required.	**Hazard-6:** For each specific project that would generate hazardous waste, the City shall require as a condition of building permit and/or business license approval that the project sponsor prepare a hazardous material transportation program. The transportation program shall identify the location of the new facility or use and designate either (1) specific routes to be used for transport of hazardous materials and wastes to and from the facility, or (2) specific routes to be avoided during transport of hazardous materials and wastes to and from the facility. Routes would be selected to minimize proximity to sensitive receptors to the greatest practical degree. Passage through residential neighborhoods should be minimized, and parking of waste haulers on residential streets should be prohibited. The City shall review and approve the applicant's hazardous material transportation program or, working with the applicant, modify it to the satisfaction of both parties. The City shall require that the applicant provide a copy of the program to the Rodeo-Hercules Fire Protection District. Documentation to that effect shall be added to the administrative record.	NA

NA=Not Applicable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.K Air Quality				
Air-4: CO generated by vehicular traffic generated as a result of the Land Use and Circulation Elements Update would increase roadside CO concentrations along heavily traveled roadways and at congested intersections.	**Land Use Element Policies 2B, 3A, and 11A and Programs 3A.1 and 3A.2** **Circulation Element Objective 2.h, 2.e; Implementation Programs 6,10, and 14**	None identified.	**Mitigation Measures 3a and 3b** discussed in mitigation for Impact Air-3.	NA
Air-6: Development consistent with the Land Use and Circulation Elements Update could expose sensitive receptors to existing and future emissions of non-criteria pollutants.	None identified.	None identified.	None identified.	NA
IV.L Noise				
Noise-4: New roads developed under the Circulation Element Update would increase noise levels along the new alignments.	**Circulation Element Objectives 2.b and 2.g**	**Noise Element Objective 1.d**	**Noise 4a:** The City shall post signs prohibiting trucks from using the proposed Claeys Road extension, except for local deliveries. All other trucks shall be required to use Sycamore Avenue to reach the Claeys Road / SR 4 interchange.	NA

NA=Not Applicable

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
IV.M Energy				
Energy-1: Increased energy consumption related to construction and operation of development consistent with the Land Use and Circulation Elements Update would derive mostly from non-renewable energy resources.	**Energy-1a:** All new buildings would be required to meet the standards for energy efficiency as set forth in Title 24 of the California Code of Regulations. These standards would reduce the possibility of wasteful energy use with respect to building heating, cooling, and lighting.	None identified.	**Energy-1b:** A performance standard that exceeds Title 24 Standards by 10 percent. Under such a standard, the developers~~City would require project sponsors~~ of individual projects could~~to~~ design their projects to exceed Title 24 energy conservation performance standards by a certain percentage (at least 10 percent), based on the same calculation methods required for demonstrating compliance with the standard. Title 24 energy conservation performance standards are not particularly challenging, and so achieving an energy efficiency substantially greater than the minimum 10 percent could be interpreted as maximizing the energy efficiency of the project. Sponsors could meet the standard by incorporating the same or all of the following into their projects. • Design large commercial and office structures with a computer-controlled HVAC system for maximum efficiency. • Install occupant-controlled light switches and thermostats to permit individual adjustments to lighting, heating, and cooling, to avoid unnecessary energy consumption.	NA

NA=Not Applicable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			• Ensure that larger commercial and multi-family residential structures built are well-sealed to prevent outside air from infiltrating and increasing interior space-conditioning loads. Design building entrances with vestibules to restrict infiltration of unconditioned air and exfiltration of conditioned air. • Design window systems and use other means to reduce thermal gain and loss, and thus cooling loads, during warm weather and heating loads during cool weather. • Air distribution systems in large commercial structures could be designed by the project sponsor to cascade ventilation air from high-priority areas to low-priority areas before exhausting it, thereby decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors to mechanical spaces before being exhausted. • Install high-efficiency lamps for all street and parking lot lighting to reduce electricity consumption. • In commercial buildings, limit domestic hot water outlet temperatures to 100° Fahrenheit.	

NA=Not Applicable

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			• In large commercial projects, finish exterior walls with light-colored materials having emissivity characteristics to reduce cooling loads. • Design open space within and around the project to minimize paved areas and maximize landscape plantings using low-water species to reduce outdoor temperatures around the buildings in warm weather. • In commercial structures, install flourescent and high-intensity discharge lamps, which give the highest light output per watt of electricity consumed, wherever possible. **Energy-1c:** To reduce transportation-related energy, implement the measures that are identified in Sections IV.B., Transportation and Circulation, and IV.K., Air Quality.	NA
Energy-2: Development would result in interference with PG&E transmission and distribution facilities.	None identified.	None identified.	**Energy-2a:** The City shall preserve access for PG&E to work on electric and natural gas lines that extend through or adjacent to Parcels 1, 7, and 12, possibly through deeding of access rights-of-way.	NA

NA=Not Applicable

TABLE II.1: SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

C. LESS-THAN-SIGNIFICANT IMPACTS

IMPACT	MITIGATION PROPOSED AS PART OF THE PROJECT	MITIGATION IDENTIFIED IN OTHER GENERAL PLAN ELEMENTS	MITIGATION IDENTIFIED IN THIS EIR	RESIDUAL IMPACT
			Energy-2b: The City shall require individual developers or commercial tenants contact PG&E during the building application process to allow PG&E to review specific development plans with respect to potential impacts on PG&E distribution facilities.	
Energy-3: Development consistent with the Land Use and Circulation Elements Update would require additional electrical distribution lines and a second transformer bank at the Franklin substation.	None identified.	None identified.	None identified.	NA

NA=Not Applicable

SOURCE: Environmental Science Associates, Inc.

III. PROJECT DESCRIPTION

A. PROJECT LOCATION

REGIONAL SETTING

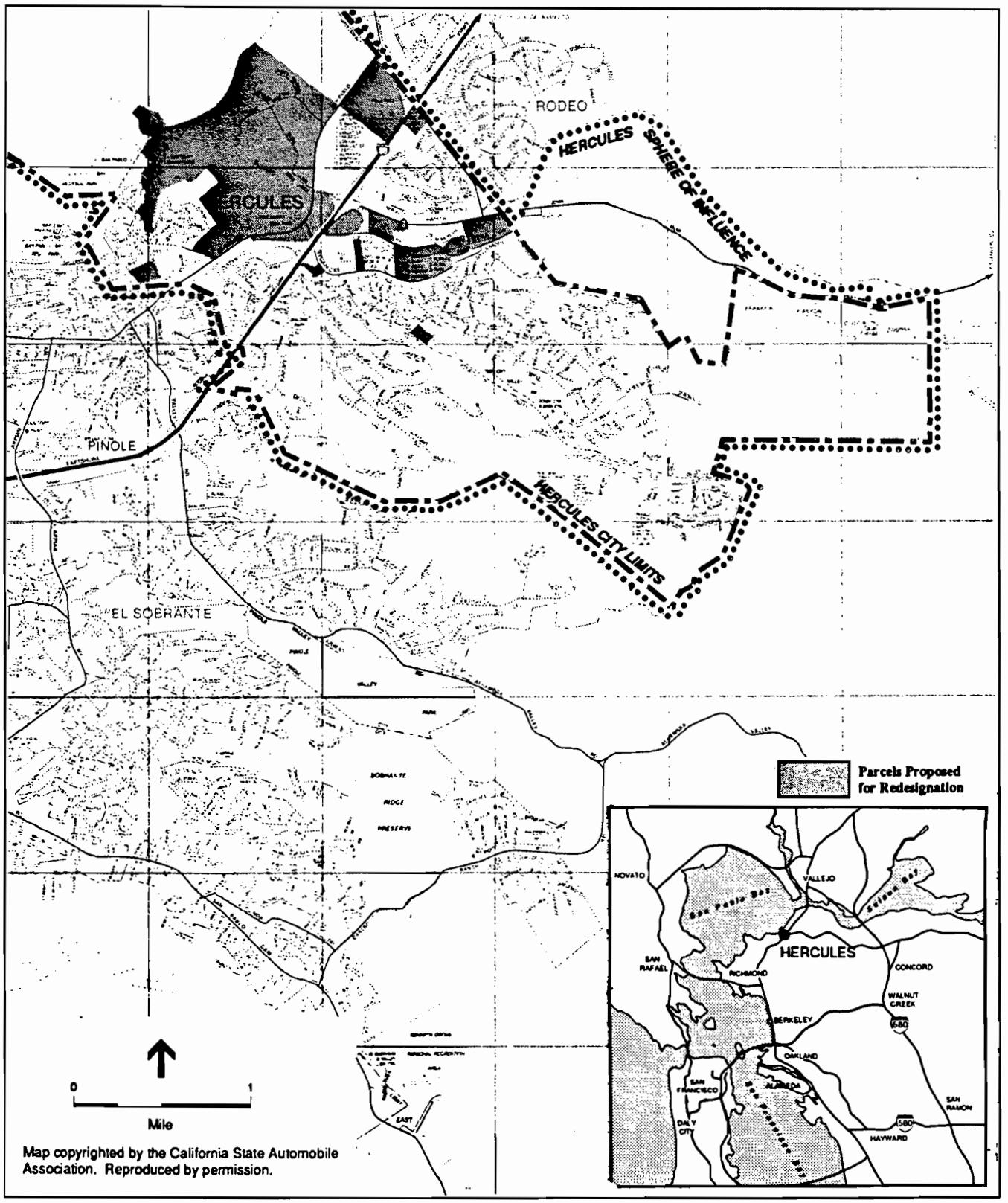
The City of Hercules is part of what is considered the "West County" area of Contra Costa County, which includes the urbanized shoreline of the San Francisco and San Pablo Bays and is separated from the rest of Contra Costa County by the Briones Hills and open space lands. The other distinct areas within Contra Costa County include Central County, which includes the communities between the East Bay Hills and the Diablo Range; and East County, which is predominantly rural, with increasing suburban development (Contra Costa County, 1991).

Roads of regional significance within the Hercules city limits include portions of Interstate 80 (I-80), State Route 4 (SR4), and San Pablo Avenue. Facilities of regional significance within the Hercules city limits include Refugio Valley Park, Creekside Shopping Center, the North Shore Business Park, Pacific Refining Company, and Franklin Canyon Golf Course.

LOCAL SETTING

Hercules is on the southeast shore of San Pablo Bay and is bounded generally on the north and northeast by unincorporated Rodeo; on the south and southeast by Pinole; on the east by lands within the jurisdiction of Contra Costa County, including watershed lands owned by the East Bay Municipal Utility District; and on the west by San Pablo Bay waters. The portions of San Pablo Bay adjacent to the City are within the boundaries of Contra Costa County (see Figure III.1).

Figure III.1 shows the EIR Study Area, the City boundaries, Sphere of Influence, and Planning Area. The City of Hercules encompasses about eight square miles. Sphere of Influence refers to unincorporated areas that may be ultimately annexed and served by the City. These unincorporated areas are currently under County jurisdiction. The Hercules Sphere of Influence encompasses an area northeast of the City limit. The Planning Area includes the city boundaries, Sphere of Influence, and areas that bear some relation to the City's planning activities (State of California, 1990). The Hercules Planning Area extends to the limits of the Sphere of Influence.



SOURCE: Environmental Science Associates

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

Figure III.1
Regional Location

Most of the City's land area is east of I-80, which runs north-south through the city. Refugio Creek runs east-west through the city, extending to its east and west boundaries. The largest existing major land use is the residential land use category. The majority of residential development has occurred to the east of I-80, generally in the form of single-family detached homes. Existing commercial uses are mostly neighborhood-serving and have been concentrated along the two east-west running roads of Sycamore and Willow Avenues near the eastbound I-80 off-ramps. Industrial and research and development/office uses exist in the northwest portion of the of the city, with light-industrial uses dispersed to the east of I-80 along SR4.

B. PROJECT OBJECTIVES

The General Plan is considered to be the "constitution" for growth within cities and counties in California. The pattern of land use and image of the community are outlined within the General Plan and its respective elements. The Hercules *General Plan* includes the following Elements, with most recent amendment date(s) shown in parenthesis: Land Use Element (June 1989), Circulation / Scenic Highway Element (October 1988), Housing Element (June 1990), Open Space / Conservation Element (1990), Safety / Seismic Safety Element (June 1989), Noise Element (October 1988), Economic Development Element (January 1991), and Growth Management Element (adopted in 1994). Citizen participation is encouraged and sought after in the formulation of the General Plan and its respective Elements. Such is the case in the formulation of the goals, objectives, policies, and programs found within the Land Use and Circulation Elements.

LAND USE ELEMENT

As stated in Chapter I, Introduction, the City of Hercules sponsored workshops by a Community Panel that addressed the current land use issues and provided recommendations to the City Planning Commission and City Council. Concerns of the Community Panel ranged from protection and enhancement of open space to fostering economic development to help provide jobs, services and City revenue that would provide a balance to existing residential development in the City. The development of mostly residential land uses has put a burden on the City's ability to provide adequate services. Changes in the Land Use Element are proposed in order to provide a mix of uses that will help support present and future service demands on the City.

The updated Land Use Map is guided by four major concepts, which were defined by the Community Panel. The concepts are as follows:

1. Extending the linear park along Refugio Creek westward from San Pablo Avenue to San Pablo Bay. The creek corridor in the eastern portion of the City provides a major amenity, and extending the corridor to the Bay would provide a similar attraction in the western portion of the City. It would also establish the creek corridor as a major urban design element for the entire community.

2. The junction of two major state highways offers major opportunities for retail development. Land near the I-80 and SR-4 interchange and along SR-4 should be designated for general commercial use.

3. New business, and the resulting jobs and business opportunities, can most easily be accommodated at the vacant property between the commercial area noted in #2 above, and the existing employment areas.

4. A limited amount of new residential development should be allowed on vacant properties that adjoin existing neighborhoods and that are more closely associated with existing neighborhoods than the employment or commercial areas. Buffers should be established between the residential and non-residential areas (City of Hercules, 1993).

The City, after public hearings and debate, has incorporated the Community Panel recommendations within the proposed updated Land Use Element. The Element's goals and objectives, considered to reflect the project objectives for purposes of this EIR, are summarized below. Impacts and mitigation measures related to the City's policies have been identified in the environmental analysis described in the sections of Chapter IV.

Goals

- Preserve and enhance the community's quality of life with well balanced growth and development.

- Enhance and create a community with a wide range of choices, services, and amenities.

Objectives

Objective 1 - Achieve a level of population and employment which preserves and enhances the desired character of the community.

Objective 2 - Develop a community that balances housing, jobs, and commercial opportunities.

Objective 3 - Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.

Objective 4 - Develop sufficient employment and commercial tax generating uses to maintain a positive City government fiscal condition.

Objective 5 - Develop and maintain a pattern of residential land uses which provide for a variety and balance of densities and opportunities for a mix of dwelling and residential type.

Objective 6 - Provide residential neighborhoods with a variety of cost ranges dispersed throughout the City.

Objective 7 - Achieve a pattern of development that is consistent with the City's desired image.

Objective 8 - Preserve Hercules history while developing its future.

Objective 9 - The City shall consider economic feasibility as a factor in the development review process, within the framework of the General Plan.

Objective 10 - Provide recreational and cultural amenities within the community that meet the needs of the residents and workers.

Objective 11 - Participate and cooperate in regional and sub-regional planning activities.

Objective 12 - Encourage mixed use development that provides for an integrated mixture of residential and employment generating uses within the same structure.

Objective 13 - Minimize the impacts from incompatible land uses on existing and planned development areas.

Objective 14 - Protect and enhance significant environmental attributes and features.

Objective 15 - Provide for public, semi-public and non-profit uses and activities throughout the community.

These goals and objectives were the impetus for the related and more detailed Land Use Element policies and programs, and the City's Land Use Map redesignations. The City hopes to achieve its outlined objectives through the incorporation of redefined land uses and building densities. The Land Use Element and accompanying map provide general designations for the redefined land uses, and policies in the Land Use and other General Plan Elements provide general guidance for development City-wide.

Master or Specific Plans may be needed to further define objectives for development in certain areas of the City. For example, the Community Panel report discusses the need for further or "Concurrent Studies," for the historic town center and bay shore areas (Community Panel, 1993). Under the updated Land Use Element, these two areas would require a specific plan. Ultimately,

the City's Zoning Ordinance, in conjunction with the General Plan, would provide the framework for implementation of the objectives.

CIRCULATION ELEMENT

The current Circulation Element was adopted by the City Council in October 1988. The draft Circulation Element Update would be consistent with the development assumptions in the Land Use Element Update, as required by state law. Generally, the existing Circulation Element objectives and policies are continued in the draft Circulation Element Update, with the primary exception being a change in traffic level of service standards necessitated by the passage of Contra Costa County Measure C (1988) and the City's subsequent adoption of a *General Plan* Growth Management Element. The two objectives remain as in the current Circulation Element:

1) Provide for the movement of people and commodities in the City.

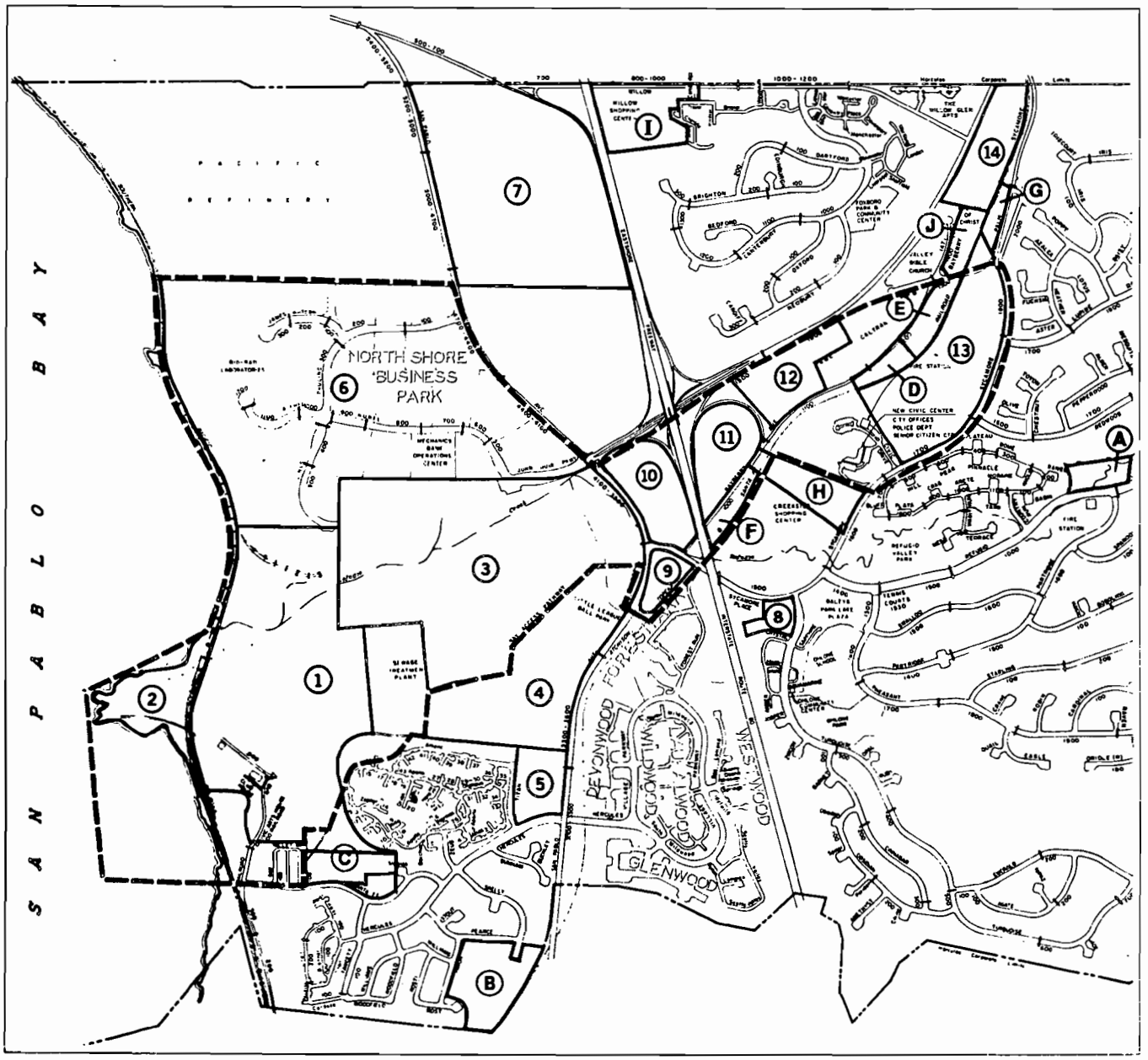
2) Plan for the preservation and enhancement of visual qualities as viewed from designated scenic routes.

With regard to traffic levels of service, whereas the existing Circulation Element stated that peak-hour traffic on arterial streets and intersections should operate at Level of Service D or better, the draft Circulation Element Update reflects the adopted level of service (LOS) standards in the Growth Management Element, as reflected in Policy 2.a of the Circulation Element Update. These standards range from LOS D on most Basic Routes to LOS "Low" E on Sycamore Avenue and Bayberry Avenue. A complete description of the standards is provided in Section IV.B, Transportation and Circulation, under "Significance Criteria" on p. IV.B-16.

C. PROJECT CHARACTERISTICS

LAND USE ELEMENT

The main feature of the updated Land Use Element is the redesignation of 24 parcels that total approximately 600 acres or 0.9 square miles. Figure III.2 shows the location of the 24 parcels. Figure III.2 also indicates the boundaries of the Hercules Redevelopment Agency's Dynamite Redevelopment Project, the plan for which would be updated. In developing the proposed land use designations, the City considered recommendations made by the Community Panel and the constraints identified in the 1991 Master Environmental Assessment. The sizes of parcels affected by the changes in land use designation range from parcels of less than two acres to



PROPERTIES ANALYZED IN THE MEA

1 Hercules Properties, Inc.
2 Hercules Point
3 Gelsar
4 East Bay Realty Services Site
5 MRB Site
6 North Shore Business Park
7 ANR Site
8 Hercules Square Site
9 ORB Site
10 BART Site
11 I-80 Exit Loop Site
12 Williamson Site
13 Sycamore Site
14 Five Giants Site

ADDITIONAL PARCELS

A Chruch of Nazarene
B McLeod Family
C Citation
D Carone-1
E Carone-2
F Carone Sycamore
G Old ATSF
H Creekside
I Willow Center
J Chruch of Christ

0 2000
Feet

Hercules Redevelopment Agency (Dynamite Redevelopment Project)

SOURCE: Environmental Science Associates, Inc.

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

Figure III. 2
Parcel Locations

larger combined properties of up to 130 acres. The proposed parcels to be redesignated are located mainly west of I-80, and along the SR4 corridor; most of the acreage is west of I-80. Although the 24 parcels are generally separate, individually owned parcels (some have more than one owner), they can be largely grouped into two categories.

Land that was used as production, buffer area, and storage for the old Hercules Powder Company forms the first category. This land is located west of I-80, and includes Parcels 1, 2, 3, 4, 5, 6, B and C. (The numbers and letters correspond to the labels in Figure III.2. Numbered parcels are those evaluated by the Community Panel; "lettered" parcels are those evaluated by City staff.) The total acreage of these parcels is approximately 430 acres.

The second category includes land located in the SR 4 and I-80 corridors. These parcels include 7, 8, 9, 10, 11, 12, 13, 14, D, E, F, G, H, I, and J; making a combined total of 165 acres.

Parcel A does not fit into either of the categories. This 2.5-acre parcel is located in the eastern portion of the City, on Refugio Valley Road at Partridge Drive (see Figure III.2).

The parcels are generally undeveloped or underdeveloped with structures consisting of mostly sheds, stables and parcel used for open storage. Three of the parcels are partially developed and are being utilized by businesses. These three parcels include the North Shore Business Park (Parcel 6), the Hercules Properties Inc. (Parcel 1), and Willow Shopping Center (Parcel I). In addition, a transit center is under construction on Parcel 10, and a retail development has been approved for Parcel 9.

Land Use Categories

The types of land uses that are included in the updated Land Use Element encompass the land use categories in the current General Plan. The Land Use Element Update has redefined the land uses in the current General Plan, incorporating existing land uses' type and density. In addition, new categories are specifically designed for some of the 24 parcels. The parcels on which the proposed land use changes would be focused are noted in parentheses after the heading for each land use category discussed below. Several categories would apply to more than one of the 24 parcels proposed for redesignation.

Commercial Uses

The proposed permissible floor-area-ratio (FAR) is described under each commercial land use category; the FAR is calculated by dividing the gross floor area of a building by the area of the lot in which it is built. "Typical" FARs are also identified for each category. The Land Use Element states that the typical FAR would be the maximum development intensity allowed unless a development were to meet a specific goal, policy, objective or program of the Element, in which case, development may be built to the higher end of the permissible range. Additional site-specific study of traffic and other impacts might be required prior to development at a FAR higher than the typical.

The draft Land Use Element Update also notes that FAR is a flexible measure of development intensity. For example, a three-story building covering 10 percent of a lot has the same FAR has a one-story building covering 30 percent of a lot. FAR is used in combination with other zoning regulations, including setbacks, open space, parking and building requirements, to determine the final extent of development permitted. The draft Land Use Element also notes that site-specific development constraints, such as geotechnical conditions, topography, presence of archaeological sites, hydrological concerns, and other constraints could limit development intensity at some parcels to less than the intensity prescribed in the Element; further site-specific environment review that is required subsequent to the creation of specific development proposals would evaluate such issues.

Residential Uses

The residential categories described below include a provision for supporting uses. Examples of supporting uses include schools, churches, and day care facilities. Density ranges for residential development (shown in dwelling units per ~~net~~ gross acre) may be adjusted pursuant to state and city laws and policies (City of Hercules, 1990). Higher densities may be permitted that are consistent with the State's Housing Policy that grants a density bonus to a development that proposes construction of housing that is affordable to persons of very low income, or low or moderate income (Curtin, 1994). Lower densities may be permitted when specific findings contained in Policy 5A are made by the Planning Commission. The findings are:

- The development would be compatible with the surrounding neighborhood and would not have a detrimental effect on existing or future multi-family development, or on existing or future commercial development.

- The reduced density will not prevent the city from achieving its goals for low and moderate income housing, as set forth in the Housing Element.

For residential land use categories, density is also shown in persons per ~~net~~ gross acre, based on an assumption of 2.89 persons per household for new residential development in the Study Area.

The analyses of impacts in this EIR generally are based on development at the typical density level. Additional environmental review may be required for specific commercial, industrial, or residential projects that propose development above the densities described in this EIR and typical densities in the Land Use Element Update.

Description of Land Use Categories

The updated land use categories include the following:

General Commercial. (Parcels 1, 3, 4, 6, 9, 11, 12, 14, D, E, I, and J) This designation would allow general commercial development including retail, wholesale (open to the public) and office use. Commercial uses may be public, semi-public and private-non-profit, if compatible with adjacent uses. Banks, retail businesses, and other professional uses would exist in strip commercial centers or free-standing buildings. Service stations, auto repair and restaurants also would be permitted, subject to location and design restrictions. The General Commercial FAR would range from 0.20 to 1.00. The typical FAR for this category would be 0.30.

Historic Town Center. (Parcel 1) This designation identifies the former Hercules Powder Company and adjacent historic residential uses. The purpose of this designation is to allow reuse of existing Victorian-type homes and structures, and to permit new structures that maintain the existing architectural character of the area. Uses would include professional, administrative, personal services, restaurants and coffee shops, and businesses that would provide waterfront services. Multi-family units would be allowed under this designation, with up to 17 units per acre and no more than 40 units in total (about 50 persons per acre; up to about 115 persons). The FAR for the non-residential category would range from 0.15 to 0.40. Typical FAR for this category would be 0.20.

Waterfront Commercial. (Parcel 2) This designation would allow restaurants, food and beverage shops, recreational equipment sales, bait-and-tackle shops and visitor-oriented uses. Private structures would be able to have an FAR ranging from 0.15 to 0.30, with a typical FAR of 0.20.

Community Commercial. (Parcels 8, F, G and H) Retail, office and service uses that would serve residents and employees in the City would be permitted under this designation. The FAR for this category would range from 0.20 to 1.00, with a typical FAR of 0.25

Recreational Commercial. (Parcel 1) Properties with this designation would be developed and used for recreational activities that are conducted as a business, either for

profit or non-profit. Such uses could include a golf course, driving range, batting cages, athletic clubs, and cafes and bars with an FAR that would range from 0.20 to 0.40. The typical FAR for this category would be 0.30.

Commercial/Public. (Parcel 10) This designation identifies a property owned by the Bay Area Rapid Transit District (BART) that is being developed as a transfer hub for BART Express, WestCAT, and other bus operators. The FAR for this category shall not exceed that allowed in "General Commercial."

Planned Office/R&D. (Parcels 1 and 6) Uses under this designation would include research and development, manufacturing, administrative offices, and warehouse and distribution centers. The FAR would range from 0.25 to 1.00, with a typical FAR of 0.30. Development of properties in these areas shall be governed by specific area plans or master plans.

Planned Commercial/Industrial. (Parcel 7) This designation was created to utilize the high visibility of SR 4 and I-80 for uses such as retail, administrative and service office, research and development, manufacturing, and business industrial services with an FAR that ranges from 0.25 to 0.50. A typical FAR under this category would be 0.30. Development of properties in these areas shall be governed by specific area plans or master plans.

Planned Commercial/Residential. (Parcels 3, 4, 5 and 13) Parcels with this designation would accommodate both commercial and residential uses in a mixed-use development. Commercial development could include a shopping mall, a traditional downtown shopping street, professional and service offices. The FAR range for this category is 0.20 to 0.40 with a typical FAR of 0.30. Residential uses that would be permitted include multi-family residences. The residential uses would be allowed above or behind commercial uses; permitted density would be 15 to 30 units per ~~net~~ acre (about 45 to 85 persons per acre). Development of properties in these areas shall be governed by specific area plans or master plans.

Industrial/Residential. (Parcel 1) Combining work space and residential space in the same structure is the intent of this designation. Start-up companies, craft workshops or other businesses that could provide living space above or behind the business would be permitted under this designation. The FAR for the work-space portion of the structures would not exceed 0.50, and residential density shall not exceed 25 units per acre (about 75 persons per acre).

Industrial. (Does not apply to any of 24 study area parcels~~Parcel 7~~) This category is intended to accommodate heavy industrial uses, refineries, and storage facilities. The FAR range shall be from 0.30 to 0.50, with a typical FAR of 0.40.

Single Family Estate. (Does not apply to any of 24 study area parcels) This land use category is intended to provide sites for "estate" homes on larger lots, and shall be developed with custom-built and individually-designed homes. Secondary units, and uses that support residential uses may be allowed in the area, provided that the adjoining neighborhood shall not be substantially impacted by traffic, noise, or other off-site effects. This category allows for a density of 1 to 2 units per acre (about 3 to 6 persons per acre).

TABLE III.1: COMMUNITY PANEL RECOMMENDED LAND USE CONCEPT: MAXIMUM DEVELOPMENT POTENTIAL

Parcel	Common Name	Preferred Designation Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR		U/AC	Units
1	HPI Site	Historic Town Center	8.6	85,000		&		25
		Planned Office/R&D	21.1	459,558	0.5			
		General Commercial	3.8	82,764	0.5			
		Planned Office/R&D	15.3	199,940	0.3			
		Planned Office/R&D/Res	3.0	39,204	0.3		36	108
		Multi-Family, Med Dens	22.3				30	669
		Open Space/Creek Corridor	32.0	n/a	n/a		n/a	n/a
		Total Acreage	106.1					
2	Hercules Point	Waterfront Commercial	6.0	52,272	0.2			
		Undeveloped Remainder	9.0	n/a	n/a		n/a	n/a
		Total Acreage[a]	15.0					
3	Gelsar Site	General Commercial	14.1	153,549	0.25			
		Planned Commercial/Res	45.0				30	1,350
		Planned Office/R&D	18.5	241,758	0.3			
		Open Space/Creek Corridor	26.4	n/a	n/a		n/a	n/a
		Total Acreage	104.0					
4	East Bay Realty Services Site	Multi-Family, Med Dens	24.5				30	735
		Planned Commercial/Res	6.5	42,471	0.3		30	98
		General Commercial	10.5	137,214	0.3			
		Total Acreage	41.5					
5	MRB Site	Multi-Family, Med Dens	4.6				30	138
		Planned Com/Res	1.0	13,068	0.3			
		Total Acreage	5.6					
6	North Shore Business Park	Planned Off/R&D	60.9	795,841	0.3			
		General Commercial	15.5	202,554	0.3			
		Planned Off/R&D	67.5	900,000	0.3			
		Total Acreage	143.9					
7	ANR Site	Planned Cmrcl./Industrial	41.6	543,629	0.3			
		Planned Cmrcl./Industrial	20.8	362,419	0.4			
		Total Acreage	62.4					
8	Hercules Square	Community Commercial	2.9	31,581	0.25			
9	ORB Site	General Commercial	3.5	20,000	0.15		plus gas station	
10	BART Site	Public/Semi-Public	6.6	Park & Ride				
11	I-80 Loop Site	General Commercial	6.3	82,328	0.3			
12	Williamson Site	General Commercial	8.9	116,305	0.3			
13	Sycamore Site	Planned Com/Res	25.1	54,880	0.15	&	30	502
14	Five Giants	General Commercial	7.0	91,476	0.3			
	SUBTOTAL		538.8	4,707,811				3,652

[a] Excluding 55.1 acres of tidelands on which development generally would be prohibited.

(Continued)

TABLE III.1: COMMUNITY PANEL RECOMMENDED LAND USE CONCEPT: MAXIMUM DEVELOPMENT POTENTIAL (Continued)

Parcel	Common Name	Preferred Designation Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR	U/AC	Units
A	Church of Nazarene	Multi-Family, Low Dens	5.0			10	50
B	McLeod	Multi-Family, Low Dens	7.4			10	74
C	Citation	Multi-Family, Low Dens	5.6			12	67
D	Carone - 1	General Commercial	2.0	26,136	0.3		
E	Carone - 2	General Commercial	1.8	23,522	0.3		
F	Carone - Sycamore	Community Commercial	2.6	33,977	0.3		
G	Old ATSF	Community Commercial	1.7	22,216	0.3		
H	Creekside	Community Commercial	25.3	160,455	var.		
I	Willow Center	General Commercial	3.4	31,000	var.		
J	Church of Christ	General Commercial	7.0	church			
	SUBTOTAL		61.8	297,306			191
	TOTAL		**600.6**	**5,005,117**			**3,816**

Note: Maximum development figures for parcels that are partially developed are "gross" and include existing built space; figures for "new" space may be derived by subtracting existing space from these figures.

CIRCULATION ELEMENT

The Circulation Element addresses the traffic and circulation constraints associated with each of the 24 affected parcels and recommends several improvements to Hercules' existing road network as a whole to accommodate the potential build-out of such land uses to the year 2010. Transportation-related parcel-specific improvements are not identified because individual development plans are not proposed.

The draft Circulation Element Update revises the development assumptions contained in the existing (1988) Circulation Element, based on the changes in land use designations proposed in the Land Use Element Update. Traffic analysis for the Circulation Element Update was based on the West County Travel Demand Model, a regional traffic model developed since the existing Circulation Element was adopted. The draft Circulation Element Update also includes revised traffic level of service standards already adopted by the City as part of the *General Plan* Growth Management Element (see Section III.B., Project Objectives).

The Circulation Element Update describes several roadway and other transportation improvement projects that are either already funded or are otherwise expected to be complete by 2010. Those projects include:

- Willow Avenue widening, and addition of left turn lanes and traffic signal at I-80;
- Construction of SR 4 freeway, I-80 to Cummings Skyway, including grade separation at Willow Avenue, extension of Willow to Bayberry Avenue, new interchange at Claeys Road (near the current SR 4/Sycamore Avenue intersection), and extension of Sycamore Avenue to the new interchange;
- Construction of a new local street connecting the new SR 4 interchange to residential neighborhoods in Refugio Valley;
- Rehabilitation of San Pablo Avenue and addition of bicycle lanes;
- Refugio Valley Road widening, and addition of bicycle lanes, left turn lanes, medians, and traffic signals at Falcon/Redwood, Partridge and Pheasant;
- Construction of transit center/park-and-ride lot at San Pablo and Sycamore Avenues;
- Ramp improvements at SR 4/Bayberry Avenue; and
- Re-alignment and signalization of the Sycamore Avenue/Palm Avenue intersection.

The draft Circulation Element Update includes a conceptual alignment for a new roadway that could be constructed to serve development west of San Pablo Avenue. Such a roadway likely would be constructed in the future, once specific development proposals were received for some of the parcels west of San Pablo Avenue (in particular, Parcels 1, 3, and 4). A new intersection would be expected to be constructed on San Pablo Avenue between Sycamore and Hercules Avenues to serve this new roadway. To date, no specific proposals have been developed for the roadway alignment. Further site-specific environmental review could be required for this project.

The draft Circulation Element Update concludes that local peak-hour traffic conditions within Hercules generally would be acceptable in 2010, the year assumed for buildout under the Land Use Element Update, with the exception of two key intersections on San Pablo Avenue: at John Muir Parkway and at Sycamore Avenue. At those intersections, peak-hour traffic conditions are projected to be substantially worse than the Level of Service E objective established by the West Contra Costa County Traffic Advisory Committee for San Pablo Avenue, largely as a result of traffic that uses San Pablo Avenue as an alternate to the congested conditions on Interstate 80. At the same time, the City and other local jurisdictions do not propose to increase capacity on San Pablo Avenue, but instead to attempt to reduce traffic on I-80 as a means of improving traffic conditions on the freeway and on San Pablo Avenue. As stated in the draft Circulation Element Update:

> The City of Hercules, together with other jurisdictions in the I-80 corridor have agreed in developing the West County Action Plan that capacity improvements that encourage the use of San Pablo Avenue will not be considered. This means that the City of Hercules will focus its efforts on working with other West County jurisdictions and regional transit agencies to develop alternatives to single-occupant automobile use in the I-80 corridor. This includes pursuing BART extensions in West County, commuter rail service to Solano County, and improved bus connections. The blueprint for this approach is provided in the West County Action Plan.

The draft Circulation Element Update also includes a revision to Policy 2.e, which calls for the City to participate with other communities in providing effective public transit. The revised policy specifically calls for promoting commuter rail and a train station in Hercules to divert traffic from Interstate 80. In addition, the draft Circulation Element Update includes an implementation action under which the City would establish a traffic mitigation fee program that would collect funds from new development to pay for transportation-related improvements and another implementation action that acknowledges the City's adopted Transportation Demand Management Program. The draft Circulation Element is included in Appendix G of this document.

REDEVELOPMENT PLAN

As noted in Chapter I, the project would include updating the Redevelopment Plan for the Dynamite Redevelopment Project, encompassing a large part of the study area, to reflect changes in the Land Use Element. Draft Redevelopment Plan Amendments are included in Appendix H of this document.

D. DEMOGRAPHIC PROJECTIONS

The proposed Land Use Element provides for the physical development of the City. For the purposes of this EIR, it is assumed that "build-out" of the City (the development of all the designated land uses at the typical density level) would occur by the year 2010. Because actual buildout might not occur until after 2010, this is a conservative assumption. Were buildout to occur later than 2010, the impacts described in this EIR might occur somewhat later. However, the ultimate level of impact would be expected to be similar to that described herein.[1]
Table III.2 shows population and housing data for the City of Hercules in 1990 and 2010, under both the existing and proposed General Plans (Land Use Element). As shown in the table, development consistent with the updated Land Use Element would increase the population and number of households. It is important to note that this scenario would occur if all parcels were developed with the proposed land uses. The existing Land Use Element would allow for a 25 percent increase in total population over 1993 levels, and the proposed Land Use Element would allow for a 64 percent increase in total population. Refer to Section IV.C, Population, Employment and Housing, for an analysis of population growth in relation to projected jobs.

E. DISCRETIONARY APPROVALS REQUIRED BY THE CITY

In order to adopt the revised Land Use and Circulation Elements, the City of Hercules' Planning Commission and City Council must hold public hearings and certify the EIR. Consistent with state law, amendments to mandatory general plan elements may occur four times within a calendar year. The approved Land Use and Circulation Elements would be considered an amendment because the elements are being replaced and incorporated within the General Plan.

During or immediately after the adoption of the Land Use and Circulation Elements the City must then take further steps to analyze and compare the elements with other City policies and municipal codes. Specifically, the city needs to compare and modify any differences with other General Plan elements and its Zoning Ordinance (State of California, 1990).

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1 Among the projects included in the cumulative forecasts in this EIR is a residential-commercial project in the recently annexed Franklin Canyon area of eastern Hercules. Although the buildout date of this development is uncertain, this EIR assumes that the Franklin Canyon project, including about 800 residential units and a hotel (plus existing golf course), would be complete by 2010.

TABLE III.2: EXISTING AND PROJECTED POPULATION AND HOUSEHOLDS, CITY OF HERCULES

	Total Population	Number of Households
1990 Conditions/a/	16,839	5,308
1994 Conditions/b/	18,898	6,345
2010 - Existing General Plan/a/	23,600	8,160
2010 - Proposed General Plan/c/	29,927	10,161

/a/ Source for 1990 and 2010 Existing General Plan conditions for total population and number of households is Association of Bay Area Governments' Projections '94.
/b/ Household population for 1994 from Department of Finance. Other 1994 data from Community and Business Development Department.
/c/ Source for 2010 Proposed General Plan conditions is Sedway & Associates.

SOURCE: Sedway & Associates; Association of Bay Area Governments; Environmental Science Associates, Inc.

REFERENCES - Project Description

City of Hercules, *General Plan*, 1990

City of Hercules, Draft *General Plan* Land Use Element, 1993

Community Panel, City of Hercules, "Report of the Community Panel," 1993.

Contra Costa County, *Contra Costa County General Plan*, January 1991.

Curtin, Daniel J., *California Land Use & Planning Law*, January 1994.

State of California, *General Plan Guidelines*, November 1990.

IV. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

A. LAND USE, PLANS AND POLICIES

SETTING

Existing Land Use

Regional

Chapter III, Project Description, includes a description of Hercules' regional setting. The City of Hercules encompasses about eight square miles on the southeast shore of San Pablo Bay, in western Contra Costa County. Transportation facilities and commercial activities of regional significance within the City limits include Interstate 80, State Route 4, and San Pablo Avenue; Refugio Valley Park; Creekside Shopping Center; the North Shore Business Park; Pacific Refining Company; and Franklin Canyon Golf Course.

As stated in the Project Description, the City of Hercules abuts the city of Pinole and the unincorporated community of Rodeo, other unincorporated Contra Costa County lands and San Pablo Bay. Some of the lands within the City are subject to the overlapping jurisdictions of regional, state, and federal agencies, including the State Lands Commission, East Bay Regional Park District, San Francisco Bay Conservation and Development Commission, and U.S. Army Corps of Engineers.

Local

About 579 acres (0.9 square miles) of developable land remains within the City of Hercules, and is contained in 24 separate parcels. Parcels 1 - 14 were analyzed in the Master Environmental Assessment (MEA). Parcels A-J were recently proposed for redesignation and are mainly smaller lots located east of I-80. It is not entirely accurate to consider all of the properties undeveloped since some of them have had previous uses, including industrial development, and some are already partially developed. Although the 24 parcels are separate, individually owned parcels, they can be broadly grouped into two categories.

Land that was used as production, buffer area, and storage for the old Hercules Powder Company forms the first category and contains the majority of the developable acreage. This land is located west of I-80, and includes Parcels 1, 2, 3, 4, 5, 6, B and C. The total acreage of these parcels is approximately 430 acres.

The second category is land located in the SR 4 and I-80 corridors and includes Parcels 9, 10, 11, 12, 13, 14, D, E, F, G, H, I, and J. These parcels total 101 acres.

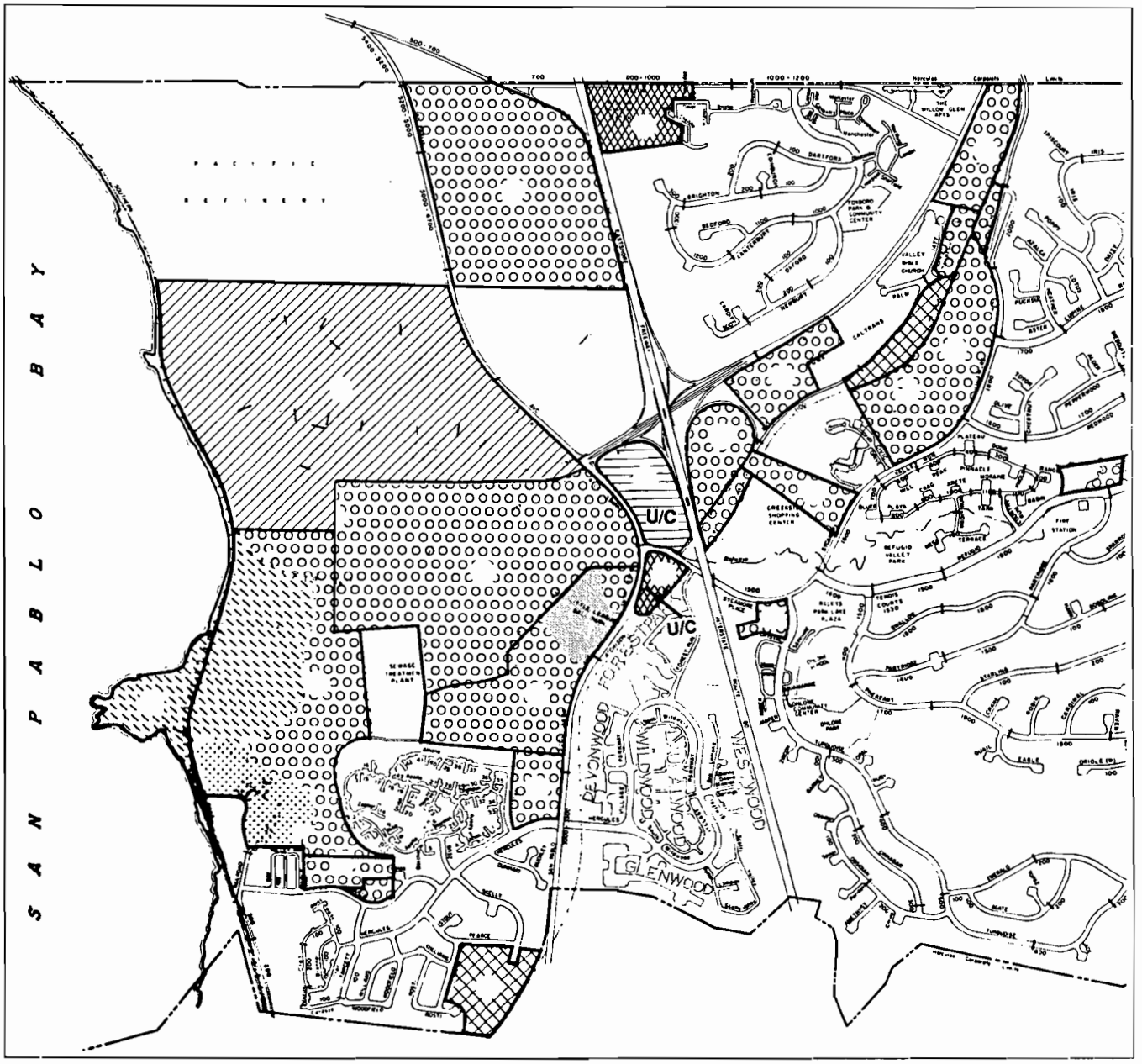
Parcels 7, 8 and A do not fit into either of the categories and consist of 62, 3 and 2.5 acres, respectively. Parcel 7 is located west of and adjacent to Interstate 80, in the northern area of Hercules. Parcel 8 is east of I-80, on Refugio Valley Road in the immediate vicinity of Creekside Shopping Center and Raley's Parklane Plaza. Parcel A is located in the eastern portion of the City, also on Refugio Valley Road.

Parcel Characteristics

Following are descriptions of existing land uses and current zoning and planning designations for the 24 parcels for which changes in land use designations are proposed. Existing land uses are illustrated in Figure IV.A.1. Existing *General Plan* land use designation districts are shown in Figure IV.A.2.

1. Hercules Properties, Inc. This parcel consists of 106 acres in the western part of Hercules, and encompasses the lower portion of the Refugio Creek Valley. It is bounded by San Pablo Bay and Parcel 2 to the northwest, residential development and Parcel C to the southwest and south, Hercules' sewage treatment plant and Parcel 3 to the southeast and east, and Parcel 6 to the northeast. This parcel is zoned M - Industrial District, and has a *General Plan* designation of I - Industrial.

   This parcel is part of the historic location of the Hercules Powder Company (and later the Hercules Chemical Plant) which dates back to the 1880s. Much of this area is still developed with the buildings and equipment used for plant operations even though production at the chemical plant was phased out in 1977. Most of the equipment from the previous operations has been left on-site since the plant closure, and much of it is inoperable at this time; this equipment would likely be removed as part of site cleanup activities. (See Section IV.G, Hazardous Materials, for information on site remediation.)



①/Ⓐ Parcel Reference

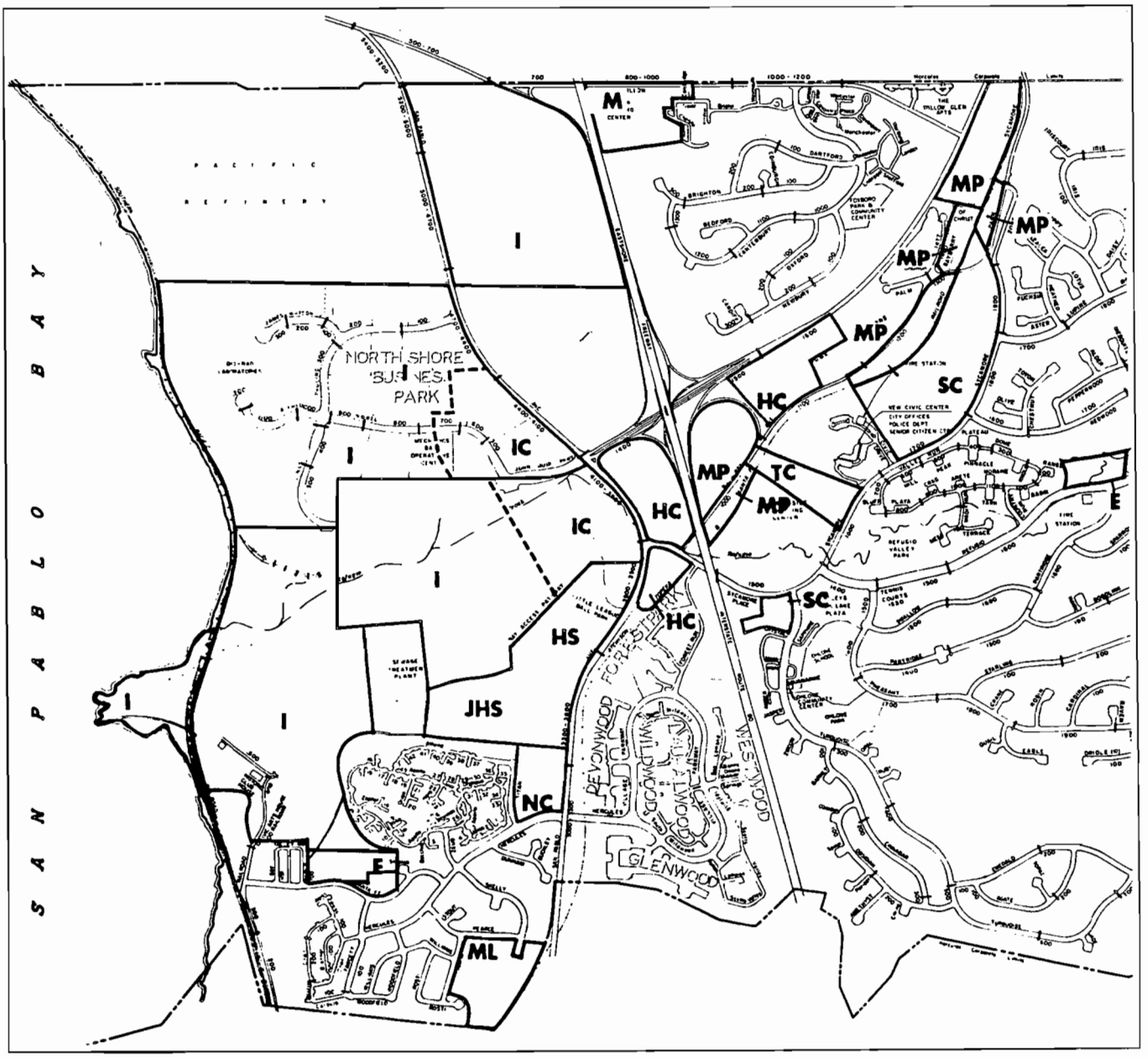
Vacant / Open Space
Business Park
Former Industrial Site
Recreation
Historic District
Commerical
Commercial / Storage
Public / Semi-Public
U/C Under Construction

0 2000
Feet

SOURCE: Environmental Science Associates

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

Figure IV.A.1
Existing Land Use



	PUBLIC	COMMERCIAL	INDUSTRIAL	RESIDENTIAL
① / Ⓐ Parcel Reference	**E** Elementary School	**TC** Town Center	**I** Industrial	**ML** Medium-Low Density
	JHS Jr. High School	**SC** Service		**M** Medium Density
	HS High School	**HC** Highway		
	MP Multi-Purpose	**IC** Industrial		
		NC Neighborhood		

0 2000
Feet

SOURCE: City of Hercules; Environmental Science Associates, Inc.

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

Figure IV.A.2
Existing General Plan
Land Use Designations

Other uses are the historic company town and residences along Railroad Avenue. The original town center sits on a hill within the parcel that overlooks San Pablo Bay and the chemical plant site.

Approximately 40 to 50 buildings of various sizes occupy portions of this parcel. These structures are of various types of construction including brick, wood-frame with metal siding, and typical wood-frame residential construction. Some of the structures are in disrepair and are no longer occupied. Other remaining structures are rented to small businesses. These businesses include a variety of small machine shops, construction firms, storage, and other industrial-type services, as well as some office space. The majority of the occupied structures are located in the hilly area in the southwest portion of the site, with most of the businesses having access from Railroad Avenue. A couple of businesses operate in the lower elevations of the northwest portion of the property, but this area is occupied primarily by the non-operating components of the former gunpowder and fertilizer plants (Engineering Science, Inc., 1989).

A designated Historic District has been established along Railroad Avenue in the southwestern portion of the parcel, and which also includes the Historic Homes of the former company town (see below). This District is listed on the National Register of Historic Places. Alterations to buildings within the Historic District must comply with the State Historic Building Code regulations which are intended to facilitate restoration so as to preserve a historic structure's original or restored architectural elements and features.

In addition to the historic industrial development on the site, there are approximately 35 acres of the site which are mainly undeveloped.

The Southern Pacific Railroad has a 100-foot right-of-way that passes along the bay shoreline on the northwest edge of the parcel. The four sets of tracks within the right-of-way are used daily, by AMTRAK passenger trains and freight trains. The tracks, which are fenced on each side for safety purposes, physically separate the unused powder plant and ammonia tank which are located on Hercules Point (Parcel 2) from the main portion of the chemical plant. The Pacific Gas and Electric Company (PG&E) has a 16-inch fuel oil pipeline that traverses the site. This pipeline, which runs from the Chevron facilities in Richmond to Pittsburg, is located on the bay side (i.e., west side) of the Southern Pacific

Railroad right-of-way. The line runs roughly parallel to the railroad tracks, but is not within the railroad right-of-way.

Adjacent to Parcel 1 is a 12-acre parcel owned by the City of Hercules, situated between Parcels 1, 3 and 4, that contains the Hercules Sewage Treatment Plant and the former Western Contra Costa Transit Authority (WestCAT) vehicle storage and maintenance facility.

The southern and southwestern portions of Parcel 1 are bounded by residential uses. Just south and west of the sewage treatment plant is the Olympian Hills Townhouse development. This medium density, multifamily (R2) project has approximately 300 attached dwelling units at a density of roughly 8 units per acre. West of the Olympian Hills project is the Historic Homes of Hercules, a restoration project of 22 single-family homes. These Victorian-style homes are rehabilitated workers' houses from the historic company town of the Hercules Powder Company. Located to the south of these two residential developments is the Bedford-by-the-Bay residential development. This single-family (attached and detached) area is developed with homes on a variety of lot sizes ranging from 2,500 to 6,000 square feet.

An undeveloped 5.4-acre lot is located in the western corner of this parcel. This area, which comprises the area between Railroad Avenue and the shoreline, is designated in the current *General Plan* to be part of a waterfront park. The East Bay Regional Park District plans for the park to be part of its San Pablo Bay Regional Park system. The Park District currently leases the parcel from the State of California, which owns it.

2. Hercules Point. This parcel consists of a 15-acre peninsula in San Pablo Bay, located bayward of the Southern Pacific Railroad tracks. The tracks, which are fenced on each side for safety purposes, physically separate the former powder plant and ammonia tank which are located on Hercules Point (Parcel 2) from the main portion of the plant. The only connection between the mainland areas (Parcel 1) and Hercules Point is provided by a wooden trestle southwest of the former powder plant. This parcel is zoned M - Industrial District, and has a *General Plan* designation of I - Industrial. Parcel 2 also includes approximately 55.1 acres of tidelands that are generally submerged in San Pablo Bay. Because development within the Bay is strictly regulated by the Bay Conservation and

Development Commission (see p. IV.A-19), it is assumed for purposes of this analysis that no development requiring bay fill would occur on these tidelands.

3. Gelsar ~~Inc.~~ This parcel consists of approximately 104 acres and is bounded by San Pablo Avenue and Parcel 4 on the east and south, Parcel 6 to the northeast, and Parcel 1 and Hercules' sewage treatment plant to the west. Refugio Creek flows through the middle of this parcel and much of the property lies in the broad flood plain. The land was once used for storage of industrial products associated with the former Hercules Powder Company but is currently undeveloped. The majority of it exists as grassland and woodland. There are piles of rubble consisting of old building materials and concrete in various locations throughout the parcel, possibly the ruins of old explosives bunkers from the former industrial operations. The western portion of this parcel is zoned M - Industrial District, and has a *General Plan* designation of I - Industrial. The eastern portion, which fronts along San Pablo Avenue, is zoned CM - Commercial Industrial District and has a *General Plan* designation of IC - Industrial Commercial.

4. ~~Hercules~~ East Bay Realty Services Inc./San Pablo Site. This parcel consists of approximately 41 acres that are bounded by San Pablo Avenue to the south and southeast, Parcel 3 and the sewage treatment plant to the north and northwest, residential development to the west, and Parcel 5 to the southwest.

Most of this parcel is undeveloped. The only current use is a temporary Little League baseball park just west of the intersection of Sycamore Avenue and San Pablo Avenue. The majority (39.1 acres) of this undeveloped area, which extends from Sycamore Avenue to north of Hercules Avenue, is designated in the *General Plan* as the site for future junior and senior high schools. The current zoning for most of the parcel is Single-Family Residential (R-1), and part is zoned as Highway Commercial (CH). The West Contra Costa Unified School District (formerly Richmond Unified School District) considered these parcels for an additional junior high and high school. Based on the school district's decision not to develop schools on this property, the landowner has requested a *General Plan* amendment and zone change. (Other sites in Hercules are now designated school sites; see Section IV.F, Public Services and Utilities, for a discussion of school impacts.)

5. MRB Site. This parcel consists of about 6 acres and is bounded by San Pablo Avenue on the southeast, Hercules Avenue on the southwest, Titan Avenue and residential development on the northwest, and Parcel 4 on the northeast. The parcel consists of undeveloped eucalyptus woodland and open grassland. There are several old concrete building foundations on the parcel that appear to be remnants of storage buildings associated with the former Hercules Powder Company. Zoning for this parcel is CH - Highway Commercial District, and the *General Plan* designation is NC - Neighborhood Commercial.

6. North Shore Business Park. This 144-acre parcel was developed as a business park in the 1980s, and was the subject of a 1982 EIR on the business park development (City of Hercules, 1982). It is bounded by San Pablo Bay to the northwest, Pacific Refinery to the northeast, San Pablo Avenue to the southeast, and Parcels 1 and 3 to the southwest. The eastern half of the business park has multiple owners. This portion of the business park is divided into 16 graded development sites, of which two are occupied. The northwestern, or bay shore, part of the business park is owned and occupied by Bio-Rad Laboratories. The entire property has been graded to accommodate eventual development, and infrastructure, in the form of roads and utilities, has already been installed. Zoning on the parcel is M - Industrial District, except for the southeastern edge, which is zoned CM - Commercial Industrial. The *General Plan* designation for the majority of the park is I - Industrial, and is IC - Commercial Industrial for three lots at the southeast corner of the park.

7. ANR Site. This parcel consists of approximately 62 acres that have been leased as grazing land for cattle. It is bounded on the southwest by an unused PG&E petroleum and gas tank farm, on the southeast by I-80, on the northwest by San Pablo Avenue and the Pacific Refinery, and on the northeast by the unincorporated community of Rodeo. This property is owned by a subsidiary of the Coastal Corporation (also partial owner of the Pacific Refinery in northwestern Hercules). The parcel is zoned M - Industrial, and also has a *General Plan* designation of I - Industrial.

8. Hercules Square Site. This parcel consists of slightly less than 3 acres and is located at the corner of Turquoise Drive and Sycamore Avenue. It is currently graded but is not developed~~, with professional and retail services.~~ It is situated in a CR - Retail Commercial zoning district and is surrounded by other commercial uses, including ~~Park Lake~~ Raley's

Parklane Plaza to the southeast, and a townhouse development to the southwest. The *General Plan* designation is SC - Service Commercial.

9. ORB Site. This parcel is an isolated 3.5-acre site bounded by the Santa Fe Railroad line on the south, Sycamore Avenue on the east, and San Pablo Avenue on the north. The parcel is approved for construction as a small-scale commercial center, including retail stores and a service station, and has ~~already been~~ cleared of most vegetation~~graded.~~ Current zoning is CH - Highway Commercial District, and the *General Plan* designation is HC - Highway Commercial.

10. BART Site. This parcel consists of about 6.6 acres and is bounded on all four sides by roadways - on the north by SR 4, on the west by San Pablo Avenue, on the south by Sycamore Avenue, and on the east by I-80. This parcel is owned by the Bay Area Rapid Transit District (BART) and is planned for eventual use as a BART station site. It is currently under construction as a transit center that will link AC Transit, BART express, and Western Contra Costa County Transit Authority (WestCAT) buses, and provide park-and-ride parking. Current zoning is CH - Highway Commercial District, and the *General Plan* designation is HC - Highway Commercial.

11. I-80 Exit Loop Site. This parcel consists of approximately 6.3 acres of land that is bounded by roadways on all sides, I-80, the exit ramp loop for SR 4, and Bayberry Avenue. This undeveloped parcel is a depression whose steep sides are formed by large volumes of fill material deposited during construction of the surrounding roadways. The East Branch of Refugio Creek flows though the middle of the parcel, entering and exiting from culverts. Zoning is CH - Highway Commercial, and the *General Plan* designation is MP - Multi-Purpose.~~HC - Highway Commercial.~~

12. ~~TABCO~~Williamson Site. This site consists of approximately 9 acres and lies between Bayberry Avenue and SR 4. It also lies adjacent to both PG&E and Caltrans corporation yards. The parcel is currently undeveloped grassland. Zoning is CH - Highway Commercial and the *General Plan* designation is HC - Highway Commercial.

13. Sycamore Site. This site consists of approximately 25 acres and is located directly east of, and downslope from the Civic Center. It is bounded on the north by the Santa Fe Railroad

line and on the south by Sycamore Avenue. It is currently undeveloped grassland. Zoning is CR - Retail Commercial and the *General Plan* designation is SC - Service Commercial.

14. Five Giants Site. This parcel consists of approximately 7 acres and fronts directly on SR 4 near the northern boundary of the City. The parcel is currently undeveloped grassland. Zoning is MR - Restricted Industrial, and the *General Plan* designation is MP - Multi-Purpose Public.

A. Church of the Nazarene. This parcel consists of approximately 5 acres and fronts Refugio Valley Road near Partridge Drive. A single-family residential development is located behind the parcel. Refugio Creek extends through the parcel towards Refugio Valley Park. The current use of this parcel is for open space and recreation. Areas of the parcel adjacent to Refugio Valley Road are denuded of vegetation, and areas adjacent to Refugio Creek contain riparian vegetation, and shrubs and small trees. A paved trail crossing the site is used for bicycling and walking. Zoning is R2 - Medium Density Multi-Family Residential, and the *General Plan* designation is E - Public Elementary School.

B. McLeod. This isolated parcel consists of approximately 7.4 acres in the southwest area of the City. Structures on the site include one single-family residence, several sheds, horse stalls, and fencing. Defunct farm equipment on the site includes a truck, tractor, and various heavy equipment attachments. Adjacent uses include residential to the west and south, and railroad tracks on the east. The Santa Fe railroad tracks are the City boundary. The parcel is currently used for horse ranching activities. Zoning is R1 - ~~One Acre~~ Single-Family Residential District, and the *General Plan* designation is ML - Medium-Low Density Residential.~~NC - Neighborhood Commercial.~~

C. Citation. This parcel consists of 5.6 acres adjacent to Santa Fe Road. Vegetation on this parcel includes grasses and mature eucalyptus trees. The parcel is currently undeveloped. Surrounding uses include single-family homes of the historic Hercules Powder Company and a newer residential subdivision, open space, and a swimming pool owned and operated by the nearby homeowners association. The two adjacent residential areas are connected with a paved trail that meanders through the site. Zoning is R1 - ~~One Acre~~ Single-Family Residential District, and the *General Plan* designation is E - Public Elementary School.

D. Carone - 1. This parcel consists of 2 acres along Bayberry Avenue, in the northern area of the City. The current use of this parcel is for storage of construction related supplies. Dirt piles, cable spools, steel storage boxes and heavy equipment are among the items stored on this parcel. With the exception of some bushes along Bayberry Avenue, this site is denuded of vegetation. Adjacent uses include the Caltrans storage yard across Bayberry Avenue to the north, storage areas on the Carone - 2 parcel to the east, and the Santa Fe Railroad tracks to the south. Zoning is MR - Restricted Industrial District, and the *General Plan* designation is MP - Multi-Purpose.

E. Carone - 2. This parcel consists of 1.8 acres along Bayberry Avenue, in the northern area of the City, and adjacent to the Carone - 1 parcel. Similar to Carone -1, this parcel is also used for storage of construction related supplies. Steel and cement pipe, a backhoe, and storage sheds are among the equipment stored on the site. The only structure on the site is a single-story office and storage building. With the exception of bushes along Bayberry Avenue, the site is denuded of vegetation. Surrounding uses include the storage area on the Carone - 1 parcel, the Santa Fe Railroad tracks and the Caltrans storage yard. Zoning is MR - Restricted Industrial District, and the *General Plan* designation is MP - Multi-Purpose.

F. Carone - Sycamore. This parcel consists of 2.6 undeveloped acres adjacent to the Southern Pacific Railroad Tracks, Sycamore Avenue, I-80, and the Creekside Shopping Center. The parcel consists of a lowland area and a higher ridge. Riparian vegetation, trees and shrubs grow on the lower portions, and grasses grow on the ridge of the parcel. Zoning is CH - Highway Commercial, and the *General Plan* designation is MP - Multi-Purpose.

G. Old A.T.S.F. This parcel consists of 1.7 acres located along Bayberry Avenue, east of the Santa Fe Railroad Tracks. Grasses and small shrubs grow on this parcel. Existing structures on the project site include a Santa Fe transmitter/receiver box and telephone poles. A dirt access road extends from Bayberry Avenue to the railroad tracks and a transmitter/receiver box. Construction debris, litter and a few dirt piles are scattered along the access road. The adjacent land uses are for the Santa Fe Railroad tracks, Bayberry Avenue and open space. Parcels 14 and J are located to the north. Zoning is MR - Restricted Industrial District, and the *General Plan* designation is MP - Multi-Purpose.

H. Creekside. This parcel consists of 25.3 acres including and adjacent to the Creekside Shopping Center on Sycamore Avenue. The existing Creekside Center occupies the western three-fourths of the site, while the eastern portion is undeveloped. A portion of the undeveloped area is covered with paved parking, while the remainder is a graded lot. Recycling activities and occasional automobile parking are the only activities that currently occur on the undeveloped portion of the site. The Civic Center is east of the parcel, and single-family residential uses are south of the parcel across Sycamore Avenue. The Santa Fe railroad tracks cut across the southern portion of this parcel. Zoning is CR - Retail Commercial District, and *General Plan* designation is TC - Town Center.

I. Willow Center. This parcel consists of 3.4 acres located adjacent to the northern perimeter of the City, along Willow Avenue. Adjacent uses include the I-80 and Willow Avenue roadways, and open space. This mostly developed parcel is the site of the Willow Shopping Center. A food market and gas station are among the main uses on this site. A portion of the site close to Willow Avenue is undeveloped. The proposed Land Use Element would bring this developed parcel into conformance with the *General Plan*. Zoning is R2 - Medium Density Multi-Family Residential, and the *General Plan* designation is M - Medium-Density Residential.~~HC - Highway Commercial.~~

J. Church of Christ. This parcel consists of approximately 7 acres, located adjacent to the Valley Bible Church in the vicinity of the Bayberry Road / Santa Fe Railroad overcrossing. The parcel is currently undeveloped; Parcel J is adjacent to Parcels B, 14, E and G. Zoning is MR - Restricted Industrial~~CR - Retail Commercial District~~, and the *General Plan* designation is MP - Multi-Purpose.~~SC - Service Commercial.~~

Current Zoning Designations

All of the properties proposed for redesignation lie within the Hercules city limits and are subject to the City's zoning ordinance. The City's zoning ordinance currently designates the majority of the study area as Industrial (M), Commercial Industrial (CM), Restricted Industrial (MR), Commercial Residential (CR) and Commercial Highway (CH). Part of Parcel 4 is zoned Single-Family Residential (R-1).

The zoning ordinance identifies the Industrial District (M) as an area reserved for a variety of industrial uses, including typical light and heavy industrial uses as well as large-scale

administrative and research facilities and specialized industries. The Commercial Industrial (CM) District is intended to provide a transition between Commercial Highway (CH) and Industrial (M) Districts. The Restricted Industrial (MR) District is for light industrial and commercial/industrial uses. Banks, research labs, printing, and warehouses are examples of permitted uses in the MR District.

The Commercial-Residential (CR) and Commercial-Highway (CH) Districts are included in the zoning ordinance to reserve appropriately located areas for professional and administrative offices outside of retail shopping areas, and serving close-by residential areas. Examples of uses permitted in the CR District are entertainment and retail establishments. Permitted uses in the CH District include everything permitted in the CR District, in addition to repair shops, hotels and motels, and automobile repair and retailers.

The R-1 (one-family) district permits single-family dwellings at a density of up to 7.2 units per acre (minimum lot size 6,000 square feet). The Historical Overlay District (H) applies, in addition to the existing zoning, in the Historic Hercules area in the western corner of Parcel 1, Hercules Properties Inc. The purpose of the Historical Overlay District is to preserve, enhance, promote, and expand the cultural and historical identities, characters and environments of the identified area. The Historical Overlay District restricts the alteration of existing structures within the overlay district and limits construction or relocation of buildings to those with similar historical and cultural significance. This District focuses on the former powder company buildings and does not include any of the former plant equipment.

The Hercules Zoning Ordinance also provides a Planned Unit Development (PUD) process that could allow for the "clustering" of allowed uses and variation in design standards in any development proposed for the properties. The PUD is defined as a "combination of different dwelling types and/or a variety of land uses which complement each other and harmonize with existing and proposed land uses in the vicinity." The PUD process differs from standard zoning designations in that it allows requirements to be applied to the project site as a whole. This allows for a greater variety of development than in conventional districts. PUD requirements, guidelines, and regulations can be found in Title 10, Chapter 1, Article 8 of the Municipal Code of the City of Hercules (City of Hercules, 1985).

Plans and Policies

This section is a discussion of plans and policies related to land use issues. Plans and policies related to other issues are discussed in other sections of this EIR.

Approved and Reasonably Foreseeable Projects In and Near Hercules

Several projects have recently been approved in the vicinity of the project area. As noted previously, a commercial project is ~~under construction~~approved on Parcel 9, and Parcel 10 is being developed as a transit center. The City has approved development of 166 residential units, and up to about 800 units are proposed for development in Franklin Canyon.[1] Pacific Refinery has proposed to expand its operation through a fuel modification process. Refer also to Section IV.C, Population, Employment and Housing. South of Hercules, the City of Richmond recently approved an updated General Plan, while the City of Pinole is in the process of updating its General Plan. Several commercial and residential projects totaling up to about 4 million sq. ft. of commercial space and about 2,000 dwelling units are proposed in Richmond and San Pablo; traffic that would be generated by those projects is included in traffic forecasts contained in the West County Traffic Model, which was used in the analysis for this EIR (see Section IV.B, Transportation and Circulation).

City of Hercules *General Plan*

All of the parcels lie completely within the City of Hercules and are thus subject to the policies of the City of Hercules' *General Plan*. The *General Plan* outlines objectives, goals, and policies to guide land use within the City's boundaries and consists of nine separate elements. The *General Plan* was adopted in 1985, although individual elements have been updated and new elements adopted since that time. The individual elements of the *General Plan* that most directly affect the proposed land use designations are summarized below.

Economic Development Element. The City in 1991 adopted an Economic Development Element of its *General Plan* that establishes a framework for pursuing economic development with the goal of generating increased revenue and business activity while at the same time maintaining "Hercules' special quality of life." Under the Economic Development Element, the City seeks to move toward a balance between residential and commercial development.

[1] Buildout date for the Franklin Canyon project is uncertain; this EIR assumes that development will be complete by 2010. Further environmental review of this project would occur prior to development. Approval could be granted for a smaller project of about 600 residential units plus a hotel.

The Economic Development Element was drawn up to implement the City's Economic Development Strategy Plan, which was prepared in 1990 by a City Council-appointed task force. The Plan describes the state of the City's economy and its development potential. The need for an examination of the City's economic future was a result of the impending completion of what had been an explosive period of residential growth -- accompanied by development fees -- without the concurrent development of a substantial retail or commercial sector.

A key finding of the task force was that economic development alone will not ensure financial stability for Hercules. However, the task force did identify economic development as an integral component of the City's attempt to strengthen its financial position in the face of declining revenues and increasing costs.

Another key finding is that commercial and industrial land is still available as a resource; however, benefits from industrial development are not likely to occur in the immediate future due to current market conditions (City of Hercules, 1990). The proposed Land Use Element Update is the City's response to the findings of the task force. As such, the Land Use Element Update emphasizes designated non-industrial land uses, including retail, service, office, and mixed-use development, and designates less land for industrial use than the current Land Use Element.

Housing Element. The Housing Element was last updated in June 1990; it is currently being updated again. The current (approved) Housing Element identifies Parcel 4 (~~Hercules~~East Bay Realty Services Inc.) as a potential major source of land for housing development; it does not foresee development of as much housing as proposed under the Land Use Element Update, because it anticipates housing construction at a single-family density, as opposed to the multi-family dwellings proposed as part of the project. The existing Housing Element also identifies housing opportunity sites on Parcels 5, 13, A, and B, at what is now the Civic Center, and in the area of the Tiffany Ridge development on Turquoise Drive, a largely built-out area south of Parcel 8. The proposed Housing Element acknowledges the ~~Community Panel~~draft Land Use Element update recommendation for multi -family housing on Parcels 1, 3, 4, 5, 13, A, B, and C.

The existing Housing Element is adopted City policy. It contains a policy that calls for an increase in housing production of 1,262 units, including 353 low- and very-low-income units, during the period 1990-1995 (Policy 1.1). The goal of the 1990 Housing Element was to increase the amount of affordable housing at a variety of densities and price levels. Among the

programs discussed in the adopted and proposed Housing Elements for achieving affordable housing is an inclusionary housing requirement that would require that residential projects of 10 or more units make at least 10 percent of those units affordable to low- or moderate-income households. If this proves impractical, a developer may contribute in-lieu fees to a City housing fund (Program 1.e). These policy recommendations have not yet been implemented by the City.

Other goals and policies of the adopted and proposed Housing Elements include:

- New housing development should include homes at various densities and price levels, both lower and higher than presently available. (Policy 1.2)
- Provide well-designed, well-built housing units for low- and moderate-income households in mixed-density developments, including Planned Unit Development (PUD), avoiding a concentration in any limited area. (Policy 2.1)
- Provide a sufficient number of housing units to meet the special needs of senior citizens, physically disabled, homeless, large families, and female-headed households. (Goal 3)
- Encourage the provision of low-income housing units, especially for single persons, single parents, elderly, and young families. (Policy 3.3)

Open Space / Conservation Element. The basic objective of the *General Plan* Open Space / Conservation Element is to provide for both human and environmental needs in creating a natural environment compatible with urban development by the wise use and enhancement of natural resources within the City. The Open Space / Conservation Element identifies riparian areas, chaparral, oak groves, salt marsh, and greenways within the City that should be preserved in their natural state. The Open Space and Conservation Plan map identifies the general areas where the above environmental attributes occur. Riparian areas occur on Parcels A, C, and F and wetlands occur on Parcels 1, 3, 4, 11, 12, A, and C.

Seismic Safety / Safety Element. The Seismic Safety / Safety Element was most recently approved, as updated, by the City Council in October, 1990. The Element identifies the geology, seismic hazards, geologic hazards, fire hazards, and flood hazards that exist in the City. The objective of the Element is to reduce the loss of life and damage resulting from future hazards. Implementation of policies in the Element is through several community development regulations. Sections IV.I., Hydrology, and IV.J., Geology identify the potential hazards on each parcel related to flood and geology.

Other Jurisdictional Authorities and Planning Documents Relating to Land Use

Hercules Redevelopment Agency. In 1983 the Hercules Redevelopment Agency adopted a redevelopment plan for the "Dynamite Redevelopment Project." The 577-acre redevelopment area included all of the lands later analyzed in the Hercules Properties, Inc./Gelsar Specific Plan Area (Parcels 1-4), in addition to land to the north, east and south of the Specific Plan area (the Specific Plan was prepared in 1987 but not adopted). The redevelopment project was established primarily as a mechanism for eliminating blight in the old industrial area and as a means for undertaking the financing of a list of public works improvements in the vicinity. The plan did not involve the adoption of a new land use plan for the area, but instead continued the City's *General Plan* and other land use policies and controls which were in place at the time. As part of the Land Use and Circulation Elements Update, the Redevelopment Plan would be updated to reflect changes in the *General Plan*.

The Redevelopment Plan set forth a number of general objectives:

- Eliminate blight and environmental deficiencies, including obsolete older buildings, periodic inundation by flood waters, and deteriorated or inadequate public improvements;
- Assemble land into developable parcels with improved pedestrian and vehicular circulation systems;
- Re-plan, redesign and development of undeveloped areas;
- Strengthen retail and other commercial activities in the Redevelopment Area;
- Strengthen the economic base of the Redevelopment Area and community through installation of needed improvements to stimulate new commercial/industrial expansion, employment and economic growth;
- Provide adequate parking and open space;
- Establish and implement performance criteria to assure high site design and environmental quality;
- Expand and/or improve the community's supply of low- and moderate-income housing; and
- Preserve and restore historic structures.

In addition to these general objectives, the Redevelopment Plan also proposed several public improvement activities, including:

- Improvements to Refugio Creek, including relocation of the creek west of San Pablo Avenue, construction of a new drainage structure beneath the SP railroad tracks, construction of a box culvert near San Pablo Avenue, and construction of a bridge near the railroad tracks;
- Intersection improvements at San Pablo Avenue/SR 4, San Pablo Avenue/Sycamore Avenue, Sycamore Avenue/Willow Avenue, Sycamore Avenue/SR 4;
- Roadway improvements on San Pablo Avenue, Sycamore Avenue, the I-80 off-ramp at Willow Avenue, Willow Avenue, and SR 4 (Franklin Canyon Road);
- Design and construction of sewage lift station and force main;
- Improvements to the then-inoperative City sewage treatment plant;
- Construction of a pedestrian/vehicle overpass to serve Parcel 2;
- Flood control improvements along Refugio Creek;
- Relocation of utility lines; and
- Public improvements in connection with rejuvenation of industrial facilities at the former Hercules Chemical Plant.

In the years since adoption of the plan, about three-fourths of the recommended improvements have been made such as the upgrading of the sewage treatment plant, the construction of the sewer lift station and force main, and improvements to local roadways. Some improvements, such as rejuvenation of existing industrial facilities, have proved infeasible.

State Lands Commission. Parts of tidal marsh in San Pablo Bay along the shore of Parcel 2 are tidelands that fall under State Lands Commission jurisdiction. The State Lands Commission requires a Dredging Permit for any improvements to navigation, reclamation, or flood control, or as part of construction, alteration, or maintenance of structures authorized under certain sections of the Public Resources Code (Governor's Office of Planning and Research, 1991). Development of Parcel 2 could be subject to State Lands Commission review.

East Bay Regional Park District. In 1986, a Joint Powers Authority comprising the cities of Hercules and Pinole and the East Bay Regional Park District (EBRPD) undertook a Shoreline

Feasibility Study to investigate the feasibility of developing a shoreline trail between Point Pinole and Lone Tree Point in Rodeo, and to identify possible trail alignments.

The feasibility study shows three possible trail alignments that fall within the study area: a pedestrian/ bicycle/ equestrian trail linking the shoreline and Historic Hercules to San Pablo Avenue; a boardwalk over the marsh/wetlands area south of Hercules Point; and a pedestrian trail along the inland side of the railroad parallel to the shoreline (Engineering Science, Inc., 1989). The City has adopted a trail alignment that runs along the shoreline through the proposed Waterfront Park south of Santa Fe Avenue, runs generally eastward along the Refugio Creek Corridor, and then runs generally northeast along San Pablo Avenue to the northern city limit, as shown in the *General Plan* Open Space Element. This alignment has not been approved by the EBRPD, although the district views the future development of the Shoreline Trail as a long-term goal.[2]

Bay Conservation and Development Commission (BCDC). The shoreline area of Hercules is subject to the policies and regulations of the San Francisco Bay Conservation and Development Commission (BCDC) as set forth in the San Francisco Bay Plan (1969, as amended September 1988). The purpose of BCDC and the Bay Plan is the protection and conservation of the San Francisco Bay and its shoreline as a valuable natural resource. Under the state-legislated authority of the McAteer-Petris Act (1965), BCDC has regulatory permitting power within the shoreline areas in its jurisdiction. BCDC jurisdiction is defined as the band of land 100 feet shoreward from the line of highest tidal action, and in specified tributary creeks. In Hercules, the elevation of highest tidal action is about 5 to 6 feet; BCDC jurisdiction extends inland 100 feet from the 6-foot elevation line. BCDC jurisdiction would extend inland as far as the Southern Pacific railroad grade. In addition, BCDC also has advisory policies relating to activities in diked historic baylands, of which there is extensive acreage within Parcels 1, 2, 3, and 6. BCDC reviews development proposals in diked historic baylands for consistency with its policies and submits its comments to the U.S Army Corps of Engineers for their consideration.[3]

Any development proposed within BCDC's jurisdiction requires a permit from BCDC. Permits are granted or denied only after public hearings, and review and comment by the affected local jurisdiction. In its permit process, BCDC tries to ensure the following: 1) that prime shoreline

2 The City believes that a trail along the entire City shoreline could present problems related to the safety of trail users as well as security problems for owners of shoreline properties.

3 BCDC has indicated, as part of the Army Corps of Engineers permitting process, that the Commission has no jurisdiction over the Corps' permitting process for Parcel 3 (Salcedo, 1994).

sites are reserved for priority uses (i.e., ports, water-related industry, airports, wildlife refuges, and water-related recreation); 2) that public access to the Bay is maximized and not precluded by development in areas not needed for priority uses; 3) that attractive design of shoreline development is encouraged; and 4) if salt ponds or managed wetlands are proposed for development, that consideration be given to dedication of these lands or that development be consistent with Bay Plan guidelines. The land use maps in the Bay Plan previously designated Parcel 1 as a priority use area for water-related industrial uses. However, in 1988, the Commission removed the priority use designation from this parcel. Redesignation of the parcels would, therefore, not be subject to BCDC's priority use restrictions. Redesignation would be subject to the more general policies to increase public access to the Bay, not to adversely affect the public's enjoyment of the Bay and Shoreline, and to encourage attractive shoreline development. Development within Parcel 2 would require review by the BCDC Design Review Board and the Commission's approval of a development permit prior to any construction (Engineering Science Incorporated, 1989).

Hercules Master Environmental Assessment. The 1991 Master Environmental Assessment (MEA) was prepared for 14 of the 24 properties that are proposed for land use redesignations as part of the Land Use Element Update. The report identified existing environmental conditions on Parcels 1-14 and identified land use constraints that were considered by the Community Panel and City Staff in preparation of the City's Land Use Element Update to: identify potentially incompatible land uses; insure consistency with the zoning ordinance; and to identify City approval, where needed, for mixed-use designations.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA *Guidelines* establishes that a project would normally have a significant effect on existing land uses if it would: 1) disrupt or divide the physical arrangement of an established community; 2) conflict with established recreational, educational, religious, or scientific uses in an area; 3) convert prime agricultural land to urban use (or impair the agricultural productivity of prime agricultural land); or 4) conflict with adopted environmental plans and goals of the community where it is located. Appendix I of the CEQA *Guidelines* indicates that a project would have a significant effect of the environment if it would result in a substantial alteration of the present or planned land use of an area.

The land use policies and land use designations in the Land Use Element Update are discussed below in relation to the goals of protecting physical conditions and protecting people from physical impacts. The discussion notes that the land use impacts of the project, the related potential physical impacts, and the applicable technical section(s) of the EIR that address those impacts. The assessment of land use impacts includes emphasis on potential incompatibilities resulting from the proposed land use designations, and the effects of the Land Use Element Update on overall land use patterns.

Land Use Development and Patterns

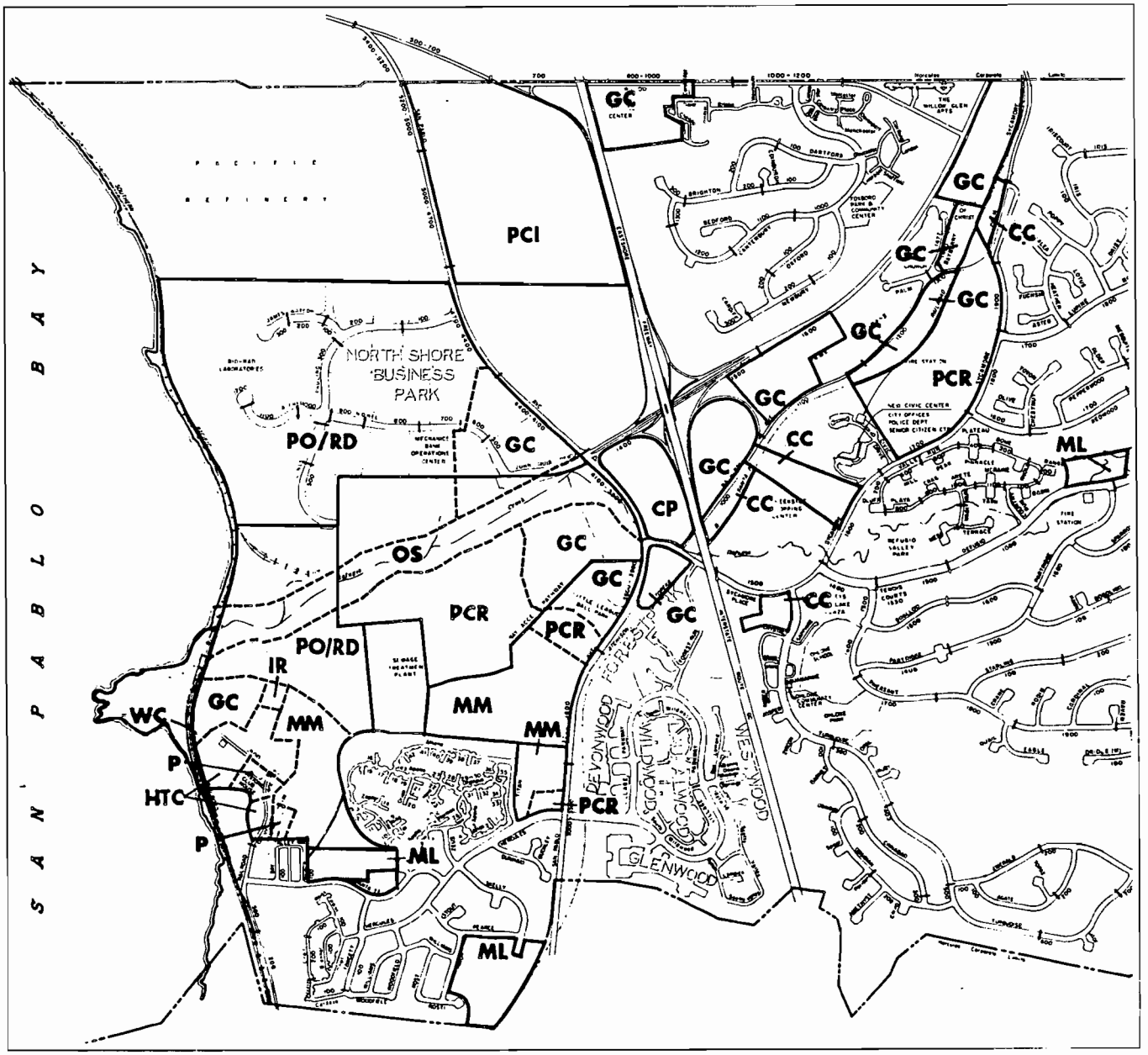
The proposed land use designations are discussed by geographic area of the City. The Lower Drainage Floodplain area is the relatively large, undeveloped area in the western part of the City near San Pablo Bay. This area includes the majority of study area acreage and is generally bound by San Pablo Avenue, Hercules Avenue, and San Pablo Bay. The Lower Drainage Ridges and Plateau parcels comprise the higher elevations and perimeter of the Floodplain. These parcels are located along San Pablo Avenue. The Upper Drainage Riparian Valley includes parcels along State Route 4, Sycamore Avenue, and Refugio Valley Road. Figure IV.A.1 shows existing land use. Figure IV.A.3 shows the proposed *General Plan* land use designations.

Lower Drainage: Floodplain (Parcels 1-4, C)

Development under the proposed land use designations would result in conversion of largely undeveloped land to multi-family residential, commercial, waterfront-commercial, mixed commercial-residential uses and open space. The majority of the proposed changes would remove land from current industrial designations. Parcels currently designated Industrial Commercial and Industrial would be redesignated as Multi-Family Residential, Planned Commercial-Residential, Waterfront Commercial and General Commercial. Refer to Table III.1 for the nature and maximum proposed intensity of development on each parcel.

Lower Drainage: Ridges and Plateau (Parcels 5-7, B)

The predominant land use as business park would continue in this area. Buildout would convert undeveloped land to commercial, residential and office uses. The proposed land use designations for these parcels would remove most land from future industrial uses. Parcels currently designated Industrial, Medium-Low Density Residential, and Neighborhood Commercial would be redesignated Planned Office/Research and Development, Planned



① / Ⓐ Parcel Reference

0 2000
Feet

RESIDENTIAL

- **ML** Multi-Family Low Density
- **MM** Multi-Family Medium Density

COMMERCIAL

- **WC** Waterfront Commercial
- **GC** General Commercial
- **CC** Community Commercial
- **CP** Commercial Public

PUBLIC

- **OS** Open Space
- **P** Public (City Facilities)

EMPLOYMENT

- **PO/RD** Planned Office-Research & Development

MIXED

- **PCI** Planned Commercial-Industrial
- **PCR** Planned Commercial-Residential
- **IR** Industrial Residential
- **HTC** Historic Town Center

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

SOURCE: City of Hercules; Environmental Science Associates, Inc.

Figure IV.A.3
Propsed General Plan
Land Use Designations

Commercial-Industrial, Planned Commercial-Residential, General Commercial, and Multi-Family Low and Medium Density.

Upper Drainage: Riparian Valley (Parcels 8-14, A, D-J)

Development would convert these largely undeveloped parcels to commercial, residential and mixed commercial-residential uses. The proposed land use designations would result in new commercial uses along SR 4 and Sycamore Avenue, and bring one developed parcel into conformance with the *General Plan*. Parcels currently designated Service Commercial, Multi-Purpose Public, and Highway Commercial would be redesignated as General Commercial, Community Commercial, Planned Commercial-Residential, and Multi-Family Low Density, with one parcel to be designated Public/Semi-Public. Refer to Table III.1 for the nature and maximum proposed intensity of development on each parcel.

Impacts Resulting from the Proposed Land Uses and Redesignations

Impact Land Use-1: Development consistent with the proposed Land Use Element could result in conflicts between incompatible land uses. This would be considered a significant impact.

Implementation of the proposed land use designations would result in an increase in mixed-use development, particularly the proposed Planned Commercial-Residential designation. Mixed-use development is encouraged by Objective 12 of the proposed Land Use Element Update, which provides for integrated uses in one structure. Mixed-use development may have beneficial results, such as increasing proximity of residents to stores and shopping or work. This could result in reducing vehicle travel, with an associated reduction in vehicle emissions, below that which would occur with more segregated land uses.

Mixed-use development also has the potential for land use incompatibilities, that is, conflicts related to the potential effects of any one of the uses within a project conflicting with or affecting another within the same site. Examples of potential incompatibilities from mixed-use development include a late-night retail or restaurant activity conflicting adjacent residential uses, and industrial uses conflicting with commercial or residential uses. Land use incompatibilities could also occur if a new use is developed adjacent or near to a conflicting existing (developed, agricultural or undeveloped) use.

In Hercules, land use compatibility conflicts could occur in areas where the proposed Land Use Map calls for potentially conflicting uses to be located next to each other. Land use incompatibilities would include noise, dust, light and glare, or other activities that would affect the character of an adjacent area. The location of each proposed land use designation is shown on Figure IV.A.3.

Locations where potential new conflicts could be introduced include:

- Hercules Point, Historic Company Town, where new land use designations in a small geographic vicinity would include Waterfront Commercial, Industrial-Residential, Multi-Family Residential and Historic Town Center (Parcels 1 and 2). Multi-family medium density units and Planned-Office Research and Development would be adjacent uses.
- Parcel 13, which would be redesignated as Planned Commercial-Residential.
- Areas west of and adjacent to San Pablo Avenue that would be redesignated as partially or entirely mixed-use (Parcels 3, 4, 5).
- Parcel A on Refugio Valley Road, which would be developed under the Multi-Family Low Density designation adjacent to Refugio Creek.
- Parcels 1, 3, and 4, which would be developed with Multi-Family Medium Density and Planned Commercial-Residential land uses adjacent to the Sewage Treatment Plant.

Impact Land Use-1: Mitigation Measures Proposed as Part of the Project

Implementation of the following proposed Land Use Element goals and policies would reduce the potential for land use incompatibility:

> **Planned Commercial-Residential definition:** The definition of the proposed Planned Commercial-Residential land use designation includes the stipulation that "development of these properties shall be carefully planned to insure that the benefits of mixed-use development are fully realized, and the potential negative impacts of one use on another are minimized." In addition, commercial structures and uses "shall be developed according to a master plan. . . ."
>
> **Policy 2A:** Commercial and industrial development shall be consistent with gross intensity ranges in the land use diagram and land use categories. Higher intensity may be permitted if such development is consistent with the City's Economic Development Strategy and with specific findings made by the Planning Commission. The findings are: the development's benefits in terms of number and quality of jobs, or revenues generated for the City, are significantly greater than would be achieved without the higher intensity; the proposal is compatible with surrounding development and in keeping with the desired character of the community; and the impacts of the increased intensity are fully analyzed and mitigated, if possible.

Policy 3D: Create a strong and successful focus or center for business and activities that would provide services and shopping opportunities for, and would attract employees, clients, and patrons from a regional area, while not disturbing existing residential and community oriented areas.

Concept 4: A limited amount of new residential development should be allowed on vacant properties that adjoin existing neighborhoods and that are more closely associated with existing neighborhoods than the employment or commercial areas. Buffers should be established between the residential and non-residential areas.

Policy 5A: Residential development shall be consistent with gross density ranges in the Land Use Categories and Land Use Diagram. Higher densities may be permitted that are consistent with State density bonus requirements. Lower densities may be permitted only when specific findings are made by the Planning Commission. The findings are: the development would be compatible with the surrounding neighborhood and would not have a detrimental effect on existing or future multi-family development, or existing or future commercial development; and the reduced density will not prevent the City from achieving its goals for low and moderate income housing, as set forth in the Housing Element.

Policy 13A: Create a transition between residential neighborhoods and the commercial and industrial areas, except where such mixed uses are desirable (e.g., live/work space and other designated areas). The transition should separate land uses that might be incompatible if located in close proximity. Land uses that minimize adverse impacts and those that would not impact adjoining properties should be encouraged.

Impact Land Use-1: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Land Use-1: Additional Mitigation Measures Identified in this EIR

The City shall incorporate the following policies into the proposed Land Use Element Update of the City's General Plan:

Encourage commercial and industrial facilities to enhance and complement the surrounding areas by utilizing compatible architecture and landscaping.

Accommodate planned commercial-industrial and industrial-residential uses in areas buffered from adjacent uses that may be incompatible.

New commercial development should not adversely affect the quality of the City's residential neighborhoods or Hercules Historic District.

Require new development along the bay shoreline to provide a reasonable degree of buffering between such development and adjacent salt and mud flat areas.

Require proposed new development with potential conflicts to demonstrate that such conflicts can be minimized or mitigated to an acceptable level before the development is approved.

Impact Land Use-1: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Land Use-2: Implementation of the proposed Land Use Element Update would allow increased density and increase the urban land use within the City and would change the distribution of land uses. Development consistent with the proposed Land Use Element Update would result in patterns of development that differ from existing development patterns, resulting in impacts related to both traffic patterns and changes in land use compatibility. This is considered a significant impact.

Changes in land use designations under the proposed Land Use Element Update would result in an overall increase in mixed-use, residential, commercial and research and development land uses. These designations would replace current land use designations of industrial, highway commercial, industrial-commercial, and multi-purpose designations.

Office and research and development uses would be the predominant land uses on currently undeveloped and unused land west of I-80. Residential development west of I-80 would intensify because of the proposed multi-family uses. The concentration of increased employment and residences in the western portion of the City due to intensification of land use would alter existing traffic patterns and convert undeveloped land to urban uses. The impacts of the patterns of development proposed in the Land Use Element Update on transportation are discussed in Section IV.B, Transportation and Circulation.

The concentration of increased employment in the western portion of Hercules due to intensification of office / research and development and waterfront commercial uses would alter existing traffic patterns and convert vacant lots to urban uses. The impacts of the patterns of development proposed in the draft Land Use Element Update on transportation are discussed in Section IV.B, Transportation and Circulation.

If the proposed patterns of development, as well as proposed Land Use Element policies were to substantially increase vehicle miles traveled by automobile, then significant impacts on traffic, air quality and noise would occur as a result of growth within the City. The extent of these

impacts depends on the choice of individuals about where they live and work, and how they travel. Impacts on traffic are discussed in Section IV.B, Transportation and Circulation. Air quality impacts are discussed in Section IV.K.

Impact Land Use-2: Mitigation Measures Proposed as Part of the Project

The following mitigation measures are proposed policies in the Land Use Element Update.

Policy 3A: Develop transportation facilities to provide access to the region, particularly public transit systems (buses, ride sharing, and rail transit, as well as potential water transit).

Policy 3B: The Land Use Element and Circulation Element need to be closely coordinated to insure that traffic from new development will not overwhelm the carrying capacity of the circulation system.

Policy 3C: Reasonable traffic flow and direct access between neighborhoods should be provided, where feasible.

Policy 6B: Multi-family residential land should be developed with a balance of open space, landscaping, and recreational amenities and should be accessible to commercial and recreational areas and public transportation.

Policy 14A: Develop trail systems, open space, and other amenities that benefit the quality of life in the community.

Impact Land Use-2: Mitigation Measures identified in other *General Plan* Elements

Growth Management Policy II.E.1: The (Level of Service) standards in this Element will be used to evaluate the traffic impacts of new developments, and no application shall be approved which may cause a violation of these standards unless either:

a. Improvements that will mitigate the projected LOS impact are programmed in the City's or Redevelopment Agency's Capital improvement Program; or
b. A Finding of Special Circumstances has been made for the intersection; or
c. Improvements will be made by a project sponsor as part of a project.

Growth Management Policy II.E.2: The City shall develop and implement a mitigation program to insure that new development pays its fair share of the cost of maintaining adequate operations on the Basic Routes and the Routes of Regional Significance.

Impact Land Use-2: Additional Mitigation Measures identified in this EIR

None identified.

Impact Land Use-2: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Land Use-3: Development consistent with the Land Use Element Update could result in development in areas not adequately served by the necessary public services, including storm drainage, water and wastewater treatment. This would be a significant impact.

Section IV.F, Public Services and Utilities, discusses the adequacy of public services under buildout of the Land Use Element Update. The Public Services mitigation measures contain policies requiring that adequate services be provided by the developer before development can occur.

Impact Land Use-3: Mitigation Measures Proposed as Part of the Project

Refer to Mitigation Measures Proposed as Part of the Project in Section IV.F, Public Services and Utilities.

Impact Land Use-3: Mitigation Measures identified in other *General Plan* Elements

Growth Management Policy III.F.1: The City shall review all new development plans for conformance with the performance standards in this Element. The City will approve a development application only after making findings that one or more of the following conditions are met:

a. Assuming participation in adopted mitigation programs, performance standards will be maintained following the project occupancy; or
b. Because of the characteristics of the development project, project-specific mitigation measures are needed in order to insure maintenance of standards, and such measures will be required of the project sponsor; or
c. Capital projects in the Capital Improvements Program (or planned by service-providing special districts) will result in maintenance of performance standards.

Growth Management Policy III.F.2: The City will establish and implement a development mitigation program to insure that new growth is paying its share of the cost associated with the maintenance of these standards.

Growth Management Policy III.F.3: The City shall require all new development to contribute to or participate in the improvement of the above-mentioned facilities and systems in proportion to the demand generated by project occupants and users.

Please see also Mitigation Measures identified in other General Plan Element in Section IV.F, Public Services and Utilities.

Impact Land Use-3: Mitigation Measures Identified in this EIR

Refer to Section IV.F, Public Services, for mitigation measures that address adequacy of public utilities.

Impact Land Use-3: Significance After Mitigation

The mitigation measures identified in the Public Services and Utilities Section would reduce the impact to a less-than significant level.

REFERENCES - Land Use, Plans and Policies

City of Hercules, *Final Environmental Impact Report, Industrial Park*, November 1982.

City of Hercules (Economic Development Strategy Planning Task Force), Economic Development Strategy Plan, May 18, 1990.

City of Hercules, Economic Development Element, *General Plan*, 1991.

Engineering Science, Inc., *Draft Environmental Impact Report on the Hercules Properties, Inc./Gelsar Specific Plan*, prepared for the City of Hercules, March 1989.

Governor's Office of Planning and Research, *California Permit Handbook*, 1991.

Salcedo, Nicholas, Permit Analyst, San Francisco Bay Conservation and Development Commission, letter to U.S. Army Corps of Engineers, October 27, 1994.

B. TRANSPORTATION AND CIRCULATION

INTRODUCTION

This section describes the project setting in terms of access and circulation opportunities, the potential impacts of the proposed project on the transportation and circulation system, and proposed mitigation measures for the identified impacts. The transportation section includes descriptions of existing traffic conditions and future traffic conditions under the updated General Plan. In addition, future traffic conditions under the existing General Plan are provided for comparative purposes.

In November 1988, the voters of Contra Costa County approved Measure "C" (Contra Costa County Transportation Improvement and Growth Management Program). This measure established a 0.5 percent sales tax, and dedicated the tax proceeds to transportation improvements in Contra Costa County (including its cities). A portion of these revenues (approximately 18 percent) is~~are~~ then returned to participating cities (i.e., return-to-source funds) based on a formula which includes variables such as a jurisdiction's population, and miles of streets and highways within each jurisdiction. Measure "C" is administered by a committee comprised of elected officials from various jurisdictions throughout the County. This organization, the Contra Costa Transportation Authority (CCTA), determined that to facilitate efficient inter-governmental relations, Measure "C" transportation issues should be addressed by committees representing sub-regional areas of the County. For purposes of Measure "C", the western portion of the County is addressed by the West Contra Costa Transportation Advisory Committee (WCCTAC).

Measure "C" requires that jurisdictions participating in the Measure's return-to-source program take several actions, including the following transportation-related actions:

1. Adopt a Growth Management Element for their General Plans;
2. Adopt Traffic Level of Service Standards;
3. Participate in their respective sub-regional committees;
4. Participate in the development of an Action Plan by their respective sub-regional committees to address traffic operations on routes with regional significance;
5. Adopt a Development Mitigation Program;

6. Develop a five-year Capital Improvement Program to meet and/or maintain Traffic Service and Performance Standards; and

7. Adopt a Transportation Demand Management Ordinance.

In compliance with Measure "C", the City's Growth Management Element, adopted in 1994, establishes policies and traffic level of service and performance standards. The policies, traffic level of service standards and technical procedures documented in the county's model Growth Management Element and the Growth Management Program implementation documents, prepared by the CCTA, provided the framework for the development of the City's Growth Management Element.

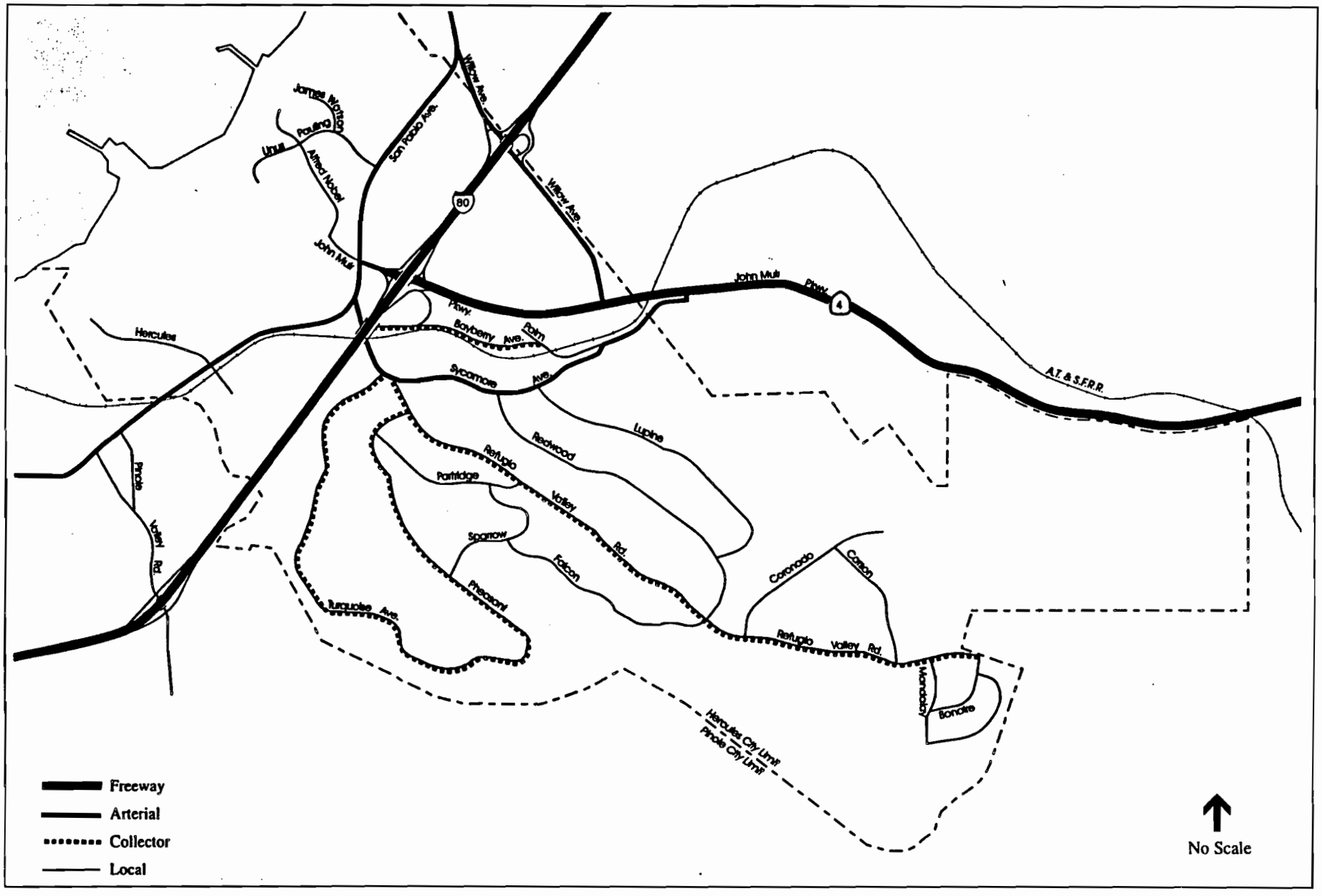
State Proposition 111 requires each urban county in California to prepare a Congestion Management Program (CMP). The CCTA has been designated by the County as the Congestion Management Agency (CMA) for the County. The required components of the CMP are very similar to the components of the Growth Management Program, and the CCTA coordinates implementation of both programs to simplify implementation and to develop a unified set of policies.

Traffic projections used in the transportation analysis were obtained from the West County Travel Demand Model, which was prepared for the CCTA to facilitate coordinated transportation planning. The computer model generates year 2010 daily and peak-hour traffic volume projections for the West Contra Costa County area, including the cities of El Cerrito, Hercules, Pinole, Richmond and San Pablo and the unincorporated County areas. Land uses for the traffic model were derived from the approved General Plans of applicable jurisdictions. Only land use and demographic data for the City of Hercules were modified for the forecast year; all other model data were held constant. (See the Impacts analysis for more discussion of the traffic forecasting methodology.)

SETTING

Roadway Network

The City of Hercules lies on the western edge of Contra Costa County, north of Pinole and south of the unincorporated community of Rodeo. Regional access to the City of Hercules is provided by Interstate 80 (I-80) and State Route (SR) 4 and San Pablo Avenue (see Figure IV.B.1). The City categorizes roadways as freeways, arterial streets, and local collector streets. Freeways



SOURCE: DKS Associates

Hercules General Plan Land Use and Circulation Update / 930314 ■

Figure IV.B.1
Existing Roadway Network

include I-80 and SR 4 (currently a freeway east of the City but planned for upgrade to freeway within Hercules), and arterial streets include San Pablo Avenue, Sycamore Avenue, Refugio Valley Road, and Willow Avenue. All other roadways are local collectors. Under Measure C, certain roadways in Contra Costa County ~~that serve more than one locality~~ are designated as Routes of Regional Significance, and all other roadways are designated as Basic Routes. Routes of Regional Significance are those that connect two or more "regions" of the county; that cross county boundaries; that carry a significant amount of through traffic; or that provide access to a regional highway or transit facility, such as a BART station. Routes of Regional Significance pursuant to Measure C are I-80, SR 4 and San Pablo Avenue. The following describes roadways that serve the Study Area.

Interstate 80. Within the City of Hercules, I-80 generally runs north-south and is a six-lane freeway. I-80 serves as the major link between Solano County and western Contra Costa County. I-80 also serves as a major state and national east-west link: locally between San Francisco and Sacramento, and nationally to the east coast. Almost 50 percent of the daily traffic on I-80 through Contra Costa County neither starts nor ends in western Contra Costa County (Contra Costa Transportation Authority, 1994). Caltrans is scheduled to widen I-80 in Hercules from six lanes to eight lanes in 1995 and 1996 as part of its High Occupancy Vehicle (HOV) lane construction project.

Caltrans reports that an average of 142,000 vehicles per day travel along I-80 between Pinole Valley Road and SR 4, including 10,700 during the peak hour. Between SR 4 and Willow Avenue there are 105,000 vehicles per day on I-80, including 11,900 during the peak hour (Caltrans, 1993a). In the a.m. peak hour, approximately 70 percent of the traffic is traveling southbound (technically westbound) towards San Francisco, and in the weekday p.m. peak hour (highest afternoon commute hour) about 60 percent of the traffic is traveling northbound on I-80.

State Route 4. SR 4 runs east-west from I-80 in Hercules to eastern Contra Costa County, Stockton and ultimately close to the Nevada border. Within Hercules it is a two-lane undivided highway, and east of Cummings Skyway it becomes a four-lane divided highway. Between I-80 and Willow Avenue, SR 4 carries an average of 32,000 vehicles per day, including 3,500 during the peak hour (Caltrans, 1993a). Approximately 70 percent of the a.m. peak hour traffic is westbound, and during the weekday p.m. peak hour about 67 percent of the traffic travels in the eastbound direction. SR 4 is one of two scenic routes currently designated by the City of Hercules.

San Pablo Avenue. San Pablo Avenue extends through the City of Hercules in a north-south direction, running parallel to I-80 throughout western Contra Costa County and Alameda County. San Pablo Avenue serves as a reliever route to I-80, which is one of the most congested roadways in the Bay Area. Within the City of Hercules, San Pablo Avenue is a four lane arterial, with separate left turn lanes at major intersections. The posted speed limit is 45 miles per hour (mph), and on-street parking is prohibited along most of the roadway. San Pablo Avenue is also a City of Hercules designated scenic route.

Several local roadways serve the Study Area, including San Pablo Avenue, Sycamore Avenue, Refugio Valley Road, Turquoise Avenue, Bayberry Avenue and John Muir Parkway.

San Pablo Avenue. In addition to serving regional traffic, San Pablo Avenue acts as a north-south arterial roadway in Hercules (see description under regional routes). Segments of San Pablo Avenue also supplement the I-80 and SR 4 highway connections in Hercules, where full interchanges do not exist. For example, since there is no existing connection from westbound Sycamore Avenue or Bayberry Avenue to SR 4 (except at the far eastern end of Sycamore Avenue), a portion of San Pablo Avenue acts as the SR 4 connector.

Sycamore Avenue. This arterial generally runs east-west between San Pablo Avenue and SR 4. Sycamore Avenue is four lanes with a posted speed limit of 35 mph between San Pablo Avenue and Bayberry Avenue. East of Bayberry Avenue, Sycamore Avenue extends to SR 4 as a two lane roadway with a speed limit of 25 mph. The segment of Sycamore Avenue west of Turquoise Avenue captures all of the traffic from eastern Hercules via several local roadways. Exclusive left turn lanes are provided at major intersections, and on-street parking is prohibited. Sycamore Avenue has most of the retail/commercial activity in the City fronting on it.

Refugio Valley Road. This two-lane east-west collector roadway extends east from Sycamore Avenue almost to the Hercules city limit. It is well landscaped with sidewalks and has stop sign controlled intersections with separate left turn lanes. It serves much of Hercules' new residential developments, public facilities and schools. The posted speed limit on Refugio Valley Road is 35 mph. Refugio Valley Park is located on the north side of Refugio Valley Road.

Turquoise Avenue. This two-lane collector roadway extends between Sycamore Avenue at its northern end and Pheasant Avenue to the south. It largely serves residential communities in southern Hercules. The posted speed limit on Turquoise Avenue is 30 mph.

Bayberry Avenue. Bayberry Avenue is a two-lane collector roadway primarily serving I-80 eastbound off-ramp traffic destined for Hercules. Bayberry runs east-west and currently extends between Sycamore Avenue and Palm Avenue. Vehicles exiting I-80 eastbound are prohibited from making left turns onto eastbound Bayberry Avenue, and thus travel westbound to the Sycamore Avenue intersection. On-street parking is prohibited along the entire length of Bayberry Avenue.

John Muir Parkway. For purposes of this EIR, John Muir Parkway is a four-lane extension of the SR 4 terminus, located west of I-80.~~San Pablo Avenue.~~ John Muir Parkway serves as a local roadway between the North Shore Business Park and San Pablo Avenue. East of San Pablo Avenue, access is provided to I-80 eastbound and westbound, and to SR 4 eastbound. SR 4 is ~~also called~~ commonly known as John Muir Parkway from Hercules to Martinez.

Intersection Capacity Analysis

To help evaluate current traffic conditions, five signalized intersections and four unsignalized intersections in Hercules were analyzed during the weekday a.m. and p.m. peak hours (see Figure IV.B.2):

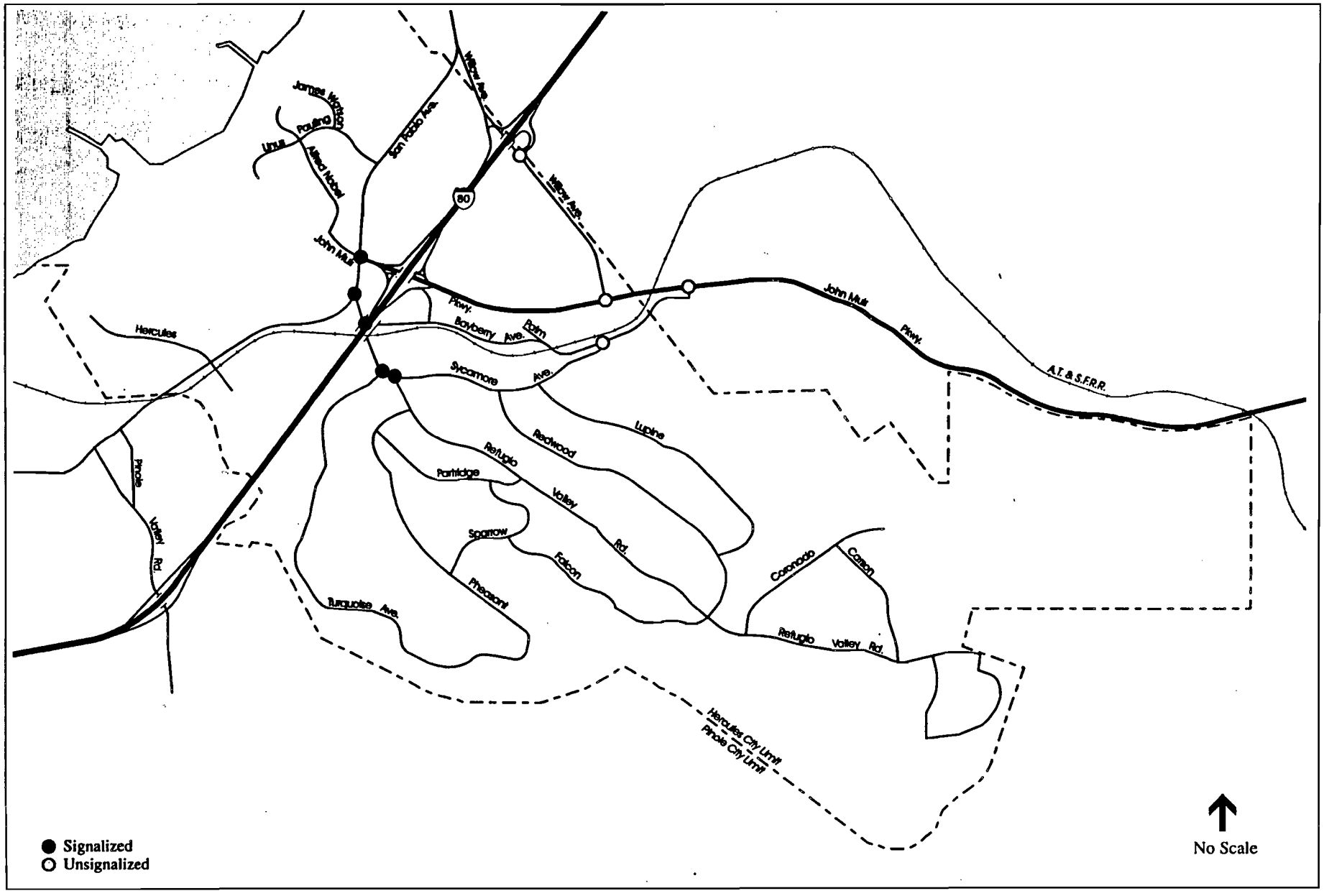
Signalized:

- San Pablo Avenue/John Muir Parkway
- San Pablo Avenue/Sycamore Avenue
- Bayberry Avenue/Sycamore Avenue
- Turquoise Avenue/Sycamore Avenue
- Refugio Valley Road/Sycamore Avenue

Unsignalized:

- Sycamore Avenue/Palm Avenue
- Sycamore Avenue/State Route 4
- Willow Avenue/State Route 4
- I-80 Eastbound Ramps/Willow Avenue

Substantial queuing was observed during the weekday a.m. peak hour at several locations. At the intersection of San Pablo Avenue and Sycamore Avenue, westbound vehicles were backed up to the Bayberry Avenue intersection. These vehicles were largely headed from residential areas in eastern Hercules to I-80 and SR 4 via San Pablo Avenue. At the intersection of San Pablo Avenue and John Muir Parkway, northbound vehicles also experienced long queues. These were mostly motorists traveling along San Pablo Avenue on their way to I-80 or SR 4. Motorists at



SOURCE: DKS Associates

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Figure IV.B.2
Existing Study Intersections
Traffic Control

the unsignalized intersections of Willow Avenue/SR 4 and Sycamore Avenue/SR 4 had difficulty finding suitable gaps in the traffic to turn onto SR 4 during both the weekday a.m. and p.m. peak hours. Also during the weekday a.m. peak hour, congestion was observed along Sycamore Avenue in the westbound direction, particularly between Refugio Valley Road and San Pablo Avenue.

During the weekday p.m. peak hour, substantial queuing was observed at the San Pablo Avenue/Sycamore Avenue intersection, as southbound left turning vehicles experienced delays waiting to turn onto Sycamore Avenue. Sycamore Avenue is often congested in the eastbound direction during the weekday p.m. peak hour, as motorists coming from San Pablo Avenue and the freeways return to the residential areas of Hercules.

Level of service (LOS) is a common measure of traffic operations using letters A through F to indicate the amount of congestion and delay. LOS A is free flow conditions, LOS D is typically considered acceptable for peak hour periods in urban areas, LOS E is near or at capacity, and LOS F represents jammed conditions above capacity. For signalized intersections, the Contra Costa Transportation Authority has adopted the Critical Lane Volume Planning Method described in *Transportation Research Circular 212* to evaluate intersection levels of service (Transportation Research Board, 1980). Intersection levels of service using the critical lane concept are based on the volume of conflicting traffic (generally through movements versus opposing left turns) at the intersection during the peak hour of travel demand. The level of service calculation procedures adopted by the County Transportation Authority are identical to the *Circular 212* procedures except that intersection capacity has been increased to 1,800 vehicles per hour from 1,500 vehicles per hour to account for local driving conditions (Contra Costa Transportation Authority, 1992a). Table IV.B.1 describes intersection levels of service and the relationship to volume-to-capacity (v/c) ratios for signalized intersections.

At unsignalized intersections with one- or two-way traffic control each traffic movement that must yield to another movement is evaluated separately and assigned a level of service. The level of service is based on the relative ability of turning traffic to find adequate gaps in conflicting traffic flows, as described in the *Highway Capacity Manual* (Transportation Research Board, 1985). At unsignalized intersections with all-way stop control, the level of service for each approach (as well as the overall intersection), based on average delay per vehicle, is evaluated using the methodology of *Circular 373* (Transportation Research Board, 1992).

TABLE IV.B.1: LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

Level of Service	Typical Operating Characteristics	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition where the approach to an intersection appear quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	0.00-0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting upstream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.01+

/a/ Capacity is defined as Level of Service E.

SOURCE: Environmental Science Associates, Inc. from *Transportation Research Circular No. 212,* Transportation Research Board, 1980.

Table IV.B.2 describes intersection levels of service criteria for unsignalized intersections with four-way stop control, and Table IV.B.3 describes intersection levels of service criteria for unsignalized intersections with minor street stop control. Table IV.B.4 summarizes the intersection capacity analysis for the existing weekday a.m. and p.m. peak hour conditions.

TABLE IV.B.2: LEVEL-OF-SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS WITH STOP-SIGN CONTROL ON ALL APPROACHES

Average Stopped Delay in Seconds per Vehicle	Level-of-service
< 5	A
5 to 10	B
10 to 20	C
20 to 30	D
30 to 45	E
> 45	F

SOURCE: Transportation Research Board, *Transportation Research Circular 373, Interim Materials on Unsignalized Intersection Capacity*, 1991.

In the City of Hercules, the acceptable level of service for traffic operating conditions during peak hours at signalized intersections on Measure C-defined Basic Routes is specified in the recently adopted Growth Management Element. Level of service standards are presented under Significance Criteria on p. IV.B-16 of this report.

Currently, each of the five signalized intersections analyzed operates at an acceptable level of service during the weekday a.m. and p.m. peak hours. Three of the four unsignalized intersections analyzed (all but Sycamore Avenue/Palm Avenue) experiences traffic delays for left turn movements during the weekday a.m. and p.m. peak hours. This is not unusual for stop-controlled intersections with only a small percentage of traffic on the minor street approach. At both the Sycamore Avenue/SR 4 and Willow Avenue/SR 4 intersections, vehicles experience delays during the morning and afternoon commute periods when turning onto and off the freeway. Programmed improvements to SR 4 will eliminate the stop sign controlled intersections by creating grade separated interchanges. (See description of the SR 4 project under Committed Roadway Network Changes, below).

TABLE IV.B.3: LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS WITH CONTROL ON MINOR STREET ONLY

Level of Service	Typical Operating Characteristics
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. The traffic operation can generally be described as excellent.
B	Level of Service B describes a condition where one or more critical movement approach to an intersection is occasionally fully used and short delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.
C	Level of Service C describes a condition where one or more critical movement approach to an intersection is often fully used and queuing may occur. The traffic operation can generally be described as good with average traffic delays.
D	Level of Service D describes a condition of increasing restriction and fewer gaps in the major street traffic flow, causing substantial delays and queues of vehicles on critical movement approaches to the intersection during short times within the peak period. The expected delay for minor street traffic is long; however, traffic operation can generally be described as fair.
E	Level of Service E describes the condition at which capacity of particular critical movement(s) is reached. It represents the most vehicles that any particular critical movement can accommodate; however, overall intersection operation may continue to operate at acceptable levels of service. At capacity there may be long queues of vehicles waiting up-stream of the critical movement. These vehicles may experience very long delays and potentially interfere with major street traffic flows. The traffic operation can generally be described as poor.
F	Level of Service F represents a jammed condition. Insufficient gaps restrict the movement of vehicles out of one or more critical movement to the intersection. Extremely long delays occur, and drivers may select smaller-than-usual gaps, potentially affecting other traffic movements at the intersection. In such cases, safety may be a problem. This condition usually warrants improvement to the intersection.

SOURCE: Environmental Science Associates, Inc. from *Highway Capacity Manual*, Special Report 209, Transportation Research Board, 1985.

TABLE IV.B.4: INTERSECTION LEVEL OF SERVICE - EXISTING CONDITIONS

	AM Peak Hour		PM Peak Hour	
Signalized Locations	V/C[1]	LOS[2]	V/C	LOS
Bayberry/Sycamore	0.52	A	0.43	A
San Pablo/Sycamore	0.54	A	0.48	A
San Pablo/John Muir Parkway	0.66	B	0.82	D
Turquoise/Sycamore	0.41	A	0.44	A
Refugio Valley/Sycamore	0.30	A	0.38	A
Unsignalized Locations	Minor St.	Major St.	Minor St.	Major St.
One- and Two-Way Stop[3]	LOS	LOS	LOS	LOS
Sycamore/Palm	A	A	A	A
Sycamore/State Route 4	E	D	F	F
Willow/State Route 4	F	C	F	E
All-Way Stop	Delay[4]	LOS	Delay	LOS
I-80 Eastbound Ramps/Willow	7	B	36	E

[1]Volume-To-Capacity Ratio
[2]Level of Service
[3]Worst movement is presented for both the minor and major street approaches
[4]Delay in seconds per vehicle

SOURCE: DKS Associates.

At the I-80 eastbound ramps/Willow Avenue intersection, the four-way stop sign control causes minor delays during the weekday p.m. peak hour. A traffic signal is currently under construction at this location.

Freeway Operations

I-80 currently operates at Level of Service E/F in the peak directions in both the a.m. and p.m. peak hours in the Hercules area. In the morning peak period, particular areas of westbound congestion occur from Willow Avenue in Hercules to the Alameda County line, and are most

prominent at freeway on-ramps. In the evening commute period, eastbound congestion occurs from the Bay Bridge to Willow Avenue, and frequently extends beyond Willow Avenue to the Carquinez Bridge (Contra Costa Transportation Authority, 1994).

SR 4 in the Hercules area also operates at Level of Service E/F in the peak periods. Some drivers traveling on SR 4 choose to divert to Cummings Skyway. On the two-lane, undivided section of SR 4 through and near Hercules, drivers attempting to enter SR 4 from side streets at unsignalized intersections find it difficult to gain access to the highway. The undivided roadway has also resulted in a relatively high number of accidents (Contra Costa Transportation Authority, 1994).

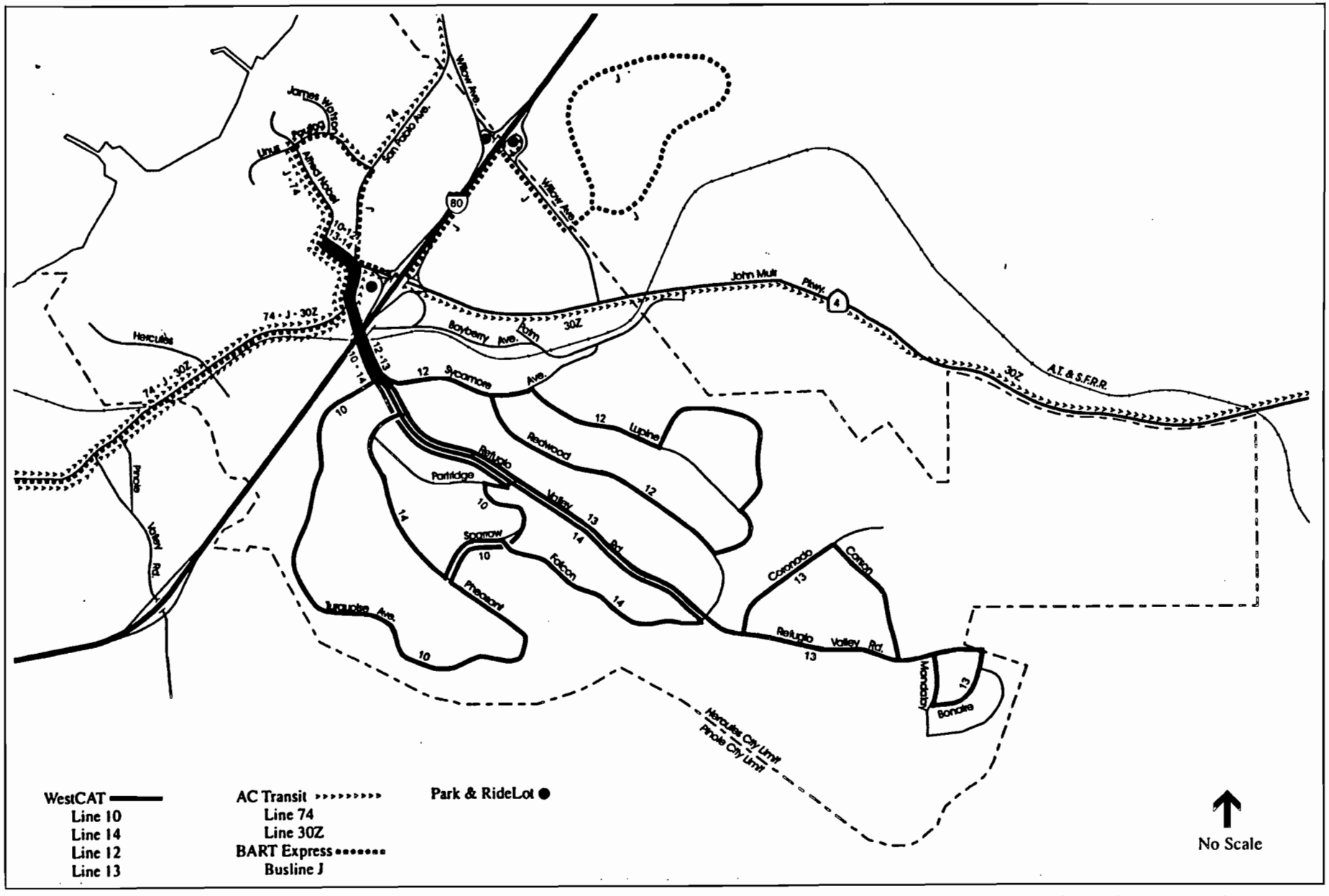
Public Transportation and Park & Ride Lots

Bus service in Hercules is currently provided by AC Transit and the Western Contra Costa County Transit Authority (WestCAT), as well as BART Express Bus (see Figure IV.B.3). AC Transit Route 74 runs along San Pablo Avenue between Crockett and the Richmond BART station. It operates weekdays on one-hour headways, with a stop located at the WestCAT Transit Transfer Station on John Muir Parkway just west of San Pablo Avenue. AC Transit Line 30Z travels along SR 4 from Martinez to Hercules, stopping at the WestCAT Transfer Terminal, and continuing on to the Richmond BART station. Line 30Z operates weekdays on one-hour headways.

WestCAT bus service is available throughout Hercules. Four lines operate on weekdays, and each line travels between the WestCAT Transfer Terminal and Sycamore Avenue. Line 10 runs along Turquoise Avenue, Pheasant and Sparrow. Line 12 travels along Sycamore Avenue, Redwood, Violet and Lupine. Line 13 covers Refugio Valley Road as well as Carson, Grissom and Coronado. Line 14 runs along Pheasant, Sparrow, Falcon and Refugio Valley Road west of Redwood. Each line operates on half-hour headways between 6:00 a.m. and 8:00 p.m.

WestCAT also provides door-to-door Dial-A-Ride service for senior and disabled passengers in portions of Hercules and Rodeo not otherwise served by WestCAT. In Hercules, the Dial-A-Ride service area extends east of San Pablo Avenue and north of SR 4.

BART Express Bus Line J connects several points in northern and western Hercules with the El Cerrito Del Norte BART station. In Hercules, passengers can access the express bus at the



SOURCE: DKS Associates

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Figure IV.B.3
Existing Public Transportation
and Park and Ride Lots

North Shore Business Park and the Willow Avenue/I-80 Park & Ride lots. BART Express Line J operates on 30-minute headways during the week, and 40-minute headways on Saturdays and Sundays.

Park & Ride lots currently exist at the I-80/Willow Avenue ramps intersections. Approximately 100 spaces are available for commuters in these lots. Connecting service to BART Express Bus Line J is available at these lots. Another Park & Ride lot, scheduled to open in late 1994, will be located on the east side of San Pablo Avenue between Sycamore Avenue and SR 4. The San Pablo Avenue Park & Ride lot will contain about 200 spaces and will also provide parking for commuters using AC Transit Line 74 and BART Express Bus Line J.

Transportation Demand Management

The City of Hercules has adopted the Transportation Demand Management (TDM) Program developed by the West Contra Costa County Transportation Advisory Committee (WCCTAC), which includes guidelines for trip reduction measures. The ordinance generally requires that employers and business complexes with 100 or more employees ~~(except retail establishments, contractors and certain government agencies)~~ adopt a TDM program with a goal of achieving average vehicle ridership of 1.3 employees per vehicle by 1997 and 1.35 employees per vehicle by 1998. Employers covered by the ordinance must also designate a TDM coordinator to administer the TDM program (City of Hercules, 1992). (Trip generation estimates contained in this report do not consider potential reductions that could be achieved through transportation demand management.)

Bicycle and Pedestrian Facilities

The only designated bicycle route in Hercules is along the western curb of San Pablo Avenue. Pedestrian facilities include sidewalks and hiking trails. A trail currently exists along Refugio Creek (Refugio Valley Road) east of I-80, and is used extensively by bicyclists and pedestrians. A trail is proposed for the Refugio Creek right-of-way west of I-80. The City has adopted a trail alignment that runs along the shoreline through the proposed Waterfront Park south of Santa Fe Avenue, runs generally eastward along the Refugio Creek Corridor, and then runs generally northeast along San Pablo Avenue to the northern city limit, as shown in the *General Plan* Open Space Element. The East Bay Regional Park District has proposed a trail along the entire bay front of Hercules. Please see Section IV.A., Land Use, Plans and Policies, for further description of this planning process.

Other Transportation Facilities

Hercules is traversed by two railroad lines; the Southern Pacific and the Santa Fe (see Figure IV.B.1). There is no existing water or air transportation service to the City of Hercules. The deep water channel is several miles from the City's shoreline. Two major international airports, Metropolitan Oakland International Airport and San Francisco International Airport, are located in the San Francisco Bay Area and are accessed via highway connections from Hercules.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

The following Level of Service standards are used to determine whether the proposed Land Use and Circulation Elements Update would have a significant effect on the environment. For signalized intersections on Measure C-designated Basic Routes, those standards, as defined in the Hercules *General Plan* Growth Management Element, are:

LOS "High" D to "Low" E (maximum v/c ratio is 0.94)

- Sycamore Avenue (from Bayberry to San Pablo Avenue)
- Bayberry Avenue (from I-80 ramps to Sycamore)

LOS "High" D (maximum v/c ratio is 0.89)

- Sycamore Avenue (SR-4 - Bayberry)
- Refugio Valley Road (Sycamore - Redwood/Falcon)
- Alfred Nobel Drive
- Linus Pauling Drive
- James Watson Drive
- John Muir Parkway

LOS "Low" D (maximum v/c ratio is 0.84)

- All other Basic Routes (that is, except Routes of Regional Significance).

Special conditions apply for the intersection of Bayberry and Sycamore Avenues. If a project would result in LOS worse than "High" D (*i.e.*, "Low" E), the project must be approved by the City Council upon a finding that the project would provide substantial benefit to the City or the community through the creation of substantial jobs, creation of a substantial long-term revenue potential to support City services, or the provision of a substantial amount of affordable housing.

For unsignalized intersections on Basic Routes, in the absence of formally adopted standards this report uses LOS D (maximum v/c ratio of 0.90) as the minimum acceptable LOS. LOS D is the target service level most frequently adopted by jurisdictions in urban areas.

The Growth Management Element states that traffic objectives and standards for San Pablo Avenue (a "Route of Regional Significance") are to be included upon publication by the Contra Costa Transportation Authority (CCTA). (Traffic service objectives for Routes of Regional Significance in the Hercules area are set cooperatively by jurisdictions in western Contra Costa County.) The Circulation Draft of the *West County Action Plan* was published on July 29, 1994, and recommends a traffic service objective of LOS E at signalized intersections on San Pablo Avenue.

For its 1991 Congestion Management Program, the CCTA established level of service standards of LOS F for eastbound I-80 and LOS E/F for westbound I-80 (east of SR 4/west of SR 4). The Circulation Draft of the *West County Action Plan* contains no level of service standard in its traffic service objectives for the year 2010. The draft *West County Action Plan* established a traffic service objective for SR 4 of LOS E in 2010.

Approach

Future circulation deficiencies in Hercules were evaluated by considering:

- Proposed changes to land use in the City of Hercules through buildout;[1]
- Growth in the remainder of Contra Costa County and the Bay Area through the year 2010, based on estimates prepared by the Association of Bay Area Governments (ABAG) in *Projections '90;* and
- Transportation improvements contained in various adopted planning documents (TJKM, 1993; City of Hercules, 1986; City of Hercules, 1993a).

Travel demand on the transportation network was estimated using the West County Travel Demand Model (Contra Costa Transportation Authority, 1993; Contra Costa Transportation Authority, 1992b). The West County Travel Demand Model considers four key circulation components in order to estimate travel demand; trip generation, trip distribution, mode choice, and trip assignment.

[1] In addition to growth that would occur pursuant to the updated Land Use Element, the analysis for 2010 includes development of approximately 800 residential units and a hotel in the Franklin Canyon area.

Trip Generation. Trip generation at buildout under the proposed land use designations at typical density was calculated using the trip generation equations embedded in the West County Model. The model estimates the amount of different types of travel expected to come from different land uses on a daily basis. Trip types are:

- Home-based work
- Home-based shop/other
- Home-based social/recreation
- Home-based school
- Home-based Diablo Valley College
- Non-home-based

Within Contra Costa County the trip generation model consists of:

- A submodel to estimate households by income group and household size;
- A set of equations to estimate trip productions (i.e. the "home" end of a trip) using household size and income; and
- A set of equations to estimate trip attractions, using total employment, retail employment, service employment, other employment, households, population, and university student enrollment.

After trip distribution and mode choice procedures are applied (see explanation below), peaking factors are applied to obtain trip patterns for a.m. and p.m. peak hours. Table IV.B.5 summarizes the trip generation estimates for the project.[2]

Trip Distribution. A gravity model was used to estimate the interaction of travel between different traffic analysis zones. The gravity model assumes that the amount of travel from one zone to all other zones is proportional to the number of trip attractions in each of the other zones, and inversely proportional to the travel impedance between each pair of zones. Impedances are measured using congested travel speeds for work trips. For non-work trips, free flow speeds are used. The travel impedances have a different effect on the average trip lengths for the different trip purposes.

[2] A more detailed presentation of estimated trip generation is provided in the Transportation Technical Report for the Circulation Element Update, which is on file at the Community and Business Development Department, 111 Civic Drive, Hercules.

TABLE IV.B.5: SUMMARY OF PROJECT TRIP GENERATION

Land Use Category	Size	Average Daily Trips	A.M. Peak Hour Trips	P.M. Peak Hour Trips
Retail/Commercial	2,006,000 sq. ft.	121,100	2,775	11,260
Office/R&D/Light Industry[a]	2,757,000 sq. ft.	20,900	2,860	2,380
Residential	3,816 units	24,800	2,160	2,485
Total		**166,800**	**7,795**	**16,125**

[a] See discussion on p. 27 regarding 18.5 acres (242,000 sq. ft. Planned Office/R&D) on Parcel 3 not included in traffic analysis.

SOURCE: DKS Associates

Mode Choice. The mode choice models within Contra Costa County are consistent with the Metropolitan Transportation Commission regional models. For home-based-work trip purposes, there are four possible modes:

- Transit
- Drive-alone-auto
- Two-person auto
- Three-plus-person auto

For other trip purposes, only auto and transit trips are determined. An auto occupancy factor is used to convert auto person trips to auto vehicle trips that can be assigned onto the network.

Outside of Contra Costa County, fixed external mode probabilities are used as a basis for mode choice. The model allows for the percentage of transit trips to shift based on changes in the Contra Costa County transit network, such as BART extensions.

Trip Assignment. Before auto and transit trips can be assigned to the network, they are converted from 24-hour person-trip tables in production-attraction format to weekday a.m. peak hour, weekday p.m. peak hour, and off-peak period trip tables in origin-destination format.

Assignments are performed taking into account effects of roadway capacity and congestion on travel speeds such that, over a series of iterations, differences in travel speed from one model run to the next are insignificant, at which time *equilibrium* is said to be achieved.

For this study, the year 2010 land use database and demographic information for the City of Hercules were refined to reflect changes proposed in the Land Use Element Update, as defined in Chapter III, Project Description; the database for the other areas in the West County Model was not changed. Currently, vehicle trips generated by land uses within the City of Hercules generate approximately 100,000 trips per day. Changes in land use with the proposed Land Use Element Update by 2010 would collectively add about 3,800 households, 15,300 jobs, and 5.0 million square feet of commercial, office and light industrial space. The daily trip generation resulting from these projects would add up to approximately 166,800 trips, including 7,790 during the weekday a.m. peak hour and 16,125 during the weekday p.m. peak hour, as shown in Table IV.B.5.

Committed Roadway Network Changes

There are several transportation improvements included in the City's *Capital Improvement Program* (CIP) and the *Highway 4 West and San Pablo Avenue Circulation Improvement Plan* (City of Hercules, 1993; City of Hercules, 1990). These roadway network changes anticipated to occur by buildout were incorporated into the analysis of future conditions (see Table IV.B.6 and Figure IV.B.4[3]). Local connections to development that would occur under the Land Use Element Update also were incorporated into the model, based on assumptions developed in conjunction with City staff and information contained in adopted planning documents.

The list of roadway projects used in this analysis was developed in consultation with City staff, based on the CIP list of unfunded, partially funded and funded improvements, and the list of projects that will be built as recommended in the *Circulation Improvement Plan*. Not all projects listed in these documents are included in the list shown on Table IV.B.6, as funding is uncertain or unforeseen at this time.

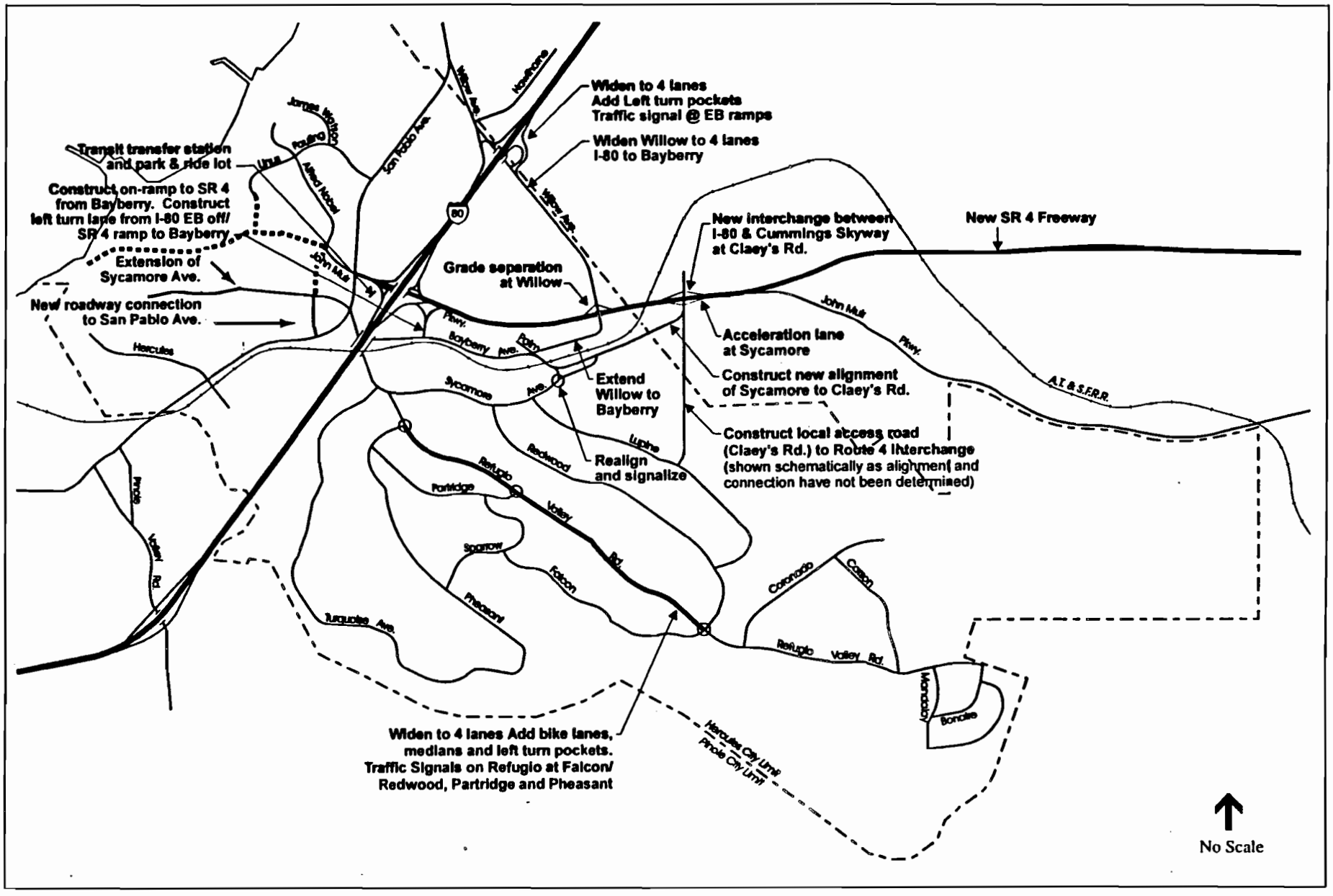
The most significant change to the roadway network for Hercules is the upgrading of SR 4 to a divided freeway. Currently, the section of SR 4 through Hercules (between I-80 and

[3] The roadway network west of San Pablo Avenue depicted in Figure IV.B.4 is conceptual.

TABLE IV.B.6: ROADWAY IMPROVEMENTS EXPECTED TO BE COMPLETE BY 2010

Project	Location	Description
Willow Avenue Improvements - Phase II	Beneath I-80 Overpass	Widen to four lanes; Add left-turn pockets; Install traffic signal at eastbound ramps
SR 4 improvements - Willow/Sycamore	I-80 EB to Cummings Skyway	Construct four-lane freeway; Grade separation at Willow Avenue; Extend Willow Avenue to Bayberry Avenue; Acceleration lane at Sycamore Avenue; New interchange between I-80 and Cummings Skyway at Claeys Road
San Pablo Avenue improvements	Linus Pauling Drive to northern city limit	Rehabilitation and add bicycle lanes
Refugio Valley Road reconstruction	Pheasant Drive to Redwood Road	Widen to four lanes; Add bike lanes, medians and left turn pockets; Traffic signals on Refugio Valley Road at Falcon Way/Redwood Road, Partridge Drive and Pheasant Drive
Transit Improvement Program	Sycamore and San Pablo Avenues	Transit transfer station and park & ride lot - half of Parcel 10 site with access from Sycamore and San Pablo Avenues
Bayberry Avenue/SR 4 ramp improvements	Bayberry Avenue/ SR 4/I-80	Construct on-ramp to SR 4 from Bayberry Avenue; Construct left turn lane from I-80 EB off-ramp/SR 4 ramp to Bayberry Avenue
Sycamore Avenue extension	to Claeys Road	Construct new alignment of Sycamore Avenue to Claeys Road
Local Access Road	South of Claeys Road interchange	Construct local access road (Claeys Road) to SR 4 interchange
Sycamore/Palm intersection	Sycamore/Palm Avenues	Realign and signalize intersection

SOURCE: DKS Associates



SOURCE: DKS Associates

Hercules General Plan Land Use and Circulation Update / 930314

Figure IV.B.4
Year 2010 Committed
Roadway Improvements

Cummings Skyway) is an undivided highway with stop sign controlled intersections at Willow Avenue and Sycamore Avenue. In the future, the divided SR 4 freeway will have grade separated interchanges at Willow Avenue and Claeys Road. East of Claeys Road, SR 4 will probably be realigned as a new freeway, connecting with the current freeway section at Cummings Skyway. The existing SR 4 near Franklin Canyon Golf Course will remain for local access (Caltrans, 1993b; CCS Planning and Engineering, 1993).

At the Bayberry Avenue/I-80 eastbound off-ramp junction, access will be provided in the future to SR 4 eastbound. Motorists coming off I-80 eastbound will be permitted to turn either east or west onto Bayberry Avenue with the addition of a left turn lane from the off-ramp to Bayberry Avenue.

Sycamore Avenue will be extended east to a new local roadway (Claeys Road), and the stop sign controlled intersection that currently exists at SR 4 will be removed as part of the SR 4 highway project.

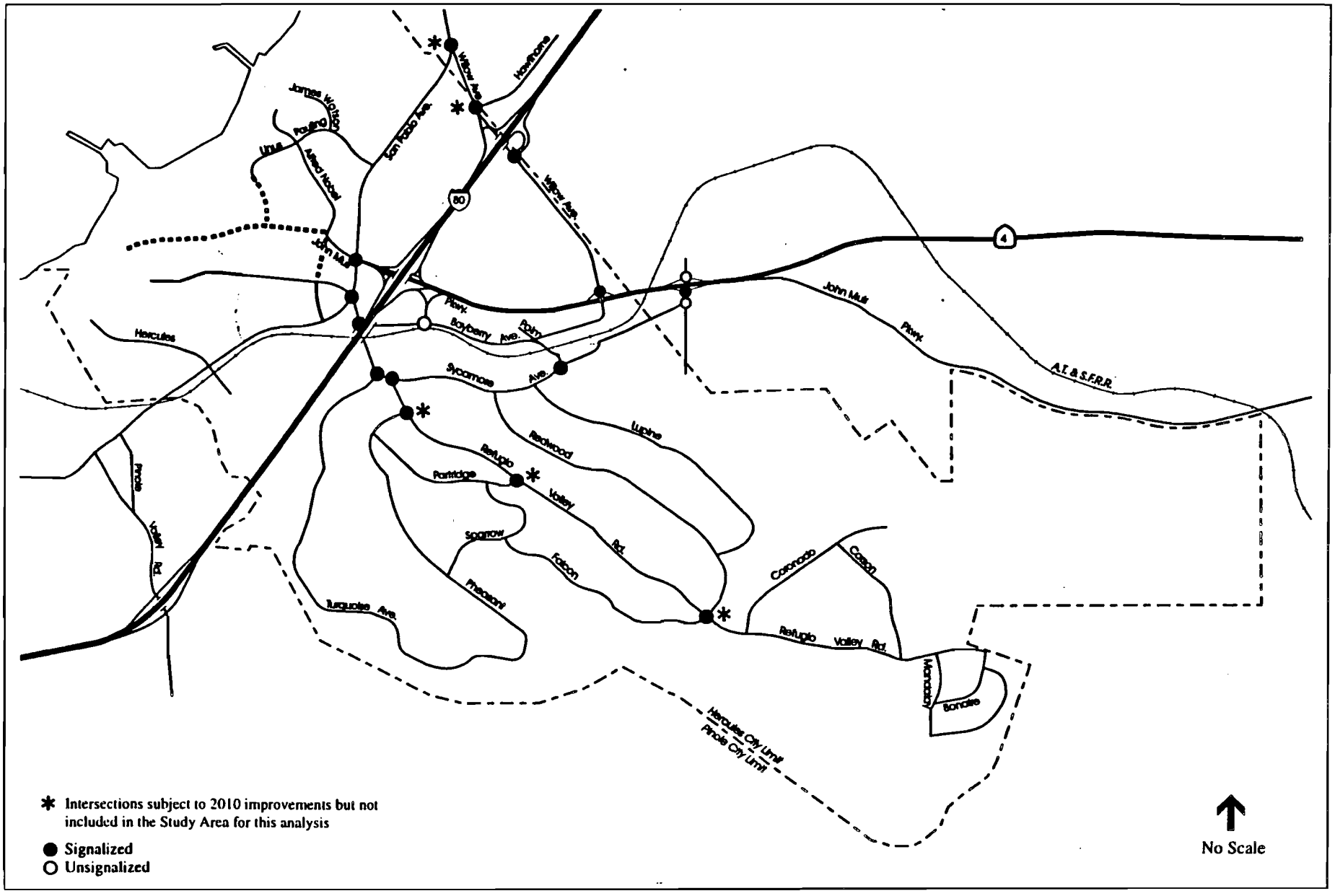
Willow Avenue will be expanded from two to four lanes between I-80 and SR 4. A grade separated interchange will be created at Willow Avenue and SR 4 westbound, and a new traffic signal will be installed at the Willow Avenue and I-80 eastbound ramps intersection.

Refugio Valley Road will be widened from two lanes to four lanes. Bike lanes and left turn pockets will be added to the roadway, as well as traffic signals at Falcon Avenue, Redwood Avenue, Partridge Avenue and Pheasant Avenue.

Future (2010) Intersections

In addition to the intersections analyzed under existing conditions, several new and realigned intersections that would be created as a result of programmed improvements were also analyzed. In addition, the I-80 eastbound ramps/Willow Avenue intersection analyzed under existing conditions would be signalized as a result of programmed improvements. Figure IV.B.5[4] shows the location of the intersections evaluated for Year 2010 conditions, as well as other intersections that would be improved as a result of programmed improvements. The additional and modified intersections analyzed in this report are:

[4] The roadway network west of San Pablo Avenue depicted in Figure IV.B.5 is conceptual.



SOURCE: DKS Associates

Hercules General Plan Land Use and Circulation Update / 930314 ■

Figure IV.B.5
Year 2010 Study Area
Intersections and Traffic Control

- Willow Avenue/SR 4 Westbound Ramps (signalized; to replace existing at-grade minor street stop-controlled intersection)
- Claeys Road/SR 4 Eastbound Ramps (signalized; to replace half of existing at-grade Sycamore/SR 4 intersection)
- Claeys Road/SR 4 Westbound Ramps (unsignalized; to replace half of existing at-grade Sycamore/SR 4 intersection)
- Claeys Road/Sycamore Avenue (unsignalized; new intersection)
- Sycamore Avenue/Palm Avenue (signalized; new alignment to replace existing intersection)
- Eastbound I-80 Off-Ramp/Eastbound SR 4 On-Ramp/Bayberry Avenue (unsignalized; reconfigured to allow access to SR 4 eastbound)
- I-80 Eastbound Ramps/Willow Avenue (signalized in future)

Because SR 4 will be a divided highway in the future, the at-grade intersections with Willow Avenue and Sycamore Avenue will be eliminated, as is noted above. The Willow Avenue intersection with SR 4 will be replaced with a grade separated interchange on the north side of SR 4, allowing access to and from SR 4 westbound. (Motorists traveling from Willow Avenue to eastbound SR 4 will have to use ramps at Claeys Avenue.) The Sycamore Avenue intersection with SR 4 will be removed entirely, and Sycamore Avenue will be extended east to a new local roadway (Claeys Road), near its grade separated interchange with SR 4 eastbound and westbound.

Impact Transportation-1: Traffic generated by development consistent with the proposed Land Use and Circulation Elements Update would contribute to unacceptable levels of service at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections in the a.m. and p.m. peak hours. This would be a significant impact.

Table IV.B.7 shows the intersection level of service summary for Year 2010. The intersection capacities assumed for 2010 reflect the roadway improvements described previously under Committed Roadway Network Changes and shown in Table IV.B.6 and Figure IV.B.4. The 2010 traffic conditions include background traffic growth projected by the West County Travel Demand Model, as well as traffic that would be generated by new development that would occur pursuant to the Land Use and Circulation Elements Update. With background traffic growth and traffic generated by the proposed project, both the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections would operate at LOS F during both the weekday a.m. and p.m. peak hours. Without project-generated traffic, the 2010 V/C ratio at the

TABLE IV.B.7: INTERSECTION LEVEL OF SERVICE SUMMARY - YEAR 2010

Signalized Locations	AM Peak Hour		PM Peak Hour	
	V/C[1]	LOS[2]	V/C	LOS
Bayberry/Sycamore	0.82	D	0.70	B
San Pablo/Sycamore	1.35	F	1.37	F
San Pablo/John Muir Parkway	1.82	F	2.49	F
Turquoise/Sycamore	0.58	A	0.50	A
Refugio Valley/Sycamore	0.57	A	0.50	A
I-80 Eastbound Ramps/Willow	0.31	A	0.61	B
Willow/SR 4 WB Ramp	0.26	A	0.30	A
Claeys/SR 4 EB Ramp	0.19	A	0.33	A
Sycamore/Palm	0.15	A	0.16	A

Unsignalized Locations One- and Two-Way Stop[3]	AM Peak Hour		PM Peak Hour	
	Minor Street LOS	Major Street LOS	Minor Street LOS	Major Street LOS
Claeys/Sycamore	D	A	F	A
I-80/SR 4 Ramp/Bayberry	B	A	C	A
Claeys/SR 4 WB Ramp	A	A	A	A

1 Volume-to-Capacity Ratio
2 Level of Service
3 Worst movement is presented for both the minor and major street approaches

SOURCE: DKS Associates.

San Pablo Avenue/John Muir Parkway intersection would be 1.53 (LOS F) in the a.m. peak hour and 1.74 (LOS F) in the p.m. peak hour; project-generated traffic would raise the V/C ratios to 1.82 (LOS F) and 2.49 (LOS F). At San Pablo Avenue/Sycamore Avenue, the V/C ratios without project traffic would be 1.11 (LOS F) in the a.m. peak hour and 0.98 (LOS E) in the p.m. peak hour; project-generated traffic would raise the V/C ratios to 1.35 (LOS F) and 1.37 (LOS F). Therefore, project-generated traffic would cause the p.m. peak-hour LOS at

San Pablo Avenue/Sycamore Avenue to degrade below acceptable LOS and would contribute to degraded conditions and an unacceptable level of service in the a.m. peak hour at San Pablo Avenue/Sycamore Avenue and in both the a.m. and p.m. peak hours at San Pablo Avenue/John Muir Parkway. This would be a significant impact.

Because these two intersections are adjacent to each other, they share a common congested segment of San Pablo Avenue. This segment of San Pablo Avenue, between SR 4 and Sycamore Avenue and further south to the city limit is the primary circulation deficiency identified for future (2010) conditions. San Pablo Avenue is designated as a regional route in the West Contra County Action Plan for Routes Of Regional Significance. As such, it is not subject to the same level of service standards as other "basic routes." Rather, it is subject to a traffic service objective, which is LOS E. The congestion on this section of San Pablo Avenue is due, in large measure, to diversion of traffic from I-80. Analysis of the travel demand modeling indicates that about one-third of the morning peak hour traffic on this section of San Pablo Avenue would use I-80 instead if there was adequate capacity.

The draft *West County Action Plan* cites several potential measures for improving congestion on San Pablo Avenue. The City of Hercules has already programmed a signal coordination project for the four traffic signals between Willow Avenue/Parker Avenue and Hercules Avenue. While these signal projects are important with respect to improving traffic flow in Hercules, they would not have a large impact on San Pablo Avenue traffic operations between Sycamore Avenue and SR 4/John Muir Parkway. The *Action Plan* contains additional measures that are indicated in Mitigation Measure Transportation-1b.

Because of changes in the land use assumptions for the Community Panel Recommended Land Use Concept, the analysis conducted for this report did not include 18.5 acres of planned office/research and development land use in Parcel 3 (Gelsar site). However, it is likely that this parcel would include the 18.5 acres of development at some point in the future. The 18.5 acres would generate an additional 2,200 trips per day, or about 1.3 percent of the total project daily trips. Although not included in the Year 2010 traffic model and analysis, the impacts of the 18.5 acres would not result in any change in the level of service at any intersections, nor would it affect identified mitigation. The Gelsar site is located west of San Pablo Avenue and would affect intersections along San Pablo Avenue, including the intersections at John Muir Parkway and Sycamore Avenue. Both of these intersections are projected to operate at LOS F in the future, and this condition would be slightly exacerbated by the additional 18.5 acres of

development. Since each of the other study area intersections are projected to operate well within acceptable levels, no additional impacts would be anticipated.

Impact Transportation-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

Goal: Preserve and enhance the community's quality of life with well balanced growth and development.

Objective 2: Develop a community that balances housing, jobs, and commercial opportunities.

Policy 2A: Commercial and industrial development shall be consistent with gross intensity ranges in the land use diagram and land use categories. Higher intensity may be permitted if such development is consistent with City's Economic Development Strategy and with specific findings made by the Planning Commission. The findings are:

- The development's benefits in terms of number and quality of jobs, or revenues generated for the City, are significantly greater than would be achieved without the higher density and intensity.
- The proposal is compatible with surrounding development and in keeping with the desired character of the community.
- The impacts of the increased intensity are fully analyzed and mitigated, if possible.

Policy 2B: Develop non-residential Land Use Categories which reduce the need for residents to leave the community by providing a variety of shopping and service opportunities.

Objective 3: Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.

Policy 3A: Develop transportation facilities to provide access to the region, particularly public transit systems (buses, ride sharing, and rail transit, as well as potential over-water transit).

Program 3A.1: Provide assistance and support a regional rail transit system and seek funding for a train station in Hercules.

Program 3A.2: Work with BART to develop both short-term and long-term transit facility uses on the BART site in Hercules.

Policy 3B: The Land Use Element and Circulation Element need to be closely coordinated to insure that traffic flow from new development will not overwhelm the carrying capacity of the circulation system.

Policy 3C: Reasonable traffic flow and direct access between neighborhoods should be provided or preserved, where feasible.

Policy 3D: Create a strong and successful focus or center for business and activities that would provide services and shopping opportunities for, and would attract employees, clients, and patrons from a regional area, while not disturbing existing residential and community oriented areas.

Objective 11: Participate and cooperate in regional and sub-regional planning activities.

Policy 11A: Cooperate with appropriate jurisdictions and/or agencies in preparation of State-Mandated Regional Plans (e.g. Congestion Management and Source Reduction and Recycling Element).

Policy 11B: Participate in regional and sub-regional planning and traffic issues to better address the potential regional impacts upon the community.

Objective 12: Encourage mixed use development that provides for an integrated mixture of residential and employment-generating uses within the same structure.

Objective 13: Minimize the impacts from incompatible land uses on existing and planned development areas.

The following objectives or programs are contained in the proposed Circulation Element Update:

Objective 2e: Coordinate the City's street system with adjoining city, county and state facilities.

Objective 2f: Maintain acceptable local circulation operating conditions on arterial streets/intersections and on local collector streets.

Objective 2h: Promote public transit service with the City and area.

Policy 2a: The policy on traffic level of service reflects the "traffic service objectives" set out in the *West County Action Plan* and the city's Growth Management Element adopted in 1994 to comply with Contra Costa County Measure C (1988). This included adoption of level of service standards on "basic routes" depending on the location of the route: CBD (central business district), urban, suburban, semi-rural and rural. [The level of service standards for Basic Routes in Policy 2a are those standards identified under "Significance Criteria" on p. IV.B-16 of this document. As noted there, the draft *West County Action Plan* traffic service objective for San Pablo Avenue, a Route of Regional Significance, is LOS E.]

Policy 2e: The City should actively participate in cooperative efforts to provide effective public transit to the City and adjacent communities, including promoting commuter rail and a train station in the City to intercept through travelers on I-80.

Implementation Action 6: Participation in local and regional Transportation System Management (TSM) programs, such as the City's adopted Transportation Demand Management (TDM) Program, which was developed by the West Contra Costa County Transportation Advisory Committee (WCCTAC) and includes guidelines for trip reduction measures.

Implementation Action 7: Establish a traffic mitigation fee to be paid by all remaining development projects to offset the needed improvements outlined in the *General Plan Circulation Element Transportation Technical Report.*

Implementation Action 9: Review of development proposals in terms of circulation and scenic route policies and proposals.

Implementation Action 10: Support area-wide cooperative efforts to expand public transit service to the City and surrounding areas.

Implementation Action 11: Encourage pedestrian and bicycle travel for home-to-work and home-to-local-shopping trips through the provision of pathways and bicycle storage.

Implementation Action 14: Continue programs that include:

- Trip reduction goals for private and public development;
- Actions to reduce peak hour private vehicle trips (e.g. flex-time, car pools, support of transit);
- Traffic routing controls;
- Further review of alternative funding sources; and,
- An implementing and enforcement ordinance.
- Alternative financing methods for fee payment which do not put the City at risk but ease the developer impact/burden.

Impact Transportation-1: Mitigation Measures identified in other *General Plan* Elements

The City shall maintain traffic operations on streets that are designated as "Basic Routes" at the standard described [under "Traffic Service Standards for Basic Routes (Local Streets)"]. These goals replace the Level-of-Service Policy in the [adopted] Circulation Element (page 11, policy 2a). (Growth Management Element, Goal C.1)

The City shall participate in the West Contra Costa Transportation Advisory Committee regarding traffic operations on Routes of Regional Significance, and shall help meet the goals and service standards for these routes by implementing the Action Plans for these routes, as adopted by the City and the Contra Costa Transportation Authority. (Growth Management Element, Goal C.2)

New development shall be require to pay its fair share of the cost of improving existing City streets so that compliance with the designated LOS is maintained. (Growth Management Element, Goal C.3)

New development shall be require to pay its fair share of the cost of improving regional routes to that compliance with the service standard specified in the Action Plan (when adopted) is maintained. (Growth Management Element, Goal C.4)

The City shall develop and implement a mitigation program to insure that new development pays its fair share of the cost of maintaining adequate operations on the Basic Routes and the Routes of Regional Significance. (Growth Management Element, Implementing Policy/Program E.2)

Mitigation Measures and conditions of project approval may include payment of fees to fund improvements on Basic Routes or Routes of Regional Significance. Fees for improvements to Basic Routes shall be deposited in a separate City Traffic Mitigation Fund. Fees for improvements to a regional route shall be handled in accordance with the Action Plan for the affected regional route. (Growth Management Element, Implementing Policy/Program E.4)

Improvements to Basic Routes shall be programmed through the City's Capital Improvement Program. (Growth Management Element, Implementing Policy/Program E.5)

Improvements to a Route of Regional Significance <u>which are sponsored by the City of Hercules</u> shall also be programmed through the City's Capital Improvement Program. (Growth Management Element, Implementing Policy/Program E.6)

Improvements to a Route of Regional Significance that are not sponsored by the City of Hercules shall be programmed by the sponsoring agency, and may be acknowledged in the City's Capital Improvement Program. (Growth Management Element, Implementing Policy/Program E.7)

The City shall continue to participate actively (at both the staff and the policy level) in the West Contra Costa Transportation Advisory Committee and the Contra Costa Transportation Authority. Participation in these agencies shall include, but may not be limited to, full implementation of adopted Action Plans for Routes of Regional Significance in order to promote acceptable traffic movement on these routes. In the event that problems/issues cannot be resolved through discussion among the affected parties, the City will participate in CCTA's conflict resolution process. (Growth Management Element, Implementing Policy/Program E.8)

The City shall report annually regarding compliance with the Measure C Growth Management Program, or as may be requested by the Contra Costa Transportation Authority. (Growth Management Element, Implementing Policy/Program E.9)

The City shall [][5] implement a Transportation Demand Management Program, including the required policies adopted by the Contra Costa Transportation Authority. Such a program may be jointly implemented in western Contra Costa County by the five cities

5 The original language in the Growth Management Element reads, "The City shall adopt and implement a Transportation Demand Management Program..." The City has already adopted such a program.

and the County through the West Contra Costa Transportation Advisory Committee. (Growth Management Element, Implementing Policy/Program E.10)

Impact Transportation-1 : Mitigation Measures Identified in This EIR

Transportation-1a: With an objective of maintaining LOS E or better, the City of Hercules could implement the following measure:

- Explore the feasibility of construction of a second northbound right turn lane on San Pablo Avenue between Sycamore Avenue and SR 4 to allow right turns from westbound Sycamore Avenue while preserving the public investment in the City of Hercules transit transfer station (the park-and-ride lot under construction on Parcel 10)

Transportation-1b: With an objective of maintaining LOS E or better, WCCTAC jurisdictions could implement the following measures (many of these measures would be outside the authority of the City of Hercules):

- monitor level of service on San Pablo Avenue;
- encourage completion of Richmond Parkway;
- discourage through traffic on I-80 from diverting onto to local streets through improvements to I-80 such as the HOV lane construction by Caltrans scheduled to begin in 1995, and by requesting CCTA to develop, in conjunction with Caltrans and Solano County, a Traffic Operation System Management plan For I-80 that will regulate the flow of traffic on I-80 to respect the freeway's system's constraints and bottlenecks;
- adopt design standards for new development to minimize turning movements on and off San Pablo Avenue (try to minimize the number of access points on and off San Pablo Avenue);
- synchronize signal timing throughout the San Pablo Avenue corridor;
- emphasize HOV use of I-80 and encourage transit use in the corridor;
- encourage diverted traffic to return to I-80 on the next downstream feeder road through improved signage;
- clearly identify feeder roads for diverted motorists to return to I-80;
- support WestCAT's efforts to assess need for improved transit service along San Pablo; and
- support extension of bicycle lanes to encourage more usage by commuters and shoppers.

Of the measures listed in Transportation-1a and Transportation-1b above, only the measure cited particularly for the City of Hercules (additional right-turn lane on San Pablo Avenue) would cause measurable changes in service levels at the San Pablo Avenue/Sycamore Avenue and

San Pablo Avenue/John Muir Parkway intersections. The additional northbound right turn lane would not improve the service levels at these intersections to LOS E, however.

Even with major geometric improvements at these two intersections that would make San Pablo Avenue a six-lane arterial between Sycamore Avenue and SR 4/John Muir Parkway and would add several turn lanes to accommodate major turn movements, the intersections would still be projected to operate at LOS F, with a volume-to-capacity (V/C) ratio of just over 1.00 in the 2010 cumulative scenario. To have V/C ratios approach 1.00 (LOS E), the turn lane additions that would have to be considered, in addition to widening San Pablo Avenue, would create three westbound-to-southbound left turn lanes and a second southbound-to-eastbound left turn lane at San Pablo Avenue/John Muir Parkway. At San Pablo Avenue/Sycamore Avenue, a third southbound to eastbound left turn lane and a third westbound-to-northbound right turn lane would be needed for the level of service to approach LOS E.

The City would need to consider not only the construction cost of these improvements but also the right-of-way costs and visual impacts. There is currently a median of varying width on San Pablo Avenue between Sycamore Avenue and John Muir Parkway. The median width varies due to the left turn pockets at the intersections. A striped bike lane and landscaping abut San Pablo Avenue along its western frontage (adjacent to the southbound lanes). Along the eastern side of San Pablo Avenue between Sycamore Avenue and John Muir Parkway, there is a striped bike lane and a sidewalk adjacent to the future park and ride lot.

Intersections with triple left turn lanes are unusual and generally indicate the need for an alternative approach to improvements. A triple left turn lane would present several operational concerns, including whether there is adequate roadway width, potential driver confusion (including fear of sideswipes by middle-lane motorists), vehicle weaving "downstream" of the triple left turn lane, adequacy of pedestrian crossing time, and pedestrian-vehicle conflicts. Approaches to significant over-capacity conditions that are typically used include construction of new parallel facilities or the use of grade separations to eliminate conflicting turning movements. It is also common to look for alternative transportation modes to take up the excess demand.

Other Potential Circulation Improvements

Hercules has several options relating to how to address the future deficiency on San Pablo Avenue: The first would be to accommodate the heavy travel "desire line" in the I-80 corridor

through additional access and capacity enhancements on San Pablo Avenue. Some or all of the following circulation improvements could help alleviate some of the future congestion identified for San Pablo Avenue:

1. **I-80/SR 4 Interchange Improvements.** Due to the existing ramp configurations, San Pablo Avenue between John Muir Parkway and Sycamore Avenue acts as part of the I-80/SR 4 interchange. Providing direct connections from the freeways to San Pablo Avenue with potential flyovers of the critical intersections would take some of these movements out of critical intersections.

2. **Increase Capacity on San Pablo Avenue.** Widen San Pablo Avenue from four lanes to six lanes between John Muir Parkway and the southern Hercules City limit.

3. **Grade Separations.** Separate the elevation of the two roadways at the intersections of San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue. The grade separations would allow through traffic on San Pablo Avenue to not interfere with turning movements at these intersections. Much of the through traffic on San Pablo Avenue is traveling through the City to and from points outside of Hercules. The turning movements at these intersections involves motorists traveling to and from points within Hercules.

These actions would provide additional capacity, and would encourage use of San Pablo Avenue as a bypass route to the freeway. Although widening of San Pablo Avenue may be possible in Hercules, it would be more troublesome in Pinole. The regional consensus on I-80 corridor capacity issues that developed from the *West County Action Plan* is that diversion of traffic away from I-80 onto San Pablo Avenue should be discouraged, rather than encouraged. The capacity enhancements discussed above would be counterproductive to this regional consensus. As stated in the draft Circulation Element Update:

> The City of Hercules, together with other jurisdictions in the I-80 corridor have agreed in developing the West County Action Plan that capacity improvements that encourage the use of San Pablo Avenue will not be considered. This means that the City of Hercules will focus its efforts on working with other West County jurisdictions and regional transit agencies to develop alternatives to single-occupant automobile use in the I-80 corridor. This includes pursuing BART extensions in West County, commuter rail service to Solano County, and improved bus connections. The blueprint for this approach is provided in the *West County Action Plan*.

Thus, the City's second option is to continue to work with other West County jurisdictions and regional transit agencies to develop alternatives to single-occupant automobile use in the I-80 corridor. This would include pursuing BART extensions in West County, commuter rail service to Solano County, and improved bus connections. The blueprint for this approach is provided in

the *West County Action Plan*. It should be recognized that this approach is not likely to result in meeting the traffic service objective on San Pablo Avenue (LOS E) if future development in western Contra Costa County, Solano County and the remainder of the Bay Area occurs generally as anticipated in the West County Travel Demand Model. Development under the proposed Land Use and Circulation Elements Update would further aggravate traffic conditions on San Pablo Avenue.

Impact Transportation-1: Significance After Mitigation

Significant.

Impact Transportation-2: Traffic generated by development consistent with the proposed Land Use Element would increase volumes at other intersections in Hercules. This would be a significant impact.

Each of the other signalized intersections would operate at an acceptable level of service during both the weekday a.m. and p.m. peak hours. The unsignalized intersections would also operate at acceptable levels of service, with the exception of the proposed Claeys/Sycamore intersection. The Claeys/Sycamore intersection would experience LOS F for minor street (Claeys) left turning vehicles onto Sycamore, and the remaining turning movements would all operate at good service levels.

Impact Transportation-2: Mitigation Measures Proposed as Part of the Project

See Transportation-1, above.

Impact Transportation-2: Mitigation Measures identified in other *General Plan* Elements

See Transportation-1, above.

Impact Transportation-2 : Mitigation Measures Identified in This EIR

Transportation-2a: The City shall design and construct the proposed Sycamore/Claeys intersection and constructed such that there is adequate space between this intersection and the proposed Claeys/SR 4 EB Ramp intersection to allow for potential signalization of the Sycamore/Claeys intersection.

Transportation-2b: If the level of service at the unsignalized Sycamore/Claeys intersection, once constructed, were LOS E or worse, as projected by this analysis, the City would install a traffic signal at this intersection.

Impact Transportation-2: Significance After Mitigation

With installation of a traffic signal, the proposed Claeys/Sycamore intersection would operate at LOS A and the impact would be reduced to a less-than-significant level.

Freeway Operations

Impact Transportation-3: Traffic generated by development consistent with the proposed Land Use Element would contribute to unacceptable cumulative levels of service on the I-80 freeway. This would be a significant impact.

Even with completion of the proposed HOV lanes and other improvements, I-80 is forecast to operate at LOS E/F near Cummings Skyway and LOS F south of SR 4 in 2010 in the peak periods. Demand for portions of the I-80 freeway will be greater than capacity by 2010 as vehicles divert from the I-680 corridor via the planned SR 4 freeway. Increased volumes on I-80 will contribute to increased volumes on San Pablo Avenue, as described in Impact Transportation-1 (Contra Costa Transportation Authority, 1994).

With completion of the planned SR 4 freeway, daily traffic is projected to increase by more than 100 percent as motorists shift from the I-680 corridor. Peak hour demand is expected to increase similarly. With the planned freeway improvements, SR 4 between I-80 and Cummings Skyway, in and near Hercules, is expected to operate at LOS C/D (Contra Costa Transportation Authority, 1994). Therefore, the project would not cause a significant impact on SR 4.

Impact Transportation-3: Mitigation Measures Proposed as Part of the Project

See Transportation-1, above.

Impact Transportation-3: Mitigation Measures identified in other *General Plan* Elements

See Transportation-1, above.

Impact Transportation-3 : Mitigation Measures Identified in This EIR

Transportation-3a: The following planned capital projects for I-80 are included in the Circulation Draft of the West Contra Costa County Action Plan (most of these measures would be outside the authority of the City of Hercules):

1990-2000

a. Widen for HOV lanes from Bay Bridge toll plaza to Atlas Road
b. Construct Atlas Road interchange, including HOV ramps
c. Construct eastbound auxiliary lane between Richmond Parkway and Appian Way
d. Install ramp metering hardware at all on-ramp locations
e. Construct 200-stall Park and Ride lot at Atlas Road interchange
f. Construct auxiliary lanes from Central Avenue to San Pablo Dam Road
g. Construct Park and Ride lot at the SR 4 interchange

2000-2010

a. Reconstruct SR 4 interchange
b. Add transit off-ramp and modify interchange at Cutting Boulevard
c. Widen for HOV lanes from Atlas Road to Carquinez Bridge toll plaza (some portions in Pinole and Hercules to be complete by 1995)

Transportation-3b: The following is a summary of the Traffic Service Objectives and Actions for I-80 included in the Circulation Draft of the West Contra Costa County Action Plan. Responsibility for implementation rests with the West Contra Costa Transportation Advisory Committee, its member jurisdictions (including Hercules), and applicable transit agencies (many of these measures would be outside the authority of the City of Hercules).

Objective: Increase peak-direction vehicle occupancy on I-80 by 15 percent by 2005.
Actions: Support construction of HOV lanes between SR 4 and Carquinez Bridge.
Seek MTC funding to analyze Richmond/Rodeo-to-San Francisco ferry.
Promote maximum use of new HOV lanes (through bridge toll incentives).

Objective: Increase peak-direction transit ridership in I-80 corridor by 20 percent by 2000.
Actions: Support timed bus/train transfer between BART, AC Transit, and others.
Support continued shuttle service to BART stations.
Participate in I-80 corridor study.
Promote increased frequency of El Sobrante-Richmond-San Francisco buses.
Support expansion of express buses in I-80 corridor.
Encourage adequate parking and bus service at West County BART stations.

Objective: Achieve 50 percent midday utilization of park and ride lots by 2000.
Actions: Support greater security and amenities at park and ride lots.
Promote adequate transit service to park and ride lots.

Objective: Increase daily West County BART ridership by 10 percent by 2000.
Actions: Support high-level ongoing maintenance and improvements at stations.
Support increased security at stations.

Objective: Achieve daily commuter rail ridership of 6,400 by 2000.
Actions: Support commuter rail from Fairfield and Brentwood to West Oakland.
Assist in determination of appropriate West County station locations.
Support rail stations in Hercules and elsewhere to intercept I-80 vehicle traffic.

Objective: Increase daily trips on Solano County BART feeder bus by 20 percent by 1995.
Actions: Obtain 1990 ridership data from BART.
Promote enhancements to Solano County BART feeder bus service.

Transportation-3c: Although no significant impact was identified, the following planned capital projects for SR 4 are included in the Circulation Draft of the West Contra Costa County Action Plan (these measures would be outside the authority of the City of Hercules):

1990-2000

a. Construct ramps at Bayberry /a/
b. Modify Sycamore from intersection to interchange /a/
c. Construct grade separation; on/off ramps for westbound SR 4 at Willow Avenue /a/

2000-2010

a. Construct four-lane freeway from I-80 to Cummings Skyway /a/
b. Improve interchange at Sycamore Avenue /a/
c. Improve current SR 4 alignment as two-lane arterial parallel to freeway

/a/ These improvements are included in Committed Roadway Network Changes in Table IV.B.6 on p. IV.B-21 of this section and are already assumed in the analysis but are included here in the interest of providing the complete list of improvements.

Transportation-3d: Although no significant impact was identified, the following is a summary of the Traffic Service Objectives and Actions for SR 4 included in the Circulation Draft of the West Contra Costa County Action Plan. Responsibility for implementation rests with the West Contra Costa Transportation Advisory Committee, its member jurisdictions (including Hercules), and applicable transit agencies (many of these measures would be outside the authority of the City of Hercules).

Objective: Achieve LOS E or better by 2000.
Actions: Make SR 4 freeway the highest priority highway project in West County.
Actively pursue funding through MTC for SR 4 freeway.
Advocate use of federal and state funds for SR 4 freeway and I-80 HOV lanes.

Monitor SR 4 level of service.
Encourage WestCAT to maintain existing Richmond-Martinez bus service.
Encourage WestCAT to provide service between Richmond and Concord
Encourage WestCAT to increase frequency of Richmond BART service.
Encourage WestCAT to provide timed transfer at Martinez Amtrak station.

Objective: Reduce annual accident rate on SR 4 by 10 percent by 2000.
Actions: Obtain accident data from Caltrans.
Pursue federal, state, and local funds for SR 4 freeway.
Promote construction of SR 4 freeway.

See also Transportation-1, above.

Impact Transportation-3: Significance After Mitigation

Significant.

Public Transportation and Park & Ride Lots

Impact Transportation-4: Policies included in the proposed Circulation Element Update could result in increased use of alternatives to the single-occupancy vehicle. This would not be a significant impact.

Use of alternatives to the single-occupancy vehicle will increase if the West Contra Costa Transportation ~~Traffic~~ Advisory Committee and its member jurisdictions, including Hercules, are successful in reducing traffic in the I-80 corridor. Several improvements to transit facilities in Hercules and the West County area are currently under consideration. See Mitigation Measures Transportation-3a and Transportation-3b for proposed improvements in the Draft West Contra Costa County Action Plan. Provisions included in the proposed Land Use and Circulation Elements Update would encourage transit use (see Impact Transportation-1: Mitigation Measures Proposed as Part of the Project).

Impact Transportation-4: Mitigation

No additional mitigation required.

Impact Transportation-4: Significance After Mitigation

Less than Significant.

Bicycle and Pedestrian Facilities

Impact Transportation-5: Development that would occur pursuant to the proposed Land Use and Circulation Elements Update could encourage walking and bicycle use. This would not be a significant impact.

In undeveloped areas, pedestrian sidewalks would normally be provided as part of the developer's responsibility. The City could encourage developers to provide bicycle paths as part of integrated site planning. Provisions included in the proposed Land Use and Circulation Elements Update would encourage walking and bicycle use, where feasible (see Impact Transportation-1: Mitigation Measures Proposed as Part of the Project).

Impact Transportation-5: Mitigation

No additional mitigation required.

Impact Transportation-5: Significance After Mitigation

Less than Significant.

Emergency Vehicle Access

Impact Transportation-6: Traffic generated by development consistent with the proposed Land Use Element would contribute to congestion on local roadways. This would not be a significant impact.

As stated in the Roadway Network Impacts discussion, intersection within Hercules are projected to operate at adequate levels of service in the assumed 2010 buildout year of the proposed Land Use and Circulation Elements Update, with the exception of two key intersections on San Pablo Avenue, at John Muir Parkway and at Sycamore Avenue. Two intersections would operate at LOS F, largely as a result of traffic unrelated to the project diverting off the I-80 freeway onto San Pablo Avenue. Because those intersections serve as "gateways" between the portions of Hercules east and west of I-80 and San Pablo Avenue, they could constrain movement of emergency vehicles. Given emergency vehicles' ability to travel outside normal traffic lanes, this effect would not appear to be substantial. Another constraint to emergency vehicle travel could be traffic volumes on San Pablo Avenue and on I-80.

Impact Transportation-5: Mitigation

No additional mitigation required.

Impact Transportation-6: Significance After Mitigation

Less than Significant.

REFERENCES - Transportation and Circulation

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City of Hercules, *Final Environmental Impact Report, Franklin Canyon Golf Course*, General Plan Amendment, Prezoning and Request for Annexation, June 1986.

City of Hercules, *Circulation Element of the General Plan*, approved by the City Council October 5 1988.

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Transportation Research Board, *Circular 212*, 1980

Transportation Research Board, Special Report 209, *Highway Capacity Manual*, 1985.

Transportation Research Board, *Circular 373*, 1992.

Transportation Research Board Washington, D.C., *Highway Capacity Manual*, Special Report 209, 1985.

C. POPULATION, EMPLOYMENT AND HOUSING

INTRODUCTION

This section identifies the potential impacts on population and employment growth, housing demand, and the jobs/housing balance that would result from implementation of the Land Use Element Update. Association of Bay Area Governments (ABAG) data for the City of Hercules includes figures for baseline population, jobs, and demographic information in year 2010.

Sedway & Associates has estimated project-related figures at buildout of the Land Use Element in year 2010. Population estimates were calculated by multiplying the persons per household rate by the projected housing development. The estimate of 2.89 persons per household is based on ABAG's forecast for Hercules in 2010 contained in *Projections '94* (ABAG, 1993). The estimated number of additional jobs is based on square feet per employee figures multiplied by the developable square feet included in the project for each parcel. Employed residents are the product of the estimated number of residents and the ratio of employed residents, as indicated in ABAG's projections (Sedway & Associates, 1994). A Fiscal Analysis in Appendix F of this EIR evaluates the economic impacts associated with physical buildout of the City.

SETTING

Population

The 1994 population for Hercules is estimated to be 18,898 (Tagashira, 1994). As shown in Table IV.C.1, the City's population in 1970 was approximately 250 when Hercules was a company town of the Hercules Powder Company, and increased to 6,830 in 1980. Between 1980 and 1990, the City's population increased by approximately 146 percent. The substantial increase was due to a housing boom in the late 1970s and 1980s, a convenient location on I-80 approximately 25 miles northeast of San Francisco, and the availability of large, relatively inexpensive land (City of Hercules, 1990). ABAG projections indicate that in 2000 and 2010, based on the existing *General Plan*, the City's population is expected to reach approximately 21,700 and 23,600 people, respectively (ABAG, 1993).

The number of persons per household in Hercules in 1990 was estimated to be 3.17 (ABAG, 1993). This figure represents a decrease from the estimated 3.25 persons per household in 1980, and is substantially higher than the Contra Costa County estimate for 1990 of 2.64 persons per household (ABAG, 1993).

TABLE IV.C.1: CITY OF HERCULES POPULATION TRENDS

Year	Total Population	Net Increase	Net Increase (Percent)
1970	250	N/A	N/A
1980	6,830	6,580	2,600
1990	16,840	10,110	146
2000 /a/	21,700	4,860	29
2010 /a/	23,600	1,900	9

N/A = Not available.

/a/ ABAG forecasts are based on current *General Plan*.

SOURCE: ABAG, 1993; City of Hercules, 1990.

The City's population is composed of many different ethnic/racial groups, with non-Caucasians accounting for a majority of the City's residents. Asian and Pacific Islander residents are the largest racial group in the City, accounting for approximately 41.1 percent of the total population. After Asian and Pacific Islander, Caucasian is the next largest racial group, accounting for approximately 35.1 percent of the total population (U.S. Census, 1990).

Census data show that, in general, the average age of City residents is younger than most of the surrounding communities. The City's median age in 1990 was 28.4 years, compared to 31.5 years in Contra Costa County and 31.3 years in the Bay Area. Currently, the number of elderly residents and young families is increasing, and this trend is likely to continue over the next decade (City of Hercules, 1990). Age characteristics for the City's 1990 population are presented in Table IV.C.2.

In 1990, the estimated average (mean) household income for the City of Hercules was $62,456 (all income numbers are presented in constant 1990 dollars). This represents a six percent increase from the 1980 average household income of $59,126. The estimated average household income for Contra Costa County in 1990 was $59,434; the average income in 1980 was $50,050. Over the last decade, the gap between the average incomes of Hercules and Contra Costa County

TABLE IV.C.2: CITY OF HERCULES AGE CHARACTERISTICS, 1990

Age Group	Number	Percentage
Under 16 years	4,708	28.0
16 - 20 years	1,345	8.0
21 - 40 years	5,548	33.0
41 - 65 years	4,371	26.0
66 years and over	841	5.0
TOTAL	16,814	100.0

SOURCE: U.S. Census, 1990.

residents has narrowed, and Hercules' average income is now five percent above the Contra Costa County's average income (ABAG, 1993).

Employment

In 1990, there were approximately 2,370 jobs in Hercules, constituting approximately 0.8 percent of the total 305,140 jobs in Contra Costa County (ABAG, 1993). The largest employer in the City is Bio-Rad Laboratories, a light industrial company that manufactures and sells chemical and clinical equipment. Other large employers are Pacific Refining Company, Mechanics Bank, the West Contra Costa Unified School District, and the City itself. Similarly to the County as a whole, Hercules' jobs were primarily in the services and wholesale and manufacturing sectors (see Table IV.C.3). There were an estimated 9,406 employed residents in Hercules in 1990, or 56 percent of the total population. Contra Costa County, by comparison, had 409,351 employed residents in 1990, or 51 percent of the total County population (ABAG, 1993).

ABAG Projections indicate that service, manufacturing and wholesale jobs will grow substantially in the City, while retail growth, agriculture and mining job growth will remain relatively low or constant (ABAG, 1993).

TABLE IV.C.3: JOBS BY INDUSTRIAL SECTOR, HERCULES, 1990

Industrial Sector	Percent of Total Jobs
Manufacturing and Wholesale	38.4
Retail	17.3
Services	20.3
Other/1/	24.1
Total	100.0

Note: Totals may not add due to rounding.

/1/ Finance/insurance/real estate, government, transportation/communication/utilities, and construction.

SOURCE: ABAG, 1993.

Housing

As of January 1993, there were approximately 5,850 occupied housing units in the City. The housing stock in the City has increased substantially over the last two decades in conjunction with the population increase, and is characterized by a high number of single-family homes. Of the total housing stock, approximately 59 percent is single-family detached homes, and approximately 29 percent is single-family attached homes. The remaining 12 percent of the housing stock is multi-family units (Department of Finance, 1993).

Although housing prices have increased in the last decade, homes in Hercules generally remain more affordable than other places in the Bay Area. The median value of a owner-occupied housing unit in the City in 1990 was $224,700 (U.S. Census, 1990). Approximately 83 percent of the homes were valued between $100,000 and $300,000 (U.S. Census, 1990).

Jobs/Housing Balance

Many communities in the Bay Area have experienced greater growth in housing units than in jobs (or vice versa), resulting in a jobs/housing "imbalance." One measure of the jobs/housing balance in a community is a comparison of the number of jobs with the number of employed residents. It is assumed that a balance in the number of employed residents and job opportunities would minimize commuting, thus reducing environmental impacts related to air quality and transportation. In an ideal situation, the ratio of jobs to employed residents would be 1:1, meaning (in theory) that each of the City's employed residents would hold a job in the City. In practice, this is usually not the case, since there are other factors that affect housing and job location choices.

Using this means of comparison, there were 2,370 jobs and 9,406 employed residents in Hercules in 1990, or 0.25 jobs for every employed resident. This imbalance theoretically resulted in a net out-commute of the additional 7,036 employed residents to jobs outside the area. For this reason, Hercules is known as a "bedroom community," a place where people choose to live and commute elsewhere to work. ABAG projections indicate that in 2010, under the current *General Plan*, Hercules would have a jobs/housing ratio of 0.50, with approximately 6,980 jobs and 13,900 employed residents (ABAG, 1993). These numbers indicate a favorable shift in the jobs/housing balance, as more of the City's residents could work within City limits.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Under CEQA, a project would normally have a significant impact on the environment if it would induce substantial growth or concentration of population or displace a large number of people (Appendix G, CEQA *Guidelines*). Appendix I of the CEQA *Guidelines* indicates that a project could have a significant effect on the environment if it altered the location, distribution, density or growth rate of the human population of an area. According to the CEQA *Guidelines* Section 15131(a), economic or social effects of a project are not treated as significant effects on the environment. If the proposed project were to cause physical changes as a result of economic or social changes, then the physical effects (such as increased traffic from increased employment-related travel or destruction of habitat resulting from housing construction to

accommodate increased population) could be considered significant. Those impacts are discussed in the applicable sections of this document.

Impacts and Mitigation

Impact Population-1: Development consistent with the proposed Land Use Element would increase the number of jobs relative to employed residents, thereby decreasing the jobs/housing imbalance. This would be a beneficial impact.

The proposed Land Use Element Update includes objectives and policies that would increase jobs and population in the City, including: Objective 1; Policy 2A; Policy 5A and 5B; and Objective 12. The objectives are listed in Section II of this EIR. Table IV.C.4 shows population, employment, and housing data for the City of Hercules in 1990 and 2010, under both the existing and proposed Land Use Elements. As shown in the table, development consistent with the proposed Land Use Element Update would increase the population, number of households, total employment and employed residents, relative to both existing conditions and the current *General Plan*. It is important to note that this scenario would occur if all parcels were fully developed with the proposed land uses. Buildout of the City under the proposed Land Use Element could occur later than 2010. In that case, the increases shown in the table would occur, but over a longer period.

The proposed Land Use Element Update would result in proportional increases in the total population and number of households. As shown in Table IV.C.4, the existing Land Use Element would allow for a 25 percent increase in total population (relative to 1994 conditions), and the proposed Land Use Element would allow for a 58 percent increase in total population compared to 1994. Additional growth due to approved and reasonably foreseeable development, including proposed residential and hotel development at the Franklin Canyon site along SR 4, would result in a 73 percent increase in population by 2010, compared to 1994.

The proposed Land Use Element Update would substantially increase employment (number of jobs in the City), due to the large amount of land designated for commercial land uses. The proposed Land Use Element Update could result in up to a 507 percent increase in total employment (number of jobs in the City) over existing (1994) conditions, compared to a 131 percent increase that could occur under the existing Land Use Element. The proposed Land Use Element Update could increase the number of employed residents by 58 percent, compared to a 43 percent increase under the existing Land Use Element. The increases in total

TABLE IV.C.4: EXISTING AND PROJECTED HOUSEHOLDS, POPULATION AND EMPLOYMENT, CITY OF HERCULES /a,b,c/

	Total Population	Number of Households	Total Employment	Employed Residents	Jobs/Housing Balance
1990 Conditions	16,839	5,308	2,370	9,406	0.25
1994 Conditions	18,898	6,345	3,025	9,700	0.31
2010 - Existing Land Use Element	23,600	8,160	6,980	13,900	0.50
2010 - Proposed Land Use Element	29,927	10,161	18,356	15,285	1.20
2010 - Proposed Land Use Element + Cumulative /d/	32,719	11,127	18,608	16,711	1.11

/a/ Source for 1990 and 2010 Existing *General Plan* conditions for total population, number of households, total employment, and employed residents is Association of Bay Area Government's *Projections '94*.
/b/ Source for 2010 Proposed *General Plan* conditions is Sedway & Associates.
/c/ Data for 1994 from City of Hercules.
/d/ Includes 166 approved but unbuilt units and 800 units plus hotel proposed at Franklin Canyon.

SOURCE: Sedway & Associates, 1994; Association of Bay Area Governments, 1993.

employment and employed residents would change Hercules from a net supplier of employed residents to a net supplier of jobs. This could result (theoretically) in approximately 3,071 employees commuting to jobs in Hercules from outside areas compared to a net in-commute of 7,036 at present and 6,920 in 2010 with the existing Land Use Element. The jobs/housing ratio under the proposed Land Use Element Update could increase to 1.20, compared to 0.50 under the existing Land Use Element at buildout. With cumulative development, the jobs/housing ratio would be approximately 1.11.

As noted, the jobs/housing ratio implies a theoretical balance or imbalance between a community's employment and housing supply. Because the type of jobs created would determine the workers who would fill those jobs, the creation of jobs in Hercules under the proposed Land Use Element would not in itself result in providing employment to all Hercules residents who currently work outside the City. Salaries offered, education required, and unique attributes of particular jobs would, along with other factors, determine whether new jobs would be filled by current residents, by persons who would move to Hercules from elsewhere, or by persons who would commute to new jobs in Hercules from housing elsewhere. New jobs could result in demand for new housing, either in Hercules or elsewhere, if those jobs were not suited for current Hercules residents. New service jobs could result in a particular demand for low- and moderate-cost housing.

Policies in the proposed Land Use Element Update would allow for more jobs relative to the number of employed residents. Assuming that a jobs/housing balance is desired, this would be beneficial impact, as the total number of residents who commute into and out of Hercules could be less than under the existing Land Use Element. The project would not displace existing populations. The potentially significant indirect impacts related to an increase in total population, employed residents, and total employment are discussed in Sections IV.A., Land Use, Plans and Policies, IV.C., Circulation, and IV.K., Air Quality. Direct and indirect impacts related to increased density of land use and greater development are discussed throughout the impact analysis in Chapter IV of this report.

Impact Population-1: Mitigation Measures Proposed as Part of the Project

The following objectives, policies, or programs are from the proposed Land Use Element Update:

> **Objective 1:** Achieve a level of population and employment which preserves and enhances the desired character of the community.
>
> **Objective 2:** Develop a community that balances housing, jobs, and commercial opportunities.
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.

Objective 5: Develop and maintain a pattern of residential land uses which provide for a variety and balance of densities and opportunities for a mix of dwelling and residential type.

Policy 5B: State law requires the City to allow development of new residential areas and units as part of meeting the regional need for housing.

Program 5B.1: Review on a periodic basis the affordable housing needs identified in the Housing Element and encourage housing to meet those needs.

Program 5B.2: Encourage development of innovative types of housing, including co-housing, congregate care facilities, and other types of housing that may provide low cost alternatives to typical housing.

Policy 5C: Provide additional affordable and/or senior citizen housing.

Program 5C.1: Develop an affordable housing strategy which includes an implementation plan and financial and non-financial incentives for the development of such housing.

Objective 6: Provide residential neighborhoods with a variety of cost ranges disbursed throughout the City.

Objective 11: Participate and cooperate in regional and sub-regional planning activities.

Impact Population-1: Mitigation Measures Identified in other *General Plan* Elements

Provide a sufficient number of affordable housing units to meet the needs of current Hercules residents and provide a fair share of the market area housing needs, as outlined by the Association of Bay Area Governments. (Housing Element Goal 1)

New housing should include a variety of home designs, at various densities and price levels, both lower and higher than presently available. (Housing Element Policy 1.2)

Provide well-designed, well-built housing units for low- and moderate-income households in mixed-density developments, including Planned Unit Development (PUD), avoiding a concentration in any limited area. (Housing Element Policy 2.1)

Expand the number of rental units for those who cannot afford to purchase or who chose to rent. (Housing Element Policy 2.2)

Impact Population-1: Mitigation Measures Identified in this EIR

None Identified.

Impact Population-1: Significance After Mitigation

No mitigation is required, and the impact would remain less than significant.

REFERENCES - Population, Employment and Housing

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D. VEGETATION AND WILDLIFE

SETTING

Regional

The City of Hercules is located on the east side of San Pablo Bay and north of San Francisco Bay. This area, northwest of the Diablan Range, is within the Central Coast Floristic Province with coastal vegetation communities such as salt and freshwater marshes, coastal prairie, and coastal scrub. These vegetation communities once supported an array of sensitive wildlife species unique to these communities, such as the Salt Marsh harvest mouse (*Reithrodontomys raviventris raviventris*) and the Salt Marsh wandering shrew (*Sorex vagrans halicoetes*). Open grasslands, once ranging to the east as far as the Diablan Coast Range, supported large predators such as nesting golden eagles (*Aquila chrysaetos*) and coyote (*Canis latrans*). Today, very few of these communities are found in Hercules, which is bounded by the City of Pinole on the south, and on the north, by the unincorporated community of Rodeo.

Local

The majority of Hercules lies within the Refugio Creek watershed, and includes the east and west branches of Refugio Creek that converge into one creek west of San Pablo Avenue. Water flows from the hills in the southeastern area of Hercules to San Pablo Bay in the northwestern area. Refugio Creek empties into the bay north of Hercules Point. Most of the riparian habitat is found along the borders of these creeks. Natural communities occurring in Hercules consist of tidal saltmarsh along Hercules Point, non-native grasslands interspersed with coastal scrub in the foothills, and riparian habitat along Refugio Creek. Seasonal wetlands occur in the valley west of I-80.

Methodology

An ESA biologist conducted a field survey of the 24 parcels in the study area on October 12, 1993. The California Department of Fish and Game's (CDFG) Natural Diversity Data Base was consulted, and a review was performed of available biological literature and previous studies conducted in the vicinity.

Site Descriptions

The following describes the vegetation of the 24 parcels in the study area. Please refer to Figure III.2 in Section III, Project Description, for locations of these parcels.

1. Hercules Properties, Inc. Set in the historic area of Hercules, this 106-acre property contains 40 to 50 industrial and commercial structures and a few residential units with ornamental trees and shrubs and landscaping. A wetland occurs west of the sewage treatment plant and is heavily vegetated. Refugio Creek runs through the parcel in a east to west direction.

2. Hercules Point. This 15-acre parcel, located on Hercules Point, contains abandoned structures once a part of the Hercules chemical plant. Salt marsh habitat surrounds the plant equipment but is isolated from other salt marshes. Refugio Creek empties into San Pablo Bay at the northwestern tip of the property.

3. Gelsar~~, Inc~~. The 104-acre Gelsar~~, Inc.~~ parcel borders the northeastern edge of Hercules Properties, Parcel 1. The majority of the parcel is non-native grassland with seasonal wetlands occuring east of the sewage treatment plant. Refugio Creek runs from east to west with the West Branch of Refugio Creek joining the main creek on the eastern portion of the property; seasonal wetlands are also present along the West Branch. The eastern portion of the parcel also supports eucalyptus trees.

4. ~~Hercules~~East Bay Realty Services Inc./San Pablo. This 41-acre parcel is adjacent to over 100 acres of undeveloped lands on Parcels 1 (beyond the sewage treatment plant) and 3. The eastern portion of this property contains steep grassland hillsides with groups of eucalyptus trees ~~that have resulted in the formation of a small pond and wetlands on the western portion~~. A 2-acre restored seasonal wetland occurs on-site and is subject to a Covenant and Agreement between East Bay Realty Services Inc. and the California Department of Toxic Substances Control prohibiting its development (Cantwell, 1995; Binsacca, 1995) (Part of this parcel is in temporary use as a Little League baseball field.)

5. MRB. Surrounded by residential units on the northwest and San Pablo Avenue on the southeast, this 6-acre hillside parcel is also adjacent to Parcel 4. Eucalyptus trees occur on the east and south sides and non-native grasslands occur on the majority of the site.

6. North Shore Business Park. This 144-acre parcel is partially developed as a complex of office buildings surrounded by landscape and non-native grassland. The entire site has been graded to accommodate eventual development. Infrastructure has already been developed in the form of roadways to as-yet unbuilt sites. This area does not support any wetland areas.

7. ANR Site. This parcel, 62 acres, is being overgrazed by dairy cows and shows signs of erosion. Non-native grassland and a few valley oaks occur on site.

8. Hercules Square Site. This three-acre site is currently undeveloped. It is graded and covered with gravel; non-native grasses exist at the margins of the parcel.

9. ORB Site. Recently cleared ~~graded~~ for construction of a retail development, this site contains little remaining vegetation. It was formerly heavily vegetated with upland species such as coyote bush.

10. BART Site. Formerly vegetated with non-native grasses and ruderal species (able to grow in heavily disturbed areas), this site was graded in 1994 for construction of a transit center. The East Branch of Refugio Creek runs in a culvert through the southern portion of this seven-acre site.

11. I-80 Exit Loop. Once used as a staging area for roadwork, this six-acre parcel contains ruderal vegetation, trees and a potential wetland.

12. ~~TABCO~~Williamson Site. Adjacent to the I-80 ramp, the PG&E substation and Caltrans, this nine-acre site contains non-native grassland and a small wetland.

13. Sycamore Site. This parcel is approximately 25 acres, and consists of non-native grassland and ruderal plants. The eastern end of the parcel contains a wetland and willow scrub riparian vegetation in a ditch at the base of the railroad tracks.

14. Five Giants Site. This parcel, west of the railroad tracks and east of SR 4, contains seven acres of non-native grasslands.

A. Church of Nazarene Site. Located on Refugio Creek, in the Refugio Creek Linear Park, this five-acre parcel has a riparian corridor and bike path running through it. On the northern side of the property non-native grassland occurs on the hillside.

B. McLeod Family Site. This 7.4-acre parcel contains a single-family residence, several sheds, a horse stable and pasture area, with eucalyptus trees along the southern border. Houses border the south and west boundaries with San Pablo Avenue on the east side.

C. Citation Site. Situated next to a homeowner's association park, this 5.6-acre parcel contains a drainage to collect upstream and on-site storm run-off and divert it to the wetland area adjacent to the Chelsea by the Bay homes. This ditch contains tules and willow trees running from north to south. On the east side of the parcel a grove of eucalyptus trees runs from east to west. The understory of this site is non-native grassland which had been recently mowed at the time of the site visit.

D. Carone -1 Site. This two-acre parcel is north of the Santa Fe Railroad right-of-way and is used for construction equipment storage, with non-native grassland and ruderal species occurring.

E. Carone - 2 Site. This 1.8-acre parcel is north of the Santa Fe Railroad right-of-way and consists of a staging area and equipment storage. Ruderal species are present.

F. Carone Sycamore Site. This 2.6-acre parcel is adjacent to the Santa Fe Railroad right-of-way and consists of non-native grassland in the southern portion and Refugio Creek in the northern portion of the site.

G. Old ATSF Site. This 1.7-acre parcel, located south of the Santa Fe Railroad right-of-way, contains non-native grasses.

H. Creekside Site. Located at and adjacent to the existing Creekside Shopping Center, this 25-acre site is primarily developed as retail uses. The undeveloped eastern portion is graded and partially paved and also contains non-native grasses.

I. Willow Center Site. This 3.4-acre site contains the Willow Shopping Center and is largely developed and/or graded.

J. Church of Christ Site. This seven-acre site, bisected by the Santa Fe Railroad right-of-way, contains non-native grasslands and ruderal species.

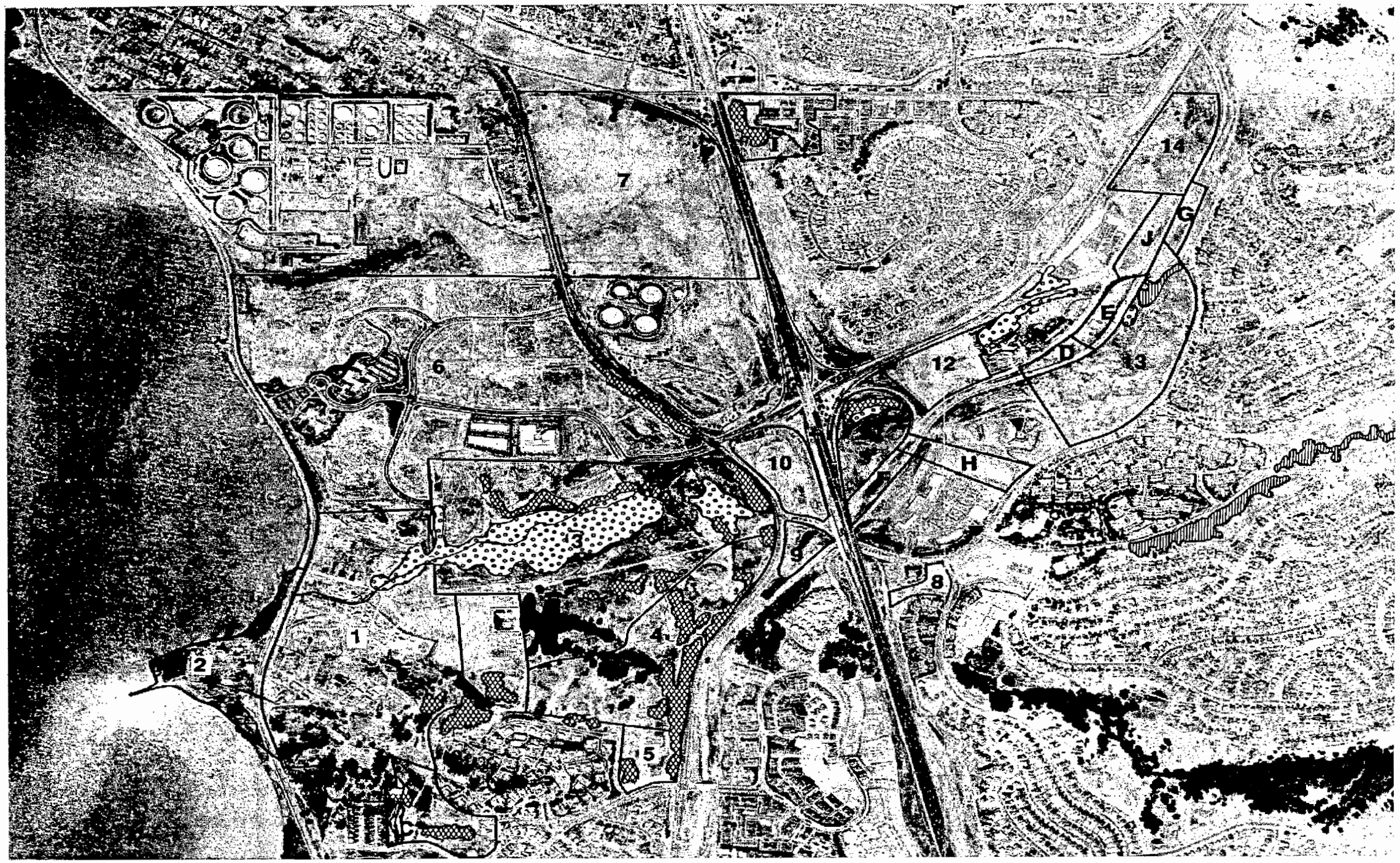
Vegetation

Identification of Natural Communities

Natural communities are recurring combinations of species that reflect parallel responses to similar combinations of environmental conditions, as defined by the California Native Plant Society (CNPS, 1988). Plant communities play an important role in the ecosystem as they provide water, food, shelter, and foraging grounds for a variety of wildlife species as well as improving water quality and preventing soil erosion. Together with the California Department of Fish and Game (CDFG) and the Natural Diversity Data Base, the CNPS Rare Plant Program lists approximately 375 natural communities. Almost half of these communities are considered scarce or threatened. Loss of these communities could cause a decline in population numbers of species dependent on these communities. Figure IV.D.1 shows the approximate locations of natural communities present in and around the study area. Table IV.D.1 lists the communities present on each parcel. A detailed description of each community within the project area follows.

Salt Marsh and Freshwater Wetlands

Salt marsh is a transitional community occurring along margins of bays, lagoons and estuaries sheltered from excessive wave action. The lower margin of the community is exposed twice every 24 hours to tidal action, and the upper margin is exposed to tidal action infrequently and for short periods of time (Mayer and Laudenslayer, 1988). The upper part of estuaries grade into brackish and freshwater marshes. Elevational gradients, from lower saline sites to higher brackish sites, determine the species found, for example, cordgrass, pickleweed, jaumea,



Creek, Pond

Freshwater Wetlands (potential)

Non-Native Trees (eucalyptus)

Riparian (Willows)

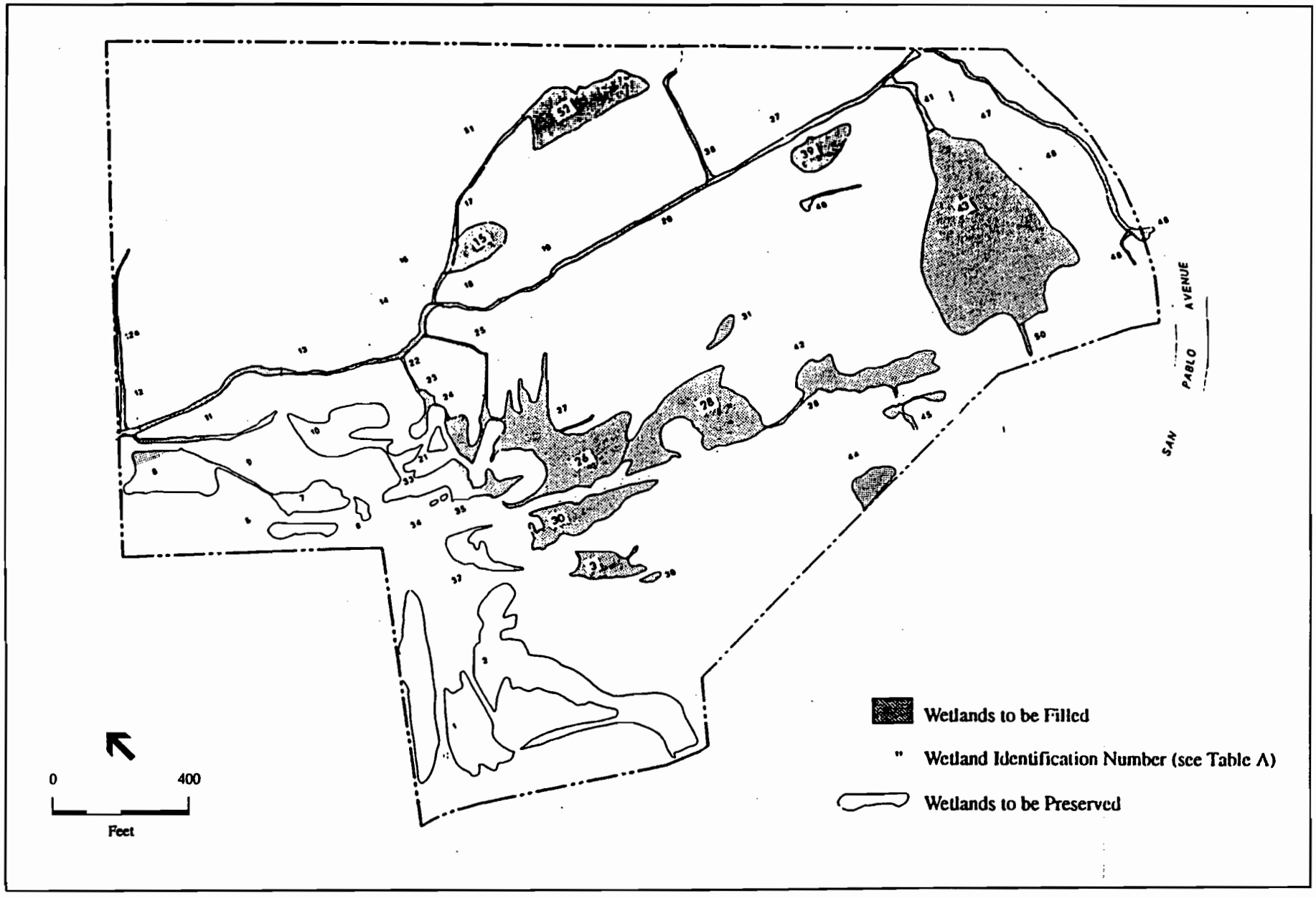
SOURCE: Environmental Science Associates

0 2000

Feet

Hercules General Plan Land Use and Circulation Elements Update / 930314

Figure IV.D.1
Vegetation Communities within the City of Hercules



SOURCE: Balance Hydrologics

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Figure IV.D.1a
Existing Jurisdictional Wetlands, Parcel 3

TABLE IV.D.1: HABITAT PRESENT AND POTENTIAL IMPACTS BY PARCEL

Parcel Name	Habitat/Development Present	Habitat Potentially Subject to Impact
1- Hercules Properties	seasonal wetlands, developed areas, ornamental landscaping	wetlands
2- Hercules Point	tidal salt marsh and developed areas	salt marsh
3- Gelsar ~~Inc.~~	non-native grassland and seasonal wetlands	none[a] ~~wetlands~~
4- East Bay Realty Services Inc.	seasonal wetlands, non-native grassland, ornamental landscaping, temporary ballfields	none[b] ~~wetlands~~
5- MRB site	non-native grassland	none
6- North Shore Business Park	non-native grassland and developed areas	none
7- ANR site	non-native grassland	none
8- Hercules Square site	non-native grassland	none
9- ORB site	graded; some non-native grasses	none
10- BART site	graded	none
11 -I-80 Exit Loop site	ruderal vegetation; potential wetland	wetlands
12 -Williamson site	potential wetland	wetlands
13- Sycamore site	non-native grassland, ruderal plants, potential wetlands	wetlands
14- Five Giants site	non-native grassland	none
A- Church of Nazarene	riparian corridor and non-native grassland	riparian
B- McLeod Family	ruderal species	none
C- Citation	potential wetland, willow trees, non-native grassland	riparian and wetlands
D- Carone - 1	non-native grassland and ruderal species	none
E- Carone - 2	ruderal species	none
F- Carone Sycamore	non-native grassland and riparian	riparian
G- Old ATSF	non-native grasses	none

[a] A mitigation plan has been prepared for Parcel 3 and submitted for review to the U.S. Army Corps of Engineers and the California Department of Fish and Game. The plan would mitigate effects on the wetlands on Parcel 3 by creation of a wetlands reserve at the southwest corner of the site and by relocation and restoration of the Refugio Creek corridor along the northern portion of the parcel.

[b] A 2-acre restored seasonal wetland that occurs on Parcel 4 is subject to a Covenant and Agreement prohibiting its development; therefore, the wetland would not be affected by the project.

TABLE IV.D.1: HABITAT PRESENT AND POTENTIAL IMPACTS BY PARCEL (Continued)

Parcel Name	Habitat/Development Present	Habitat Potentially Subject to Impact
H- Creekside	non-native grassland and developed areas	none
I- Willow Center	largely developed	none
J- Church of Christ	non-native grasslands and ruderal species	none

SOURCE: Environmental Science Associates, 1994

California seablite, arrowgrass, to tule bulrush, common cattail, and coast carex. Within the City of Hercules this habitat occurs on Hercules Point (Parcel 2).

Coast and valley freshwater marsh is dominated by perennial, emergent (rooted in water but growing upright out of water) monocots (a group of the flowering plants generally with parallel veins and single-leaved embryos), often forming completely closed canopies (Holland, 1986). This community prefers areas lacking strong currents and that are permanently flooded with freshwater. Found along the coast and in coastal valleys near river mouths and margins around lakes and springs, this community is extensive in the Sacramento-San Joaquin River Delta. Typical species found in this community include sedges (*Carex* sp.), spike-rush (*Eleocharis* sp.), tule (*Scirpus* sp.), and cattail (*Typha* sp.).

Due to the regional loss of habitat and potential for this community to support a number of special status plant and wildlife species, freshwater marsh is considered a community of concern by the CDFG (CNDDB, 1993). Within the project area approximately 27 acres of freshwater wetlands occur (Parcels 1, 3, 4, 11, 12, 13, A, and C). Approximately 2 acres of seasonal wetlands has been preserved on Parcel 4 by virtue of an agreement with the state Department of Toxic Substances Control in conection with cleanup of hazardous materials on the site (see Section IV.G. Hazardous Materials).

Riparian

The willow scrub riparian community is an open to dense, broadleaf, winter-deciduous streamside thicket dominated by any of several willow species, usually as small trees or shrubs. Very little herbaceous understory component is found in dense stands; more open stands support a number of weedy species characteristic of non-native grasslands (Holland, 1986).

Arroyo willow (*Salix lasiolepis*) is the dominant canopy species occurring in this riparian community throughout Hercules. Most of the herbaceous understory component present is comprised of such non-native grasses as wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), and Italian rye grass (*Lolium perenne*), as well as various introduced herbs including yellow sweet clover (*Melilotus indica*), burclover (*Medicago polymorpha*), and wild mustard (*Brassica* sp.). Cattails (*Typha* sp.) are also present in the creek channels. The remaining willow community in Hercules occurs along the main channel of Refugio Creek east of I-80. Approximately eight to nine acres of this community occur in the project area (Parcels A, C, and F).

Central Coast live oak riparian forest forms a low, evergreen sclerophyllous (small, gray-green leaves adapted to Mediterranean climates) riparian forest dominated by coast live oak (Holland, 1986). The understory in this community is generally composed of fairly extensive native bunchgrasses and non-native grasses, intergrading with scrub and chaparral species such as coyote brush, California mugwort, gooseberry (*Ribes* sp.), bedstraw (*Galium aparine*), rush, and California rose (*Rosa californica*). Within the City of Hercules, this community occurs along the banks of drainages in the southeastern portion. Within the City of Hercules this habitat occurs along the southeastern portion of the City and on Parcel 1 (Toups Engineering, 1972).

The east branch of Refugio Creek, which flows from the southeastern portion of Hercules to the northwest and joins with the main channel of Refugio Creek, contains a diverse flora composed of California bay (*Umbellularia californica*), coast live oak, and arroyo willow (*Salix laseolepus*), with the dominant species being willow. Understory vegetation along this stream is composed of iris-leaved rush (*Juncus xiphioides*), spike rush (*Eleocharis* sp.), dock (*Rumex* sp.), creek monkey flower (*Mimulus guttatus*), miner's lettuce, and willow herb (*Epilobium* sp.). This riparian community commonly occurs in outer floodplains along perennial and ephemeral streams of the Coast Range from Sonoma County south to near Point Conception (Holland, 1986).

Non-Native Trees

Eucalyptus groves are the dominant tree masses within Hercules, and are predominately blue gum (*Eucalyptus globulus*). Shade created by the eucalyptus canopy, combined with volatile chemicals contained in the large amount of bark and leaf litter deposited by eucalyptus, create poor growing conditions for most herbaceous and woody understory species. Where fire hazard management techniques have not been applied the understory of this community consists of a thick layer of bark, leaves, and poison oak (where openings in the canopy allow sufficient light to penetrate to the grove floor). Groves of eucalyptus, approximately 27 acres in total, are located throughout the project area. The City has considered removing some of the eucalyptus trees because of concern over fire hazard and safety hazard from falling limbs and trees. Fallen eucalyptus debris also presents a street and storm drain maintenance problem.

Grassland

Non-native grassland, found in valleys and on hillsides throughout most of Hercules, is dominated by non-native species such as soft chess (*Bromus mollis*), ripgut grass (*Bromus diandrus*), hair barley (*Hordeum leporinum*), wild oat (*Avena barbata*), foxtail (*Hordeum* sp.), perennial ryegrass (*Lolium perenne*), and foxtail chess (*Bromus rubens*). Native forbs (wildflowers) including lupines (*Lupinus bicolor*), soaproot (*Chlorogalum pomeridianum*), California buttercup (*Ranunculus californicus*), fiddleneck (*Amsinckia* sp.), blue dicks (*Dichelostemma pulchellum*), checkerbloom (*Sidalcea malvaeflora*), yarrow (*Achillea millefolim*), Johnny jump-ups (*Viola pedunculata*), and California poppy (*Eschscholzia californica*) are an integral part of this community's floral mosaic producing showy "blooms" during spring and early summer. Non-native grassland is commonly found on fine-textured (often clay) soils, which are moist or waterlogged during the winter rainy season, and dry during the summer/fall drought (Holland, 1986). Occasional shrubs and trees such as coyote brush (*Baccharis pilularis* var. *consanguinea*) and valley oak (*Quercus lobata*) occur within this community depending on specific site conditions (i.e. microclimate). Oak woodlands and riparian forests are often adjacent on mesic (moist), better drained soils, while in more xeric (dry) locations, this community intergrades with scrubs and chaparrals. Non-native grassland is common below 3,000 ft. throughout most of California, except for the north coastal and desert regions (Holland, 1986).

Non-native landscaped vegetation occurs primarily within North Shore Business Park (Parcel 6), and Hercules Square (Parcel 8). Non-native vegetation primarily consists of blue gum

(*Eucalyptus globulus*), flowering plum (*Prunus* sp.), various pines (*Pinus* sp.), and turf, intermixed with ornamentals such as periwinkle (*Vinca major*) and tea roses (*Rosa* sp.). Native California species, such as Monterey pine (*Pinus radiata*), coast redwood (*Sequoia sempervirens*), alder (*Alnus* sp.), elm (*Ulnus* sp.), and cottonwood (*Populus* sp.) were also planted and are scattered throughout Hercules.

Wildlife Habitats

Wildlife habitats are not as delineated as vegetation communities, which are defined by certain plant species adapted to specific environmental conditions. Wildlife habitats consist of an area or place where an organism lives, composed of various vegetation communities creating different areas for different life cycle needs, such as foraging areas, nesting areas, and shelter from predators. Vertebrates, such as amphibians, reptiles, birds and mammals, are not as restricted to certain communities as invertebrates. Invertebrates are often food-plant-specific and require particular plants, usually in specific communities, for various stages of their life cycles. The lack of restriction for vertebrates allows them to use various communities for their foraging needs. ~~Figure 1 shows the locations of wildlife habitats found within the project location and Table 1 describes which habitats support sensitive species.~~

Salt Marsh

The salt marsh is an important ecosystem providing food and cover for a variety of species including nesting endemic bird and mammal species, such as California clapper rail, California black rail, salt marsh harvest mouse and wandering vagrant shrew. These species, because of their restriction to salt marshes, are listed as endangered. Common species, such as herons and egrets, use the salt marsh for foraging while nesting in nearby riparian areas. Waterfowl use salt marshes during the winter and spring migrations along the Pacific Flyway. Common wildlife species using the salt marsh include shrews, bats, river otter and raccoons. A few species of reptiles use the high margin of the brackish marsh.

Fresh Emergent Wetland

This transitional habitat occurs between terrestrial and aquatic systems where water tables are near the surface or land is covered by shallow water. Grass-like plants, which emerge from the water, form a dense canopy in this type of habitat. Fresh emergent wetland habitat is the same as

the freshwater wetland community. Within the City of Hercules this habitat occurs on Parcels 1, 3, 4, 12, and 13.

This habitat is one of the most productive habitats for wildlife in that it offers water, food and cover for a variety of species. Northern harrier, black necked stilts, avocets, red-winged blackbirds and killdeer use these areas for foraging and nesting. Snowy egret, black crowned night heron and cinnamon teal also forage in this habitat. Mammals common in this habitat are meadow voles along the edges of the marsh area, raccoons foraging on eggs and invertebrates, striped skunk, and grey fox. Reptiles in this habitat include common garter snake and tree frogs and possibly red-legged frogs and tiger salamanders.

Willow Riparian

This habitat is a low shrubby tree structure that can cover an entire watercourse, with an impenetrable understory and includes fallen limbs and other debris. This habitat is the same as the Willow scrub community. Within the City of Hercules this habitat occurs along Refugio Creek east of I-80, with pockets occurring on Parcel 4 and along the Western Branch of Refugio Creek (Toups Engineering, 1972).

The willow riparian habitat attracts bird species that hover while catching insects, such as warbling vireo, and black phoebe. Other species such as mallards and snowy egrets use the shallow quiet waters of the river or stream to forage for vegetation and small fish. The American crow is found in this habitat and others, feeding on insects, fruits, carrion, amphibians, and reptiles. Predators, such as sharp-shinned hawks and red-shouldered hawks, nest in the high canopy and feed on the smaller birds and amphibians. Omnivores, such as the raccoon and striped skunk, forage on invertebrate species, plant parts, amphibians and fruits. The striped skunk is found in moist habitats within the study area.

Coast Live Oak Riparian

This habitat is an open, low, evergreen forest. Found in canyon bottoms and the drier outer floodplains, the understory for this habitat is blackberry bushes and wild rose in the wetter areas and often grasses in the drier areas. Within the City of Hercules this habitat occurs along the southeastern portion of the City and on Parcel 1 (Toups Engineering, 1972).

As with other riparian habitats, coast live oak riparian provides water, foraging, nesting, cover, and migrating and dispersal corridors for a variety of wildlife species. These include insect eaters, such as ash-throated flycatcher, plain titmouse and dark-eyed junco, or foliage gleaners that feed on insects which live on plant leaves, such as Bewicks' wren. Bark gleaner species, such as scrub jay, Stellar's jay, and acorn woodpecker, feed on bark insects as well as acorns. California quail, and brown towhee are the ground foliage gleaners in this habitat. Red-shouldered hawks can be seen foraging on small mammals in the adjacent grassland from the protection of the coast live oak riparian forest. Cooper's hawks and sharp-shinned hawks (see Special Status Species discussion below) are often associated with this habitat hunting small birds. Mammals such as grey squirrel forage and nest in the canopy of the trees while long-tailed weasels hunt for shrews and meadow voles on the ground. Larger mammals, such as mule deer, utilize the wet understory of this community, i.e. poison oak and blackberry bushes, in the form of shelter and food from the berries. Amphibians, such as Pacific slender salamander, rough-skinned newt and ensatina, can be found underneath the cover of fallen leaf litter and bark.

Eucalyptus Groves

This community is usually monotypic, with only one species providing canopy and very little undergrowth. Structurally, the eucalyptus supports a dense canopy. Within Hercules lands this community occurs on the west side of I-80 and along parts of the East Branch of Refugio Creek.

These forests offer perching and roosting sites for a variety of avian species, with some raptors (birds of prey) nesting in eucalyptus. The lack of understory growth does not provide much habitat for insects and, therefore, reptiles that prey upon them, nor for mammals, except for cover and resting areas.

The monarch butterfly will use the eucalyptus forests for cover and thermal regulation during the winter months. Raptors will use these forests for perching and roosting at night.

Non-Native Grassland

This habitat is based largely on cattle grazing which opens up the land to non-native grasses, annual grasses that grow during the winter and spring and die during the summer. Annual grassland now supports wildlife species that were once found in native grasslands. Within the City of Hercules this habitat occurs in most areas that are undeveloped (Toups Engineering, 1972).

Grassland habitat attracts seed eaters as well as insect eaters. California quail, mourning dove, and meadowlarks are a few seed eaters that use grasslands for nesting. Insect eaters such as scrub jays, barn swallows, and mockingbirds use the habitat for foraging only. Mammals such as the California vole, deer mouse, broad-footed mole, and black-tailed jackrabbit forage and nest within the grassland. Mule deer will use grassland for grazing and for nesting at night. Small rodents attract raptors such as red-tailed hawks and red-shouldered hawks. Southern alligator lizard and Pacific slender salamander use the grassland for invertebrates found within and underneath fallen logs.

Disturbed Lands

Residential parks and disturbed areas provide little habitat for wildlife except for those species adapted to human habitation, such as starlings, golden crowned sparrows, and rock pigeons. These areas do not provide habitat for the larger mammalian species nor for predators, except as possible movement corridors. This habitat occurs in developed and/or partially developed areas.

Regulatory Framework and Local Policies

Wetland Protection

Section 404 of the Federal Clean Water Act regulates discharge of fill material into "waters of the United States," which include wetlands, and, in some cases, even man-made channels. The U.S. Army Corps of Engineers (Corps) must issue a permit for any project which proposes filling of more than ten acres of wetlands. Riparian habitats are generally not subject to Section 404 jurisdiction, unless these areas are within the "ordinary high water mark" of a stream or channel or otherwise meet the Corps' wetland criteria. For filling of less than one acre, provided the conditions of Nationwide Permit #26 are met, no formal notification is required and a Nationwide Permit may be granted. For filling between one and ten acres of wetlands, the Corps can exercise discretion as to whether to process an Individual Permit or allow fill to proceed under a Nationwide Permit. However, a Section 401 certification (or waiver of such certification) by the California Regional Water Quality Control Board is required in any case.

In addition to the Corps' regulatory authority over "waters of the United States," the California Department of Fish and Game has authority to oversee work in streams pursuant to Fish and Game Code Sec. 1601-1603. A landowner or agency proposing to significantly alter the natural flow of a stream, significantly change its bed or bank, including bridging, or to use any material

from the streambed, must enter into a "Streambed Alteration Agreement" with the CDFG. The Department, while permitted to impose reasonable conditions on the agreement, may not decline to enter into an agreement. Currently, all agreements must comply with the CDFG wetland policy of "no net loss" of wetlands (CDFG Wetlands Resource Policy 1987).

The San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over the tidelands and shoreline area of the study area. Specifically, BCDC has shoreline jurisdiction 100 feet inland of the high tide line, estimated to be 6.2 feet NGVD[1] at the site, and Bay jurisdiction over the adjacent Bay waters and tidelands.[2] In Hercules, the BCDC has authority over the wetland areas around Hercules Point and over the tidal mudflats up to the railroad grade. Permits issued by BCDC are generally for water-related projects that propose minimum fill and maximum feasible public access. BCDC permit applications are also reviewed by the CDFG and other agencies.

Special Status Species

Special status species are defined for the purpose of this document to include species in the following categories, including those considered to meet CEQA *Guidelines* Section 15380 criteria as rare, threatened or endangered and those of other public concern:

Rare, Threatened, or Endangered Species (Section 15380 criteria)

- Plants that are listed or proposed for listing as rare, threatened, or endangered under the California Endangered Species Act or federal Endangered Species Act;
- Animals that are listed or proposed for listing as threatened or endangered under the California Endangered Species Act or federal Endangered Species Act;
- Plants or animals that are Candidates (Category 1 or 2) for possible future listing as threatened or endangered under the federal Endangered Species Act;
- Animals designated by the CDFG as "species of special concern"; and
- Animals that have been designated as "Protected" or "Fully Protected" by the federal government under law (e.g., Bald Eagle Protection Act).

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1 National Geodetic Vertical Datum, a fixed plane of geographical reference (not equal to mean sea level).
2 A recent California Court of Appeal decision (Littoral Development Co. v. San Francisco Bay Conservation and Development Commission, 24 Cal. App. 4th, 1050) has affected BCDC jurisdiction. The Court ruled that BCDC jurisdiction is generally limited to 100 feet landward from the mean high tide line, rather than from the line of "highest" high tide, except in marsh areas, where the jurisdiction extends to five feet above mean sea level.

Special Concern (not meeting Section 15380 criteria)

The following categories do not meet the Section 15380 criteria, and impacts on these species are not considered by the City to be significant under CEQA. These categories are discussed for the reader's information.

- Plants included on lists 1A, 1B, and 2 of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Smith and Berg, 1988). CDFG recognizes that Lists 1A, 1B, and 2 of the CNPS inventory contain plants that, in the majority of cases, would qualify for state listing, and CDFG requests their inclusion in EIRs as necessary;

- Plants included on lists 3 and 4 of the California Native Plant Society's (CNPS) *Inventory of Rare and Endangered Vascular Plants of California* (Smith and Berg, 1988). Plants occurring on CNPS Lists 3 and 4 are "plants about which more information is needed," and "plants of limited distribution," respectively (Smith and Berg, 1988). These plants may be included as special-status species on the basis of local significance or recent biological information;

- Plants or animals which have been identified as being of local or regional interest.

Local Policies

The proposed Land Use Element Update includes the following policies regarding the protection and enhancement of significant environmental attributes and features:

- Design of the flood control improvements along Refugio Creek should be done in a manner to function as a transition area between land uses. (Policy 13B)

- Establish strong and continuous system of trail links between the hills in the southeastern end of Refugio Valley and San Pablo Bay. (Program 14A.1)

- Establish a trail linkage between Pinole and Rodeo as part of the regional bay access trail, without encroaching upon private property or bluffs within the industrial area. (Program 14A.2)

The Hercules General Plan Open Space/Conservation Element contains several statements related to open space and habitat conservation:

- Incorporate conservation areas such as drainage courses, areas of natural vegetation and baylands into the open space system. (Objective V.C.1.c)

- Provide for the linkage of public and private open space throughout the community. (Objective V.C.1.d)

- The oak groves in canyon bottoms and on the sides hills will be preserved in their natural state where possible. Special care should be taken in construction operations to minimize damage to this valuable natural resource. (Proposal V.C.3.A.3)

- Greenways are mostly grass covered hilltops and slopes interspersed with residential areas in the easterly portion of the city. As much as practical of this grassland within the public open spaces should be preserved in its natural state because of its value as habitat for many species of raptors. (Proposal V.C.3.A.5)

Description of Special Status Species

A list of special status plant and animal species known to occur within the general project region, and potentially occurring on the parcels in the Study Area was compiled, on the basis of: analysis of previous studies conducted within the project area concerning special status plant and animal species' presence; consultation with the Department of Fish and Game's California Natural Diversity Data Base (CNDDB, 1993), and the CDFG; review of pertinent scientific literature about the sensitive species of concern (Munz and Keck, 1970; Jepson, 1993); review of the most recent Notice of Review for federally listed and candidate plants and animals (U.S. Fish and Wildlife Service [USFWS], 1994); review of the CDFG's most recent list of special animals and plants, which also includes federally listed and candidate plants (CDFG, 1993); and review of CNPS literature (Smith and Berg, 1988).

The CNDDB includes all species that have been observed or studied within a certain United States Geological Survey map quadrant and from species identified by the U.S. Fish and Wildlife Service as potentially present in Contra Costa County.[3] The list therefore covers a larger geographic area than the City of Hercules, and a substantially larger area than the Land Use and Circulation Elements Update study area. The dates of these findings range from 1973 to 1992. Because certain species have not been specifically surveyed for or reported on the CNDDB in this specific geographical area, this list, therefore, is not a definitive list of special status species potentially occurring within the boundaries of the study area. Additional species not included in the CNDDB have been included because of the existence of suitable habitat within the study area.

For each of the sensitive plant and animal species, habitat requirements were assessed and compared to the habitats present within the study area. Factors such as on-site habitat quality and known geographic distribution of individual species were also considered in evaluating the

[3] USGS map quadrants reviewed include Benicia, Briones Valley, Oakland East, Mare Island, and Richmond.

likelihood of sensitive species' occurrence. Based on the results of that analysis, one special status plant species and twelve special status animal species were identified (refer to Table IV.D.2). Of these 13 species, 12 have the potential to occur within the project sites. These include Santa Cruz tarweed, monarch butterfly, Ricksecker's water scavenger beetle, California red-legged frog, northwestern pond turtle, southwestern pond turtle, ferruginous hawk, black-shouldered kite, California horned lark, saltmarsh common yellowthroat, loggerhead shrike, and Pacific western big-eared bat. The delta smelt occurs in San Pablo Bay, adjacent to the study area, and would not be directly affected by the project. The following provides a brief summary description of these special status species, including distributional, morphological (form and structure), and habitat information on each.

The following species descriptions are of species potentially occurring within the study area, based on available habitat, but for which no studies have been conducted. As discussed in the mitigation measures in this section, these species should be surveyed for prior to construction if their required habitat is on site.

Plants

No special status plant species have been reported within the study area. Due to the disturbance on the various parcels and lack of appropriate habitats, there is only one special status plant species potentially occurring within the project area.

Santa Cruz tarweed (*Holocarpha macradenia*), listed by the state as Endangered and a federal Category 1 species, proposed for listing as Endangered, Threatened or Rare, is a rigid, glandular annual ranging from 1 to 5 decimeters in height. Because it occurs in colonies, it is easily observed, especially when it produces its yellow flowers between June and October. It inhabits grassy flats underlain by heavy soils along the coast, and has been observed in Alameda, Contra Costa, Marin, Santa Cruz (CNPS, 1977d), and Monterey Counties (CNPS, 1988c). Although a population of this species was recently discovered near Pinole in Contra Costa County (CNDDB, 1989), this species has not been surveyed for in the study area.

Fish

Delta smelt (*Hypomesus transpacificus*), a federally Endangered and a California threatened species, is found in the greatest abundance at salinities near 2 ppt (Herbold, 1994). This species occurs in and around Suisun Bay, with numbers showing greater in shallow waters. Delta smelt

TABLE IV.D.2: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE HERCULES LAND USE AND CIRCULATION ELEMENTS UPDATE STUDY AREA

Common name (*Scientific Name*)	Status /a/	Habitat Occurrence	Possibility of Occurrence
Plants			
Large-flowered fiddleneck *Amsinckia grandiflora*	FE/SE	valley and foothill grassland	habitat not present in project area
Alameda manzanita *Arctostaphylos pallida*	FC1/SE	sandy or rocky ridges of chaparral below 2,200 feet in elevation	habitat not present in project area
Suisun aster *Aster chilensis var. lentus*	FC2	brackish water marshes	habitat not present in project area
Heartscale *Atriplex cordulata*	FC2	alkali sink and seasonal wetlands	habitat not present in project area
Valley spearscale *Atriplex joaquiniana*	FC2	alkali sink and seasonal wetlands	habitat not present in project area
Soft bird's-beak *Cordylanthus mollis ssp. mollis*	FC1/SR	salt marshes with heavy vegetation growth	habitat not present in project area
Mt. Diablo bird's-beak *Cordylanthus nidularis*	FC1/SR	serpentine chaparral	habitat not present in project area
Recurved larkspur *Delphinium recurvatum*	FC2	alkali sink and alkaline valley and foothill grasslands	habitat not present in project area
Interior California larkspur *Delphinium californicum ssp. interius*	FC2	wet places with cismontane woodlands	habitat not present in project area
Western leatherwood *Dirca occidentalis*	CNPS 1B	wet to moist slopes below 1500 feet	habitat not present in project area
Contra Costa wallflower *Erysimum capitatum var. angustatum*	FE/SE	inland dunes	habitat not present in project area
Diamond-petaled poppy *Eschscholzia rhombipetala*	FC2	valley foothill grasslands	habitat not present in project area
Fragrant frittillary *Fritillaria liliacea*	FC2	clay soils in grasslands and oak woodlands	habitat not present in project area
Diablo rock-rose *Helianthela castanea*	FC2	rocky sites of chaparral-oak woodland ecotone between 500 and 4,000 feet elev.	habitat not present in project area
Brewer's dwarf-flax *Hesperolinon breweri*	FC2	grassy slopes underlain by serpentine	habitat not present in project area
Santa Cruz tarweed *Holocarpha macradenia*	FC1/SE	heavy soils in grasslands	potential habitat in open grasslands

TABLE IV.D.2: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE HERCULES LAND USE AND CIRCULATION ELEMENTS UPDATE STUDY AREA (cont'd.)

Common name (*Scientific Name*)	Status /a/	Habitat Occurrence	Possibility of Occurrence
Northern California black walnut *Juglans californica var. hindsii*	FC2	remaining native stands are in Walnut Creek and Napa	habitat not present in project area
Contra Costa goldfields *Lasthenia conjugens*	FPE	alkaline grasslands and vernal pools	habitat not present in project area
Delta tule-pea *Lathyrus jepsonii ssp. jepsonii*	FC2	brackish water marshes	habitat not present in project area
Mason's lilaeopsis *Lilaeopsis masonii*	FC2/SR	riparian tidal zones in muddy or silty soil	habitat not present in project area
Antioch dunes evening-primrose *Oenothera deltoide ssp. howellii*	FE/SE	sandy banks of the Sacramento/San Joaquin River	habitat not present in project area
Mt Diablo phacelia *Phacelia phacelioides*	FC2	rocky chaparral and cismontane woodland	habitat not present in project area
Rock sanicle *Sanicula saxatilis*	FC2/SR	chaparral and oak woodland	habitat not present in project area
California sea blite *Sueda californica*	FPE	coastal salt marsh	habitat not present in project area
Uncommon jewelflower *Streptanthus albidus ssp. peramoenus*	FC1	serpentine grasslands	habitat not present in project area
Mt. Diablo jewelflower *Streptanthus hispidus*	FC2	rock outcrops within chaparral	habitat not present in project area
Fish			
Delta smelt *Hypomesus transpacificus*	FE/ST	seasonally in San Pablo Bay school in large numbers	potential habitat present in San Pablo Bay
Winter run chinook *Onchorhynchus tshawytscha*	FE/SE	move up Sacramento River in Dec. through Feb., spawning areas are gravel riffles	spawning habitat not present in project area
Sacramento splittail *Pogonichthys macrolepidotus*	FPT/CSC	delta region and lower Sacramento River, spawn in deadened sloughs on beds of aquatic plants	habitat not present in project area
Invertebrates			
Longhorn fairy shrimp *Branchinecta longiantenna*	FE	vernal pools and alkali sinks	habitat not present in project area
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	freshwater vernal pools	habitat not present in project area
California linderiella *Linderiella occidentalis*	FE	freshwater vernal pools	habitat not present in project area

TABLE IV.D.2: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE HERCULES LAND USE AND CIRCULATION ELEMENTS UPDATE STUDY AREA (cont'd.)

Common name (*Scientific Name*)	Status /a/	Habitat Occurrence	Possibility of Occurrence
Insects			
Langes metalmark butterfly *Apodemia mormo langei*	FE		habitat not present in project area
Monarch butterfly *Danaus plexippus*	S*	winter roosts along the coast of California in wind protected tree groves	potential habitat in groves
Bay checkerspot butterfly *Euphydryas editha bayensis*	FT	serpentine grasslands	habitat not present in project area
Ricksecker's water scavenger beetle *Hydrochara ricksecker*i	FC2	permanent and semi-permanent freshwater sources	potential habitat occurs in the lowlands near the bay
Curved-foot hygrotus diving beetle *Hygrotus curvipes*	FC2	alkali sinks	habitat not present in project area
Amphibian			
California tiger salamander *Ambystoma californiense*	FC1/CSC	breeds in vernal pools and seasonal ponds and aestivates in ground squirrel burrows	habitat not present in project area
California red-legged frog *Rana aurora draytonii*	FPE/CSC	inhabits perennial ponds devoid of bullfrog	potential habitat present in lowland streams
Foothill yelow-legged frog *Rana boylei*	FC2/CSC	inhabits perennial streams devoid of bullfrog	habitat not present in project area
Reptiles			
Northwestern pond turtle *Clemmys marmorata marmorata*	FC2/CSC	inhabits perennial streams with sandy banks for laying eggs	potential habitat present in lowland streams
Southwestern pond turtle *Clemmys marmorata pallida*	FC2/CSC	inhabits perennial streams with sandy banks for laying eggs	potential habitat present in lowland streams
Alameda whipsnake *Masticophis lateralis euryxanthus*	FPE/ST	inhabits south facing coastal scrub habitats with intermittent streams	habitat not present in project area
California coast horned lizard *Phrynosoma coronatum frontale*	CSC	coastal scrub/chaparral with fine loose soil with abundant insects	habitat not present in project area
Giant garter snake *Thamnophis gigas*	FT/ST	inhabits permanent freshwater marshes, streams and ponds	habitat not present in project area
Birds			
Tricolored blackbird *Agelaius tricolor*	FC2/CSC	nests in dense vegetation adjacent to freshwater in large colonies	habitat not present in project area

TABLE IV.D.2: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE HERCULES LAND USE AND CIRCULATION ELEMENTS UPDATE STUDY AREA (cont'd.)

Common name (*Scientific Name*)	Status /a/	Habitat Occurrence	Possibility of Occurrence
Aleutian Canada goose *Branta canadensis leucopareia*	FT	winters on lakes and ponds free of predators with levees to sleep on at night	habitat not present in project area
Ferruginous hawk *Buteo regalis*	FC2/CSC	winters in open grassland, usually agricultural fields	potential habitat in lowlands near the bay
Mountain plover *Charadrius montanus*	FC2/CSC	moderate elevations on open plains	habitat not present in project area
Black-shouldered kite *Elanus caeruleus*	S*	forages in open grasslands, along streams and wet meadows	potential habitat in lowlands near the bay
California horned lark *Eremophila alpestris actia*	FC2/CSC	nests in open, sparsely vegetated grasslands	nesting habitat in grazed areas
Peregrine falcon *Falco peregrinus anatum*	FE/SE	nests on cliffs, winters in California, Mexico and South America	nesting habitat not present
Saltmarsh common yellowthroat *Geothylpis trichas sinuosa*	FC2/CSC	nests in freshwater marshes containing trees and winters in salt marshes	habitat present in low-lands of the project area
American bald eagle *Haliaeetus leucocephalus*	FE/SE	winter roosts on dead snags adjacent to large bodies of water	habitat not present in project area
Loggerhead shrike *Lanius ludovicianus*	FC2/CSC	nests in open fields and woodlands	potential habitat in the lowlands
California black rail *Laterallus jamaicensis coturniculus*	FC2/ST	salt, brackish and freshwater marshes with heavy vegetation growth bordering larger bays	habitat not present in project area
Suisun song sparrow *Melospiza melodia maxillariss*	FC1/CSC	requires dense willow riparian habitat and emergent wetlands	habitat not present in project area
Alameda song sparrow *Melospiza melodia pusillula*	FC2/CSC	requires dense willow riparian habitat and emergent wetlands (South Bay)	habitat not present in project area
San Pablo song sparrow *Melospiza melodia samuelis*	FC2/CSC	requires dense willow riparian habitat and emergent wetlands	habitat not present in project area
California brown pelican *Pelecanus occidentalis californicus*	FE/SE	night-time roosts on levees along bays	habitat not present in project area
California clapper rail *Rallus longirostris obsoletus*	FE/SE	salt water marshes containing tidal sloughs bordering the S.F. Bay.	habitat not present in project area
California least tern *Sterna albifrons browni*	FE/SE	nests in sandy soils and feeds in the bay	habitat not present in project area

TABLE IV.D.2: SPECIAL STATUS SPECIES POTENTIALLY OCCURRING WITHIN THE HERCULES LAND USE AND CIRCULATION ELEMENTS UPDATE STUDY AREA (cont'd.)

Common name (*Scientific Name*)	Status /a/	Habitat Occurrence	Possibility of Occurrence
Mammals			
Greater western mastiff bat *Eumops perotis californicus*	FC2/CSC	rugged, rocky areas with cervices in arid areas	habitat not present in project area
San Pablo vole *Microtus californicus sanpabloensis*	FC2/CSC	burrows in soft soils adjacent to salt marshes in northern S.F. Bay	habitat not present in project area
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	FC2/CSC	feeds mainly on woody plants in forests of moderate canopy and understory	habitat not present in project area
San Joaquin Valley woodrat *Neotoma fuscipes riparia*	FC2/CSC	feeds mainly on woody plants in forests of moderate canopy and understory	habitat not present in project area
Pacific western big-eared bat *Plecotus townsendii townsendii*	FC2/CSC	inhabits mesic habitats, roosting in nearby caves, mines, tunnels, or buildings	potential habitat in old buildings
Salt marsh harvest mouse *Reithrodontomys raviventris*	FE/SE	salt marshes along San Francisco Bay and tributaries with cover above mean high tide line	habitat not present in project area
Suisun shrew *Sorex ornatus sinosus*	FC1/CSC	tidal marshes within San Pablo and Suisun Bays, with cover above mean high tide line	habitat not present in project area
Saltmarsh wandering shrew *Sorex vagrans halicoetes*	FC1/CSC	tidal salt marsh along the S.F. Bay	habitat not present in project area
Riparian brush rabbit *Sylvilagus bachmani riparius*	FC1/SE	Cowell State Park in San Joaquin County	habitat not present in project area
San Joaquin kit fox *Vulpes macrotis mutica*	FE/ST	open grasslands with other fossorial mammals	habitat not present in project area

/a/ STATUS:

U.S. Fish & Wildlife Service categories
FPE = Federal Proposed as Endangered
FE = Federal Endangered
FT = Federal Threatened
FC = Federal Candidate
FC1 = Listing may be appropriate, data on file.
FC2 = Listing may be appropriate, supporting data not on file.
#* = Listing as threatened or endangered pending.

California Department of Fish and Game categories
SE = State Endangered
ST = State Threatened
CSC = California Species of Concern
S* = State Designated Special Animal
SR = California Rare

California Native Plant Society (CNPS) Lists

List 1A = Plants presumed extinct in California
List 1B = Plants rare and endangered in California & elsewhere
List 2 = Plants endangered in California, more common elsewhere
List 3 = Plants about which more information is needed
List 4 = Plants of limited distribution (a "watch list")

SOURCE: SOURCE: ESA 1995, CDFG, 1993, USFWS 1992

surged to the highest numbers in 1993, after a low for 13 years. There is some evidence that this increase is in part due to the number of days in April when salinities of 2 ppt are between Middle Ground and Roe Island (Herbold, 1994). Nursery habitat may be needed throughout February to June, but peaks occur in April. This species is not expected to spawn in San Pablo Bay due to the low salinities but will use the bay for seasonal migration.

Invertebrates

Ricksecker's water scavenger beetle (*Hydrochara rickseckeri*) is a federal Category 2 species, candidate for listing as Endangered or Threatened. This beetle inhabits permanent or semi-permanent water sources which are required for it to survive and reproduce. Specific details of the life history of this species are unknown. The beetle's range is thought to extend generally around the Bay Area, with collections having been made in Santa Rosa, Alameda, and Livermore (Arnold, pers. comm.). This species has been found from January through July in areas capable of ponding water, including freshwater seeps, springs, farm ponds, and slow-moving streams. Related species in the genus are aquatic scavengers as adults, while larvae feed as predators on soft bodied aquatic invertebrates (Arnold, pers. comm.). Larvae are usually found in relatively calm, shallow water of ponds, streams, marshes or lakes. Potential habitat for this species occurs on Parcels 1, 3 and 4.

Monarch butterfly (*Danaus plexippus*), although state and federally unlisted, it may be designated the National Insect by U.S. Congress in the near future (Arnold, 1993). Overwintering sites in California occur within a mile of the coast, generally consisting of wooded trees of mixed height and trunk diameter, as well as understory brush. Trees such as blue gum (*Eucalyptus globulus*), Monterey pine (*Pinus radiata*) and Monterey cypress (*Cupressus macrocarpa*) are most often used as roosts, as well as other native and non-native species in a large enough grove to provide thermal regulation and cover from predators. Nearby winter blooming nectar plants and fresh water are also important factors in determining winter roosting areas. The CNDDB (1993) has reported several wintering areas along San Pablo Bay. Within the project area the eucalyptus groves offer habitat for this species.

Amphibians

California red-legged frog (*Rana aurora draytonii*) is federally proposed Endangered and a California Species of Concern. This species is primarily a pond frog, but will also inhabit slow moving streams or pools in intermittent streams. When inhabiting ponds, which are usually

permanent and at least 3 feet in depth, emergent vegetation, such as cattails, and shoreline cover are often required for cover from predators and for depositing eggs (Stebbins, 1985; Mayer and Laudenslayer, 1988). Its range extends from the western slope of the Cascade-Sierran mountain system, to the North and South Coast Ranges, and the Transverse Range. This species is active year long along the coast but will aestivate (summer dormancy) from late summer to early winter inland (Mayer and Laudenslayer, 1988). The breeding period is 1-2 weeks from January through to April, with the larvae maturing in 11 to 20 weeks. Adult bullfrog (*Rana catesbiana*) were introduced into California from their native eastern states at the turn of the century (Mayer and Laudenslayer, 1988). It is well known that bullfrogs prey on, compete for food and space with native amphibians (Leidy, pers. comm., 1993; Mayer and Laudenslayer, 1988). In streams in other counties bullfrogs have eliminated red-legged frogs from the lower, gentler stream gradients, and as a result red-legged frogs have been seen in rocky streams, an unnatural habitat for them, with foothill yellow-legged frogs (Leidy, 1993). Potential habitat for this species occurs on Parcels 1, 3 and 4.

Reptiles

Northwestern Pond Turtle (*Clemmys marmorata marmorata*), a federal Category 2 species, candidate for listing as threatened or endangered, and a California species of concern, is a thoroughly aquatic turtle, found in permanent ponds, rivers, streams, and irrigation ditches that typically have rocky or muddy bottoms and are overgrown with vegetation. Basking areas are required by this species and include partially submerged logs, rocks, mats of vegetation or open mud banks. Eggs are laid in April -August. Habitat destruction and degradation are the primary threats to this species. Potential habitat for this species occurs on Parcels 1, 3 and 4.

Southwestern Pond Turtle (*Clemmys marmorata pallida*), a federal Category 2 species, candidate for listing as threatened or endangered, and a California species of concern, is a thoroughly aquatic turtle, found in permanent ponds, rivers, streams, and irrigation ditches that typically have rocky or muddy bottoms and are overgrown with vegetation. Basking areas are required by this species and include partially submerged logs, rocks, mats of vegetation or open mud banks. Eggs are laid in April -August. Habitat destruction and degradation are the primary threats to this species. Potential habitat for this species occurs on Parcels 1, 3 and 4.

Birds

Ferruginous hawk (*Buteo regalis*), federally listed as Category 2, candidate for listing as endangered or threatened, and a California species of concern, like other raptors and birds in general, falls under California Fish & Game Code Sec. 3503 and 3503.5, which prohibits the taking or destroying of nest or eggs of any bird and prohibits the taking or destroying of any bird or nest in the order of Falconiformes (falcons, kites, and hawks) and Strigiformes (owls). This species occurs in the Central Valley during the winter, arriving in September and leaving in mid-April, and frequenting open grassland areas, sagebrush flats, desert scrub, and fringes of pinion-juniper habitats. Ferruginous hawks will roost in open areas, often using utility poles. The main threats to this species are conversion to agriculture and human harassment. Potential wintering foraging habitat occurs on Parcels 1, 3 and 4.

Black-shouldered kite (*Elanus caeruleus*), a fully protected species of California under CDFG Code 3511, is declining in numbers in California. This species is a resident of California, but shifts about seasonally within the state in accordance with food supplies. Prior to 1895 this species was common to widespread in valley and lower foothill territory, but is now rare in many sections of the state (Grinell, 1944). This species forages in wetlands and open brushlands, usually near water and streams. Oak woodlands, valley oak or live oak, or trees along marsh edges are used for nesting sites. The nest made by this species is a frail platform of sticks, leaves, weed stalks, and similar materials located in tree or bush. A combination of habitats is essential, including open grasslands, meadows or marshes for foraging, and isolated dense-topped trees for perching and nesting. The destruction of wetlands is the primary threat to this species. Within the study area nesting and foraging habitat for this species occurs on Parcels 1, 3 and 4.

California horned lark (*Eremophila alpestris actia*), federally listed as Category 2, candidate for listing as Endangered or Threatened, and a California Species of Concern, is a year-long resident in most of California, except in the Sierras during winter. This race of horned lark is usually found in open habitat, such as grassland and agricultural areas, where trees and shrubs are absent. This species has been observed from sea level to above treeline in various habitats, such as sparse grasslands, deserts and alpine dwarf-shrub habitat. It uses grasses, shrubs, forbs, rocks, litter, clods of soil, and other surface irregularities for cover from predators. Potential foraging and nesting habitat could occur on Parcels 1, 3, and 4.

Saltmarsh yellowthroat (*Geothlypis trichas sinosa*), federally listed as Category 2, candidate for listing as Endangered or Threatened and a California Species of Concern, is a resident of the San Francisco Bay marshes, inhabiting both salt and freshwater marshes in the summer (Grinnell, 1944). Salt marshes are in inhabited during the fall and winter. Tall grasses, tule patches and willow thickets are used during the breeding season for nesting, where the insectivorous bird gleans grasshoppers, caterpillars, and spiders off the branches and grasses. Both foraging and nesting grounds are within 10 feet of the ground. Grinell noted nesting occurrences around the sloughs of San Pablo and San Francisco Bays from southern Sonoma County down to San Jose and winter occurrences in the coastal marshes from the San Francisco Bay region down to San Diego. Loss of breeding and wintering habitat threatens this species. Within the project area potential nesting and foraging habitat for this species occurs on Parcels 1, 3 and 4.

Loggerhead shrike (*Lanius ludovicianus*), federally listed as Category 2, candidate for listing as Endangered or Threatened and a California Species of Concern, is common throughout California in the lowlands and the foothills. This species occurs in open habitats, such as grasslands or, occasionally, agricultural fields, using shrubs, trees, posts, fences, and utility lines for perching surfaces. Nests are usually built in trees and shrubs; however, manmade structures are also used. The local nesting season spans March to July. Habitats with little to no human disturbance are preferred, such as open canopied valley, valley foothill hardwood, valley foothill hardwood conifer, and valley foothill riparian habitats. Edges of denser habitats are sometimes used. This species nests on stable branches in densely foliated tree or shrubs. The nesting season ranges from March through August (CDFG, 1990). Insecticides and habitat loss have caused population decreases throughout California.

Mammals

Pacific (Townsend's) western big-eared bat (*Plecotus townsendii townsendii)*, federally listed as Category 2, candidate for listing as Endangered or Threatened and a California Species of Concern, occurs throughout California. Inhabiting mesic habitats, Pacific western big-eared bat will roost in caves, mines, tunnels, or buildings. This species forages along habitat edges, gleaning insects from bushes and trees. Once abundant throughout California, Pacific western big-eared bat has decreased in population numbers due to sensitivity to human disturbance of roosting sites. Nursery colonies start around March-April with young being born around May-June (Jameson & Peeters, 1988).

IMPACTS AND MITIGATION MEASURES

Significance Criteria

The CEQA *Guidelines* Section 15065(a) specifies that a lead agency shall find that a project may have a significant effect on the environment when the project has the potential to "...substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or a rare or endangered species...." The *Guidelines* (Appendix G) provide examples of impacts that normally are considered significant, including those that would:

- "substantially affect a rare or endangered species of animal or plant or the habitat of the species";
- "interfere substantially with the movement of any resident or migratory fish or wildlife species"; or
- "substantially diminish habitat for fish, wildlife or plants."

The *Guidelines* (Section 15380) further define "rare or endangered species" as those species officially listed as threatened, endangered, or rare under federal or California law. In addition, the *Guidelines* provide that plant or animal species may be treated as "rare or endangered" even if not on one of the official lists if:

- its survival and reproduction in the wild are in immediate jeopardy,
- if the species is existing in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment worsens, or
- if it is likely to become endangered in the foreseeable future and may be categorized as "threatened" under federal law.

However, recent case law (Sierra Club vs. City of Gilroy, 1990 222 Cal. App. 3d.30, 47) may be interpreted as providing discretion to the lead agency as to whether a species is to be considered "rare or endangered" despite meeting one or more of these criteria.

Given these standards, a project would be considered to have a significant adverse impact on biological resources if it would result in substantial disruption to, or destruction of, any special status species, their habitat, or breeding grounds. As discussed previously, special status species include those plants and animals that are State and/or federally listed as endangered or threatened

or are Category 1 or 2 candidates for federal listing; animals considered Species of Special Concern as designated by the CDFG; or animals that are federally designated as "protected" or "fully protected."

A project would also be considered to have a significant impact if it would result in a substantial loss of important plant or animal species; would cause a change in species composition, abundance or diversity beyond that of normal variability; or would indirectly result in the measurable degradation of sensitive habitats (e.g., wetlands, riparian corridors, vernal pools, oak woodlands) such as through the introduction of erosion or runoff materials.

Impacts to a particular biological feature would also be considered significant if the resource is either identified by the City of Hercules (such as creeks, sensitive habitats, and habitats of rare or endangered species) and/or subject to U.S. Army Corps of Engineers permit requirements under Section 404 of the Federal Clean Water Act. These resources typically cannot be successfully re-created and/or methods of restoration are still experimental.

Impacts were generally considered not significant if the habitats and species affected are common and widespread in the region and the State. Examples include areas supporting landscaping. These areas can readily be enhanced or rehabilitated.

There are no natural communities within Parcels 8, B, D, E, H, or I. The majority of the species in and around these developed areas are non-native planted species with very little wildlife habitat value. Therefore, development of these parcels would not result in any significant biological impacts.

Development of Parcels 6 and 9 would minimally impact existing common wildlife habitat. Landscaped and disturbed areas provide little habitat for wildlife except for those species adapted to human habitation, such as starlings, golden crowned sparrows, mourning dove, rock pigeons and feral cats. These areas do not provide habitat for larger mammalian species nor for native predators, except as possible movement corridors. Therefore the impacts of development would not be significant.

Impact Biology-1: Introduction of invasive non-native species used in landscaping would be detrimental to the native habitats within the Hercules General Plan Update project area. This would be a significant impact.

French broom (*Cytisus monspessulanus*) and Spanish broom (*Cytisus scoparius*), invasive, non-native species, are often used in landscaping. The abundance of seeds allow them to "escape" landscaped areas into adjacent habitats where they establish, not having any natural predators, and out-compete native species for space and resources thus decreasing natural diversity of native plant species. This would be a significant impact.

Impact Biology-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Objective 14:** Protect and enhance significant environmental attributes and features.
>
> **Program 14A.3:** Continue to improve and protect Refugio Creek as a major environmental amenity.

Impact Biology-1: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Biology-1 : Mitigation Measures Identified in This EIR

The City shall condition approval of individual development proposals on the following implementation program:

> **Biology-1a:** The City shall require that native plants from the local area be used in landscaping, and in areas with a lower water table, native drought tolerant species shall be used in landscaping.

Impact Biology-1: Significance After Mitigation

Less-than-significant.

Impact Biology-2. Seasonal freshwater wetlands would be directly affected (lost or damaged) by development within the Land Use Element Update study area. This would be a significant impact.

Seasonal freshwater wetlands adjacent to the western portion of Refugio Creek occur on Parcels 1, 3, 4, 12, and C. As noted in the setting, approximately 2 acres of seasonal wetlands on Parcel 4 has been preserved. On Parcel 3, approximately 20 acres, incorporating approximately 6 acres of seasonal wetlands, is proposed for preservation as part of a mitigation plan awaiting approval by the U.S. Army Corps of Engineers. This community is of concern to the CDFG, USFWS and the Corps. The CDFG has ranked terrestrial vegetation communities, presenting an overall condition of the community within the state. Coastal and Valley freshwater marsh have an element ranking of S2.1, with 6 to 20 occurrences of the community within California, or 2,000 to 10,000 acres left, thus making this community threatened. Because of the high value of wetlands to migratory birds, and the decreasing acreage of wetlands within California, USFWS states that no net loss of wetlands shall occur. The Corps has jurisdiction over waters of the United States, including those areas that are defined as wetlands.

Storm water flooding of Refugio Valley occurs during periods of heavy rainfall and runoff, coincident with high tides in Refugio Creek. Past planning studies including the City's Redevelopment Plan have included proposals to realign Refugio Creek to help control flood conditions. Refugio Creek, within Parcel 3, is proposed an Open Space Creek Corridor and the realignment of this creek, subject to approval by CDFG and the Corps, would incorporate flood control, riparian habitat and water quality requirements.

A wetland delineation would be required along Refugio Creek and other drainages prior to any construction on Parcels 1, ~~3, 4,~~ 12, and C to determine the extent of the Corps jurisdiction over the potential wetlands. A wetland delineation would determine if the wetlands meet the three parameters, vegetation, soils and hydrology, as set forth by Corps and USFWS.[4]

If the wetlands are found to meet all three parameters, as determined by the Corps and the USFWS, replacement would be required on a one-to-one ratio. A Section 404 Permit or a Nationwide Permit would be required prior to development of any parcels containing jurisdictional wetlands. CDFG may require a Streambed Alteration Agreement if the wetlands are adjacent to an intermittent or perennial stream or water course.

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[4] See Impact Wastewater-1, Section IV.F, for discussion of possible effects on wetlands at the Hercules Wastewater Treatment Plant, which is outside the study area.

Impact Biology-2: Mitigation Measures Proposed as Part of the Project

The following program is contained in the proposed Land Use Element Update:

> **Program 14A.3:** Continue to improve and protect Refugio Creek as a major environmental amenity.

Impact Biology-2: Mitigation Measures identified in other *General Plan* Elements

The following objectives or programs are contained in the Open Space/Conservation Element:

> **Objective V.C.1c.** Incorporate conservation areas such as drainage courses, areas of natural vegetation and baylands into the open space system.

Impact Biology-2: Mitigation Measures Identified in This EIR

The City shall add the following policies or implementation programs to the Land Use Element Update:

> **Biology 2a**: The City shall require project proponents to design construction footprints to avoid any wetlands and CDFG- and or COE-approved~~place 100-foot~~ buffer zones around the wetlands in the project area~~, or as determined by CDFG or the COE~~. If avoidance is not possible projects shall be redesigned so as to impact the least amount of wetlands. Any areas that are classified as wetlands and would be affected by project development shall be recreated either on or off site in accordance with CDFG and COE.
>
> **Biology 2b**: Prior to construction in areas of wetlands, the City shall support CDFG and Corps permitting process. A project sponsor shall be required to obtain a Streambed Alteration Agreement from CDFG and/or a Section 404 Corps permit prior to any development within any wetland.
>
> **Biology 2c**: If flood control improvements are required along Refugio Creek the City shall work with~~direct~~ the Corps to create the flood control area wide enough to provide for establishment within the flood control area of native vegetation to provide for wildlife habitat. The City shall allow a transition area between proposed land uses and this natural community, as described in Program 13B of the proposed Land Use Element.

Impact Biology-2: Significance After Mitigation

Less-than-significant.

Impact Biology-3: Development of Parcel A would directly encroach upon the Refugio Creek riparian corridor. This would be a significant impact.

Parcel A contains a riparian corridor between the parcel site and Refugio Valley Road. This vegetation community would be affected during construction on this site because access from the main road would occur across the creek and would likely require the removal of trees along the corridor for the construction of an access bridge. Removal of trees along the riparian corridor would raise creek temperatures and could cause degradation of the creek and adverse impacts on wildlife. A project applicant would be required to obtain permits from CDFG (Streambed Alteration Agreement)and the Corps (Section 404 permit).

Within the Gelsar property (Parcel 3), approximately 160 feet of the Refugio Creek riparian corridor would be redesigned for flood control. The redesigning would incorporate preservation, enhancement, and creation of riparian seasonal wetland and upland habitat within the natural 100-year flood control channel. This plan has been submitted for review to the CDFG and the Corps, and would be expected to mitigate potential effects to a level of less-than-significance.

Impact Biology-3: Mitigation Measures Proposed as Part of the Project

The following objective and program are from the proposed Land Use Element:

> **Objective 14:** Protect and enhance significant environmental attributes and features.
>
> **Program 14A.3:** Continue to improve and protect Refugio Creek as a major environmental amenity.

Impact Biology-3: Mitigation Measures identified in other *General Plan* Elements

The following objective is from the Open Space/Conservation Element:

> **Open Space/Conservation Element Objective V.C.1c.** Incorporate conservation areas such as drainage courses, areas of natural vegetation and baylands into the open space system.

Impact Biology-3: Mitigation Measures Identified in This EIR

The City shall add the following programs to the Land Use Element Update:

Biology-3a: Prior to construction in areas of riparian corridors or wetlands, the City shall support CDFG and Corps permitting process. A Streambed Alteration Agreement from CDFG and/or a Section 404 Corps permit shall be obtained by the project applicant prior to any development within any creek or discharge of fill into any creek.

Biology-3b: Design of building footprints along any riparian corridors shall be outside the CDFG- and/or COE-preapproved~~100-foot~~ buffer zone ~~(from the top of the bank, 50 feet on each side)~~. Sensitive riparian habitats shall be marked by a qualified biologist to deter any destruction by equipment during construction.

Biology-3c: Development along any riparian corridor shall incorporate measures to avoid impacts during construction, including:

i) Construction of any access bridge shall be limited to the bridge footprint area only.

ii) Parking of large equipment shall be on the upland grassland area or on the paved street. Construction workers cars shall have designated parking areas.

iii) Basins for oil leaks from the equipment shall be installed if equipment is parked on-site over night.

Impact Biology-3: Significance After Mitigation

Less-than-significant.

Impact Biology-4 : The proximity of development to riparian and wetland communities could cause degradation of these communities through introduction of urban pollutants in stormwater runoff. This would be a significant impact.

Runoff from impervious surfaces contaminated by oil, grease and debris could decrease water quality, and species diversity within the riparian and wetland habitats on Parcels 1, 3, 4, 11, 12, A, C, and F.

Impact Biology-4: Mitigation Measures Proposed as Part of the Project

Objective 14: Protect and enhance significant environmental attributes and features.

Program 14A.3: Continue to improve and protect Refugio Creek as a major environmental amenity.

Impact Biology-4: Mitigation Measures identified in other *General Plan* Elements

> **Growth Management Policy III.E.5:** Meet federal NPDES [National Pollution Discharge Elimination System] requirements for stormwater runoff.

Impact Biology -4: Mitigation Measure Identified in This EIR

The City shall add the following policy to the Land Use Element Update:

> **Biology-4a:** The City shall require project proponents to design facilities to prevent degradation of riparian and wetland communities from urban pollutants in storm runoff.

The City shall condition approval of individual development proposals on implementation of the following mitigation measures:

> **Biology-4b:** To minimize pollution downstream from sedimentation, the City shall require installation of sedimentation and grease basins in the storm drain system in parking lots in accordance with NPDES regulations and shall require that property owners maintain the basins annually, or as required by NPDES regulations. Parking lots shall be swept periodically to decrease the amount of debris that could potentially contaminate the riparian or wetland habitat.

Impact Biology-4: Significance After Mitigation

Less-than-significant.

Impact Biology-5: Development on Parcels 1 and 2 under the updated Land Use Element could result in the disturbance of salt marsh zones along San Pablo Bay, due to the proximity of urbanization. This would be a significant impact.

Buildings and other development built close to the Bay could increase noise, light and glare, and public disturbance, and loss of adjacent open space would reduce the value of the habitat to wildlife. Increased disturbance from humans and domestic pets along a bay access trial (proposed Land Use Policy 14A.2) would disturb the salt marsh zone through harassment of wildlife, potential predation, and erosion of sensitive ecological habitat. Domestic dogs off-leash and off-road bicycling would disrupt feeding patterns of shorebirds in tidal salt marshes and mudflats. Because San Pablo Bay and the San Francisco Bay Area are part of the Pacific Flyway and development around the Bay has decreased available foraging areas, the remaining

tidal salt marshes and mudflats have become increasingly important as feeding grounds for migrating shorebirds.

Impact Biology-5: Mitigation Measures Proposed as Part of the Project

The following objective is in the proposed Land Use Element Update:

> **Objective 14:** Protect and enhance significant environmental attributes and features.

Impact Biology-5: Mitigation Measures identified in other *General Plan* Elements

The following objectives are contained in the Open Space/Conservation Element:

> **Open Space/Conservation Element Objective V.C.1.b:** Establish a management plan for the conservation and enhancement of the natural amenities in the City.
>
> **Open Space/Conservation Element Objective V.C.1c.** Incorporate conservation areas such as drainage courses, areas of natural vegetation and baylands into the open space system.

Impact Biology-5: Mitigation Measure Identified in this EIR

The City shall add the following policies and programs to the Land Use Element Update:

> **Biology-5a:** The city shall review development proposals for consistency with minimizing impacts to salt marsh zones. The City shall incorporate the following policies and programs for development near San Pablo Bay:
>
> - Buildings shall be located on existing developed or graded areas, where practicable.
> - The City shall work with CDFG, BCDC, East Bay Regional Park District, and the Corps to determine appropriate buffer zones along the Bay to protect tidal habitat when designing a bay access trail linkage between Pinole and Rodeo. Public access and pedestrian pathways shall be limited within the buffer zone, and when possible, located along the edges of the buffer zone. Bicycles shall be encouraged to stay on bike paths through the use of signage and fencing.
> - The City shall require developers to provide signage and fencing to enforce leash laws around remaining areas of sensitive habitats such as salt marsh wetlands and mud flats.

Impact Biology-5 : Significance After Mitigation

Less-than-significant.

Impact Biology-6: Habitat for several special status plant and animal species would be affected by construction within development areas in the Study Area. This would be a significant impact.

Specifically, the eucalyptus groves provide wintering habitat for the monarch butterfly. Any ponding water provides habitat for Ricksecker's water scavenger beetle, California red-legged frog and, depending on the size, northwestern and southwestern pond turtle; and freshwater wetlands provide habitat for northwestern pond turtle, southwestern pond turtle, and saltmarsh yellowthroat. Raptors such as black-shouldered kite, and wintering ferruginous hawk forage in open grasslands, with kite nesting in trees adjacent to wet meadows along Refugio Creek. Open grasslands provide habitat for Santa Cruz tarweed, California horned lark and loggerhead shrike. Any building within the Study Area could provide habitat for Pacific western big-eared bat.

About 75 percent, or 194 acres, of the 251 acres encompassed by the Parcels 1, 3 and 4 would be developed for office use, research and development, commercial and residential uses, as well as the historic town center on Parcel 1. The remaining approximately 57 acres of creek corridor/open space would be available for raptor foraging.

Impact Biology-6: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Biology-6: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Biology-6: Mitigation Measures Identified in this EIR

The City shall add the following policies and programs to the Land Use Element Update:

> **Biology-6a:** For projects not exempt from the California Environmental Quality Act, the City shall continue to utilize environmental review under CEQA to review development and for impacts on sensitive species and their habitat.

Biology-6b: The City shall require that development within the General Plan area incorporate features to preserve foraging habitat for wildlife.

Biology-6c: Areas that could provide habitat for sensitive species shall be surveyed by qualified biologists provided by project sponsors prior to project design. Surveys in sensitive areas would have to be conducted prior to any development. Sensitive areas within the study area includes eucalyptus groves, freshwater wetlands and adjacent trees, open grasslands, ponds and creeks, and buildings which are abandoned or slated for destruction. If any species is present, coordination with the CDFG will be required for mitigation of impacts and redesigning of the project footprint to avoid any sensitive species or sensitive habitat. If avoidance is unavailable coordination with the CDFG will be required for relocation of these species and for determining replacement of habitat.

i) If monarch butterfly is present, eucalyptus groves within the development should be retained during the winter roosting season. Removal of eucalyptus trees, if undertaken, should occur from August through October, before the butterfly's winter roosting season and after raptor nesting.

ii) Surveys for Ricksecker's water scavenger beetle, red-legged frog, and northwestern and southwestern pond turtle should be conducted by a qualified biologist in all ponds prior to development.

iii) If surveys find nesting black-shouldered kite, loggerhead shrike, or saltmarsh yellowthroat are present in trees along the freshwater marsh or in grasslands, respectively, suitable replacement foraging habitat should be evaluated for nesting availability. Construction should be timed to occur after the fledging seasons of the kite (June through August), the shrike (March through August), and the saltmarsh yellowthroat (April to mid-July), before the pairing season in February.

iv) Surveys for Pacific western big-eared bat shall be conducted during the spring and winter seasons to determine if nursery colonies or winter colonies occur in the building. If individuals are found within the building during springtime, destruction of the building shall commence in August when the young have left with the females. If a winter roost occurs in the building blockage by a qualified pest control operator shall be conducted prior to destruction of the building.

The City shall condition approval of individual development proposals on implementation of the following programs:

Biology-6d: As much open space as possible within sites proposed for development shall be retained as informal open space for wildlife habitat, rather than as formal, landscaped parks or grounds. Wildlife areas shall be revegetated with native or non-native grassland and native species of shrubs requiring no irrigation and little management beyond the first year after planting.

Biology-6e: Wildlife habitat shall be consolidated into "preserves" that are as large as possible.

Biology-6f: Habitats on adjoining parcels shall be as contiguous as possible, to create wildlife corridors.

Biology-6g: Wildlife open space shall be placed adjacent to other wildlife habitat, to preserve the greatest ecological value.

Biology-6h: Public access to wildlife habitat shall be minimized by placing trails close to buildings so as to provide the largest area of habitat possible with the least amount of impact from the public.

Impact Biology-6: Significance After Mitigation

Less-than-significant.

Impact Biology-7: Loss of open space within the Hercules City Limits would have a cumulative adverse impact on wildlife. This would be a significant impact.

Grasslands around the San Pablo and San Francisco Bays have been eliminated by development, thus pushing wildlife into smaller and smaller parcels of habitat. Few species utilizing grassland habitats are able to adapt to other habitats.

Impact Biology-7: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Biology-7: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Biology-7 : Mitigation Measures Identified in This EIR

The City shall condition approval of individual development proposals on implementation of the following implementation programs:

Biology-7a: Open space areas shall be designed into the footprint of proposed projects and shall be located adjacent to existing open space areas, providing a larger continuous area for wildlife to use.

Biology-7b: Open space areas, if disturbed during construction, shall be landscaped with native species.

Biology-7c: Trails, if any, shall be placed close to buildings so as not to disturb wildlife nesting/denning areas.

Impact Biology-7: Significance After Mitigation

Less-than-significant if project-specific impacts are mitigated to a less-than-significant level.

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E. VISUAL QUALITY

SETTING

Existing Visual Character

The existing visual character of Hercules is determined by the attributes (e.g., color, form, texture) of specific site features and by the patterns which the features have assumed as a result of natural and/or cultural processes. Specific visual settings of the parcels in Hercules proposed for land use redesignations are grouped into three geographic regions: Upper Drainage Riparian Valley, Lower Drainage Ridges and Plateau, and Lower Drainage Floodplain. Parcels 1 and 4 are in both the Lower Drainage Floodplain and Lower Drainage Ridges and Plateau. In each region, assessment of the visual attributes and patterns of the regional features is organized according to the following general descriptive categories: site location and spatial organization, surface waters, vegetation, cultural (built) features, and views. Viewpoints of pictures included in this report are shown in Figure IV.E.1.

Existing Visual Character of the Upper Drainage: Riparian Valley (Parcels 8-14, A, D-J)

Site Location, Landform and Spatial Organization

The upper valley portion of the study area is composed of parcels 8-14 and D-J. Parcels 9-12, 14 and D-J occupy the flat to gently sloping floor of the western end of Franklin Canyon. Parcel I occupies a separate low-lying area near I-80, separated from the other Upper Drainage parcels by a ridge. Parcel 8 is located on the southerly slope of the Refugio Valley and Parcel 13 is located on the ridge separating Refugio Creek Valley from Franklin Canyon. Parcel A occupies a lowland adjacent to the Refugio Creek riparian area. Elevations of the upper drainage parcels range from 200 to 350 feet mean seal level (msl). The parcels, singly and in aggregate, do not exhibit distinctive overall form and do not have well-defined boundaries, except for Parcel 11, which comprises a regularly-shaped bowl defined by freeway and access road embankments. In general, the visual quality of these parcels is low. Specific viewpoints on the higher ridges afford long-range, panoramic views across San Pablo Bay.

Surface Waters

No surface waters are visible from the lower elevations of these parcels; however, the highest elevation of Parcel 13 has long-range panoramic views that include San Pablo Bay. Parcel A

INSERT FIGURE IV.E.1

also allows short-range views of Refugio Creek, filtered by existing vegetation. The bay waters are a scenic element in views from Parcel 13, but in general, surface waters are not an important visual component of the upper drainage parcels.

Vegetation

Existing groundcover on all upper drainage parcels and lots consists primarily of shrubs, weeds and occasional concrete rubble and debris. Isolated areas of the upper drainage parcels support trees, including Parcels G and H, as do the CalTrans and PG&E yards adjacent to Parcel 12. Within the upper drainage properties, the densest and visually most important group of trees is the riparian association on Parcel 11 (Figure IV.E.2, Viewpoint 1). These low trees, mostly willows (*Salix* spp.), form a dense stand, surrounded by brush and annual grasses, marking the course of the East Branch of Refugio Creek which joins the Main Branch at San Pablo Avenue. However, this stand of trees is visually isolated by its location in the middle of a freeway exit loop. The steep embankments of the roadways create a wall around the parcel bottomland and cut off views to and from it except from fast-moving cars leaving I-80. Potentially, this vegetation could have some visual value if it were reinforced with appropriate taller tree species that could be seen above the roadways. Further east along the Franklin Canyon floor, single native riparian tree specimens appear at irregular intervals, as remnants of former, more robust stands.

Cultural Features

Fences and utility and power poles cross parts of some of the upper drainage parcels. The Santa Fe Railroad track curves along the Franklin Canyon floor, bordering Parcels 11, 12, 14, E, F, G, and H. The alignments of industrial features provide the only visual pattern element against the fine texture and undifferentiated colors of the vegetation scrub cover. The existing Caltrans and PG&E yards adjacent to Parcel 12 contain an assortment of vehicles, storage piles and barrels. Trucks, sheds, barrels and various building materials appear on other upper drainage parcels. No cultural features of historic, religious, ethnic or social interest exist on the upper drainage parcels, and the parcels do not provide views of such features.

Upper Drainage Views

Views from the upper drainage parcels are confined to medium and short-range prospects by the valley walls, except easterly up the floor of Franklin Canyon. These views are of uneven but

1. Riparian Vegetation and Wetlands (Parcel 11) Looking North from I-80 Exit Ramp.

2. View of Wetland Area in Refugio Creek Tributary (Parcel 3).

SOURCE: Environmental Science Associates

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Figure IV.E.2
Parcel Photographs

generally low visual quality. Views of the valley walls include closely-spaced structures in residential development, the SR 4 roadway, the Santa Fe Railroad tracks, and on the northerly valley wall, sparse and immature tree plantations. In general, man-made features dominate the lower elevation viewsheds. However, from the highest elevations of Parcel 13, adjacent to Sycamore Avenue, there are sweeping views up Franklin Canyon, as well as some long-range views of San Pablo Bay.

Existing Visual Character of Lower Drainage: Floodplain (Parcels 1-4, and C)

Site Location, Landform and Spatial Organization

Refugio Creek is joined by the easterly of its two tributary branches to the north of the intersection of Sycamore Avenue and San Pablo Avenue. This is the approximate point at which the drainages open into a broad floodplain, which comprises the lower drainage floodplain. Elevations of the floodplain range from 5 to 20 feet msl. In aggregate, Parcels 1, 2, 3, C, and part of Parcel 4 are visually defined as the bottom of a large bowl, with edges around the perimeter of the floodplain from Hercules Point to I-80. Edges of Parcels 1 and 4 have higher elevations, and are also part of the Ridges and Plateau classification. Because the terrain of the floodplain is generally flat, the vertical steel 100-foot-high structures of the former Hercules Powder Company are visually prominent in views from points throughout the floodplain.

Surface Waters

San Pablo Bay and Refugio Creek are visible from various points on the lower drainage floodplain. Viewpoints on Parcels 2, 3, 4 and C afford framed views of San Pablo Bay along eucalyptus-lined view corridors. Development has previously modified the lower drainage of Refugio Creek, and therefore the visual form of the floodplain, to a considerable extent. The natural alignment of the channel of the creek is unknown. West of San Pablo Avenue, the creek was evidently channelized, straightened and deepened by the Hercules Powder Company in the early part of this century. High tides and heavy runoff periodically combine to create a backwater effect that is visible from the banks. In winter, when the water table is within two to three feet of the surface, the creek may overflow its banks, as it did in 1983. Although the surface creek waters are not visible year round except to an observer standing on adjacent banks, riparian vegetation and the shallow ravine can be seen at slightly higher elevations on the floodplain.

Vegetation

The general vegetative cover throughout the floodplain consists of annual grasses with occasional shrubs and trees, but is highly variable. In discontinuous segments following an alignment that crosses Parcel 3, the creek and an association of introduced tree species and remnants of the native riparian vegetation constitute a gently meandering natural linear feature (Figure IV.E.2, Viewpoint 2). At one point adjacent to the creek, Eucalyptus trees originally planted to screen the dynamite factory form a visually unexpected regular zig-zag across the plain. The low ridges to the south of the floodplain have stands of eucalyptus trees growing on them; from points within the plain, the medium-textured foliage of the mature trees softens the line of the topography and also screens existing residential development. Parcel 1 also has a meandering line of eucalyptus trees crossing through it.

Cultural Features

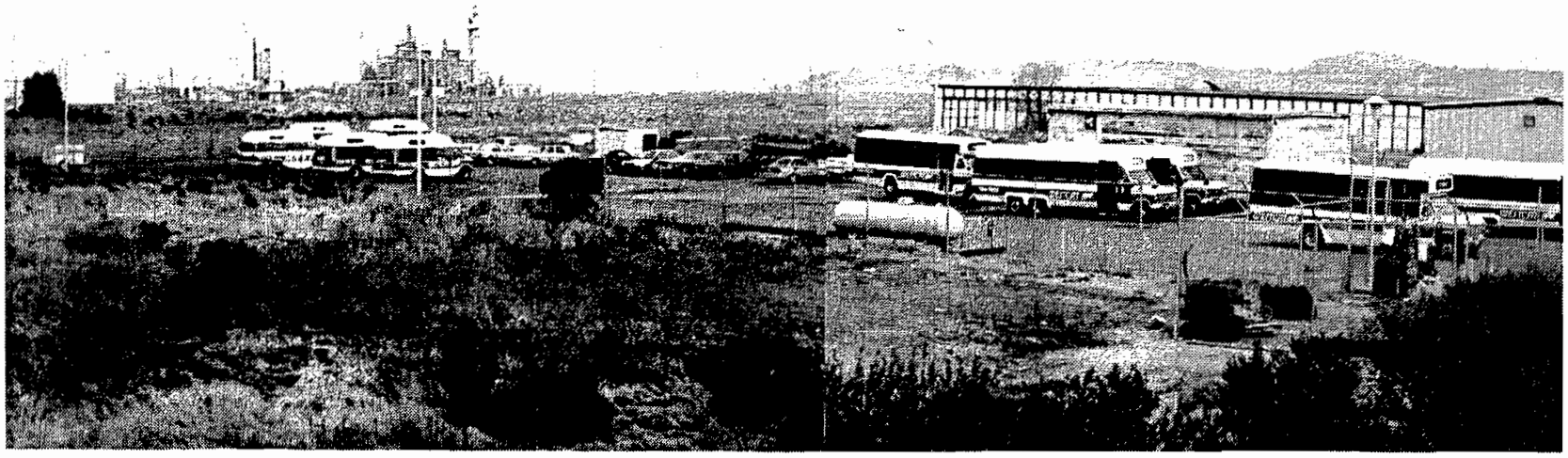
From other vantage points in the plain, views are dominated by the vertical steel-frame structures of the former Hercules Powder Company and by the low, rectilinear Hercules Sewage Treatment Plant and its paved grounds (Figure IV.E.3, Viewpoints 3[1] and 4). The industrial structures, which include a power plant, storage tank, and smokestacks, are no longer in use and consequently exhibit signs of disrepair. The grounds of the sewage treatment plant contain stacks of tires, storage tanks and vehicles. Piles of rubble and debris occur in a haphazard distribution throughout the lower plain (Figure IV.E.4, Viewpoint 5).

The low, bayside ridges to the north of the floodplain are mostly open; the roofs of newly constructed buildings in the North Shore Business Park constitute a distinctive visual element. To the northeast and higher in elevation, extensive grading has created angular profiles on the ridges.

Lower Drainage Floodplain Views

Views within the floodplain tend to be sweeping but variable in quality. Bay views are blocked at ground level by the Southern Pacific Railroad embankment (except from Parcel 2) and in general are partially obstructed and degraded by the deteriorated structures of the chemical company. Views to the north, east and west are medium-range; in all but those to the south,

[1] Note that the WestCat bus storage yard shown in the photo from Viewpoint 3 is no longer at that location.



3. View Looking Northwest across Refugio Creek Floodplain (Parcels 1 and 6), Including Sewage Treatment Plant and Former Hercules Chemical Plant.

4. View Looking Southwest across Refugio Creek Floodplain (Parcels 1, 3, and 4), Including Sewage Treatment Plant and Former Hercules Chemical Plant.

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SOURCE: Environmental Science Associates

Figure IV.E.3
Parcel Photographs

5. Rubble Pile in Refugio Creek Floodplain. (Parcel 3).

6. View of Eucalyptus Trees Screening Residential Development Looking South from Parcels 1 and 4.

SOURCE: Environmental Science Associates

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Figure IV.E.4
Parcel Photographs

there is some degree of intrusion by industrial structures, residential development or roadways and vehicular traffic.

Southerly and southeasterly views benefit from screening of the San Pablo Avenue roadway and the Olympian Hills residential development on the plain's southern and eastern edges by dense stands of eucalyptus trees (Figure IV.E.4, Viewpoint 6). Partial views of the rolling hills to the east are afforded from the plain over the tops of the trees. In addition to partial screening, the Eucalyptus trees provide a strongly vertical emphasis in a landscape that is otherwise characterized by lower, more rounded forms. These vertical forms enhance the sense of enclosure along the plain's southerly and easterly edges.

Hercules Point itself is of generally low visual quality. Remnant industrial structures, including a large storage tank and a dilapidated pipeline extending into San Pablo Bay on a pier, dominate the point. The shoreline is cluttered with discarded rusting boilers, tires, bricks, pipes, and pilings (Figure IV.E.5, Viewpoint 7). Hercules Point (Parcel 2) is surrounded by a salt marsh zone of variable width that is covered with cordgrass and pickleweed; the marsh is generally wider on the northerly side of the point (Figure IV.E.5, Viewpoint 8). At low tide, mud shoals covered with cordgrass are visible. Despite the industrial character and the deteriorated condition of the structures on Hercules Point (Parcel 2), the views from it are of high quality (Figure IV.E.6, Viewpoint 9). From the northerly shore of Hercules Point, open views are afforded north across open water to Lone Tree Point and beyond to Solano and Napa Counties. To the east, the Briones Hills are visible in the distance. To the west, across San Pablo Bay, the Marin and Sonoma County hills are in view, including Mount Tamalpais, Big Rock Ridge, and Mount Burdell.

Visual Character of Lower Drainage: Ridges and Plateau (Parcels 1, 4-7 and B)

Site Location and Spatial Organization

The ridges and plateaus of the lower drainage area comprise walls of the bowl, with high points adjacent to San Pablo Avenue and Interstate 80. Lower elevations of the walls are located on the promontory above Hercules Point and the Historic District, which includes the former Victorian homes of the Hercules Powder Company. Elevations range from 5 to 250 feet msl, with the highest point north of the Floodplain. Portions of Parcels 1 and 4 fit into the floodplain category as well as the Lower Drainage. The high point is an approximately 250-foot hill cut by I-80 that stands out in views from the floodplain due to the level crest and uniform slope angle established

7. Hercules Point, with Pipeline and Industrial Debris (Parcel 2).
View Looking Northeast, Including Shoreline and Railroad Embankment (Parcel 1).

8. Hercules Point, Looking Southwest Toward Salt Marsh and Former Wharf (Parcel 2).

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

SOURCE: Environmental Science Associates

Figure IV.E.5
Parcel Photographs

9. View Looking North Toward Hercules Point Showing Tidal Flats and Parcel 2, San Pablo Bay Beyond.

10. View Corridor Looking North Through Eucalyptus Trees (Parcel 5).

SOURCE: Environmental Science Associates

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

Figure IV.E.6
Parcel Photographs

by grading. To the west of this hill, the ridgeline decreases in elevation to approximately that of the southerly ridge. The ridges of lower drainage Parcels 1, 4-7 and B provide bay views and long-range inland views of high scenic quality in places; some of the views are filtered through eucalyptus trees (Figure IV.E.6, Viewpoint 10).

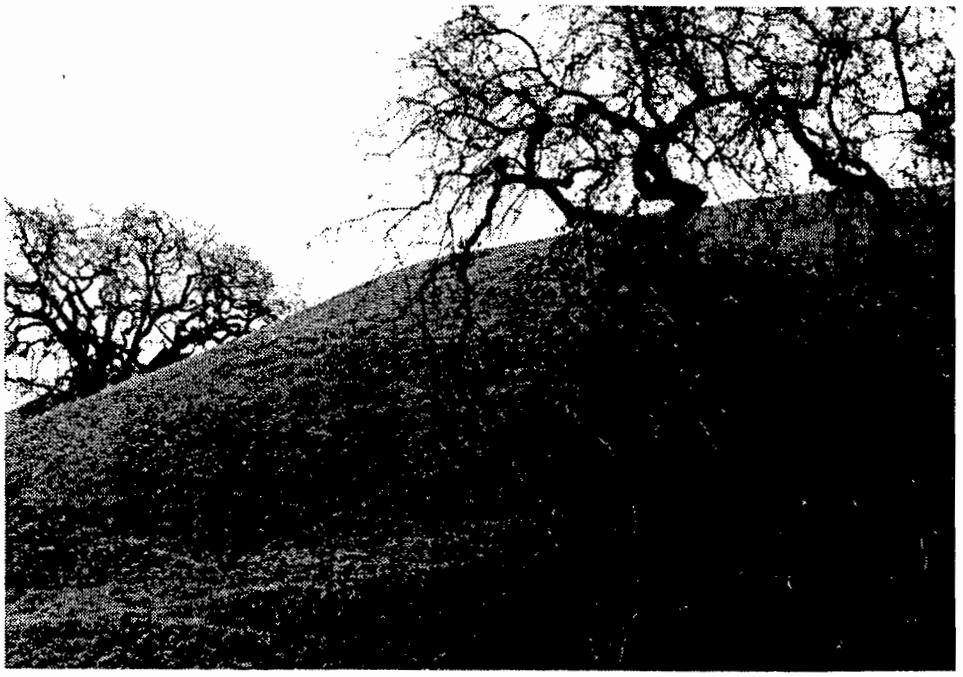
To the north of the floodplain on the ridge separating it from the Rodeo Creek drainage, a virtually level plateau comprises the majority of Parcel 7. The parcel is currently used as a pasture. The uniform closely cropped grass cover and the level terrain render the plateau featureless and visually of little interest, except at its northerly end. There, the property slopes down into the Rodeo Creek drainage and supports mature oak trees which have high aesthetic value, especially given the scarcity of similar specimens in the vicinity (Figure IV.E.7, Viewpoint 11).

Surface Waters

The ridges and plateaus of the lower drainage afford panoramic views of San Pablo Bay, that are of high visual quality. Views are partially obstructed by occasional stands of eucalyptus and oak trees. The Refugio Creek riparian corridor is visible from some points on the ridges and plateaus, although the surface water is generally visible only from the banks. Parcel B has limited panoramic views of San Pablo Bay from higher elevations, as existing homes and trees obstruct long-range views at the lower elevations on the parcel.

Vegetation

The dense stands of Eucalyptus trees create an environment of forested groves alternating with grassy openings along the southerly ridge of lower drainage Parcels 4 and 5. From within the groves, views open down the ridge slopes and into the floodplain through informal rows of irregularly-spaced trees (Figure IV.E.6, Viewpoint 10). The spatial scale within the groves is intimate and the degree of enclosure provides a contrast to the breadth of the floodplain below. The eucalyptus groves continue in a general alignment that bends northward to follow San Pablo Avenue, screening the roadway and residential development to the east in views from the floodplain upslope across Parcel 4. At points including the junctions with east-west arterials, view corridors open through the barrier of Eucalyptus trees from San Pablo Avenue, affording fragmentary, brief downslope views of the hill slope and floodplain to vehicular travelers. The northerly ridge, especially as it nears the bay, is without the dense stands of mature Eucalyptus



11. Specimen Oaks on Parcel 7.

SOURCE: Environmental Science Associates

Hercules General Plan Land Use and Circulation Elements Update / 930314 ■

Figure IV.E.7
Parcel Photographs

trees that characterize and enhance the spatial definition of the opposite rim of the floodplain. Non-native grasses provide groundcover around the trees.

Cultural Features

The former Hercules Powder Company is located in a promontory at the end of the southerly ridges (Parcel 1). These buildings are related by architecture and proximity to the Victorian-style historic houses (listed in the National Register of Historic Places) of the former company town below and to the south. New construction on the plateau of Parcel 6, which consists of large industrial and office buildings, is low in profile but massive in scale and creates a sense of urbanization within the developing business park. Other than the remnants of the Hercules Powder Company and associated Victorian-style homes, the lower drainage ridges support no aesthetically significant cultural features.

Lower Drainage Ridges and Plateaus Views

In westerly views from the promontory (at the end of the southern ridges) as well as other elevated points, lighting and atmospheric effects change the appearance of San Pablo Bay and its waters, giving views of and across the bay a dynamic quality that is part of its aesthetic value. Under some visibility conditions, views extend to the opposite shore and terminate in a horizon defined by the profile of the Marin, Sonoma, and Napa County hills, including Mount Tamalpais. Under other conditions, including daylight mists and fog, the opposite shore is not visible and bay views are ephemeral, lacking any horizon line. Easterly views from the promontory are panoramic, taking in a sweep of San Pablo Bay and the Southern Pacific railroad tracks following its shore, Lone Tree Point and the oil storage tanks and industrial facilities that extend northward into Crockett, and the rolling terrain to the east that includes Franklin Canyon.

Northern views from the southern ridge have a partially rural quality, due to the grassy reaches of the floodplain in the foreground and the Eucalyptus stands on the opposite ridge; however, the rigid rectilinear shapes and reflective white panels of the sewage treatment plant and the rusted framing of the chemical plant structures reduce the natural character and quality of these views.

Southerly views from the northern and eastern plateau and ridge are medium and long-range and encompass developed hillsides in Rodeo and, in the distance, the Briones Hills. Southerly views are blocked by large oil storage tanks.

Plans and Policies

Hercules *General Plan*

The adopted *General Plan* does not contain a visual quality or aesthetics element. However, throughout the *Plan* in a number of disparate objectives and policies, a general commitment is stated to conserving and enhancing the visual quality resources of the City.

As part of its overall objectives and policies, the *General Plan* proposes a management program to conserve and develop the "natural amenities in the City" (City of Hercules, 1990). The Open Space and Conservation Element refers again to a management program to preserve the natural amenities of the City.

The *General Plan* calls for the preservation and enhancement of visual resources associated with scenic routes. Within the study area, San Pablo Avenue is identified as a scenic corridor of "relatively high environmental value" whose amenities should be protected and developed as the city expands (City of Hercules, 1985). Parcels bordering San Pablo Avenue include Parcels 3, 4, 5, 6, 7, 9, and 10. State Route 4 is considered not to have "outstanding scenic quality" at the present time (City of Hercules, 1985). However, the *General Plan* notes that SR 4 is a visual gateway to the city and recommends that the city indicate an interest in future improvements to the route, particularly its design configuration and its landscaping. Parcels D, E, J and H are visible from SR 4.

The Open Space/Conservation Element contains specific policies to preserve and enhance the visual resources associated with Refugio Creek and its tributaries and to preserve designated stands of trees and specimen trees. The policies include maximizing the utilization of the drainage courses for aesthetic purposes and as buffers to development and employing landscaping and "remedial measures" generally to facilitate these uses (City of Hercules, 1985). The Open Space/Conservation Element also contains policies to preserve important stands of trees and individual specimen oaks and Eucalyptus trees. The policies require that grading and construction activities in the vicinity of significant stands of trees be planned and supervised to prevent damage to the trees. The Eucalyptus trees in the areas west of I-80 and in Refugio Valley are cited as requiring special design consideration. Individual specimen oaks and Eucalyptus trees have been designated in a special plant materials study conducted for the City. The *General Plan* states that detailed grading and drainage design is necessary to ensure the preservation of these trees (City of Hercules, 1985).

IMPACTS AND MITIGATION MEASURES

Significance Criteria

According to the CEQA *Guidelines*, significant effects on the environment include substantial or potentially substantial adverse changes in objects having aesthetic significance, and substantial or potentially substantial, demonstrable negative effects (CEQA *Guidelines*, Section 15382).

Appendix I of the CEQA *Guidelines* contains six criteria for identifying aesthetic impacts: obstruction of a scenic vista or view open to the public; creation of an aesthetically offensive site open to public view; degradation of an object having historic or aesthetic significance; division or disruption of the physical arrangement of an established community; introduction of new sources of light and glare; and conflict with adopted environmental plans and goals of the community where a project would be located.

View Obstruction

Views from or of a project site may be physically blocked, reduced in area, or reconfigured by elements of a proposed project. Dynamic view sequences of a project site or of a site feature, such as sequential views from a vehicle traveling along a roadway or from a pedestrian path, may be shortened or interrupted by a proposed development.

View Impairment

Impairment of the quality of important public views can result from the introduction into an existing view of a visual feature that is "aesthetically offensive" in itself, or from the degradation of an existing visual feature that has aesthetic significance, or from the introduction into an existing view of objects or patterns that exhibit a high degree of visual contrast with the existing objects and patterns on the site. The physical changes that may impair the quality of important public views include changes in the scale, form, color and texture of natural and cultural visual features existing on the site. Such changes can result from new land uses, new structures, grading and excavation, elimination of existing vegetation, changes in the alignment or area of surface waters, or landscaping.

Degradation of Aesthetically Significant Objects

Degradation of objects having historic or aesthetic significance may result when such an object is removed or physically altered, or when the object's immediate contextual surroundings are changed so as to visibly detract from the aesthetically positive elements that contribute to the object's aesthetic significance. These elements include its apparent age or historical period; architectural style, design or quality of craftsmanship; visible function; and context within a larger visual framework. An object may be a single structure or entity, such as a house or heritage tree, or a grouping of component parts that contribute to a visual whole, such as a row of architecturally consistent facades or buildings unified by symbols or visual themes.

Disruption or Division of Established Community

Division or disruption of the physical arrangement of an established community may result from development that is substantially larger in scale than existing uses, or that introduces novel forms, materials, textures or colors into existing areas in which building types, land uses and architectural styles are homogenous, or that interposes barriers between spatially related features.

Introduction of New Sources of Light and Glare

Intrusive new sources of light and glare may include commercial signs, nighttime security and task lighting, expanses of surface parking, and reflective building materials and finishes.

Conflict with Adopted Environmental Plans or Goals

A project may result in changes in visual character and/or existing views that conflict with the adopted environmental plans or goals of the community in which the project is proposed. The Hercules *General Plan* relationship to visual quality is discussed in the Setting of this section.

<u>Proposed Land Uses</u>

Development consistent with the proposed Land Use Element Update would alter the visual character of each parcel, by introducing new buildings and infrastructure. In certain instances, where little development has occurred previously, such as on Parcels 3 and 4, new development would contrast with the existing predominantly natural character of the area. New development also would have the potential to obstruct scenic views. Height limits described in the impacts are

based on the draft Land Use Element update, where applicable, or on current zoning. Expected visual character of the study area with the proposed land uses is addressed according to the same three geographic areas presented in the Setting: Upper Drainage Riparian Valley, and Lower Drainage Floodplain, Lower Drainage Ridges and Plateaus.

Upper Drainage Riparian Valley (Parcels 8-14, A, D-J)

The upper drainage parcels proposed for the General Commercial land use designation (Parcels 9, 11, 12, 14, D, E, I, and J) would be regraded and filled according to the requirements of specific projects. Vegetation, including some riparian and wetlands species, could be affected if appropriate mitigation were not employed. Typical uses under the General Commercial designation would include shipping and receiving stations, retail stores, service stations, restaurants and office buildings. General Commercial building facades would be distinguishable by their horizontally-oriented frames and rooflines, with stucco, concrete or painted exterior surfaces. Individual structures could have low vertical profiles but large footprints, and thus, substantial perceived mass and bulk. Structures would typically be one to two stories in height, and would generally not exceed the typical floor-area-ratio (FAR) of .30, but could have an FAR of up to 1.00, provided the building were compatible with the surrounding environment. Sign height would not exceed 20 feet, but would be visible from surrounding surface streets (City of Hercules, 1993). Development could impair some long-range views of San Pablo Bay, and would introduce new sources of light and glare. As discussed in the Setting, the visual quality of these parcels is generally low.

Parcels 8, F, G, and H would be redesignated as Community Commercial. Typical Community Commercial uses for these parcels could include retail stores, office or service industry buildings, and would be one to two stories high, with a typical FAR of 0.30 (City of Hercules, 1993). The FAR would be a maximum of 1.00, provided the proposed structure would be compatible with the surrounding environment. Parking spaces would be located adjacent to the buildings.

Parcel 10 would be redesignated as Commercial Public, and would be developed as a transfer hub for BART Express, WestCAT, and other bus operators. This would involve a small amount of structures. Most of the visual impact would be due to the increased amount of buses. Buses and other vehicles would represent new sources of light and glare.

Parcel 13 would be redesignated as Planned Commercial Residential, with building heights potentially up to 60 feet.[2] The typical FAR would be 0.30, but could be increased to 0.40. Development on this parcel would be governed by a specific area plan or master plan. Thus, the visual impact would vary according to the proposed type of development.

Parcel A would be designated for Multi-Family Low-Density Residential use. The maximum building height would be 45 feet. As Parcel A is adjacent to the existing Country Run neighborhood, development of this parcel essentially would extend development eastward approximately one-seventh of a mile along Refugio Valley Road.

Metal storage tanks, steel drums, concrete piles, and automobiles are among the existing items on upper drainage parcels that generate glare from reflective surfaces. New development on these parcels would remove existing reflective materials and replace them with new reflective material (e.g., moving and stationary automobiles, windows, etc.). Night lighting would increase above existing levels. Parking illumination, automobile headlights and operational lighting would be visible from higher vantage points in Franklin Canyon and the Briones Hills. Development on several of these parcels could screen some offensive views of existing cultural features. For example, redevelopment of Parcels D and E could remove the existing heavy equipment on these sites, or could block views of the equipment by introducing new buildings.

Lower Drainage: Floodplain (Parcels 1-4, C)

Development consistent with the proposed Land Use Element update would result in grading and removal of some vegetation from these parcels.

The proposed Planned Office-Research and Development land use designation on Parcels 1 and 3 could result in business park structures being developed in the vicinity of the existing North Shore Business Park. Large-scale structures one to two stories high, potentially with distinctive design elements (e.g., the exposed steel framing at the existing BioRad building) would be built adjacent to and discontiguous from existing development. Buildings taller than two stories would also be permitted, providing the visual attributes were compatible with the surrounding environment and structures, and conformed with the character of the *Master Plan*. Administrative offices, warehouse, distribution, or wholesale buildings could be built under this

[2] Although the Draft Land Use Element states that structures under the PC-R designation would be a maximum of three stories tall, this analysis conservatively assumes that heights comparable to those provided in the Multi-Family, Medium-Density designation would be permitted.

designation. The FAR would typically be 0.30, but could be increased to 1.00, provided the structure conformed with the surrounding environment (City of Hercules, 1993). Horizontal rooflines, stucco or cement external features, and detached parking areas would be typical design elements.

The proposed Waterfront Commercial land use designation on Hercules Point (Parcel 2) would result in the construction of retail shops, bait and tackle stores, food and beverage cafes, and water-oriented recreational instruction facilities on Hercules Point and the surrounding area. These single-story structures would be built to preserve view corridors and viewsheds of the San Pablo Bay, Mt. Tamalpais and shoreline across the Bay (City of Hercules, 1993). Parking lots for the businesses could also be built in this area, and would introduce new sources of light and glare. This development could degrade or impair views by introducing buildings, but would have the benefit of removing the existing cultural features (*i.e.*, unused former plant equipment), which have a negative aesthetic impact at present.

Adoption of the multi-family medium density residential land use designations would result in home construction in an area of low to moderately high visual quality (Parcels 1, 3, 4 and C). Condominiums, apartments or townhomes would be built with adjacent parking areas. Buildings would be limited to ~~45~~60 feet in height and would likely have landscaping composed of non-native trees such as existing Eucalyptus, shrubs and ground covers that would interrupt the potential visual monotony of building facades. Exterior finish and building elements are likely to be similar to other medium-density residential uses in Hercules (e.g., stucco or painted walls, covered parking areas, red clay fireproof roofs). Glare could also increase from more reflective surfaces.

Lower Drainage: Ridges and Plateau (Parcels 1, 4, 5-7, B, and C)

Multi-family medium-density development adjacent to San Pablo Avenue on the southern ridge would require grading and leveling of the area (Parcels 4, 5 and B). Typical design elements would be similar to those described above. Structures would not exceed ~~30~~60 feet in height. Glare would be generated from stationary and moving automobiles, and possibly structures, and would be most visible only from I-80. Because Parcel B is separated from San Pablo Avenue by a slope and plateau, development on this parcel might not be visible from the road. Night lighting from streetlights, homes, and moving automobiles would be visible from the surrounding arterial roads and higher viewpoints east of I-80 on some upper drainage parcels.

View corridors from Parcels 4 and 5 would be obstructed by the introduction of new development.

The General Commercial land use designation (Parcels 1, 4, and 6) would result in the construction of retail and office buildings west of I-80, and on San Pablo Avenue. As described above for development in the upper drainage, General Commercial uses would have horizontally oriented frames and concrete or stucco building facades, and detached illuminated parking lots. General Commercial uses would have a typical FAR of 0.30, and maximum of 1.00 (City of Hercules, 1993).

Under the proposed Planned Commercial-Industrial land use designation (Parcel 7), light industrial and commercial projects could be built on the plateau adjacent to and between I-80 and San Pablo Avenue. The northern edge of the parcel supports specimen oaks, which could be removed or be obstructed by new development projects. Typical projects under the Commercial-Industrial land use designation would include retail, administrative and service offices, research and development, and manufacturing. Developments would be visible from the north residential development in Rodeo, the I-80 corridor, and the Briones Hills.

The proposed Historic Town Center land use designation would bring into conformance with the *General Plan* existing two-story Victorian-style historic houses and the Hercules Powder Company clubhouse. Development would be permitted under this designation for the construction of 40 new residential units with parking available in garages and open guest parking areas. Although the new structures would not replicate the Victorian architecture of the former company town, the exterior appearance would complement the existing structures and create a visually unified environment. View corridors and vista points would be established in the vicinity to provide public visual access to the Bay (City of Hercules, 1993).

Typical construction under the General Commercial designation north of the waterfront ridge and adjacent to Hercules Point (Parcel 2) could include free-standing strip shopping centers. Building height would be one to two stories high, unless taller buildings conformed with the overall character of surrounding development. This area would be surrounded by the Historic Town Center and Waterfront Commercial designations.

Impacts

Impact Visual-1: Implementation of the proposed land use designations could result in development that impairs the existing scenic quality of the upper drainage and lower drainage ridges, plateaus and floodplain. This would be a significant impact.

Policy 1A of the proposed Land Use Element Update encourages development that could result in visual contrast. Specific industrial, commercial or residential developments could degrade existing landscape features by removing (through grading or clearing of vegetation) the features or by exhibiting a high degree of visual contrast with those features. The Hercules Historic District, specimen oak trees, Eucalyptus groves, open space areas, and Refugio Creek riparian corridor are man-made or natural objects having aesthetic significance that are subject to impairment by development of new structures. These objects occur mainly on Parcels 1, 3-7, and 11.

For example, isolated areas of these parcels support low trees, mostly willows (*Salix* spp.) in a dense stand, and single native riparian trees. Besides serving as a screen to residential development and providing visual definition, these trees provide a positive visual amenity, particularly from higher viewpoints. Views of these trees would be most sensitive to view degradation by new development under the proposed General Commercial designation. Structures built in these areas could impair the view quality of these tree stands, by introducing structures that have different colors, texture and scale than the existing natural features. View impairment of some of the cultural features, such as the Hercules Sewage Treatment Plant ~~and WestCat bus storage area~~, would not be considered significant.

Impact Visual-1: Mitigation Measures Proposed as Part of the Project

The following policies, objectives or programs are in the proposed Land Use Element Update:

> **Policy 6B:** Multi-family residential land should be developed with a balance of open space, landscaping, and recreational amenities and should be accessible to commercial and recreational areas and public transportation.
>
> **Objective 7:** Achieve a pattern of development that is consistent with the City's image.
>
> **Program 7A.1:** Provide landscaping along major regional streets and highways. This landscaping should soften the appearance of traffic and parking along those routes, while allowing view corridors to retail and other businesses.

Impact Visual-1: Mitigation Measures identified in other *General Plan* Elements

The City should develop a master drainage plan [for Refugio Creek] which provides for :

the definition and conservation of existing drainage courses of high aesthetic value (Open Space/Conservation Element, V.3.b1);

the maximum utilization of these drainage courses for buffers, open space, pedestrian circulation, recreation, aesthetics, flood control, etc. (Open Space/Conservation Element, V.3.b3);

the enhancement of these drainage courses with landscaping, remedial measures and improved public access. The City should also develop ordinances and enforcement mechanism which will preserve, develop and maintain these drainage courses (Open Space/Conservation Element, V.3.b4).

Impact Visual-1: Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on implementation of the following mitigation measures:

Visual-1a: Development proposals should be reviewed in terms of natural objects in the vicinity that have aesthetic significance. This may include open space, eucalyptus groves, or vegetation that serves as a view corridor or has important visual attributes. Development proposals should be sited to ensure that these features are retained or replaced to the extent feasible, resulting in minimal view impairment.

Visual-1b: Plantings that serve to screen views of residential development, or that help to maintain a natural-appearing landscape, should be retained to the extent feasible. Such plants could be thinned selectively if thinning would improve view corridors. If specific trees are to be removed, such as eucalyptus trees, replace with trees, preferably native species, that would provide suitable screening while retaining important view corridors.

Visual-1c: Preserve the wooded tree-lined character of the proposed hiking/biking trail along Refugio Creek west of I-80 through retention of existing vegetation and/or planting of replacement trees and other vegetation.

Impact Visual-1: Significance After Mitigation

Implementation of the above measures would mitigate the impact to a less-than-significant level.

Impact Visual-2: Adoption of the proposed land use designations could result in development that could result in obstruction of scenic vistas and views open to the public. This would be a significant impact.

Development consistent with the proposed Land Use Element Update has the potential to obstruct views currently available to the public, including views of and from Franklin Canyon and the Briones Hills, San Pablo Bay, Mount Tamalpais, shoreline counties across the Bay and the lower drainage floodplain. These scenic views could be blocked if new construction were located near or adjacent to public viewpoints, scenic roads (e.g. San Pablo Avenue) and highways. ~~Because~~For example, the proposed Multi-Family Medium Density land use designation~~s~~ would permit buildings up to 60 feet in height. The Planned Commercial-Residential land use designation as currently proposed would allow three-story (approximately 35 to 40 feet high) buildings, although buildings up to 60 feet tall could potentially be constructed.[3] ~~only one- and two-story developments, it is unlikely~~ It is possible that new construction under these land use designations would fully or partially block some views of San Pablo Bay, Franklin Canyon and the Briones Hills within the project area, particularly if~~unless~~ public viewpoints were ~~are~~ adjacent to proposed developments.

Impact Visual-2: Mitigation Measures Proposed as Part of the Project

The following objective is in the proposed Land Use Element Update:

> **Objective 7:** Achieve a pattern of development that is consistent with the City's image.

Impact Visual-2: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Visual-2: Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals upon implementation of the following mitigation measures:

> **Visual-2a:** Development should preserve important view corridors, where feasible, by identifying and preserving the attributes of the view corridor that characterize its

[3] Although the Draft Land Use Element states that structures under the PC-R designation would be a maximum of three stories tall, this analysis conservatively assumes that heights comparable to those provided in the Multi-Family, Medium-Density designation would be permitted.

significance (e.g. framing elements, surface water reflections, presence or absence of impinging details) as seen from roadways, pedestrian paths or other public vantage points to avoid view obstruction. Buildings should be sited so as to minimize view obstruction from sensitive viewpoints. The following views, from publicly accessible viewpoints, should be preserved to the maximum extent feasible as the City evaluates new development on a parcel-specific basis:

- Upper drainage views from higher elevations of Parcel 13 easterly up the floor of Franklin Canyon.
- Lower drainage views from Hercules Point north across open water to Lone Tree Point and beyond to Solano and Napa Counties.
- Lower drainage floodplain views from Hercules Point west across San Pablo Bay of Marin and Sonoma County hills, Mount Tamalpais, Big Rock Ridge, and Mount Burdell.
- Lower drainage ridge views from the promontory of San Pablo Bay, Lone Tree Point, Franklin Canyon and the Refugio Creek floodplain.
- San Pablo Avenue views of specimen oak tree stands and, where feasible, of Eucalyptus.
- Views of San Pablo Bay and the Hills of Marin, Sonoma and Napa Counties, and inland of the Briones Hills, that are available from various elevation points on Parcels 2, 3, 4, 5, 6, 7, and C and from the shoreline areas of Parcels 1, 2, and 6.
- Views from the former Hercules Powder Company offices on the promontory to the west, north and east.

Impact Visual-2: Significance After Mitigation

View obstruction by new development would be avoided inasmuch as is possible by parcel-specific evaluation of important viewpoints and preservation of views. This would mitigate the impact to a less-than-significant level.

Impact Visual-3: Development in the upper drainage valleys, lower drainage floodplain and plateaus could introduce additional light and glare. This would be considered a significant impact.

By introducing new industrial, commercial and multi-family structures and automobiles into a bowl-shaped area, implementation of the proposed Land Use Element Update would create new sources of light and glare. Some open spaces that are unlit at night would be developed and create opportunities for night lighting. Commercial, residential and multi-family structures are often lit, or partially lit at night, and industrial sites and parking lots often maintain all-night

security illumination. Because the development of new structures in Hercules would be a substantial increase over existing uses, the potential increase for night lighting could be noticeable from surrounding elevated viewpoints. Where commercial and industrial uses would be adjacent to or mixed with residential uses (e.g., lower drainage ridges and plateau by the Historic District), night lighting from new uses or buildings could create some lighting disturbance for nearby residences.

Daytime glare would also increase above existing levels by the introduction of new buildings, automobiles and other vehicles. The increase in glare from reflective automobile surfaces would be noticeably higher than existing levels. Commercial buildings with reflective windows, glass fountains or reflective signage could create glare from viewpoints in various parts of the City.

Impact Visual-3: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Visual-3: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Visual-3: Mitigation Measures Identified in this Report

The City shall condition approval of individual development projects upon implementation of the following mitigation measures:

Visual-3a: The City of Hercules should evaluate the light and glare potential of new development on a parcel specific basis and apply the following measures:

- Screening of parking areas by using vegetation or trees. This would reduce the amount of glare generated from painted and chrome automobile surfaces and prevent expanses of stationary and moving automobiles.
- Hooded lights for nighttime illumination should be used for parking areas, shipping and receiving docks and industrial development. Hooded lights direct the light beam towards the ground, which if a dark pavement, will not reflect light and cause spillage into neighboring uses.
- Regular windows should be used instead of the glass walls or massive reflective windows often used for research and development, and office park developments.

Impact Visual-3: Significance After Mitigation

Implementation of the above measures regarding light and glare would reduce the impact to a less-than-significant level.

Impact Visual-4: Development consistent with the proposed Land Use Element could degrade objects having aesthetic or historical significance. This would not be a significant impact.

Although no specific development proposals have been received, new development could potentially degrade objects having historic or aesthetic significance. Examples of historically or aesthetically significant objects in Hercules include San Pablo Bay, the historic Victorian-style homes, buildings of the former Hercules Powder Company, and long-range views between canyons. Development of a steel tower, for example, could degrade the aesthetic significance of these objects. Since the City reviews development proposals on a project-specific basis, the City could impose project-specific conditions to reduce this impact to a less-than-significant level.

Impact Visual-4: Mitigation Measures Proposed as Part of the Project

The following objectives, policies or programs are from the proposed Land Use Element Update:

> **Objective 8:** Preserve Hercules history while developing its future.
>
> **Policy 8A:** Preserve and enhance the historic district area.
>
> **Program 8A.1:** Develop plans to preserve and rehabilitate key historic buildings but not the former plant equipment and structures.
>
> **Program 8A.2:** Prepare a detailed study of the Historic Town Center and adjoining area (including Hercules Point) in order to define the appropriate mix of public and private land uses, design guidelines, preservation of key buildings and vegetation (e.g. trees) and trails.

Impact Visual-4: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Visual-4: Mitigation Measures Identified by this EIR

> **Visual-4a:** The City would review development proposals on a project-specific basis. New development would be subject to design review as part of the City's project approval process.

Impact Visual-4: Significance After Mitigation

Less-than-significant.

REFERENCES - Visual Quality

City of Hercules, *General Plan*, 1985, 1990.

City of Hercules, Draft *Land Use Element Update*, 1993.

F. PUBLIC SERVICES AND UTILITIES

SETTING

Fire Protection

Fire protection services to the City of Hercules are provided by the Rodeo-Hercules Fire Protection District. The District provides 24-hour protection to 25 square miles including the City of Hercules and the unincorporated areas of Rodeo. The District employs 21 full-time staff and 12 reserve personnel. Approximately 75 percent of the full-time firefighters are currently certified Emergency Medical Technicians and all of the firefighters are trained in defibrillation. A 24-hour dispatch service is provided to the District under contract with the City of Pinole. The District has an automatic response agreement with the Pinole Fire Department (Salmi, 1993).

The District has two fire stations; a four-bay station at 326 Third Street in Rodeo and a three-bay station at 1680 Refugio Valley Road in Hercules. District equipment includes: one 1,500-gpm pumper, one 1,250-gpm pumper, two 1,000-gpm pumpers, two 500-gpm Wildland units, two 200-gpm Wildland units, one rescue truck, one utility truck and four staff vehicles (Salmi, 1993).

The District responds to all fire and rescue-related emergencies within District boundaries. In 1992, the District responded to 174 fire alarms and 1,358 medical and other emergencies. The average response time during a six-month period in 1993 was under four and one-half minutes. The response time goal of the District is to reach an emergency scene in built-up areas of the District within five minutes 90 percent of the time (Salmi, 1993).

The District receives revenue from property taxes, fire impact fees levied on new development (developer fees), and benefit assessment fees levied pursuant to a District ordinance. Assessment fees are recurring annual fees collected according to a sliding scale based on risk factors according to the land use on the parcel. All parcels are assigned risk units based on the size and type of development; the number of risk units is multiplied by the unit fee to determine the assessment fee. The current (and anticipated) fee is $52 per unit and, by ordinance, the unit fee cannot exceed $52. The benefit assessment fees are used by the District for the purchase of new and replacement equipment and to support personnel costs (Salmi, 1993).

Fire impact fees are levied on all new development within the District, both in the City of Hercules and in the unincorporated community of Rodeo. Currently, the impact fees are levied

at a rate of 16.6 cents per square foot of floor area. The total square footage of a proposed project, whether industrial, commercial or residential, is multiplied by the fire impact fee rate to arrive at the total fee. Impact fees are used for the purpose of buying new and replacement capital equipment required to meet the demand that new development places on the District's fire suppression capabilities. Development fees may not be used to fund ongoing operations. For example, such fees collected from a proposed housing and hotel/golf course development in recently annexed land in Franklin Canyon could be used to build an additional fire station there (Salmi, 1993).

The District uses a variety of criteria to determine the service impacts associated with new development. The criteria include:

- Size of structure(s), fire flow demands;
- Classification of occupancy (Hazard type);
- Type of building construction and materials;
- Daytime population density;
- Increase in calls for service;
- Code enforcement issues;
- Fire protection features (automatic sprinkler system); and
- Travel time and distance from nearest fire station.

Pursuant to the Safety/Seismic Safety Element of the Hercules *General Plan,* the City is developing an Emergency Operations Plan to provide responsibilities and procedures in the event of a major disaster or emergency in the City.

Police Protection

Police protection is provided by the City of Hercules Police Department based at 111 Civic Drive, Hercules. The Department consists of 20 sworn officers (including the Police Chief), 3.5 civilian employees and 12 part-time reserve police officers. During a twenty-four hour period, the Police Department operates two sectors on a three-shift assignment. The minimum staffing level consists of one sergeant and two patrol officers, with a third officer overlapping on some days, generally during swing shift and on Fridays and Saturdays. A third sector is under consideration in anticipation of the Franklin Canyon area development. (Eaves, 1993).

The Department operates a fleet of seven marked patrol cars and four unmarked vehicles. A minimum of three patrol cars are used per shift. Current emergency response time within the City limits is four to seven minutes, while response to non-emergency calls averages 15 minutes.

The Department does not undertake aerial or waterborne policing activities, but relies on the California Highway Patrol and Coast Guard. Communication and detention services are provided to the Department under contract with the Pinole Police Department (Eaves, 1993).

Currently, approximately one-third of all police service demand is in response to calls on commercial and industrial properties; residential areas experience a greater number of crimes due to the larger number of housing units. Typical residential crimes include burglary, theft and domestic assault. Crime rates in Hercules are considerably lower than rates for nearby cities and statewide averages (Eaves, 1993). Crimes reported in Hercules between 1988 and June, 1993 are shown in Table IV.F.1.

TABLE IV.F.1: POLICE RESPONSES IN HERCULES, 1988 - JUNE 1993

Crime	Total Number
Malicious Mischief	858
Residential Burglary	423
Drunk Driving	396
Auto Burglary	352
Auto Theft	344
Simple Assault	307
Grand Theft	205
Aggravated Assault	151
Commercial Burglary	133
Robbery	50
Homicide	2
All Other Theft	495
TOTAL	3,716

SOURCE: Hercules Police Department, 1993.

The City is considering expanding its police station, located at City Hall. As noted in the discussion of Fire Protection, the City is preparing an Emergency Operations Plan to provide responsibilities and procedures in the event of a major disaster or emergency in the City.

Schools

The West Contra Costa Unified School District provides elementary, middle and senior high schools for all areas within the City of Hercules, except for the Foxboro area, which is east of I-80 and north of SR 4. (The Foxboro area would not be directly affected by implementation of the proposed Land Use and Circulation Elements.) Students living in Hercules normally attend the following West Contra Costa Unified School District schools: Hercules Elementary and Ohlone Elementary (both in Hercules), Collins Elementary (in Pinole), Pinole Middle School and Pinole Valley High. Students living in Hercules are permitted to attend other schools outside of Hercules, unless the change would adversely affect the racial balance of the sending or receiving school. Students from neighboring cities may also attend schools in Hercules, subject to the same rules (Burkhart, 1993).

Currently, several schools serving Hercules students are operating over student capacity, as shown in Table IV.F.2. For purposes of this analysis, capacity is defined as "adequate" school facilities according to the state Department of Education. This measurement does not include certain non-permanent classrooms (*i.e.*, leased modular and portable classrooms and older modular and portable classrooms). As can be seen in Table IV.F.2, using the state definition, schools such as Ohlone Elementary and Hercules Elementary, both of which consist entirely of portable classrooms and one permanent multi-purpose room, can operate with an enrollment far in excess of theoretical capacity if many students are housed in "inadequate" facilities (Burkhart, 1994).

The existing schools also do not have adequate space for staff and visitor parking, student drop off areas, and recreation areas (Burkhart, 1993).

The District has indicated that three new schools will be available to serve future students in the Hercules area, including an elementary, middle and high school. A new elementary school, Hanna Ranch School, ~~is scheduled to~~ opened in January 1995.[1] A new combination middle and senior high school will also be built in Refugio Valley, and is currently in the final stages of the approval process; opening is scheduled for September 1999. The capacities of the elementary, middle and senior high schools will be 650, 800, and 900 students, respectively. Combined, the

[1] Because it is opening mid-year, Hanna Ranch School will accommodate only Grades 4-6 in the 1994-95 school year. The district plans to phase in full operation at Hanna Ranch School; the school will not operate at capacity in the 1994-95 school year, but will accommodate about 250 students (out of a capacity of 650).

TABLE IV.F.2: HERCULES SCHOOL CAPACITIES AND ENROLLMENTS, 1994-1995

School	Enrollment	Capacity /a/
Hercules Elementary /b/	560	434
Ohlone Elementary /b,c/	769	434
Collins Elementary	681	458
Subtotal	2,010	1,326
Pinole Middle	952	583
Pinole Valley High	2,099	1,909
Subtotal	3,051	2,492
TOTALS	5,061	3,818

/a/ Portable classrooms are currently used to accommodate a large number of students. The state Department of Education does not consider certain non-permanent classrooms (*i.e.*, leased portables and older portables) as adequate facilities. Capacity figures include only adequate classrooms according to the state definition.
/b/ All classrooms are non-permanent (portable) classrooms.
/c/ School operates on year-round sessions.

SOURCE: Burkhart, 1994.

new elementary, middle and senior high schools would accommodate an additional 2,350 students (Burkhart, 1993).

Water

Potable water is currently supplied to the City of Hercules by the East Bay Municipal Utility District (EBMUD) through the Maloney and Mendocino Pressure Zones. The Maloney Pressure Zone is served by the Crockett Aqueduct and Sobrante Filter Plant, and supplies potable water to part of Richmond and elevations in Hercules between 0 and 200 feet mean sea level (msl). A cascade water system is used to pump water to several elevations higher than 200 feet msl. The Mendocino Pressure Zone serves elevations between 200 - 400 feet msl, and is the primary potable water source for recent residential development in the City. Storage systems for elevations between 200 - 400 feet msl are currently nearing capacity. Both zones provide adequate potable water supply and pressure to the City (Hoolihan, 1993).

EBMUD schedules capital improvements (e.g., storage systems, reservoirs, and pumping plants) based upon ABAG's *Projections '90* household projections. If a development would result in a higher number of households than ABAG projected for year 2010, additional capital improvements could be required, including pumping plants, storage tanks, and/or distribution pipelines. EBMUD expects to examine a potential revision of its system capacity charge (the fee that new users are charged for connection to the distribution system) as part of a master planning process to be completed for the area including Hercules in 1996. Expected new development, including that proposed for Hercules as part of the Land Use Element Update, would be taken into account in this planning process, and the system capacity charge could be adjusted so that required distribution improvements would be possible (Hoolihan, 1994).

EBMUD would be able to supply potable water to all parcels in the City. All parcels are located within EBMUD's service area (Hoolihan, 1993).

Wastewater

The City is served by two sewage treatment plants, the Pinole-Hercules plant and the Hercules Sewage Treatment plant. Existing capacity of the Pinole-Hercules plant is approximately 2.5 million gallons per day (mgd) average wet weather flow (AWWF),[2] while the existing capacity of the Hercules plant is between 0.38 mgd and 0.6 mgd.[3] AWWF is the average flow during wet weather, including the effects of rainwater infiltrating into the system. The entire capacity of the Hercules plant is used exclusively by the City of Hercules. The City, as part of the assessment district for the Pinole-Hercules plant, has a current capacity and allocation of 2.04 mgd of the total capacity of this plant. However, because the Pinole-Hercules plant operates at less than design capacity, Hercules currently has access to about 1.4 mgd of treatment capacity at that plant. Thus, total current wastewater treatment capacity for the City of Hercules is between about 1.8 mgd and 2.0 mgd, AWWF.

The Pinole-Hercules wastewater treatment plant is jointly owned by the cities of Hercules and Pinole. Operation and maintenance of the plant is provided by the City of Pinole, and the City of Hercules reimburses costs incurred in treating Hercules' wastewater. The plant provides

2 The Pinole-Hercules plant has a design capacity of 4.0 mgd, but actual capacity is approximately 2.5 mgd (Stigers, 1994).

3 The Hercules plant has a design capacity of 0.375 mgd, but the City of Pinole reports that when the Hercules plant is temporarily shut down, flow into the Pinole-Hercules plant increases by between 0.5 mgd and 0.6 mgd (Stigers, 1994).

secondary treatment, and treated effluent is pumped to Rodeo through a 24-inch force main, where it is discharged to San Pablo Bay.

The Hercules treatment plant is owned by the City. The treated effluent from the plant is pumped to Rodeo and discharged into San Pablo Bay using the same 24-inch force main and outfall as the Pinole-Hercules plant. The plant provides primary and secondary treatment using conventional aeration and pond treatment methods. The Hercules Sewage Treatment Plant is currently operating at capacity.

Collection systems for both sewage treatment plants are gravity-driven at higher elevations. Four lift stations are used for sewage transport from the properties in lower elevations of Hercules. Collector pipe sizes range from six to twelve inches. The existing collection system is adequate for current levels of development (Richardson, 1993).

The City is currently investigating three approaches for treating wastewater that would be generated beyond existing capacity. The first approach is to ensure that the Pinole-Hercules Wastewater Treatment Plant delivers the treatment capacity that it is rated to deliver, by ensuring that capital improvements are made to the plant. Another approach is to make improvements to the Hercules plant that would double its current treatment capacity. Finally, either a less expensive "package plant" could be built by developer(s) and/or the City could contract with the Rodeo Sanitation District for excess capacity at that district's facility. These improvements are expected to occur as the treatment demand increases from the expected buildout under the proposed Land Use Element Update (Richardson, 1993). The City currently plans to approximately double the capacity of the Hercules plant by expanding the aeration ponds at that plant. This expansion project, which would be funded by fees on new development in the study area, could be operational by 1996. The City of Pinole is also pursuing improvements to increase the capacity of the Pinole-Hercules plant to its design capacity of 4.0 mgd (Stigers, 1994).

Expansion of the aeration ponds at the wastewater treatment plant would require that the City obtain a permit from the U.S. Army Corps of Engineers to fill on-site wetlands. A Preliminary Wetland Delineation performed for the expansion site at the plant indicates that approximately 2.8 acres of seasonal wetland may be subject to Corps jurisdiction under Section 404 of the Clean Water Act. Following review of the preliminary delineation, the Corps could process an individual permit or allow the proposed wetland fill to proceed under the Nationwide Permit

program. The Nationwide Permit program would require, among other things, that fill be properly maintained, erosion and siltation controls be used and maintained, disturbance from heavy equipment be minimized, and no special status species (including species proposed for listing) be harmed. Additionally, the fill would require approval from the Regional Water Quality Control Board. Expansion of the aeration ponds, including fill of wetlands, would require additional environmental review.

Storm Drainage

Storm drainage is collected by a storm drainage system and transported to Refugio Creek, and flows into San Pablo Bay. The Refugio Creek drainage network includes a flow storage facility in the form of an on-stream reservoir located in Refugio Park. In addition to its use as a recreational and scenic amenity, the reservoir stores excess runoff water during storm. The existing drainage system in Hercules is adequate for areas that are currently developed (Richardson, 1993).

Current federal National Pollutant Discharge Elimination Standards (NPDES), which regulate outfall pipe standards, could require construction of additional retention basins as well as pretreatment of existing storm waters. These standards would be implemented as new projects are developed. The City's Stormwater Management Plan contains Best Management Practices (BMPs) that would be implemented on a time frame as the City reaches physical buildout. The City's municipal permit was updated on September 15, 1993 (Freitas, 1993).

Solid Waste

Richmond Sanitary Service (RSS) provides solid waste collection service in Hercules through a franchise with the City for collecting and disposing of waste from residential areas; services are provided by contract with individual non-residential customers (Burch, 1993).

Solid waste from the City of Hercules is trucked to the West Contra Costa Sanitary Landfill in Richmond, which is expected to close in 1997. Following closure of the West Contra Costa Sanitary Landfill, solid waste will be taken to the Potrero Hills Landfill in Solano County or the Keller Canyon Landfill in central Contra Costa County. Both landfills have built-in growth factors to accommodate future waste generated in the City (Burch, 1993).

As required by State legislation (AB939), each local agency is responsible for implementing a variety of programs in order to divert 25 percent of its solid waste from landfill sites by 1995 and 50 percent by 2000. To comply with AB939, the City of Hercules has adopted a Source Reduction and Recycling Element (SRRE). The City's SRRE includes a residential curbside recycling program conducted by Richmond Sanitary Service. Receptacles have been provided to single-family residential customers to recycle glass, plastic and newspaper. The SRRE also contains source reduction and composting goals to year 2000 (City of Hercules, 1991).

As part of the overall program to comply with AB939, development of a Resource Recovery Transfer Station has been proposed. The Transfer Station is under construction and scheduled for completion in late 1995. The facility will serve as a processing point where glass, aluminum and tin can be recycled. Tree trimmings would be recycled into particle board, and grass clippings would be used as compost (Burch, 1993).

Parks and Open Space

The City of Hercules has one community park, the 66-acre Refugio Valley Park, and five smaller community parks totaling about 22 acres. Refugio Valley Park consists of Refugio Lake and associated facilities at Refugio Valley Road and Pheasant Drive, a linear park along the north side of Refugio Valley Road, and a community/swim center. A second community park of 33 acres is proposed along the San Pablo Bay waterfront. This park would be an expansion of an existing East Bay Regional Park District facility. No schedule has been established for development of the proposed Hercules Waterfront Park (Jackson, 1994).

The neighborhood parks include Ohlone Park, on Turquoise Drive adjacent to Ohlone School (12.5 acres); Woodfield Park, on Lupine Road adjacent to Hercules Elementary School (3.5 acres); Foxboro Park, on Canterbury Drive (3.2 acres); Railroad Mini Park, a play area on Santa Fe Avenue (2 acres); and Beechnut Mini Park, on Beechnut Court (1 acre). A new community park, Hanna Park, is planned adjacent to the nearly complete Hanna Ranch School at the east end of Refugio Valley Road. A multi-purpose ballfield (for baseball/softball and soccer), which would occupy about six acres of the planned 11-acre park, is scheduled for construction in 1995. A child care center will likely receive funding when Hanna Ranch School begins accepting kindergarten through third-grade students (1995 or later). The remainder of the Hanna Park facilities are scheduled for funding from developer fees, although no schedule has been developed, and the availability of adequate funds is uncertain. Another community park is

scheduled for development on a city-owned site in the Forest Run neighborhood just west of I-80. This 6.25-acre park will be developed for passive recreational use with facilities such as a walking path, benches, and picnic tables (Jackson, 1994).

The City also has approximately 950 acres of trails and open space, predominately located along Refugio Creek on both sides of I-80, in the southwest portion of the City near the Historic District, and among the residential areas in Refugio Valley in the eastern portion of the City. In addition, the Refugio Valley Ranch homeowners' association owns about 320 acres of permanent open space (City of Hercules, 1990).

Existing multi-purpose ballfields in Hercules, at Ohlone and Woodfield Parks, are used to capacity by City-run sports programs, the West County Soccer Association, and the San Pablo-Pinole-Hercules Little League. The Little League is negotiating to obtain about 7 acres at the north end of Parcel 13, east of City Hall, to relocate its existing fields from Parcel 4 (Jackson, 1994).

The *General Plan* Growth Management Element contains the following minimum standards for parks and open space (per 1,000 population): 3.5 acres of community parks, 1.5 acres of neighborhood parks, and 40 acres of public and private open space. Based on a 1994 population of 18,898, the City currently provides adequate open space and approximately the minimum amount of community parkland, but does not provide adequate neighborhood parks. While the Growth Management Element standards are citywide, it should be noted that the majority of parks in Hercules are east of I-80, where the majority of residential development exists. Residential areas west of I-80 are served only by the East Bay Regional Park District waterfront park, the Railroad Mini Park, and the existing Little League fields, which could be relocated east of I-80.

The East Bay Regional Park District (EBRPD), City of Hercules, and City of Pinole, under a Joint Powers Authority, undertook a Shoreline Feasibility Study in 1986 to investigate the feasibility of developing a shoreline trail between Point Pinole in Pinole and Lone Tree Point in Rodeo, and to identify possible trail alignments. The feasibility study shows three possible trail alignments across the parcels: a pedestrian/bicycle/equestrian trail linking the shoreline and Historic Hercules to San Pablo Avenue; a boardwalk over the marsh/wetlands area south of Hercules Point; and a pedestrian trail along the inland side of the railroad parallel to the shoreline (Engineering Science, Inc., 1989). The City has adopted a trail alignment that runs along the

shoreline through the proposed Waterfront Park south of Santa Fe Avenue, runs generally eastward along the Refugio Creek Corridor, and then runs generally northeast along San Pablo Avenue to the northern city limit, as shown in the *General Plan* Open Space Element. This alignment has not been approved by the EBRPD, although the district views the future development of the Shoreline Trail through Hercules as a long-term goal, and will work with future property owners and the City towards a development agreement (Lindenmeyer, 1994).

Gas and Electric

Gas and electric service to the City of Hercules is provided by Pacific Gas & Electric Company (PG&E). The City is served by the Franklin substation which has one 60/12 kilovolt (kV) transformer bank and four 12 kV distribution circuits emanating from the substation. There are no planned major improvements to the current infrastructure. PG&E would plan improvements or capacity increases to serve additional parcels as specific development proposals are submitted. PG&E also provides energy efficiency rebates as part of an energy conservation program (Gore, 1993).

PG&E maintains two major gas transmission pipelines through Hercules. In the western part of the City the lines both parallel the Santa Fe railroad tracks to Sycamore Avenue, where they separate, with one following San Pablo Avenue and one following I-80. All undeveloped parcels in the City could be served by one of the two transmission pipelines and there are no restrictions in supply (Gore, 1993).

Communications

Telephone services are provided by Pacific Bell. These services are provided by existing underground conduit and cable, and aerial cable. Facility capabilities and design are determined by the size and requirements of the proposed development. Typically, the developer is required to provide conduit to the property line, and Pacific Bell would complete the connection to existing infrastructure. Adequate connection service currently exists in Hercules, and Pacific Bell would provide the required communication service for future development (Cox, 1993). The City's cable television operator has initiated installation of an advanced fiber optics cable system that also has high-volume data transmission capabilities. It is expected that this system will provide for state-of-the-art communications facilities for businesses along San Pablo Avenue (Jackson, 1994).

Public Works

The City performs a variety of maintenance functions, either directly by City staff or by contracting for services, including street sweeping and landscape maintenance (including Open Space Fire Mitigation). Property owners are assessed for these maintenance services, as well as for street lighting, through a Landscaping and Street Lighting benefit assessment district that encompasses about two-thirds of the City. This assessment district, created in 1984 in accordance with state law, provides for the cost of landscape maintenance and street lighting in new subdivisions. Under its provisions, the City annually develops a budget for covered services and levies an assessment to cover the projected costs.

The City also performs street and sidewalk repair and maintenance. This work is not funded through the assessment district but is paid for by General Fund revenues. Storm drain cleanout is similarly a General Fund program.

Community Development and General Government Services

The Community and Business Development Department provides planning and building services, including development information, permit processing and approval, building inspections and public works engineering. Most services other than information requests are provided on a fee-for-service basis.

General government services include functions such as the city council, city manager, city clerk, city attorney, and other services that are required for ongoing City operations but with which many citizens do not ordinarily come in contact.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project would normally have a significant effect on the environment if it would:

- Interfere with emergency response plans or emergency evacuation plans. Based on this criterion, the proposed Land Use and Circulation Elements Update would result in a significant impact if it would allow new development without increases in staffing and equipment needed to maintain acceptable levels of fire and police service, or would result

in a substantial need for new altered, or expanded police and fire services not met by the proposed Land Use Element Update.

- Conflict with established educational uses of the area. Appendix I of the CEQA *Guidelines* indicates that a project could have a significant effect if it would result in the need for new or altered school services. Based on these criteria, the proposed Land Use and Circulation Elements Update would result in a significant impact if it would interfere with the provision of existing or planned school services, allow new development without appropriate increases in school staffing and facilities, or result in a substantial need for new, altered or expanded school services not met by the proposed project.

- Result in the need for new or altered utility systems. Based on this criterion, implementation of the Land Use and Circulation Elements Update would result in a significant impact if it would result in a substantial need for new, altered, or expanded water, wastewater, or storm drainage systems. Appendix G of the CEQA *Guidelines* also states that a project would normally have a significant effect on the environment if it would encourage activities which result in the use of large amounts of water, use water in a wasteful manner, or substantially degrade or deplete water resources.

  In general, fee-based utilities and services, such as gas and electric, telephone, and cable television, would provide for additional development through capital improvements based on service fees. Impacts to those services are considered to be less than significant, and are not discussed in this section.

- Conflict with adopted environmental plans and goals of the community where it is located, or if it would breach published national, state, or local standards relating to solid waste or litter control. Based on these criteria, implementation of the Land Use and Circulation Elements Update would result in a significant impact if it would interfere with the achievement of the waste diversion level mandated by AB 939, or result in a need for expanded solid waste services not met by the Land Use Element Update. Implementation of the Land Use and Circulation Elements Update also would result in a significant impact if it would result in development that would not meet the performance standards in the Growth Management Element of the Hercules *General Plan.*

<u>Impacts</u>

Impact Fire-1: Development consistent with the proposed Land Use and Circulation Elements Update would result in increased demand on the Rodeo-Hercules Fire Protection District services in the City. This would be a significant impact.

Residential and commercial development that would occur consistent with the Land Use and Circulation Elements Update would increase the resident and daytime population of the City and would increase the building square footage within Hercules. This would result in increased demand for fire suppression and other emergency response services, potentially including increased equipment and personnel.

New development would be required to continue to pay fire impact fees to mitigate impacts on the District's service capabilities. Fire impact fees would mitigate the impact of new development, and would provide a means by which new development could "buy into" the District's existing facilities and equipment that would serve newly developed as well as existing areas.

Mitigation Measure Fire-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Mitigation Measure Fire-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is included in the *General Plan* Growth Management Element:

> Fire Station(s) shall be located in the City so that five minutes emergency response time may be achieved by first response units for 90 percent of all emergency calls. Fire Stations shall be sized to accommodate a minimum of two (2) engines/trucks and three-person, 24-hour crews. (Growth Management Element Performance Standard III.E.1.) [The Growth Management Element states that the City will approve a development application only after making findings that applicable performance standards will be met.]

The following measures are policies or implementation programs in the *General Plan* Safety/Seismic Safety Element:

> **Policy VI.C.14.d.1:** The City should continually evaluate the alternatives for providing adequate fire service to meet the changing needs of the City in the most efficient manner.
>
> **Policy VI.C.14.d.3:** Neighborhood plans should include measures to promote fire safety including:
>
> aa) Road circulation for fire access.
> bb) Access to structures and open spaces.
> cc) Fire flow needs.
> dd) Landscape design.

Policy VI.C.14.d.4: Open spaces should be planned to provide:

aa) A buffer of irrigated landscaping and/or plowed area maintained between open spaces and developed areas.
bb) Fire access trails in major open spaces to allow fire equipment to penetrate. These trails should be part of the City-wide system of trails.
cc) The use of fire resistant plant materials in open space landscaping.
dd) Containment of potential fires where natural vegetation exists in open spaces.

Implementation Program VI.D.2.a: *Planning Review:* Specific plans must be prepared and adopted for each neighborhood in the City prior to approval of development plans. Safety measures will be incorporated into these specific plans to provide adequate protection from seismic, geologic and fire hazards.

The review and approval of zoning applications, tentative maps and planned unit developments will include consideration of safety policies and standards in the General Plan, neighborhood plans or other specific plans.

Implementation Program VI.D.2.b: *Subdivision and Grading Regulations:* The subdivision and grading of land, and designing and construction of site improvements. Seismic, geologic and fire hazards will be considered in review and approval of tract maps, grading and improvement plans.

Implementation Program VI.D.2.e: The Capital Improvements Program is a five-year program for municipal capital expenditures. Capital improvements which promote safety in the City, such as a fire station, will be evaluated and ranked with the other needs in the community.

Impact Fire-1: Additional Mitigation Measures Identified in this EIR

The City shall add the following policies or implementation programs to the Land Use Element Update:

Fire-1a: The City shall assist the Rodeo-Hercules Fire Protection District in processing the collection of fire impact fees from all new development within the District.

Fire-1b: The City shall work with the Rodeo-Hercules Fire Protection District to determine specific needs for fire protection when a particular development proposal is reviewed and ensure the District's needs are met.

Impact Fire-1: Significance After Mitigation

Implementation of the above mitigation measures would ensure adequate fire safety and service, and would reduce the project's impact on the Rodeo-Hercules Fire Protection District to a less-than-significant level.

Impact Police-1: Development consistent with the proposed Land Use and Circulation Elements Update would result in increased demand on police services in the City. This would be a significant impact.

The Hercules Police Department estimates that development that would occur consistent with the Land Use and Circulation Elements Update would generate a need for six additional sworn officers and 3.5 additional support staff. Four additional fully equipped patrol cars also would be required to patrol the study area. Development of the project could also require expansion of the existing police station.

Service demand from the California Highway Patrol, East Bay Regional Park District and the Coast Guard could also increase, as additional development could increase the number of freeway, park and water emergency calls.

Impact Police-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Police-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is included in the *General Plan* Growth Management Element:

> Office and supporting facilities shall be provided in a central, headquarters facility. Communication equipment (including repeater stations) shall be provided to allow communication between dispatch and police units throughout the service area. (Growth Management Element Performance Standard III.E.2.) [The Growth Management Element states that the City will approve a development application only after making findings that applicable performance standards will be met.]

The following measure is from policies or implementation program in the *General Plan* Seismic/Safety Element.

Implementation Program VI.D.2.e, identified as mitigation for Impact Fire-1.

The following measure is an objective in the *General Plan* Economic Development Element.

Objective II.C.2: Maximize the collection of existing revenue and adopt new on-going revenues, as needed, to continue providing quality City services; and, maintain and promote efficiency in City operations.

Impact Police-1: Mitigation Measures Identified in this EIR

None identified.

Impact Police-1: Significance After Mitigation

The mitigation measures identified above would help ensure adequate police staffing and equipment levels. Based on the results of the fiscal analysis (see Appendix F), development that would result from the project would likely generate adequate revenue to meet the Police Department's projected staffing and equipment needs and, therefore, would reduce the impact to less-than-significant levels.

Impact Schools-1: Development consistent with the proposed Land Use and Circulation Elements Update would increase the number of students served by the West Contra Costa Unified School District. This would be a significant impact.

The West Contra Costa Unified School District uses a student generation factor of 0.33 students overall per multi-family household in Hercules. This generation factor is about 28 percent of the Hercules single-family generation rate, and reflects the typically smaller number of children in multi-family housing, compared to single-family housing. The proposed Land Use Element Update would result in the addition of approximately 3,816 households. Using this methodology, approximately 1,260 additional students would attend schools in Hercules at buildout.

The future student capacity would accommodate approximately ~~5,858~~6,168 students (~~3,508~~ 3,818 existing capacity plus 2,350 from the new schools). Adding 1,260 students that would be generated by the additional households to the current enrollment of approximately 5,060 students results in total enrollment of approximately 6,320. The future school capacity in Hercules would

be exceeded by approximately ~~465~~150 students. This would likely warrant the construction of ~~at least~~ one additional school, most likely an elementary school. Existing elementary school enrollment is already greater than future capacity with the new Hanna Ranch School that is scheduled to open in January 1995, while middle and high schools would have adequate future capacity if the planned middle school/high school were constructed. Future elementary school capacity would be about ~~1,035~~725 students short of enrollment with project buildout (see Table IV.F.3). It is possible that additional school(s) could be designated to accept Hercules students. However, the West Contra Costa Unified School District does not have excess capacity on a district-wide basis, and is not projected to have excess or adequate capacity in 2010.

TABLE IV.F.3: PROJECTED SCHOOL CAPACITIES AND ENROLLMENTS, 2010 /a/

School	Enrollment			Future Capacity	Surplus (Deficit)
	Existing	Project	Total		
Elementary Schools (4)	2,010	690	2,700	1,976	(724)
Middle Schools (2)	952	190	1,142	1,383	241
High Schools (2)	2,099	380	2,479	2,809	330
TOTALS	5,061	1,260	6,321	6,168	(153)

/a/ Assumes opening of Hanna Ranch Elementary School (capacity 650) and a new middle school-senior high school (capacity 800 middle school, 900 high school). Assumes no changes in capacity at existing schools, and assumes Ohlone Elementary continues on year-round sessions.

SOURCE: Burkhart, 1994, Environmental Science Associates.

The West Contra Costa Unified School District estimates the following school construction costs: $20,975 per student for an elementary school; $27,352 per student for a junior high school; and $32,815 per student for a high school. Some of this money would be collected from development fees for new development, but development fees (except for projects requiring legislative action, such as a *General Plan* amendment) are capped by state law at $1.72 per square foot for residential development and $0.28 per square foot for commercial/industrial development. Assuming an average multi-family unit of 1,000 sq. ft. and the current development fee, the project would generate about $8.0 million in development fees by the time

of buildout in 2010, less than the approximately ~~$12.5~~$14.5 million required to fund construction of ~~a 600-student~~ an elementary school to accommodate the project's estimated 690 elementary school students. In addition, much of the fee revenue collected would finance use of portable classrooms and construction of the planned middle school/high school (Burkhart, 1994).

With an additional increase in population of about 500 due to approved and reasonably foreseeable development (but excluding Franklin Canyon, which is in the John Swett Unified School District), elementary school enrollment would exceed capacity by about 1,100 students.

Impact Schools-1: Mitigation Measures Proposed as Part of Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Schools-1: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Schools-1: Mitigation Measures Identified in this EIR

> **Schools-1a:** For specific development proposals that require legislative action (*e.g.*, *General Plan* Amendment, adoption of Specific Plan, amendment to Zoning Ordinance) and that would have a substantial effect on school facilities through a projected increase in enrollment, the City shall enter into consultation with the West Contra Costa Unified School District and the project proponent(s) to determine whether there can be determined a mutually agreeable contribution to the school district by the proponent(s) (including, but not limited to cash payment, land dedication, and/or provision of school facilities) to offset the impacts of increased enrollment. For such development proposals requiring legislative action, the City shall consider imposition of a development fee that is greater than that required for non-legislative proposals, if such fee is justified by economic analysis.

Schools-1b: In the case of new residential developments having a significant impact on school facilities, the City shall take steps to ensure that developers in each case coordinate and work closely with the District (via the City) regarding timely and proper submittal of the required development impact fees.

Schools-1c: The City could establish, through the Zoning Ordinance update, a procedure for imposing a school impact fee higher than the state-mandated maximum (currently $1.72 per square foot of residential construction). Alternatively, the City could support other options for enhancing school financing, such as participation in a Mello-Roos district by a property proposed for development and working with the West Contra Costa Unified School District and property owners to arrange donation of land for school sites.

Because land cost represents approximately 50 percent of school construction costs, availability of land at no cost could largely or fully mitigate school facility impacts. Further, because a substantial amount of commercial development is projected to occur under the proposed Land Use Element, school impact fees collected from the smaller per-square-foot fee on commercial development (currently $0.28) could substantially reduce school impacts more. It should also be noted that school impact fees can be used to expand existing schools, to the extent that land at existing school sites remains available.

Impact Schools-1: Significance After Mitigation

Implementation of the above mitigation measures would reduce the impacts on public school facilities by providing some funding to offset projected increases in enrollment. However, the above measures would not ensure adequate funding and thus would not ensure the elimination of unmet demand in school enrollment. Therefore, this would remain a significant, unavoidable impact.

Impact Water-1: Development consistent with the Land Use and Circulation Elements Update would increase demand for potable water and could require additional delivery and/or storage facilities. This would be a significant impact.

The projected growth in population and employment would place an increased demand on East Bay Municipal Utility District (EBMUD) water resources supplied by existing pressure zones, filter plants and aqueducts. Approved and reasonably foreseeable development would generate additional demand for potable water. As stated in the Setting, potable water is supplied to new development based on a system capacity charge that offsets the cost of new improvements. EBMUD would be able to supply potable water to all parcels in the City, barring drought emergencies. All parcels are located within EBMUD's service area (Hoolihan, 1993).

As noted in the Setting, EBMUD has scheduled capital water improvements (i.e., storage systems, reservoirs, pumping plants) based on ABAG's *Projections '90* household projections. Under ABAG's *Projections '90* for the year 2010, the City would have approximately 7,585 households. Buildout under the proposed Land Use Element would result in a total of approximately 10,160 households, or about 2,575 more households (34 percent) than EBMUD has assumed in scheduling capital improvements. Existing and reasonably foreseeable development could result in a total of about 11,125 households. This larger increase in households, combined with the greater intensity of commercial development proposed in the Land Use Element Update compared to the existing *General Plan*, could generate the need for improvements in facilities for potable water storage, treatment and pumping, as well as new distribution and transmission pipelines. As noted in the Setting, EBMUD expects to update its master plan for the service area that includes Hercules by 1996. Adjustment of the system capacity charge could be required to fund necessary distribution system improvements.

Impact Water-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Water-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is included in the *General Plan* Growth Management Element:

> Capability to provide potable water supply to all residential and non-residential developments. (Growth Management Element Performance Standard III.E.6.) [The Growth Management Element states that the City will approve a development application only after making findings that applicable performance standards will be met.]

The following measure is included in the *General Plan* Open Space/Conservation Element.

The City should develop a reclamation policy and plan which would ensure the full realization of any future potential. The plan should provide for system development and right-of-way easement conservation. (Open/Space Conservation Element, V.B.2.b)

The Hercules area is part of EBMUD's Reclaimed Wastewater Master Plan. However, the project is currently inactive, and a recent District study found that a biological treatment process, which would be less expensive than chemical treatment, was not reliable enough to implement as a full-scale treatment project (Stigers, 1995).~~the use of reclaimed wastewater in Hercules is not financially feasible at this time because of the high level of treatment that would be required for potential industrial water users (Stigers, 1994).~~

Impact Water-1: Additional Mitigation Measures Identified in this EIR

Water-1a: The City shall include in the proposed Land Use Element Update the following programs under Policy 3A:

- Ensure that the new development pays its share of the costs associated with the provision of facilities for water by attaching project-specific mitigation requirements as conditions of approval.
- The City shall cooperate with East Bay Municipal Utility District planning efforts to help ensure an adequate water system for existing and future residents and to maintain adequate water reserves.
- Encourage effective water conservation practices by residents and businesses including household conservation and use of drought-resistant landscaping and reclaimed wastewater.
- The City will practice water conservation in management of parks and requirements for landscape design development.
- The City will encourage the installation of dual plumbing systems in large developments to accommodate future use of reclaimed wastewater for non-domestic purposes such as landscape irrigation, commercial and industrial process uses and toilet flushing in non-residential buildings.

The City shall condition approval of individual development proposals on the following implementation programs:

Water-1b: The City shall require the installation of low-flush toilets and other low-flow plumbing fixtures for new residential and commercial development.

Impact Water-1: Significance After Mitigation

Implementation of the above mitigation measures would reduce the impact of potable water demand and on water delivery facilities to a less-than-significant level.

Impact Wastewater-1: Development consistent with the proposed Land Use and Circulation Elements Update would increase the demand for wastewater treatment. This would be a significant impact.

The City of Hercules' projected growth at 2010 would increase the average daily wastewater flow demand by about 2.1 mgd AWWF. The increase in wastewater treatment demand would require further improvements to existing treatment facilities beyond those currently planned, acquiring excess capacity from the Rodeo Sanitation District, or the construction of a solids removal plant. The City has indicated that the options include one of the following: to develop a package plant that would be used to remove solids; to upgrade the Pinole-Hercules Wastewater Treatment Plant to increase capacity; and to double or triple the treatment capacity of the Hercules Plant. Improvements to the collection (sewer lines) that would serve new development would be made by property owners and/or developers.

Because the existing wastewater treatment plants would not accommodate flows generated by buildout of the proposed Land Use Element Update, and the City has not formalized plans for sufficient increased treatment capacity, this impact would be significant.

Impact Wastewater-1: Mitigation Measures proposed as part of the project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Wastewater-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is included in the *General Plan* Growth Management Element:

> Capability to transmit and treat wastewater from all residential and non-residential developments to standards set by the Regional Water Quality Control Board. (Growth Management Element Performance Standard III.E.4.) [The Growth Management Element states that the City will approve a development application only after making findings that applicable performance standards will be met.]

The following measure is an objective in the *General Plan* Economic Development Element.

> **Objective II.C.2:** Maximize the collection of existing revenue and adopt new on-going revenues, as needed, to continue providing quality City services; and, maintain and promote efficiency in City operations.

The following measure is an implementation program in the *General Plan* Economic Development Element.

> **Program III.A.1:** Review alternatives for providing new wastewater treatment capacity and develop new capacity (including the potential for obtaining capacity from adjacent facilities, identification of preferred treatment technology, identification of preferred financing method, environmental review, design and construction). [The Growth Management Element called for improvements to be complete by 1993.]

Impact Wastewater-1: Mitigation Measures Identified in this EIR

> **Wastewater-1a:** The City shall include in the proposed Land Use Element Update the following program under Policy 3A:
>
> - The City shall ensure that new development funds its share of the costs associated with the provision of wastewater treatment facilities by attaching project-specific mitigation as conditions of approval.

~~Prior to development on any of the parcels, t~~The City shall implement the following programs:

> **Wastewater-1b:** The City shall initiate the wastewater treatment study discussed above (Program III.A.1 of the Economic Development Element), and shall implement programs to ensure adequate wastewater treatment capacity prior to approval of development that would generate demand for treatment in excess of capacity, including increased capacity improvements now planned. This study shall include the following information:
>
> - Inventory of existing facilities, including collection systems, treatment plants, and pumping stations. [This inventory has been accomplished as part of the planning for improvements described in the Setting.]
>
> - An alternative analysis of the City's three options to treat additional wastewater expected at buildout of the proposed Land Use Element Update.

- Identification of funding sources.
- Coordination with the City of Pinole, EBMUD and other agencies involved in wastewater treatment and/or water reclamation.
- Appropriate uses of reclaimed water within the City.

Wastewater-1c: The City shall implement a Capital Improvement Program (CIP) for the selected wastewater treatment alternative(s). The CIP shall include funding, scheduling and development programs for the selected alternative.

The City is currently evaluating the possibility of creating an assessment district to fund further increases in wastewater treatment capacity beyond those currently planned (as discussed in the Setting portion of this section). This district would be expected to encompass many of the parcels included in the Land Use Element Update. Developer fees collected under the district would fund wastewater treatment improvements.

Impact Wastewater-1: Significance After Mitigation

Implementation of the above mitigation measures would reduce this impact to a less-than-significant level.

Impact Storm Drainage-1: Development consistent with the proposed Land Use and Circulation Elements Update would increase the demand for stormwater collection and, potentially, treatment. This would not be a significant impact.

Development consistent with the Land Use Element Update would increase the amount of impervious surfaces in the study area, increasing the amount of stormwater runoff. New roadways constructed under the Circulation Element Update would similarly increase impervious surface area, and would result in increased runoff containing urban pollutants (grease, oil, rubber fragments, etc.). Parking lots at new development sites would also contribute urban pollutants to stormwater runoff.

The City would comply with all NPDES requirements for stormwater treatment in effect at the time of approval of specific projects.

Impact Storm Drainage-1: Mitigation Measures proposed as part of the project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Storm Drainage-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is included in the *General Plan* Growth Management Element:

> Meet federal NPDES requirements for stormwater runoff. (Growth Management Element Performance Standard III.E.5.) [The Growth Management Element states that the City will approve a development application only after making findings that applicable performance standards will be met.]

The following measure is an objective in the *General Plan* Economic Development Element.

> **Objective II.C.2:** Maximize the collection of existing revenue and adopt new on-going revenues, as needed, to continue providing quality City services; and, maintain and promote efficiency in City operations.

Impact Storm Drainage-1: Mitigation Measures Identified in this EIR

> **Storm Drainage--1a:** The City shall include in the proposed Land Use Element Update the following program under Policy 3A:
>
> - The City shall ensure that new development funds its share of the costs associated with the provision of storm drainage facilities by attaching project-specific mitigation as conditions of approval.

The City shall condition approval of individual development proposals on the following implementation programs (identified in the Hydrology and Water Quality analysis in this report [Section IV.I]):

Storm Drainage-1b: The City shall review and refine, as necessary, its Master Drainage Plan, including specifics for drainage on individual parcels (except those such as Parcel 6 which already have a drainage infrastructure), prior to approval of any development in the study area. This is an important measure ~~since the City's wastewater system is at capacity, and~~ since new drainage and pollution prevention and control infrastructure would have to be built to accommodate the increase in runoff.

Storm Drainage-1c: Develop a Master Water Quality Control Plan for the City, including measures to clean up existing contaminated water resources in various parcels, to identify and remove or mitigate existing sources of pollution, and to develop ways of preventing further pollution such as specific water treatment policies for industries and retention basins for surface runoff suspected of carrying roadway pollutants. Such a plan must be approved by the City Engineer and should be reviewed by the Regional Water Quality Control Board and State Department of Water Resources for correctness and thoroughness, prior to implementation.

Storm Drainage-1d: Develop a set of best management practices (BMPs) for developers to follow.

Impact Storm Drainage-1: Significance After Mitigation

Implementation of the above mitigation measures would reduce this impact to a less-than-significant level.

Impact Solid Waste-1: Development consistent with the Land Use and Circulation Elements Update would increase the demand for solid waste services. This would not be a significant impact.

The population increase of approximately 11,639 people and additional commercial businesses expected under the Land Use Element Update would create the need for additional solid waste pickup and disposal services, and would result in an increase in the amount of waste requiring landfilling. Assuming a constant rate of waste generation per capita, buildout under the Land Use Element Update could increase the flow of solid waste from the City to area landfills by approximately 64 percent. When the West Contra Costa Sanitary Landfill closes, solid waste will be taken to either the Potrero Hills Landfill or Keller Canyon Landfill. Both landfills have built-in growth factors to accommodate future waste generated in the City (Burch, 1993).

Continued implementation of the City's recycling program could offset at least part of this increase, through increased rates of recycling. The City's Source Reduction and Recycling Element contains programs to reduce the amount of solid waste. Because adequate disposal

capacity exists and the City has implemented a Source Reduction and Recycling Element, this would be a less than significant impact.

Impact Solid Waste-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Solid Waste-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is an implementation program in the *General Plan* Economic Development Element.

> **Program III.E.5:** The City of Hercules will continue to work with other cities in the County to site one or more new County-wide landfills, and to implement the requirements of Assembly Bill 939.

Impact Solid Waste-1: Mitigation Measures Identified in this EIR

The City shall condition approval of individual development projects on the following mitigation measure:

> **Solid Waste-1a:** Prior to development on any of the 24 parcels, the City shall consult with Richmond Sanitary Service to confirm that adequate capacity exists for solid waste that would be generated by the project.
>
> **Solid Waste-1b:** Prior to development on any of the 24 parcels, the City shall require that project sponsor(s) demonstrate that projects include adequate recycling facilities.

Impact Solid Waste-1: Significance After Mitigation

Although no mitigation is required, the above measure would ensure future availability of a landfill for the City's solid waste. The impact would remain at a less-than-significant level.

Impact Park-1: Development consistent with the Land Use and Circulation Elements Update would increase the need for neighborhood and community parks. This would be a significant impact.

As noted in the Setting, the City currently has adequate land devoted to neighborhood parks and open space, based on the standards in the *General Plan* Growth Management Element. However, the City currently has inadequate land devoted to community parks. In addition, as noted in the Setting, the majority of parks in Hercules are east of I-80, where most residential development is located, and residential areas west of I-80 are less well served.

Under buildout of the proposed Land Use Element, the City would have approximately 29,927 people, resulting in the need for about 105 acres of community parks, about 45 acres of neighborhood parks, and about 1,200 acres of open space to meet the Growth Management Element standard. Assuming that the 33-acre Waterfront Park ~~and the approximately 58-acre Refugio Creek open space corridor~~ were developed by the time of buildout under the proposed Land Use Element, the City would have about ~~157~~99 acres of community parkland, which would ~~meet~~ fall about 6 acres short of the Growth Management Element standard. Assuming the 11-acre Hanna Ranch Park and the 6-acre Forest Run Park were developed by buildout, the City would have about 39 acres of neighborhood parks, which would not meet the Growth Management Element standard of 45 acres. It should be noted that the bulk of the residential development that would occur with the project (all but about 500 units on Parcel 13) would occur west of I-80. This would further aggravate the existing condition in which residential areas west of I-80 are separated from most parks by the I-80 freeway. As noted in the Setting, however, the Growth Management Element standards for parks are citywide. The approximately 33-acre Refugio Creek open space corridor, added to the existing 1,270 acres of open space, would total about 1,303 acres and ~~also~~ would meet the Growth Management Element standard, which would require 1,200 acres.

Population growth that would occur with the Land Use Element Update would require development of one additional multi-purpose ballfield in addition to that proposed for Hanna Ranch Park. Neither the proposed Waterfront Park nor the proposed Forest Run Park could

accommodate a ballfield, and no other parks are proposed. Without developer dedication of parkland or an identification of an additional source of funding, there would be a shortfall of recreation facilities in Hercules (Jackson, 1994). The City could obtain additional parkland as part of a development agreement with specific developer(s).

With an additional increase in population of about 2,800 due to approved and reasonably foreseeable development, there would be a deficit of about ~~10.5~~6 acres each of community parkland and of neighborhood parkland and, assuming development of an approximately 10-acre community park at the Franklin Canyon site, as anticipated in the Growth Management Element. ~~about 50 acres of open space. Community parkland would be adequate to meet the Growth Management Element standard.~~ Assuming approximately 220 acres of open space at the Franklin Canyon site, as anticipated in the Growth Management Element, the City would have about 1,523 acres of open space, which would meet the Growth Management Element Standard fo about 1,135 acres.

In addition to park facilities, increased demand for City-subsidized recreation programs, especially for senior citizens and teenagers, would be expected with the project.

Impact Park-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.
>
> **Objective 14:** Protect and enhance significant environmental attributes and features.
>
> **Policy 14A:** Develop trail systems, open space, and other amenities that benefit the quality of life in the community.
>
> **Program 14A.1:** Establish a strong and continuous system of trail links between the hills in the southeastern end of Refugio Valley and San Pablo Bay.

Program 14A.2: Establish a trail linkage between Pinole and Rodeo as part of the regional bay access trail, without encroaching upon private property or bluffs within the Hercules Industrial area.

Program 14A.3: Continue to improve and protect Refugio Creek as a major environmental amenity.

Impact Park-1: Mitigation Measures identified in other *General Plan* Elements

The following measures are included in the *General Plan* Growth Management Element:

A minimum of 1.5 acres of neighborhood parks shall be provided for each 1,000 residents.

A minimum of 3.5 acres of community parks shall be provided for each 1,000 residents.

A minimum of 40 acres of open space (public and private combined) shall be provided for each 1,000 residents. (Growth Management Element Performance Standard III.E.3.) [The Growth Management Element states that the City will approve a development application only after making findings that applicable performance standards will be met.]

The following measures are included in the *General Plan* Open Space/Conservation Element:

The City should develop a master drainage plan [for Refugio Creek] which provides for :

the definition and conservation of existing drainage courses of high aesthetic value (Open Space/Conservation Element, V.B.3.b.1) [also appears as mitigation in Section IV.E, Visual Quality];

the maximum utilization of these drainage courses for buffers, open space, pedestrian circulation, recreation, aesthetics, flood control, etc. (Open Space/Conservation Element, V.B.3.b.3) [also appears as mitigation in Section IV.E, Visual Quality];

the enhancement of these drainage courses with landscaping, remedial measures and improved public access. The City should also develop ordinances and enforcement mechanism which will preserve, develop and maintain these drainage courses (Open Space/Conservation Element, V.B.3.b.4) [also appears as mitigation in Section IV.E, Visual Quality].

Develop a plan for the preservation of open space within the community (Open Space/Conservation Element Objective 1a).

Incorporate conservation areas such as drainage courses, areas of natural vegetation and baylands into the open space system (Open Space/Conservation Element Objective 1c).

Provide for the linkage of public and private open spaces through the community (Open Space/Conservation Element Objective 1d).

All General Plan and zoning proposals will be reviewed in terms of the goals and proposals established in [the Open Space/Conservation] Element. Those areas where there is a potential effect on open space and conservation will receive special attention in subsequent planning and design reviews (Open Space/Conservation Element, Community Development Requirement V.D.2.a).

Proposed neighborhood plans will be reviewed in terms of opportunities for conserving and enhancing the natural environment and creating development that is compatible with the open space system (Open Space/Conservation Element, Community Development Requirement V.D.2.b).

Tentative maps and PUD's will incorporate urban design techniques to take advantage of the existing environmental qualities of sites being developed within the City (Open Space/Conservation Element, Community Development Requirement V.D.2.c).

The following measure is an objective in the *General Plan* Economic Development Element.

Objective II.C.2: Maximize the collection of existing revenue and adopt new on-going revenues, as needed, to continue providing quality City services; and, maintain and promote efficiency in City operations.

Impact Park-1: Mitigation Measures Identified in this EIR

The City shall incorporate the following policies into the proposed Land Use Element Update:

Park-1a: The City shall continue to work closely with the East Bay Regional Park District (EBRPD) in implementing the Shoreline Trail through Hercules.

Park-1b: The City shall ensure that new development funds its share of costs associated with the provision of park facilities by attaching project-specific mitigation as conditions of approval.

Park-1c: The City shall consider development agreements that would provide additional community parks and recreation facilities, such as ballfields and other areas for organized recreation, in exchange for allowing development at greater than the "typical" FAR, as specified in the proposed Land Use Element Update,

Impact Park-1: Significance After Mitigation

If the City were successful in negotiating development agreements to provide additional recreation facilities, this impact would be fully mitigated. However, in the absence of an assurance that adequate recreation facilities would be provided, this is considered a significant, unavoidable impact.

Public Works

Impact Public Works-1: Development consistent with the Land Use and Circulation Elements Update would increase the demand for street maintenance and other public works services. This would not be a significant impact.

Street and sidewalk maintenance would increase with construction of approximately 5.5 lane miles of new City streets that would be expected to be constructed by 2010. An additional maintenance employee could be required to provide street maintenance and other services. This impact would be economic, and would be expected to be offset by fees and taxes collected, principally an increase in sales tax that would result from commercial development anticipated with the project.

Demand for other public works services, including street sweeping and landscape maintenance and street lighting, would be expected to be provided through the Landscaping and Street Lighting district. (Expansion of the district to include the study area parcels would be required.) See Appendix ~~E~~F, Fiscal Analysis of the Proposed Land Use Element Update, for additional information on public works impacts.

Impact Public Works-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

> **Program 2C.1:** Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].
>
> **Objective 3:** Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.
>
> **Program 3A.3:** Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Public Works-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is an objective in the *General Plan* Economic Development Element.

> **Objective II.C.2:** Maximize the collection of existing revenue and adopt new on-going revenues, as needed, to continue providing quality City services; and, maintain and promote efficiency in City operations.

Impact Public Works-1: Mitigation Measures Identified in this EIR

> Prior to project approval, the City would initiate expansion of the Landscaping and Street Lighting benefit assessment district to encompass all study area parcels not currently included within the district.

Impact Public Works-1: Significance After Mitigation

With implementation of the above measures, adequate funding would be ensured for public works services, and the impact would be reduced to a less-than-significant level.

Community Development and General Government

Impact Government-1: Development consistent with the Land Use and Circulation Elements Update would increase the demand for community development and general government services. This would not be a significant impact.

While the City would be expected to provide similar community development and general government services with implementation of the project, the increased population and employment would increase the demand for certain services, and the increase is anticipated to require the addition of new City staff including an accountant in the finance department, a full-time deputy city manager, a full-time personnel technician, and an assistant city clerk. There would be no direct physical impact; rather, the impact would be economic, and would be expected to be offset by fees and taxes collected, principally an increase in sales tax that would result from commercial development anticipated with the project. See Appendix F, Fiscal Analysis of the Proposed Land Use Element Update, for additional information on Community Development and General Government impacts.

Impact Government-1: Mitigation Measures Proposed as Part of the Project

The following objectives or programs are contained in the proposed Land Use Element Update:

Program 2C.1: Implement the Economic Development Strategy and conduct an annual assessment of the effort [to maximize revenue generation for needed services].

Objective 3: Achieve a rate of growth that is consistent with the provision of public facilities and services, that balances jobs, commercial, and housing opportunities, and protects the quality of life in the community.

Program 3A.3: Analyze the existing public facilities and services compared to those needed to develop as provided for in this Element. Develop a plan to meet the public facility and service needs, including a financing plan.

Impact Government-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is an objective in the *General Plan* Economic Development Element.

Objective II.C.2: Maximize the collection of existing revenue and adopt new on-going revenues, as needed, to continue providing quality City services; and, maintain and promote efficiency in City operations.

Impact Government-1: Mitigation Measures Identified in this EIR

None identified.

Impact Government-1: Significance After Mitigation

Less than significant.

REFERENCES - Public Services and Utilities

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City of Hercules, Source Reduction and Recycling Element, November, 1991.

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Eaves, John, Sergeant, Hercules Police Department, letter, August 20, 1993.

Freitas, Donald, Stormwater Pollution Control Manager, Contra Costa County Department of Public Works, telephone conversation, November 22, 1993.

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Jackson, Connie, Deputy City Manager/Parks and Recreation Director, City of Hercules, telephone conversation, October 11, 1994.

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G. HAZARDOUS MATERIALS

SETTING

Hazardous materials, if handled improperly, pose potential risks to human health and safety and to the environment. This section considers environmental issues of health and safety relating to handling of hazardous materials and generation of hazardous wastes. The information presented is based primarily on current federal, state and local regulations that govern handling of hazardous materials and wastes, on chemical, physical, and toxic properties of substances having frequent industrial applications, and on current conditions within the project area.

Definitions

Certain chemical and physical properties of substances may cause them to be considered hazardous. Under Title 22 of the California Code of Regulations (CCR), a hazardous material is defined as a substance or combination of substances, which because of quantity, concentration, or physical, chemical or infectious characteristics, may either:

(1) cause or significantly contribute to an increase in mortality or an increase in serious, irreversible, or incapacitating, illness; or

(2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of, or otherwise managed. (CCR, Title 22, Article 2, Section 66260.10; Contra Costa County, 1989)

Hazardous wastes are defined in the same manner. Hazardous wastes are hazardous materials that no longer have practical use, such as substances that have been typically discarded, discharged, spilled, contaminated, or are being stored prior to proper disposal. According to CCR Title 22, hazardous materials and hazardous wastes are classified according to four properties: toxic, ignitable, corrosive, and reactive (CCR, Title 22, Chapter 11, Article 3).

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, toxic substances can cause disorientation, headaches, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are a special class of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a component of gasoline). *Ignitable substances* are hazardous because of their flammable

properties. Gasoline and natural gas are examples of ignitable substances. *Corrosive substances* can damage other materials or cause severe burns upon contact. Examples include strong acids and bases such as sulfuric (battery) acid or lye. *Reactive substances* may cause explosions or generate gases or fumes. Explosives and unstable chemicals are examples of reactive materials. Contaminated soil is not necessarily hazardous waste. Soils are considered contaminated when they contain elevated (above background) levels of a chemical substance and have the potential to cause human health effects or adversely affect the natural environment. Contaminated soil would be considered a hazardous waste if it exceeded any of a number of specific CCR Title 22 criteria. Remediation (cleanup and proper disposal) of hazardous wastes found at a contaminated site is required if excavation of those materials is performed. Cleanup requirements typically are determined on a case-by-case basis by the agency taking lead jurisdiction.

Hazard vs. Risk

Worker and public health are potentially at risk whenever hazardous materials are used. It is necessary to differentiate between the "hazard" of these materials and the "risk" they pose to human health or the environment. A hazardous situation is one that has the potential to cause damage upon upset or exposure. The risk of an event is determined by a combination of (1) the probability of exposure to the hazardous material and (2) the severity of consequences should exposure occur (California Office of Emergency Services, 1989). In other words, the likelihood of exposure to the hazardous material coupled with its inherent hazardous properties determine the degree of risk to health or the environment. To be of high risk, exposure to a hazardous material must be both likely and consequential.

Means of Exposure

Exposure of the public to hazardous materials or wastes could occur in several ways:

- improper handling or use of hazardous materials during the course of business,
- failure of storage containment systems,
- fire, explosion, or other emergencies,
- unsound disposal / treatment methods, or
- upsets during transport.

Pathways of Exposure

Pathways of exposure to hazardous waste depend on the chemical and physical properties of the waste and the type of accident that released it. The four common exposure pathways are inhalation, ingestion, direct contact (with skin or eyes), and injection (skin puncture or cut):

- Inhalation (breathing the hazardous substance) is the primary route of exposure for toxic fumes or vapors and is the primary exposure pathway at a distance.
- Ingestion (swallowing the hazardous substance) would not be expected to occur at an industrial facility unless persons practiced poor personal hygiene or were exposed to contaminated food or water. Inhaled substances are often eventually swallowed.
- Direct bodily contact requires immediate proximity to the hazardous solid or liquid. Skin or eye contact with hazardous fumes or vapors can also occur over distance.
- Injection (puncturing the skin with a sharp, contaminated object) typically is a threat only to persons handling unpackaged or improperly packaged hazardous materials.

Factors that influence the health effects of exposure to hazardous material include the dose to which the person is exposed, the frequency of exposure, the exposure pathway, and individual susceptibility. A material may be hazardous by one exposure pathway but not another; for example, a chemical might be toxic if ingested but not if touched.

Effects of Exposure

Health effects of exposure to hazardous chemicals can vary greatly and are specific to each chemical. Possible health effects of exposure may be acute (immediate, or of short-term severity) or chronic (long-term, recurring, or resulting from repeated exposure). Acute effects, usually resulting from a single exposure, might include burns or injury to body organs or systems such as from exposure to corrosive, reactive, or ignitable materials. Chronic effects, usually resulting from repeated or long-term exposure to a toxic material (as in a poorly ventilated work place, for example), could also include systemic or organ damage. Chronic toxic effects of particular concern are birth defects and cancer. Effects of exposure to specific hazardous materials are described in detail in standard references (Budavari, 1989; Howard, 1989 and 1990; Sax, 1989; Sittig, 1985).

Hazardous Waste Regulatory Framework

Generation, storage and handling of hazardous materials and wastes are regulated by various federal, state, and local laws and regulations aimed at the protection of public health and the environment. The Environmental Protection Agency (EPA) is responsible for enforcing regulations at the federal level pertaining to hazardous materials and wastes. The primary federal hazardous materials and waste laws are contained in the Resource Conservation and Recovery Act of 1976 (RCRA), and in the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The EPA has delegated much of its regulatory authority to individual states whenever adequate state regulatory programs exist. The Department of Toxic Substances Control within the California Environmental Protection Agency (Cal-EPA) is the regulatory agency empowered to enforce hazardous materials and waste regulations in California. In addition, the project area is located within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board, which can require investigation and remediation of contaminated groundwater or surface waters. The Contra Costa County Health Services Department, Hazardous Materials Division, oversees cleanup of contaminated soil at hazardous waste sites in the county. The major laws and regulations governing generation, storage and handling of hazardous materials and wastes are discussed in Appendix E.

County Hazardous Waste Management Plan

Contra Costa County's goals, objectives, and policies for managing hazardous wastes and hazardous waste facilities are set forth in the *County Hazardous Waste Management Plan* (Contra Costa County, 1989). The County's Plan provides a comprehensive, in-depth look at all aspects of hazardous waste management from generation through disposal, including:

- hazardous materials/waste laws, plans, and programs,
- current and future hazardous waste generation,
- hazardous waste management facilities,
- waste minimization program,
- small generator programs,
- hazardous waste facility needs analysis,
- hazardous waste facility siting,
- public education and outreach,
- transportation safety,
- contaminated sites program,
- and implementation program.

The majority of hazardous wastes generated in Contra Costa County is from industries involved in petroleum processing and waste oil generation. The principal wastes are waste oils, inorganic liquids, and organic sludges. Discussions of types and amounts of hazardous wastes generated in Contra Costa County are presented in the *County Hazardous Waste Management Plan.* Local ordinances, plans, and programs for managing hazardous wastes are summarized in Chapter 2, Section VI of the *Plan* (Contra Costa County, 1989). The City of Hercules Hazardous Waste Management Plan, an element of the Hercules *General Plan*, is in compliance with provisions of the County *Plan*, as required by state law.

California has taken steps to reduce commercial hazardous waste generation by passage of SB 14, the Hazardous Waste Source Reduction and Management Review Act of 1989 (CCR, Title 22, Article 6.1, Sections 66520-24). SB 14 contains provisions designed to reduce generation of hazardous waste at its source, reduce release of chemical constituents to the environment, and provide documentation of hazardous waste management information for use by state and local governments. Hazardous waste generators will meet those goals by preparation of source reduction evaluation plans and hazardous waste management performance reports. New businesses in the project area would be required to comply with provisions of SB 14, as applicable, to minimize commercial waste generation.

The *County Hazardous Waste Management Plan* calls for a 45 percent reduction in projected waste levels by the year 2000 (equivalent to roughly 14 percent less than 1987 levels). It is estimated, however, that County hazardous waste generation may increase by up to 62,000 tons per year by the year 2000, even with waste minimization (Contra Costa County, 1989). This increase would primarily be a result of new industrial development in the County. Industrial development of the appropriately designated and zoned areas of Hercules would not be expected to represent a major portion of all new industrial development in the County; the Land Use Element Update would eliminate the Industrial land use designation from Parcels 1, 2, 3, 6, and 7, and would leave only the existing Pacific Refinery and a parcel east of San Pablo Avenue and south of Parcel 7 (both outside the study area) as land designated Industrial. (Parcel 7 would be designated as Planned Commercial-Industrial, which would include research and development and manufacturing, as well as warehouse and distribution, office and retail uses, and a portion of Parcel 1 would be designated Industrial-Residential, which would allow for live-work uses.) New industrial development in Hercules would therefore represent a small portion of development that would occur under the Land Use Element Update.

Almost all of the hazardous wastes generated in Contra Costa County are sent out of the County for treatment and disposal (Contra Costa County, 1989). Common disposal/treatment options include oil recovery, solvent recovery, other types of recycling, solids stabilization, aqueous treatment such as precipitation and neutralization, or incineration. Recycling of hazardous wastes is favored by state and local agencies, but much hazardous waste still is landfilled or incinerated.

City of Hercules Hazardous Waste Management Plan

The City of Hercules set forth its goals and policies for management of hazardous wastes in the City of Hercules Hazardous Waste Management Plan. The Plan, which is an element of the Hercules *General Plan,* was prepared to help provide for safe and effective management of hazardous waste within the City and to protect public health and safety and the environment (Network Environmental Systems, 1990). The Plan sets forth a set of policies with which the City can more closely control hazardous waste management. The policies involve close enforcement of hazardous waste ordinances, coordination with regional an county agencies, training for City workers, and establishment of programs to minimize hazardous waste production (Network Environmental Systems, 1990). In addition, the City of Hercules *General Plan* has a Source Reduction and Recycling Element that includes plans and programs for handling special wastes, such as contaminated soil and industrial sludge (City of Hercules, 1991a).

The City's Hazardous Waste Management Plan contains several policies that promote proper handling an disposal of hazardous waste (Network Environmental Systems, 1990). These include:

- Bringing all City facilities into compliance with the City's hazardous waste management policies, and with existing statutes and ordinances at the county, state, and federal level.
- Training of City employees in proper safety precautions for management and handling of hazardous waste.
- Enhancing information submitted by local businesses regarding the generation, storage, transport, and disposal of hazardous waste with in the City of Hercules upon application or renewal of City business licenses.
- Encouraging waste minimization by local businesses through source reduction, product substitution, development of alternative technologies, recycling, or other effective means.

- Enforcement of all applicable ordinances pertaining to hazardous waste generation, transport, storage, and handling, and actively deterring purposeful violation of these ordinances.

Existing Conditions

The City of Hercules is located within an area of diverse land uses. While many of the parcels in the study area have never been developed, most of them were part of the former site of the Hercules Powder Works Company (Network Environmental Systems, Inc., 1990; Engineering-Science, Inc., 1989). Storage, use and disposal of hazardous materials from past activities have contaminated soils and groundwater in this area. Development of contaminated areas could result in excavation or discovery of materials that, if not remediated, could pose health threats to workers or site occupants. In addition, legitimate but potentially hazardous installations at or adjacent to portions of the area, such as the Pacific Refinery or the Hercules wastewater treatment plant, might place constraints on development.

Agency Databases

Under CERCLA the EPA maintains two databases: the National Priorities List (NPL) and the CERCLIS list. NPL is the list of sites identified by the EPA for priority clean-up under the Superfund Program. There were no sites in Hercules on the 1990 NPL list. The CERCLIS list is a list of sites which are or have been investigated by the EPA for a release or threatened release of hazardous substances. Hercules Properties Inc. and the Pacific Refining Company are on the 1990 CERCLIS list.

Under RCRA, the EPA maintains a list of facilities that generate, store, transport, treat, or dispose of hazardous wastes. Three Hercules facilities in the project area are on the 1990 list (see Figure IV.G.1):

- BioRad Laboratories Clinical; 1000 Alfred Nobel Drive (Parcel 6)
- Blair and Sons; 446 Railroad Avenue (Parcel 1)[1]
- Hercules Properties Ltd.; 560 Railroad Avenue (Parcel 1)[1]

[1] These facilities are no longer active, and remediation of Parcel 1 is currently under way. See the discussion under "Parcel Characteristics and Land Use," below.

INSERT FIGURE IV.G.1

Hazardous Facilities

Cal-EPA maintains a list of sites that fall under the California Hazardous Substance Cleanup Bond Act of 1984. Sites that are targeted for expenditure of State bond funds for total cleanup costs or for State oversight are included. One Bond Act site is located in Hercules, on Parcel 4, the ~~Hercules~~East Bay Realty Services Inc./San Pablo site at the corner of San Pablo Avenue and Sycamore. ~~Hercules, Inc. the property owner, who is the responsible party, is paying the entire cost of this clean-up. The site is being~~ By 1992, this site (with the exception of a two-acre wetland) was remediated to a level that would meet unrestricted land use criteria (*i.e.*, future uses of the site would not be limited).

Cal-EPA also maintains the Abandoned Sites Program Information System (ASPIS) list of potential hazardous waste sites. Sites or facilities can be placed on the ASPIS list by a number of different sources ranging from the Abandoned Site Survey Program to citizen complaints. Sites are evaluated to determine if further action is required. If the site is under investigation it is still open; if no further action is required, it is so indicated in the ASPIS database. The sites in Hercules ~~on the 1990 list~~ are:

- Hercules Powder Works (Parcel 1) Status: Open
- East Bay Realty Services/San Pablo Site (Parcel 4) Status: No Further Action~~Open~~
- Unidentified (Underpass/RR Tracks, Parcel 10) Status: No Further Action

The RWQCB maintains lists of properties having evidence of chemical releases or fuel leaks. Hercules Properties is on the chemical release list; its RWQCB file number is 2119.1021.

The Rodeo-Hercules Fire Protection District maintains a list of underground storage tanks in the area of Hercules as well as maps of underground petroleum and gas pipelines. According to the District's records, 10 facilities in the area have underground fuel tanks (see Figure IV.G.1); only two are in the project area, on Parcels 1 and E.

Petroleum and high pressure natural gas pipelines operated by Unocal, Chevron, and PG&E pass through Hercules (see Figure IV.G.1). Both petroleum and high pressure natural gas pipelines follow the Southern Pacific and Santa Fe railroad easements and the San Pablo Avenue right-of-way. In addition, a petroleum pipeline passes parallel to I-80 under parts of parcels in this study. No building is permitted on pipeline easements, but roads and parking lots are usually permitted (Jackson, 1991).

Parcel Characteristics and Land Use

The project area includes 24 sites. Potentially hazardous conditions exist at some of the sites, as discussed below by individual parcel:

1. Hercules Properties Inc. This parcel is the location of the former Hercules Powder Company which used a number of hazardous materials from the late 1800s to 1977, when it ceased operations. The site contains the remains of the dynamite/fertilizer plant as well as several current businesses listed as hazardous waste generators. The property is one of two parcels in the project area that were~~are known to be~~ contaminated and is under remediation (Coler, 1991; Network Environmental Systems, 1990). It is known to be contaminated with ammonia, nitrates, oil, polynuclear aromatic hydrocarbons (PNAs), and several heavy metals. In addition, an old transformer was observed next to leased buildings during a brief site visit. It appeared to be the type that may contain polychlorinated biphenyl (PCBs). A draft Remedial Action Plan (RAP) for final cleanup of soils at this site has been approved by DTSC. The RAP proposes cleanup of this parcel to residential standards (unrestricted land use) (Coler, 1994). Not all areas of the parcel require remediation. Additionally, metals were detected in groundwater, surface water, and sediments at the site. A groundwater monitoring program is being developed and assessments of potential toxicity of metals to aquatic organisms are underway (Coler, 1994).

   One EPA-listed hazardous-waste generator, Blair and Sons, formerly operated on the site. In addition, there are two machine shops operating on the site at 444 Railroad Avenue. Barrels of solvent were observed from the outside upon an ESA field inspection. If hazardous materials are in use, they are not listed on the RCRA list.

   There is one licensed underground storage tank on the site, listed at 560 Railroad Avenue, and one adjacent to it at the former WestCAT facility at 100 Sycamore Avenue.

2. Hercules Point. This parcel contains chemical storage tanks used by the former dynamite/fertilizer plant. This parcel is covered by the RAP for Hercules Properties, and will be remediated to industrial standards (restricted land use) (Coler, 1994). A deed restriction limiting future use of the parcel to industrial and/or commercial activities is being negotiated with the property owners (Coler, 1994). Several underground petroleum pipelines follow the Southern Pacific Railroad easement that separates this parcel from the Hercules Properties Inc. parcel.

3. Gelsar~~, Inc.~~ This parcel was contaminated with heavy metals and other materials used to manufacture explosives during the period when it was used by the Hercules Powder Company, and was remediated, in 1985, to a level that will allow for industrial (restricted) land use (Engineering-Science, Inc., 1989; Coler, 1994). Additional remediation that could allow unrestricted land uses, including residential, is under consideration (Sunga, 1994). Numerous piles of concrete and rebar were observed on the parcel during an ESA field inspection in January 1991, along with piles of brush. Household refuse and containers of household hazardous waste (motor oil containers, spray paint cans, etc.) were observed on the site, mostly along roads. In addition, the parcel is adjacent to and downslope from the Hercules Wastewater Treatment Facility. This facility uses chlorine and sulfur dioxide in the treatment process; both of these materials are designated as "acutely hazardous." While there has been no known contamination at the treatment plant, these materials represent a potential hazard. (See Impact Hazard-2.)

4. ~~Hercules~~East Bay Realty Services Inc./San Pablo Site. ~~This parcel contains a site listed on the ASPIS as under r~~Remediation of this parcel by DTSC according to terms of the California Hazardous Substances Cleanup Bond Act was completed in 1992. ~~to allow for unrestricted land use (Network Environmental Systems, 1990).~~ Contaminants detected in soil at this site were metals (primarily lead and zinc) and nitrobenzene derivatives (dinitrobenzene, dinitrotoluene, and trinitrotoluene). Final site cleanup by excavation and disposal of contaminated soil off site was completed and certified by DTSC in November 1992 (Coler, 1994). With the exception of the wetlands area near the center, the parcel was remediated to residential standards. The wetlands were restored to different remedial standards with cooperation of the U.S. Corps of Engineers and the Department of Fish and Game (Coler, 1994). Based on the Remedial Action Certification, the site is certified as "No Further Action", and the three-year wetland monitoring program will end in 1995 (Coler, 1995). A high-pressure natural gas pipeline passes adjacent to the site along the eastern edge but is within the San Pablo Avenue right-of-way. Household refuse and containers of household hazardous waste (motor oil containers, spray paint cans, etc.) were observed on the site in various locations, mostly along roads.

5. MRB Site. No visible indications of hazards were noted on this parcel during the field investigation except for a bunker in the northeast corner of the parcel that contained tanks supporting remediation activities. This parcel is immediately south of a parcel known to have been contaminated with hazardous substances, the ~~Hercules~~East Bay Realty Services Inc. / San Pablo Site.

6. North Shore Business Park. This parcel was once part of the Hercules Powder Company's operation. Prior to redevelopment, this parcel contained the remains of 30 storage bunkers and building foundations, and two pit-type storage tanks (City of Hercules, 1982). The parcel was found to be contaminated with heavy metals and explosives associated with operation of the plant and was remediated to residential standards prior to construction of the business park (Coler, 1994). A "small quantity generator" of hazardous waste, BioRad Laboratories, is located on the site. The parcel is adjacent to the Pacific Refinery, and petroleum pipelines run along the north edge of the parcel from the Southern Pacific Railroad easement to the PG&E tank farm.

7. ANR Site. This parcel is undeveloped with no visible indication of contamination by hazardous substances. However, it is across San Pablo Avenue from Pacific Refining's tanker truck fill-in terminal. The refinery is a source of toxic air contaminants (see Air Quality Section), is a RCRA-listed generator of hazardous waste, has reported spills under the Emergency Response Notification system, and has a permitted underground storage tank. The groundwater gradient near the underground storage tank is not known. A petroleum pipeline passes under the eastern edge of this parcel adjacent to a East Bay Municipal Utility District right-of-way and a high-pressure gas line passes along the edge of the parcel along the San Pablo Avenue right-of-way.

8. Hercules Square Site. This parcel contains no listed hazardous waste sites and no visible indications of hazards were noted on this parcel during the field investigation. The site lies adjacent to a Pacific Bell facility listed as a hazardous waste generator by RCRA.

9. ORB Site. This parcel has no known hazardous waste contamination. This parcel lies adjacent to the Santa Fe Railway right-of-way, which contains petroleum and high pressure natural gas pipelines. Some of the gas pipelines cross the site.

10. BART Site. This parcel is listed on the ASPIS list with a "No Further Action" status indicating that hazardous materials could have been present but that not enough evidence

existed to warrant further investigation. Several piles of concrete and dirt were observed at both the south and north ends of the parcel. A petroleum pipeline passes under the eastern part of this parcel adjacent to the freeway and a high-pressure gas lines passes near the site, north of San Pablo Avenue.

11. I-80 Exit Loop Site. This parcel has no known hazardous waste contamination. This parcel is downslope from the underground storage tank on the Caltrans storage lot. Several piles of concrete and dirt were observed on the site indicating that the site has been used for dumping of surplus material.

12. ~~TABCO~~Williamson Site. Although this parcel contains no known hazardous waste contamination, it is adjacent to a RCRA listed hazardous waste generator, Caltrans, which is also on the ASPIS list. The parcel is also downslope from underground storage tanks at the Caltrans facility and at 1350 Bayberry Avenue. Several piles of concrete and dirt were observed on the site indicating that the site has been used for dumping of surplus material.

13. Sycamore Site. This parcel has no known hazardous waste contamination. Three crude oil pipelines and one gas pipeline pass along the northern edge of this parcel parallel to the Santa Fe Railway.

14. Five Giants Site. This parcel has no known hazardous waste contamination. Household-type refuse along the road frontage and small piles of debris were observed.

A. Church of the Nazarene. This parcel lies in a gully that may have been used by the former Hercules Powder Company as a mixing and packing area for explosives. The gullies provided a safety barrier in the event of an explosion (Psota, 1993). As a result, the soil may be contaminated with hazardous wastes. However, no visible indication of hazardous waste contamination was noted on this parcel during a site investigation.

B. McLeod Family. The eastern corner of this parcel is used as a storage area for steel pipes, heavy construction equipment and debris. One 500-gallon above ground rusted storage tank and 50-gallon drum were also observed on the site. Other portions of the parcel are currently used as horse pasture, suggesting that the tank may have been used for on-site water storage. PG&E's underground gas pipeline extends along the southeastern border of this site, parallel to the Santa Fe Railway. Chevron's underground petroleum pipeline follows the same route on the other side of the tracks.

C. Citation. No visible indications of hazards were noted on this parcel during the field investigation. Similar to the Church of the Nazarene parcel, this parcel may have been used by the former Hercules Powder Company for mixing and packing of explosives. Subsurface deposits may include dynamite magazines (Psota, 1993).

D. Carone-1. This parcel is actively used as a heavy equipment storage area. Piles of concrete, steel boxes and pipe were observed on the site. A 500-gallon above ground tank is located on the southern portion of the parcel. The contents of the tank were not investigated. The Santa Fe Railway tracks extend along the southern perimeter of the parcel.

E. Carone-2. Similar to Carone-1, this parcel shows evidence of current and previous use as a storage area for construction supplies. Approximately one dozen gallon cans were observed stacked on a palette on the eastern portion of this parcel. The contents of the cans were not investigated. A 20-foot wide by 5-foot high steel cylinder, several 50-gallon drums, and a stack of pipes were located in the same area. A steel building is

located on the western portion of this parcel. It is not known if hazardous materials are used or stored inside the building, as the field investigation was conducted from Bayberry Avenue.

F. Carone-Sycamore. This parcel is undeveloped with no visible indication of contamination by hazardous substances. The Santa Fe Railway extends along the southern perimeter of the site. Adjacent to the railroad tracks are two underground utility lines. Pacific Gas and Electric Company operates the gas pipeline, and Chevron operates a petroleum pipeline.

G. Old ATSF. Construction debris and a few dirt piles are scattered along an access road that leads to Santa Fe's transmitter/receiver box. The Santa Fe Railway tracks extend along the northern perimeter of this parcel. Adjacent to the railroad tracks are the two underground utility lines. No other indications of hazards were noted on this parcel during the field investigation.

H. Creekside. This parcel is adjacent to the existing Creekside Shopping Center. It has no visible signs of hazardous waste contamination. The northern perimeter of the site is approximately 100 feet from the underground petroleum and gas pipelines.

I. Willow Center. This parcel is currently developed with the Willow Shopping Center. Hazardous material users include a BP Gas Station and Willow Cleaners. Willow Cleaners uses perchloroethylene, a known toxic air contaminant. No visible indications of hazardous material contamination were noted during the field investigation of this parcel.

J. Church of Christ. No visible indications of hazardous conditions at this parcel are evident. The Santa Fe Railroad line extends along the southern perimeter of the site, and is generally upslope from the parcel. Adjacent to the railroad tracks are the two underground utility lines.

IMPACTS AND MITIGATION MEASURES

Introduction and Methodology

One of the goals of the current Hercules General Plan is to encourage a compatible arrangement of residential, commercial, industrial, public uses and open spaces in the City in order to provide for a healthy economic base (City of Hercules, 1990). The general goals of the Draft Land Use Element Update are to preserve and enhance the community's quality of life with well balanced growth and development and to create a community with a wide range of choices, services, and amenities.

Commercial and industrial developments that would be part of the enhanced community use hazardous materials and generate hazardous wastes that have the potential of posing risks to the public. Potential project impacts on public health and safety would stem from interactions between the workers and populace with the hazardous materials and wastes used by industry. The Contra Costa *County Hazardous Waste Management Plan* and the City of Hercules

Hazardous Waste Management Plan provide goals and policies for dealing properly with hazardous wastes and materials; the general goals are to protect the health, safety, and welfare of the public and the environment through safe and effective hazardous materials and waste management.

In order to evaluate potential impacts, the project plans, existing conditions, and appropriate regulations and guidelines were compared to determine how current activities within the project area involve handling hazardous materials or hazardous wastes, how proposed uses and activities would mesh with current conditions, and how those proposed uses would comply with applicable guidelines.

Significance Criteria

According to CEQA standards, a project would generally be considered to have a significant adverse environmental impact if it would create a potential public health hazard; involve the use, production, or disposal of materials that pose a hazard to people, animal or plant populations in the area affected; or would interfere with emergency response plans or emergency evacuation plans. For the purposes of this EIR, the following significance standards will be used:

- An impact would be considered significant if the project would involve the use, handling, or disposal of materials or wastes that would pose a hazard to people, or to animal or plant populations in the area affected.
- An impact would be considered significant if the project would expose area occupants or employees to working situations that exceed health standards.
- An impact would be considered significant if the project would create a substantial potential public health or safety hazard due to unusual risk of accidents.
- An impact would be considered significant if the project would interfere with emergency response plans or emergency evacuation plans.
- A impact would be considered significant if the project would violate policies set forth in the *Contra Costa County Hazardous Waste Management Plan,* or in the *City of Hercules Hazardous Waste Management Plan.*

An impact would not be considered significant if the potential for adverse effects is remote or if adverse effects would not occur because of the inherent characteristics of the potential impact.

Impact Hazard-1: Cleanup of hazardous materials or wastes currently in the project area could pose a threat to workers or the environment. This would be a significant impact.

As described under Existing Conditions, hazardous materials have been used at some of the parcels proposed for eventual development under the project. Such past use, most notably at the Hercules Powder Co. properties, has contaminated some areas and could have resulted in hazardous wastes being present at other locations as well. During buildout of the project area, contaminated soil, contaminated groundwater, and leaking or intact underground storage tanks (USTs) could be encountered at individual project sites. ~~Two parcels (~~Parcels 1 is~~and 4) are~~ currently under remediation (Network Environmental Systems, 1990). Contaminants include inorganic and organic chemicals (e.g. metals, nitrates, ammonia). Other contaminants likely to be found in the project area include solvents, fuels, pesticides, and herbicides. Cleanup of environmental contamination is regulated and monitored by local agencies enforcing federal, State, and local laws and regulations, as described in the Setting. Table IV.G.1 lists potential hazardous waste-related impacts of activities that typically occur during development. (Quantitative threats to public health or safety posed by the presence of hazardous materials or wastes could be evaluated only with a formal health risk assessment.)

In addition to the USTs mentioned in the Setting, it is possible that other old or abandoned USTs are present in the project area. Leaking USTs are one of the primary sources of environmental contamination in the Bay Area. The contents of USTs may be hazardous; a previously unknown UST, uncovered or disturbed during excavation, could threaten the health and safety of site workers. A leaking UST could pose additional threats to groundwater resources and the environment, and could also pose a possible explosion hazard.

If a UST were found in a development area during future construction activities, it would have to be closed in place or removed. A UST left in the ground could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Risks posed by underground storage tanks would be minimized by closing the tank according to guidelines of the County Health Services Department and the local Fire Department. Problems associated with leaking underground tanks are expected to gradually diminish in the future as federal and State legislation mandating tank testing and integrity monitoring procedures have greater effect.

TABLE IV.G.1: TYPICAL IMPACTS OF DEVELOPMENT-RELATED ACTIVITIES

Project Activity	Contaminated Materials	Potential Impacts
Excavation and site preparation	Soil gases, soil, groundwater	Health of workers, public and/or environment
Site investigation	Soil, groundwater	Health of workers and/or public
Dewatering	Groundwater	Health of workers, public, and/or environment
Underground storage tank closure	Tank, vapor, soil	Health and safety of workers and/or public
Site remediation	Soil gases, soil, groundwater	Health of workers, public and/or environment

SOURCE: Environmental Science Associates, Inc.

Soil contamination or other hazards are commonly detected by inspecting and searching public records for a subject property. That type of investigation is termed an environmental assessment or audit, and is performed independently by a California Registered Environmental Assessor (REA). When evidence of site contamination is found, additional data can be gathered by actually sampling and testing the soil. If contamination were to remain undetected, health or safety risks could be experienced by workers or the public, as indicated in Table IV.D.1.

If contamination were detected in areas to be excavated, site remediation would be necessary. Site remediation would be guided by a Site Mitigation Plan that would include at a minimum the following: proposed methods of treating hazardous soils in a manner that would render them

nonhazardous or otherwise protect public health and safety; plans for final disposal of soils, treated or otherwise; and plans for handling, testing, treating, and disposing groundwater during dewatering. Hercules is estimated to have generated approximately 868 tons of contaminated soil in 1990 (City of Hercules, 1991a). Contra Costa County's policies and procedures for remediating contaminated sites are discussed in Chapter 11 of the *County Hazardous Waste Management Plan* (Contra Costa County, 1989).

The major hazards-related impacts of environmental cleanup due to development associated with implementation of the Land Use Element Update would be beneficial over the long term. Remediation of contaminated sites would eliminate the health threats posed by hazardous wastes and prevent workers and the public from encountering such materials in the event of any future excavation at the site. Removal of the toxic materials would also eliminate a potential local source of groundwater contamination, which would also be beneficial for the long term.

Site remediation measures in themselves could have impacts. During site remediation, workers, and possibly the public, could be exposed to chemical compounds in soils, soil gases, or groundwater. The public and the environment could be exposed to airborne chemical compounds migrating from a site under remediation. Accidents during transportation of contaminated soils and/or groundwater could lead to exposure of the public and the environment to the chemical compounds. Exposure to hazardous waste could cause various short-term or long-term health effects. For particular substances, such health effects are described in detail in standard references. Worker and public health and safety requirements described in the Setting would apply during remediation activities.

Potential impacts of remediation would be mitigated, in part, by legally required safety and hazardous waste handling and transportation precautions. For hazardous waste workers, federal Occupational Safety and Health Administration (OSHA) regulations mandate an initial 40-hour training course and subsequent annual training review. Additionally, site-specific training would be required for some workers. In responsible agency review of mitigation plans, procedures for protection of the public during remediation would be evaluated. These measures, along with application of clean-up standards, would serve to protect human health and the environment during site remediation, thus minimizing remediation impacts.

Additional site investigations could be performed as part of remediation of specific site(s). Additional investigation could include collection of soil and/or groundwater samples at

contaminated sites, transportation of the samples to an analytical laboratory, and analysis and reporting. Workers directly engaged in the sampling activity would face the greatest potential for exposure. The public could be exposed to contaminants if an accident during sample transportation were to occur, or if access to a contaminated site were not controlled. Because relatively small amounts of material are collected as samples, exposure to potential hazards during site investigation would be limited, and associated impacts would be localized.

Performance of the environmental investigations as specified and remediation of hazardous materials or wastes, if any, identified during the audits would render this impact less than significant.

Reuse of existing historic building, as called for in Land Use Element Policy 8A.1 could require removal and disposal of hazardous building materials.

Impact Hazard-1: Mitigation Measures Proposed as Part of the project:

None identified.

Impact Hazard-1: Mitigation Measures Identified in Other *General Plan* Elements:

None identified.

Impact Hazard-1: Mitigation Measures Identified in this EIR

> **Hazard-1a:** At every potentially contaminated location to be developed within the City, the project applicant shall have the site inspected by a Registered Environmental Assessor (i.e. a professional environmental scientist or engineer registered as an REA in California) for the presence of hazardous materials and wastes.
>
> The investigations shall take the form of environmental audits, and shall include, at minimum, site inspections for hazardous materials, examination of historic records, and reviews of public agency records. Reports detailing the results of the inspections shall be submitted to the City for review. The report preparer shall either certify that the site is free of hazards or recommend preparation of a site mitigation plan. Upon request by the East Bay Municipal Utilities District, the City shall provide copies of specified reports.
>
> The City shall make certain that inspection reports are on file prior to project approval and prior to any excavation or construction. Acceptance of the site inspection report shall allow the proposed development to proceed to the permitting stage. All activities under this mitigation shall be done in conformance with the policies and procedures presented in Chapter 11 of the *County Hazardous Waste Management Plan.*

Hazard-1b: In the event that the site inspections of Mitigation Measure Hazard-1a uncover chemical contamination, underground storage tanks, abandoned drums, or other hazardous materials or wastes at a parcel, the inspection report preparer shall so notify the City and other agencies, as applicable, potentially including the state Department of Toxic Substances Control, the Regional Water Quality Control Board, and/or ~~. The City shall notify~~ the County Health Services Department. The City would also notify the proper agencies, as required by law. Under the direction of ~~these~~ the appropriate agencies, a site remediation plan shall be prepared by the project applicant, in accordance with applicable regulations.

The plan would (1) specify measures to be taken to protect workers and the public from exposure to potential site hazards and (2) certify that the proposed remediation measures would clean up the wastes, dispose the wastes, and protect public health in accordance with federal, State, and local requirements. Permitting or work in the areas of potential hazard shall not proceed until the site remediation plan is on file with the City.

If a parcel is found to be contaminated to a level that prohibits the proposed use, the potential for reduction of the hazard should be evaluated. Site remediation is theoretically capable of removing hazards to levels sufficiently low to allow any use at the site. In practice, both the technical feasibility of the remediation and its cost (financial feasibility) should be evaluated in order to determine the overall feasibility of locating a specific use on a specific site. In some cases, it may be found that a site may be appropriate for any use; in other cases, as site may require restriction to industrial use or a use that involves complete paving and covering of the parcel.

In accordance with OSHA requirements, any activity performed at a contaminated site shall be preceded by preparation of a separate site health and safety plan (prepared by the project applicant and filed with the City) for the protection of workers and the public. All reports, plans, and other documentation shall be added to the administrative record. All activities under this mitigation shall be done in conformance with policies and procedures presented in Chapter 11 of the *County Hazardous Waste Management Plan.*

Hazard-1c: For the ~~two former~~ Hercules Properties Inc. Parcel 1 that is ~~Powder Co. parcels~~ currently being remediated ~~parcels~~, the City shall obtain copies of closure reports prepared by Cal-EPA certifying that the property has been remediated and poses no threats to public health.

Because of ongoing cleanup activity under the jurisdiction of Cal-EPA, the measures identified in Hazard-1b may not be necessary for the ~~two~~ Hercules Powder Company parcel~~s~~ 1 being remediated under the jurisdiction of Cal-EPA. For this ~~those two~~ parcel~~s~~, the City shall obtain copies of closure reports prepared by Cal-EPA certifying that the property has been remediated and poses no threat~~s~~ to public health.

Impact Hazard-1: Significance After Mitigation

Less-than-significant.

Impact Hazard-2: Potentially hazardous installations in or adjacent to the project area could pose a threat to occupants or residents should adjacent areas be developed. This would be a significant impact.

In addition to individual parcels that might be contaminated by hazardous wastes, pipelines carrying hazardous materials (natural gas and petroleum products) traverse portions of the project area. Pipeline safety is regulated by the federal government for both inter- and intrastate pipelines under the Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquid Pipeline Safety Act (1979). Federal safety regulations cover design, construction and operation of pipelines, pipeline testing and operator reporting requirements. California has a number of additional pipeline safety programs, including "one-call" programs that allow contractors, pipeline operators, homeowners and others to locate all nearby pipelines. State law prohibits building structures on pipeline rights-of-way and includes pipeline operators in the Subdivision Map review process for parcels with pipeline easements. In addition, the State Fire Marshal's Office provides maps of pipelines to local fire departments and districts. California is also certified to perform many federal inspection duties (City of Pittsburg, 1994).

Pipeline accidents are relatively infrequent. The chance of a failure has been estimated at about 1.3 failures per 1,000 years. Over a 16-year period, natural gas pipelines resulted in a nationwide average of eight fatalities and 32 injuries, while liquids pipelines averaged three fatalities and 16.5 injuries yearly between 1982 and 1985. One study of liquids pipeline accident records indicated that two-thirds of the deaths and three-quarters of the injuries from pipeline failures occurred within 150 feet from the point of discharge (City of Pittsburg, 1994).

Federal and state regulations generally do not control land use near pipelines. Rather, local land use decisions govern the appropriateness of particular land uses and their proximity to others. Constraints to development on individual parcels would be analyzed on a case-by-case basis when future development proposals were submitted for City review. It should be noted that the Federal Housing Administration does not provide financing for any structure less than 10 feet from the outer boundary of a liquids or natural gas pipeline easement (City of Pittsburg, 1994). PG&E, which operates the high-pressure natural gas pipeline in San Pablo Avenue, does not require that development be set back farther than a pipeline right-of-way (or roadway right-of-way, where a pipeline is within a roadway) (Gross, 1995). The State Fire Marshal's Office, which regulates liquids pipelines, requires that new pipelines within 50 feet of residences, industrial buildings and "places of public assembly" be buried one foot deeper than normal

(generally 30 to 48 inches), but does not prohibit such pipelines, and does not have regulations for new development adjacent to existing pipelines (Pappas, 1995).

Large installations that use hazardous materials, including the Pacific Refining Company and the Hercules Wastewater Treatment Facility, occupy adjoining lands. These types of installations could constrain development of certain parcels or pose ongoing risks for project occupants should development proceed. A parcel-by-parcel discussion of constraints to development posed by hazardous installations at individual properties follows.

1. Hercules Properties Inc. Development of this parcel could be constrained by the presence of hazardous materials users and hazardous waste generators at existing industrial facilities, and by the remains of the former dynamite/fertilizer plant. The remediation plan for Hercules Properties Inc. covers this parcel. Soil contamination is known to be present, but that contingency would be covered either under Mitigation Measures Hazard-1a and Hazard-1b or by the remediation plan. The levels of remediation, continuing operations, and contaminated site cleanup would determine what future land uses would be allowed on each specific plot or area of the parcel. The proposed Remediation Action Plan would permit unrestricted use, including residences, on Parcel 1. Proposed land use designations are Historic Town Center, General Commercial and Industrial, Recreational Commercial, Industrial/Residential, Office/R&D, and Multi-Family Medium Density Residential. The time necessary to complete site remediation might delay construction of any potential site development.

   The Hercules Wastewater Treatment Facility is east of the Hercules Property. The plant stores and uses the acutely hazardous materials chlorine and sulfur dioxide. An accidental release of these materials would require evacuation of the area downwind. Land uses involving immobile populations such as hospitals and convalescent homes would be inappropriate for this parcel; no such uses are proposed under the Land Use Element Update.

2. Hercules Point. This parcel is covered by the same Remediation Action Plan as Parcel 1. However, development on Parcel 2 would be restricted to industrial and/or commercial activities. The time necessary to complete site remediation might delay potential site development.

3. Gelsar ~~Properties Inc.~~ According to the EIR on the Gelsar property and North Shore Business Park, this formerly contaminated parcel has been remediated to industrial (restricted use) standards (Engineering-Science, Inc., 1989). Additional remediation that could allow unrestricted land uses, including residential, is under consideration (Sunga, 1994). Proposed land use designations are General Commercial and Industrial, and Planned Commercial/Residential.

   A high-pressure natural gas pipeline runs along the San Pablo Avenue right-of-way, east ~~eastern boundary~~ of the parcel and could pose a risk of fire or explosion. Proposed development of Parcel 3 would include a wetland mitigation corridor along the West

Branch of Refugio Creek, along the eastern site boundary. This would serve as a buffer strip between proposed development and the pipeline.~~A pipeline right-of-way allows permanent access to the installation by restricting development within the right-of-way. However, especially in the case of a pipeline carrying extremely flammable material such as natural gas or petroleum products, the pipeline right-of-way might not be wide enough to assure the safety of nearby development, particularly if the pipeline is not precisely located in the center of its right-of-way. Setbacks or a buffer zone between the pipelines and any structures, in addition to the easements, might be needed to protect the health and safety of future site occupants. As a result, future development of the parcel might be restricted in terms of location on the property.~~

An accidental release of the materials used at the Hercules Wastewater Treatment Facility would require evacuation of the area downwind.

4. ~~Hercules~~East Bay Realty Services Inc./San Pablo Site. Remediation of this site was complete in November 1992. An accidental release of the materials used at the Hercules Wastewater Treatment Facility, west of the parcel, would require evacuation of the area downwind.

   A high-pressure natural gas pipeline runs along the San Pablo Avenue right-of-way, east ~~eastern boundary~~ of the parcel and could pose a risk of fire or explosion. ~~Conditions would be analogous to those for Parcel 3.~~ However, as stated above, if reasonable precautions were taken, the risk would not be substantial enough to be judged a significant impact. Proposed land use designations would allow Multi-Family Medium Density Residential, Planned Commercial-Residential, and General Commercial uses.

5. MRB Site. A high-pressure natural gas pipeline and a crude oil pipeline run along the eastern boundary of the parcel and could pose a risk of fire or explosion. Conditions would be analogous to those for Parcels 3 and 4. Proposed land use designations are Planned Commercial/Residential and Multi-Family Medium Density.

6. North Shore Business Park. According to the EIR on the North Shore Business Park, this formerly contaminated parcel has been remediated (City of Hercules, 1982). When the remediation was completed, it was certified by Cal-EPA without future development restrictions. The clean-up standards for specific land uses are continuously being modified, however, so sites previously cleaned to an "unrestricted level" may no longer be acceptable for sensitive land uses such as schools, residences, or hospitals. Clean-up standards for industrial land uses would not likely be more stringent in the future. Proposed land use designations are General Commercial and Industrial and Office/R&D.

   This parcel is adjacent to the Pacific Refining Company property, which could possibly result in constraints on development. A Health Risk Assessment was recently prepared for Pacific Refining as part of the Improved Fuels Modification Project EIR (Woodward-Clyde Consultants, 1993). Risks to public safety from routine emissions of toxic chemicals were assessed. The "one-in-a-million" cancer risk isopleth extends southwest from the refinery boundary to cover approximately one-half of Parcel 6.[2] In an accident

[2] The "one-in-a-million" cancer risk isopleth is a distance at which the population is exposed to an increase of one-in-a-million chance of getting cancer.

analysis prepared for the same report, the probability of a major accident that caused offsite injuries was judged to be the same as the national average for refineries, or 1 chance in 6,000 years. A Risk Management and Prevention Plan was prepared for the refinery at the direction of the Contra Costa County Health Services Department (Woodward-Clyde Consultants, 1993). The RMPP found the refinery to be safe.

In addition nearby, a crude oil pipeline and a high-pressure natural gas pipeline bound the north and east of the parcel, respectively. These pose a risk of fire and explosion, but reasonable precautions could reduce the potential impact to a less-than-significant level.~~and future development could be restricted in terms of location on the properties.~~

7. ANR Site. This parcel is immediately adjacent to the Pacific Refining Company property, which could possibly result in constraints on development, although only Commercial/ Industrial use is planned. The "one-in-a-million" cancer risk isopleth extends east and south from the refinery boundary to cover roughly one-third of Parcel 7.

   A six-inch petroleum product pipeline runs under the parcel and would constrain development; the pipeline has a 10-foot-wide right-of-way. No buildings are permitted in the right-of-way. A high pressure gas pipeline bounds the site to the west.~~ The pipelines might require additional buffer zone setbacks for safety reasons.~~

8. Hercules Square Site. Development of this parcel, Community Commercial, would not be constrained by any identified hazards.

9/10. ORB Site and BART Site. Development of these parcels might be restricted to some extent by the petroleum pipelines and high pressure natural gas pipeline that pass adjacent to or under the parcels. Development is slated for General Commercial on Parcel 9. A transit center is nearing completion on Parcel 10.

11/12. I-80 Exit Loop Site and ~~TABCO~~Williamson Site. The presence of underground storage tanks and equipment maintenance operations adjacent to these parcels raises the possibility that the soil or groundwater might have been contaminated by fuel leaks or improper disposal of waste oil or solvents. Such contamination, if any, would be remediated under Mitigation Measures Hazard-1a and Hazard-1b. ~~Development of these parcels might be restricted by the crude oil pipeline and high pressure natural gas pipeline that bound the parcels to the southeast.~~ General Commercial and Industrial uses are planned. Pipelines would have to be precisely located before any development can proceed.~~ A setback for maintenance and/or buffer zone in addition to the pipeline right-of-way might be needed.~~

13. Sycamore Site. ~~Development of the north edge of this parcel might be constrained by the oil and natural gas pipelines running along the northern boundary of the parcel.~~ Commercial/Residential is planned. As with Parcels 11 and 12, pipelines would have to be precisely located before any development can proceed.~~, and a maintenance setback and/or buffer zone might be needed.~~

14. Five Giants Site. General Commercial and Industrial development of this parcel would not be constrained by any identified hazards.

A. Church of Nazarene. The impacts of potential soil contamination on this parcel would be mitigated covered by Mitigation Measures Hazard-1a and Hazard-1b. No other constraints to development, which is slated to be Multi-Family Low Density, are foreseen.

B. McLeod Family. The impacts of potential soil contamination from the equipment storage on this parcel would be mitigated by Mitigation Measures Hazard-1a and Hazard-1b. ~~The~~ Reasonable precautions would reduce the potential effects of natural gas and petroleum pipelines along the southern border of this site to a less-than-significant level.~~could pose constraints to development, which is slated to be Multi-Family Low Density.~~

C. Citation Conditions at this parcel are similar to those at Parcel A. The possibility of soil contamination on this parcel would be covered by Mitigation Measures Hazard-1a and Hazard-1b. No other constraints to development, which is slated to be Multi-Family Low Density, are foreseen.

D/E. Carone-1 and Carone-2. The impacts of potential soil contamination from the materials stored on these parcels would be mitigated by Mitigation Measures Hazard-1a and Hazard-1b. ~~The~~ Reasonable precautions would reduce the potential effects of natural gas and petroleum pipelines along the northern border of the parcels to a less-than-significant level.~~could pose minor constraints to development, which is slated to be General Commercial and Industrial.~~

F. Carone-Sycamore. ~~The~~ Reasonable precautions would reduce the potential effects of natural gas and petroleum pipelines along the southern border of the parcels to a less-than-significant level.~~could pose constraints to development, which is planned to be General Commercial and Industrial.~~

G. Old ATSF. The impacts of potential soil contamination from the materials stored on this parcel would be mitigated by Mitigation Measures Hazard-1a and Hazard-1b. ~~The~~ Reasonable precautions would reduce the potential effects of natural gas and petroleum pipelines along the western edge of the parcel to a less-than-significant level.~~could pose constraints to development, which would be Community Commercial.~~

H. Creekside. Community Commercial development of this parcel would not be constrained by any identified hazards.

I. Willow Center. Redevelopment of this parcel would not be constrained by any identified hazards, assuming that existing hazardous materials users were decommissioned properly.

J. Church of Christ. ~~The~~ Reasonable precautions would reduce the potential effects of natural gas and petroleum pipelines along the western edge of the parcel to a less-than-significant level.~~could pose constraints to development, which would be General Commercial and Industrial.~~

Those constraints will be factors in parcel-by-parcel planning as the project area is developed.

Impact Hazard-2: Mitigation Measures Proposed as Part of the project

The following mitigation measure is a proposed policy in the Land Use Element Update:

Objective 13: Minimize the impacts from incompatible land uses on existing and planned development areas.

Policy 13A: Create a transition between residential neighborhoods and commercial/industrial areas, except where such mixed uses are desirable (e.g., live/work space and other designated areas). The transition should separate land uses that might be incompatible if located in close proximity. Land uses must minimize adverse impacts and those that would not negatively impact adjoining properties should be encouraged.

Impact Hazard-2: Mitigation Measures Identified in Other *General Plan* Elements:

None identified.

Impact Hazard-2: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following mitigation measures:

Hazard-2a: No residential development shall be allowed within the "one-in-a-million" cancer risk isopleth enclosing Pacific Refining Company, as illustrated in the Pacific Refining Company Improved Fuels Modification Project EIR (Woodward-Clyde Consultants, 1993). This mitigation applies only to Parcels 6 and 7.

Hazard-2b: If required by the Contra Costa County Health Services Department, a Risk Management and Prevention Plan (RMPP) should be prepared for acutely hazardous chemicals handled at the Hercules Wastewater Treatment Plant. The RMPP should be prepared by the operators of the Hercules Wastewater Treatment Plant. The RMPP should be prepared with the guidance of the Contra Costa County Health Services Department.

Hazard-2c: One policy of the City of Hercules *Hazardous Waste Management Plan* is to coordinate City emergency response procedures with the Rodeo-Hercules Fire Protection District, and to train city personnel in emergency response procedures through establishment of an interagency emergency response task force. The City shall include potential emergencies involving hazardous materials handled at the Hercules Wastewater Treatment Plant shall be included in the emergency planning.

Hazard-2d: If required by the RMPP prepared under Measure Hazard-2b, future residents or occupants of Parcels 1, 3, and 4 shall be informed of what actions to take in the event of an acutely hazardous materials release from the Hercules Wastewater Treatment Plant.

Hazard-2e: Consistent with pipeline operators' standards, no buildings~~, pavement, landscaping,~~ or other ~~development~~ structures that could impede access shall be installed in any pipeline right-of-way~~, nor within ten feet of any pipeline right-of-way~~.

Hazard-2f: The City shall permit pipeline operators with pipelines and pipeline rights-of-way adjacent to parcels subject to Tentative Map approval to review these maps.~~consider establishing a buffer zone that would separate future residential development from existing petroleum and natural gas pipeline rights-of-way.~~

Hazard-2g: Prior to the start of construction on any parcel that includes or is bordered by a pipeline or pipeline right-of-way or easement, the City shall consult with the Rodeo-Hercules Fire Protection District and the operator(s) of affected pipeline(s) regarding the adequacy of safety procedures for pipeline accidents.

Hazard-2h: The City shall consider a requirement that sponsors of residential development notify homeowners of the presence of adjacent or nearby pipelines.

Impact Hazard-2: Significance After Mitigation

Less-than-significant.

Impact Hazard-3: Development consistent with the Land Use and Circulation Elements Update would indirectly allow for the potential increased handling of hazardous materials and the potential increased generation of hazardous wastes by new industrial and commercial facilities occupying areas of the City designated and zoned for such uses. This impact would be less than significant.

All but three of the 24 parcels would undergo changes in land use designations that would allow some degree of commercial or industrial use. As noted in the Setting, the Land Use Element Update would remove from Industrial use all parcels in the study area, and would leave only the Pacific Refinery and a parcel east of San Pablo Avenue and south of Parcel 7 (both outside the study area) as land designated Industrial. Commercial businesses such as print shops, photo developers and auto repair shops do, however, use hazardous materials and generate hazardous wastes, as do businesses engaged in biotechnology research. Development of the parcels as planned would broaden the City's commercial and, to a much lesser extent, industrial base, which in turn could result in increased handling of hazardous materials by business. Because of the limited new industrial use anticipated, the increase would be expected to be relatively small, and would be expected to be substantially less than the increase in hazardous materials use that would occur with Industrial uses allowed under the existing *General Plan* and zoning designations.

The number of potentially hazardous chemicals used in commerce and industry is very large. With the types of business activity anticipated, hazardous materials and wastes typically encountered can be identified and discussed in a generic manner to describe, via example, the range of hazards that might be encountered. Hazardous properties are categorized into four types: toxic, ignitable, corrosive and reactive; many hazardous chemicals have properties that cause them to qualify for more than one category. Examples of typical hazardous substances that could be used in the project area include sulfuric acid (toxic, corrosive and reactive); solvents such as acetone (ignitable), benzene (toxic and ignitable), and chlorinated hydrocarbons (toxic); and solid wastes containing lead compounds (toxic), sodium hydroxide (toxic, corrosive and reactive), and pentachlorophenol or other chlorinated phenols (toxic). Within the hazard categories, many chemicals pose special dangers due to tendencies to bioaccumulate in living tissue, or to generate toxic fumes when exposed to fire, or to cause cancer and birth defects.

Currently, Pacific Refining Company is the only large-quantity industrial generator of hazardous waste in Hercules. Bio-Rad Laboratories generates smaller amounts of hazardous waste. Total generation of hazardous waste in the City is relatively small in comparison to nearby industrial parts of Contra Costa County (Network Environmental Systems, 1990).

Impact Hazard-3: Mitigation Measures Proposed as Part of the project:

None identified.

Impact Hazard-3: Mitigation Measures Identified in Other *General Plan* Elements

The City of Hercules *Hazardous Waste Management Plan* (discussed in the setting) contains several policies and recommended programs that would promote proper and safe handling of hazardous materials. These include:

- Train City employees who handle or otherwise come in contact with hazardous materials or hazardous waste in the proper safety procedures for managing and handling these substances. (Policy, Sec. 4.3)

- Establish an enhanced hazardous waste and materials data base, oriented toward land use issues and zoning ordinance enforcement, to be implemented by the Planning Department, which will incorporate information from business which hold City of Hercules business licenses. (Policy, Sec. 4.3)

- Train current inspectors to recognize hazardous materials and hazardous waste management problems and to coordinate with fire department inspectors in order to ensure compliance with the Hercules Municipal Code and other applicable regulations. (Policy, Sec. 4.3)

- Develop, in coordination with the Rodeo-Hercules Fire Protection District, a program to regularly inspect and/or monitor facilities which are determined to be or suspected of handling or managing hazardous materials within the city's jurisdiction. Such inspection may be possible in conjunction with existing inspection programs. (Program, Sec. 4.4)

- Enact a requirement for all generators or handlers of hazardous materials above a specified minimum (consistent with AB 2185 (1986) and AB 3777 (1989)) to provide the City with an on-file Hazardous Waste Business Plan and Risk Management and Prevention Plan. Generators and handlers subject to this requirement are those who generate or handle more than 55 gallons (liquid), 500 pounds (solid), or 200 cubic feet (gas at standard temperature and pressure) of hazardous materials annually. More detailed questionnaires regarding storage and handling of hazardous substances should be issued to each applicant for a City business license and issuance of the license should be contingent upon satisfaction of City requirements and ordinances pertaining to handling and storage of hazardous materials and waste. (Program, Sec. 4.4)

The above policies and programs would apply to the study area. Industrial and commercial development could result in an unavoidable increase in use of hazardous materials, but would not be expected to create hazardous conditions demonstrably different from conditions already existing in the developed portions of Hercules because of existing City policies. The impact would be one of scale rather than substance, and is judged to be less than significant. The following mitigation measures are identified to further reduce the potential impact of increased handling of hazardous materials and increased generation of hazardous waste:

Impact Hazard-3: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following mitigation measures:

Hazard-3a: The City shall ensure that use, storage, and handling of hazardous materials by businesses and industries within the project area is done in compliance with applicable City policies as well as and State and local laws, guidelines, and regulations.

Hazard-3b: Residents adjacent to new hazardous materials handling facilities shall be notified immediately by the City emergency response organizations of any accidental occurrences such as spills, leakages, or eruptions which may affect the health, safety and welfare of the public.

Hazard-3c: New businesses in the project area shall be required to install their temporary hazardous waste storage areas on paved, impermeable surfaces with drainage controls and spill containment features.

Hazard-3d: Waste stored temporarily at generator facilities shall be segregated by hazard category and stored in individual, sealed storage containers. Separate containers shall be used for flammables, acids, bases, poisons, and reactive wastes.

Impact Hazard-3: Significance After Mitigation

Less-than-significant.

In summary, industrial development under the project would be similar to the existing types of industrial uses in Hercules. The project would result in generation of hazardous wastes that would be similar to current conditions within the City, and would be less-than-significant. To supplement City policies, two mitigation measures are suggested.

Impact Hazard-4: Development under the Land Use and Circulation Elements Update would result in increase in the generation, storage, and disposal requirements of household hazardous wastes. This impact would be less than significant.

A household hazardous waste is any waste generated by households that can cause illness or death, or pose a threat to health or the environment when improperly stored, disposed, or otherwise managed. Examples of common household products that eventually become hazardous wastes include paints, sealants, pesticides, waste oil, pool chemicals, transmission fluid, antifreeze, and batteries (Contra Costa County, 1989). Nearly all households use and store some of these products, and unless the materials are used up or recycled, they eventually enter the waste stream. When disposed, such materials are considered hazardous by law, regardless of quantity and containment.

Data are available that indicate up to 0.43 percent of waste disposed in municipal landfills may originate as household hazardous wastes (Sacramento County Environmental Management Department, 1989). The *Contra Costa County Hazardous Waste Management Plan* has no comparable data, but estimates that the average household produces 7.5 pounds of hazardous waste per year. An estimated 1,070 tons of hazardous waste are generated by Contra Costa County's 285,000 households per year (Contra Costa County, 1989). The amount of household hazardous waste would be greater than with the current *General Plan* and zoning designations, which would allow almost no residential development in the Study Area.

Until recently, the general public was poorly informed of hazards presented by various household materials. Few householders undertook to deliver their hazardous wastes to adequate treatment and disposal facilities. In the past, household hazardous wastes have sometimes been stored indefinitely in garages or have found their way into sewer systems, vacant lots, or municipal landfills. Improper methods of disposal have the potential to cause injuries or contaminate surface and ground water, risking both public health and environmental quality.

State and local jurisdictions have been moving gradually to implement proper control and disposal of household hazardous wastes. Recent state legislation, AB 939, also encourages acceptance and treatment of household hazardous wastes by certain waste handling facilities. Establishment of permanent collection centers or periodic collection events at temporary locations are the most common methods for gathering household hazardous waste for disposal other than through the municipal garbage collection system. Contra Costa County actively encourages proper disposal of household hazardous waste. The *Contra Costa County Hazardous Waste Management Plan* calls for continued development of effective programs to reduce generation of household hazardous waste and to manage household hazardous waste, including proper collection and disposal.

The Hercules Hazardous Waste Management Plan encourages community participation in municipal household hazardous waste collection through educational and technical programs. Such programs might include distribution of educational materials, sponsoring educational events, arranging community hazardous waste collection days, and investigation of potential for a permanent household hazardous waste collection facility (Network Environmental Systems, 1990). (Periodic household hazardous waste collection days are currently held in Hercules.) Continued implementation of this policy and applying it to residential developments in the project area would mitigate this potential impact.

Impact Hazard-4: Mitigation Measures Proposed as Part of the project:

None identified.

Impact Hazard-4: Mitigation Measures Identified in Other *General Plan* Elements

The City of Hercules *Hazardous Waste Management Plan* (discussed in the setting) contains several policies and recommended programs that would promote proper and safe handling of hazardous materials. These include:

- Encourage community participation in municipal household hazardous waste collection through educational and technical programs. Such programs might include distribution of educational materials, sponsoring educational events, arranging community hazardous waste collection days and investigation of potential for a permanent household hazardous waste collection facility, in accordance with the solid waste JPA. (Policy, Sec. 4.3)

Impact Hazard-4: Additional Mitigation Measures Identified in this EIR

None required.

Impact Hazard-4: Significance After Mitigation

Less-than-significant.

Impact Hazard-5: Implementation of the proposed Land Use and Circulation Elements Update would result in locating hazardous materials adjacent to sensitive receptors. This impact would be less than significant.

Hazards to project occupants and residents could occur if industries or businesses using hazardous materials were to be situated too close to sensitive receptors such as residences, schools, or sensitive open space or recreation areas. Potential land use incompatibilities would be most likely to occur around the perimeter of the project area, or at locations where residential neighborhoods may already be in place or where residential developments might be planned at some future date. The project would result in substantially more residential development than under the existing *General Plan*, but with fewer Industrial uses, the amount of hazardous materials in use would be substantially less.

Impact Hazard-5: Mitigation Measures Proposed as Part of the Project

Implementation of the following proposed Land Use Element policies and objectives would reduce the potential for land use incompatibility resulting from locating hazardous materials adjacent to sensitive receptors.

Policy 3B.1: The planning and development of commercial and industrial areas should evaluate and minimize the effects on existing residential areas.

Objective 13: Minimize the impacts from incompatible land uses on existing and planned development areas.

Policy 13A: Create a transition between residential neighborhoods and commercial/industrial areas, except where mixed uses are desirable (e.g., live/work space and other designated areas). The transition should separate land uses that might be incompatible if located in close proximity. Land uses must minimize adverse impacts and those that would not negatively impact adjoining properties should be encouraged.

Impact Hazard-5: Mitigation Measures Identified in Other *General Plan* Elements

Implementation of the following recommended programs in the Hazardous Waste Management Plan would act to mitigate this potential impact.

- Establish and maintain a data base on hazardous materials handled, and hazardous waste managed within the City's sphere of influence (consistent with AB 2125 (1986)). The data base should contain information to facilitate land use decisions such as the permitting of new facilities which generate or use hazardous waste or materials and the proximity of development to hazardous sites as well as residential areas. This will encourage development of compatible uses and provide the City with mechanisms to develop appropriate regulatory guidelines and incident response procedures. (Program, Sec. 4.4)

- Participate, in conjunction with appropriate County and State agencies, in monitoring programs for air and water which will adequately protect the health and safety of Hercules citizens from potential exposures to hazardous materials on a sustained basis and which will alert citizens to any incidents or short-term threats of exposure. (Program, Sec. 4.4)

These recommendations of the City Hazardous Waste Management Plan, as well as provisions of the Hercules Municipal Code, Title 10, Chapter 13, that control development and maintenance of hazardous waste facilities within the City (City of Hercules, 1991b), would act to prevent this potential impact and protect the health and environment of the City residents.

Impact Hazard-5: Additional Mitigation Measures Identified in this EIR

None required.

Impact Hazard-5: Significance After Mitigation

Less-than-significant.

Impact Hazard-6: Transport of hazardous materials and wastes would result indirectly in greater potential for accidents involving hazardous materials. This would be a less-than-significant impact.

Trucking on highways and local streets is only one method of transporting hazardous materials and waste in Contra Costa County. Data on hazardous waste transport within the County is presented in the *County Hazardous Waste Management Plan,* where Contra Costa County's policies regarding transportation of hazardous materials and wastes, including emergency response procedures, are discussed (Contra Costa County, 1989). Approximately 7 percent of all highway accidents involve trucks; Table 10-A in the *County Hazardous Waste Management Plan* presents data on accident rates in the County. The California Highway Patrol estimates that 15 percent of trucks in rural areas and 25 percent of trucks in urban areas carry hazardous materials (Sacramento County Environmental Management Department, 1989). Accidents also occur on local streets, and trucks use local streets to collect the wastes, but hazardous waste haulers have very low accident rates. An accident involving hazardous materials or wastes during vehicular transport could result in any of the following impacts:

(1) Direct exposure of motorists and emergency responders (*i.e.,* firefighters, highway patrol officers, ambulance workers, paramedics, Caltrans workers, etc.) to hazardous materials, resulting in acute and chronic health effects.

(2) Contamination of the roadway and surrounding environment due to uncontained runoff from the incident.

(3) Exposure of residents and other occupants of surrounding areas to increased health risks as a result of a gaseous materials release.

(4) Destruction of the environment and structures and injury to humans as a result of a fire associated with a hazardous materials release.

Implementation of the updated Land Use and Circulation Elements might marginally increase the probability of an accident occurring or the actual frequency of accidents, but would not change the type of accident that might occur. Since hazardous material packaging and transportation requirements are stringent, and since accident rates involving hazardous materials are very low, this impact might not be significant, even without mitigation.

Impact Hazard-6: Mitigation Measures Proposed as Part of the Project:

None identified.

Impact Hazard-6: Mitigation Measures Identified in Other *General Plan* Elements:

None identified.

Impact Hazard-6: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following mitigation measure:

> **Hazard-6:** For each specific project that would generate hazardous waste, the City shall require as a condition of building permit and/or business license approval that the project sponsor prepare a hazardous material transportation program. The transportation program shall identify the location of the new facility or use and designate either (1) specific routes to be used for transport of hazardous materials and wastes to and from the facility, or (2) specific routes to be avoided during transport of hazardous materials and wastes to and from the facility. Routes would be selected to minimize proximity to sensitive receptors to the greatest practical degree. Passage through residential neighborhoods should be minimized, and parking of waste haulers on residential streets should be prohibited. The City shall review and approve the applicant's hazardous material transportation program or, working with the applicant, modify it to the satisfaction of both parties. The City shall require that the applicant provide a copy of the program to the Rodeo-Hercules Fire Protection District. Documentation to that effect shall be added to the administrative record.

Impact Hazard-6: Significance After Mitigation

Less-than-significant.

Impact Hazard-7: Generation of hazardous waste by new industries in the project area (as discussed under Impact Hazard-3) would add to cumulative hazardous waste disposal requirements in the County. Cleanup and disposal of any contaminated soils within the project area (as discussed under Impact Hazard-1) would increase the cumulative burden on existing landfill storage capacity. This would be an unavoidable significant impact.

Hazardous wastes generated by newly developed industries in Hercules would have to be recycled, treated, or otherwise disposed with other wastes generated throughout the County, adding to the total volume. In addition, if contaminated soil were removed from the project area during buildout, this too would contribute to cumulative impacts on the region's waste handling capacity.

Treatment facilities and landfill space for hazardous waste are limited. As of 1990, federal "land ban" legislation effectively prohibited disposal of untreated wastes in landfills. Available information on past land use offers no reason to suspect that large amounts of contaminated soils are present in the project area; because hazardous waste landfill space is scarce, and environmentally acceptable hazardous waste treatment technologies have yet to be developed fully, handling of contaminated soils is an increasingly important problem.

The amount of hazardous waste generated by development that would be permitted with the project would be expected to be substantially less than the amount that would be generated by Industrial uses allowed under the existing *General Plan* and zoning designations.

Impact Hazard-7: Mitigation Measures Proposed as Part of the Project

The following two measures would be implemented as part of the project:

> **Hazard-7a:** The Source Reduction and Recycling Element of the City's General Plan encourages waste minimization and includes plans and programs for handling special wastes that might be hazardous, such as contaminated soil and industrial sludge (City of Hercules, 1991a).
>
> **Hazard-7b** The City's Hazardous Waste Management Plan (Network Environmental Systems, 1990) also addresses waste minimization by encouraging waste minimization by local businesses through source reduction, product substitution, development of alternative technologies, recycling, or other effective means. The Hazardous Waste Management Plan goes on to recommends that the City provide staff and work with the local business community to undertake and encourage a program of identifying waste minimization opportunities or procedures for local industry. Procedures developed should encourage source reduction, recycling, reuse, and on-site treatment.

Impact Hazard-7: Mitigation Measures identified in other Elements of the *General Plan*

None identified.

Impact Hazard-7: Mitigation Measures Identified in this EIR:

None identified.

Impact Hazard-7: Significance After Mitigation

The impact would remain unavoidable and significant.

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H. CULTURAL RESOURCES

SETTING

Holman & Associates conducted a field survey and literature review to determine the presence of prehistoric or historic cultural resources on parcels 1 - 14 (Holman & Associates, 1991). The Northwest Information Center at Sonoma State University conducted a separate literature review for parcels A - I (Psota, 1993). This section summarizes the results of the field survey and two literature reviews. Both reports are on file with the City of Hercules' Community and Business Development Department.

Prehistoric Resources

In the northwest portion of Contra Costa County, prehistoric sites are generally found near the edge of historic bay margins, on valley and midslope terraces, and in hilly areas on terraces near seasonal watercourses. Continual occupation of bay margins in this area of Contra Costa County has yielded numerous aboriginal village and camp sites; a combination of bay shellfish and fish resources, and the presence of an environment that attracted both wildlife and birds, made these locations attractive as living areas (Psota, 1993).

The 1991 literature review identified one confirmed prehistoric site (CA-CCO-370), which is located on Parcel 1 within the confines of the former administrative center of the Hercules Powder Company. Preservation of the site has been facilitated by the conservation of a number of buildings in the City's Historic District (Holman & Associates, 1991). The 1993 literature review identified one unconfirmed prehistoric site (CA-CCO-248) within or adjacent to Parcel I. Early notes do not provide enough information to determine the exact location of CA-CCO-248. In 1910, the site was described as "a scant deposit of what was once probably a large village." The general vicinity of the site was disturbed by the construction of a nearby dam (Psota, 1993).

In the late 1800's, Native Americans who lived in the Hercules vicinity spoke the Xucyun Ohlone language. An ethnographic Native American site may be located within or adjacent to the unsurveyed portions of Parcel C (Northwest Information Center, 1993). Parcels A, I and 1 - 4 exhibit features that were attractive as a living area, and could also be sensitive areas for similar prehistoric resources (Psota, 1993; Holman & Associates, 1991). A field investigation of Parcel 3 did not identify cultural resources that would constitute an archaeological site dating to either the prehistoric or historic period. The U.S. Army Corps of Engineers has concluded that

there are no cultural resources eligible for the National Register of Historic Places ("historic properties" within the permit area of Parcel 3 or the adjacent affected area (Stradford, 1995).

Parcel B, part of Parcel C, Parcels D - H, and Parcels 5 - 14 lie further from Refugio Creek and San Pablo Bay, and have less potential to contain prehistoric cultural resources. Some of these parcels have been disturbed by construction activities associated with the development of roadways and other projects (ESA, 1993).

Historic Resources

Located within the Pinole land-grant, Hercules was established in the late 1800s as a company town of the Hercules Powder Company. At the company's height, the company's land was 3,000 acres and included the use of many gullies for mixing and packing explosives. The gullies separated mixing and packing operations and provided a safety feature for possible explosions. Parcel A, part of Parcel C, and Parcel I are located partially or entirely in gullies and may contain archaeological deposits such as dynamite magazines (Psota, 1993).

Several Hercules Powder Company buildings and Victorian-style homes remain from the historic company town. The Powder Company buildings are located entirely on Parcel 1 and include an administrative center, office and various plant buildings. The company administrative offices are listed in the National Register of Historic Places (Psota, 1993). The City recognizes the other buildings as being an important historical resource (City of Hercules, 1990). Other remaining Powder Company structures include rusted industrial framework, pipelines and tanks. The City does not regard these structures as an important historical resource. Their eligibility for the National Register Historic Places has not been determined (City of Hercules, 1990).

In 1977, the City commissioned an architectural evaluation of the Hercules Powder Company buildings and Victorian-style company homes. As a result of the study, the City designated buildings that would be considered for conservation or demolition, and subsequently expanded the Historic District. The company homes were renovated and relocated to the expanded Historic District area, south of the former administrative center and adjacent to Parcels 1 and C. In 1980, the company homes were listed in the National Register of Historic Places (National Register of Historic Places, 1993).

The literature reviews identified no known historic resources on Parcels B, D - H and 2 - 14 (Psota, 1993; Holman & Associates, 1991).

IMPACTS AND MITIGATION MEASURES

Significance Criteria

According to Appendix G of the CEQA *Guidelines*, a project would normally be considered to have a significant adverse impact on the environment if it would disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group; or a paleontological site except as part of a scientific study. For purposes of the Land Use Element Update, potentially significant environmental impacts are considered to be present when the proposed land use designations represent a change from the historic use of a property or structure, permit alterations to the historic character, or disturb prehistoric subsurface or cultural deposits during excavation.

Impacts

Impact Cultural-1: Development consistent with the proposed Land Use and Circulation Elements Update could result in damage to known or unknown prehistoric archaeological resources. This would be considered a significant impact.

According to the literature review, there is one confirmed site (CA-CCO-370) within the confines of the former administrative building of Hercules Powder Company on Parcel 1, and an unconfirmed site (CA-CCO-248) on or adjacent to Parcel I.

Policy 1A of the proposed Land Use Element Update encourages development consistent with the land use map on each of the 24 parcels. Development on these parcels could result in "disruption" or "adverse effects" to prehistoric archaeological resources where construction involves land alteration activities (such as clearing vegetation, grading, driving heavy vehicles, soil compacting, and landscaping).

Impact Cultural-1: Mitigation Measures Proposed as Part of the Project

Because site CA-CCO-370 is located within the former administrative building of the Hercules Powder Company, the following mitigation measures from the proposed Land Use Element Update would facilitate preservation of the prehistoric site:

Policy 8A: Preserve and enhance the historic district area.

Program 8A.1: Develop plans to preserve and rehabilitate key historic buildings but not the former plant equipment and manufacturing structures.

Program 8A.2: Prepare a detailed study of the Historic Town Center and adjoining areas (including Hercules Point) in order to define the appropriate mix of public and private land uses, design guidelines, preservation key buildings and vegetation (e.g. trees) and trails.

Impact Cultural-1: Mitigation Measures identified by other Elements of the *General Plan*

None identified.

Impact Cultural-1: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following cultural resources mitigation program:

Cultural-1a: Prior to development on Parcels 1, 2, 4, A and C, an attempt should be made through a combination of archival research and in-field testing to identify areas that may have been used by Native American populations. Areas containing prehistoric deposits would be mapped; evaluation of their significance would follow only in those areas where future development might affect the resources (Holman, 1991).

Cultural-1b: The City should enact the following program prior to any development in the vicinity of CA-CCO-370 and CA-CCO-248 on Parcels 1 and I, respectively. The program shall be conducted under the guidance of Appendix K of the CEQA *Guidelines*.

The program would also apply to Parcels A, C, and 1-4, where the potential for Native American remains exists.

- Prior to excavation and construction on the above parcels, the prime construction contractor and any subcontractor(s) would be cautioned on the legal and/or regulatory implications of knowingly destroying cultural resources or removing artifacts, human remains, bottles, and other cultural materials from the project site.

- The project sponsor would identify a qualified archaeologist prior to any demolition, excavation, or construction. The City would approve the project sponsor's selection for a qualified archaeologist. The archaeologist would have the authority to temporarily halt excavation and construction activities in the immediate vicinity (ten-meter radius) of a find if significant or potentially significant cultural resources are exposed and/or adversely affected by construction operations.

- Reasonable time would be allowed for the qualified archaeologist to notify the proper authorities for a more detailed inspection and examination of the exposed cultural resources. During this time, excavation and construction would not be allowed in the immediate vicinity of the find; however, those activities could continue in other areas of the project site.

- If any find were determined to be significant by the qualified archaeologist, representatives of the project sponsor or construction contractor and the City, the qualified archaeologist, and a representative of the Native American community (if the discover is an aboriginal burial) would meet to determine the appropriate course of action.

- All cultural materials recovered as part of the monitoring program would be subject to scientific analysis, professional museum curation, and a report prepared according to current professional standards.

Cultural-1c: If previously unknown subsurface cultural resources are discovered during excavation activities on the identified parcels or elsewhere in the study area, excavation would be temporarily halted and an archaeologist consulted as to the importance of the resources. Should the archaeologist determine that the resources are important, the project sponsor would follow the procedure described in Mitigation Measure Cultural-1b.

Impact Cultural-1: Significance After Mitigation

Implementation of the above measures would mitigate the impact to a less-than-significant level.

Impact Cultural-2: Development consistent with the proposed Land Use and Circulation Elements Update could result in damage to known or unknown historic archaeological resources. This would be a significant impact.

According to the literature review, portions of Parcels A, C, and I are in gullies and have the potential to contain archaeological deposits such as dynamite magazines. Development on these parcels could disrupt or affect a historic archaeological resource.

Impact Cultural-2: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Cultural-2: Mitigation Measures identified by other Elements of the *General Plan*

None identified.

Impact Cultural-2: Mitigation Measures Identified in this EIR

Mitigation Measures Cultural-1b and Cultural-1c would also apply to future development proposals for Parcels A, C, and I.

Impact Cultural-2: Significance After Mitigation

Implementation of the above measures would mitigate the impact to a less-than-significant level.

Impact Cultural-3: Development consistent with the proposed Land Use and Circulation Elements Update could result in damage to known historical resources. This would be considered a significant impact.

As discussed above, the former administrative center of the Hercules Powder Company and Victorian-style company homes in the Historic District are listed in the National Register of Historic Places. The proposed Land Use Element contains a "Historic Town Center" designation that would allow the reuse of existing company buildings, and the addition of new buildings in the Historic District. Development on Parcel 1 or in the vicinity of Parcel C could affect these resources.

Impact Cultural-3: Mitigation Measures Proposed as Part of the Project

The following policies or objectives are in the proposed Land Use Element Update, and may be used as mitigation measures:

Policies 8A.1 and 8A.2 discussed above.

Impact Cultural-3~~1~~: Mitigation Measures identified by other Elements of the *General Plan*

None identified.

Impact Cultural-3: Mitigation Measures Identified in this EIR

Cultural-3a: Prior to development on Parcels 1 and C, the City should initiate an architectural evaluation of the remaining Hercules Powder Company buildings. Since the architectural evaluation was done in 1977, the State Historic Preservation Office has altered its definition of what is historically significant. At present any structure 45 years or older may qualify as significant under CEQA (Holman & Associates, 1991). The elements of architectural evaluation program should include:

- An architectural evaluation of remaining company buildings by a qualified architectural historian.
- A determination of whether the remaining buildings are eligible for listing in the National Register of Historic Places.

- On the basis of the above findings, the City should take action to commit the eligible buildings to permanent conservation by having them listed in the National Register of Historic Places. The City could encourage adaptive reuse of listed buildings, including historically sensitive restoration, as a means of preserving eligible structures. Restoration and renovation of buildings should be performed in accordance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties." The standards serve as guidelines for rehabilitation, restoration, preservation, retaining and preserving historic character of the property.

- If the above findings show that a building is not eligible for the National Register of Historic Places, then the following measure should be implemented:

  Prior to development on many of the 24 parcels, a Phase II historic resources evaluation shall be conducted. Development is defined here as:

  Significant changes to building uses and/or land uses;
  The construction of new buildings;
  Significant exterior alterations to existing buildings, including demolition; or
  An increase in development intensity on a parcel.

  If a Phase II evaluation identifies historic resources on a parcel, appropriate mitigation measures shall be incorporated into the project design using widely accepted standards for historic resources management, such as the *Secretary of the Interior's Guidelines for Rehabilitation* and the State Historic Building Code.

Impact Cultural-3: Significance after Mitigation

The above mitigation measures would reduce the impact to a less-than-significant level.

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I. HYDROLOGY AND WATER QUALITY

SETTING

Regional Context

The City of Hercules is located mostly in the Refugio Valley along the western shore of San Pablo Bay, on the northeast side of the San Francisco Bay Area. The City is bounded by hills to the northeast and east and by Pinole Ridge to the south. Much of the Refugio Valley has elevations ranging from 7.5 to 14.3 feet above mean sea level (MSL), but the high ground surrounding portions of it rises to over 200 feet above MSL in the study area and more than 500 feet above MSL on the surrounding ridge lines. Mean annual precipitation is approximately 20 inches, and mean annual runoff is about three inches (Rantz, 1971; 1974). The general trend of drainage in the area is to the northwest into San Pablo Bay. Refugio Creek is the main drainage feature within the City (see Fig. IV.I.1).

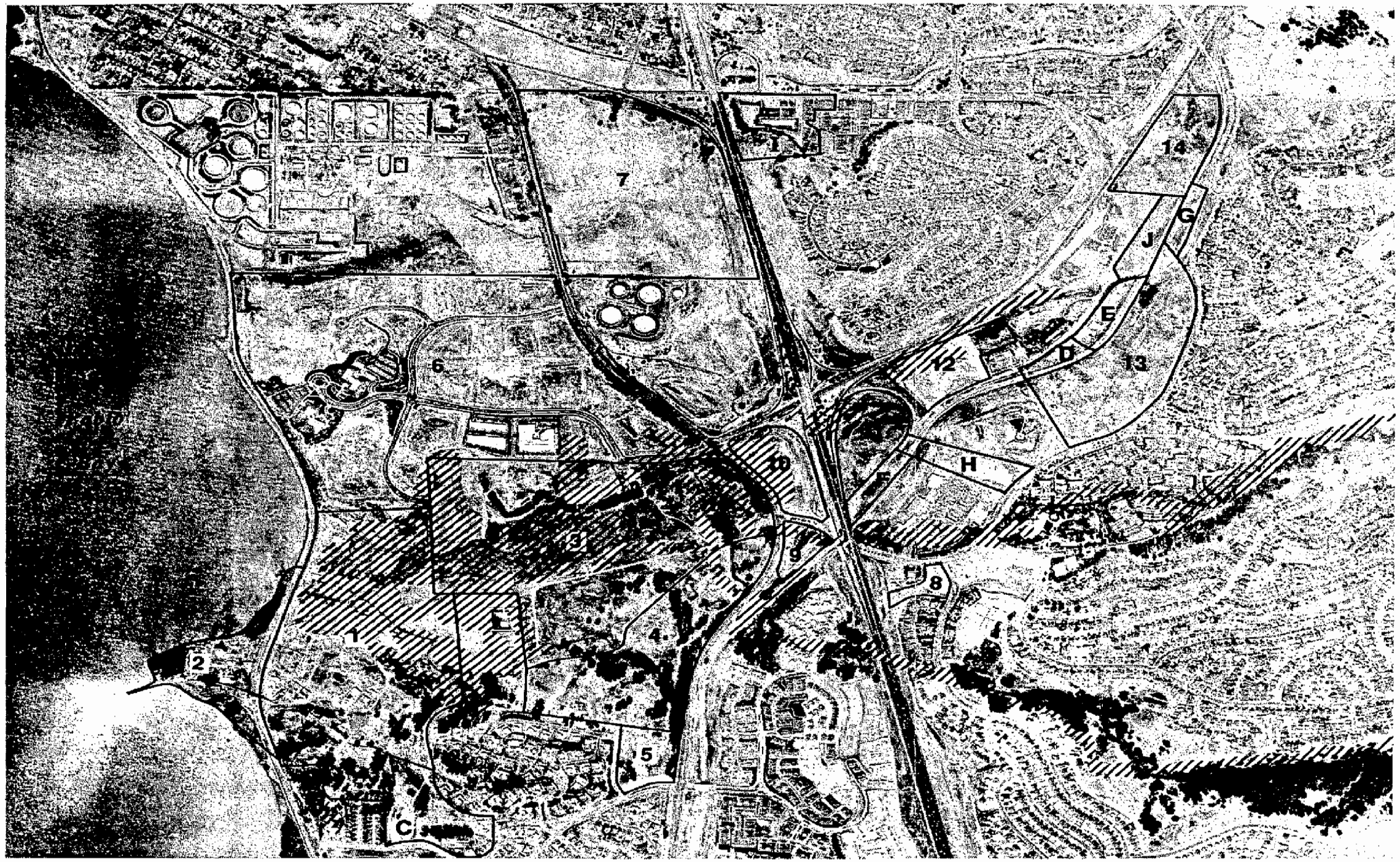
Surface Water

Streams

Refugio Creek is the primary surface water source within the project area, with a western branch feeding into the main creek from the southwest (see Fig. IV.I.1). Refugio Creek flows into the project area from the southeast, and travels along a 3.75 mile course ending in San Pablo Bay. The westernmost portion of Refugio Creek (on Parcel 1) ~~lying west of San Pablo Avenue~~ is tidally influenced.

Refugio Creek is not in its natural channel, apparently having been straightened, deepened, and channeled by the former Hercules Powder Company property owners in the early part of the century (Engineering-Science, Inc., 1989). The original channel of the creek is not known. A portion of Refugio Creek is culverted beneath the existing Creekside Shopping Center adjacent to I-80 and Parcel H; the creek also passes through a culvert near where the Santa Fe Railroad tracks pass beneath I-80, near Parcels 9 and 10.

A tidal slough or tributary also drains a small watershed area on the west side of Refugio Valley. This tidal slough originates above a roughly one-acre pond previously used as an industrial water supply source and wastewater conveyance system during early operations of the Hercules



Areas of 100-Year Flooding; Base Flood Elevations Determined

1, A Parcel Reference

SOURCE: Hercules General Plan

NOTE: This map is intended to show general areas of potential geologic constraints of planning purposes only. Site-specific geologic investigations should be performed prior to development.

0 2000
Feet

Hercules General Plan Land Use and Circulation Elements Update / 930314

Figure IV.I.1
Flood Prone Areas

Powder Company plant (EDAW, Inc., 1987). ~~A marsh area also exists within the central portion of a parcel on the south side of Refugio Creek (Parcel 4; see below).~~

Past planning studies including the City's Redevelopment Plan have included proposals to realign Refugio Creek to help control flood conditions. The re-alignment of Refugio Creek would require a Streambed Alteration Permit from the California Department of Fish and Game (CDFG), as well as approval from the U.S. Army Corps of Engineers in consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. The plan would also have to comply with the Flood Policies outlined in the Safety Element of the Hercules *General Plan*. (See discussion under Plans and Policies, below).

Currently, there is no U.S. Geologic Survey stream gauging information regarding flows within Refugio Creek, but a hydraulic analysis has been completed in an attempt to predict flows (Hydrocomp, Inc., 1987). It should be noted that the area has recently undergone five years of drought, so precipitation and runoff figures may be below normal.

Coastal Issues

The City of Hercules is adjacent to San Pablo Bay and is influenced by its waves, tides, and salinity. Existing waterfront development around Hercules Point, including a wharf, was constructed by the Hercules Powder Company. Extensive mudflats occur in shoal areas offshore, extending over a quarter mile out in some areas. Water depths offshore are very shallow, less than 12 feet deep for almost a mile offshore.

The highest tide on record is approximately 7.2 feet; however, wave heights could be substantially larger during a storm (Engineering-Science, Inc., 1989).

Flooding

Flooding is a recognized hazard in some areas of Hercules. Storm water flooding of Refugio Valley occurs during periods of heavy rainfall and runoff, coincident with high tides in Refugio Creek. A backwater effect is created that prevents effective flood water discharge to San Pablo Bay. Extensive flooding of Refugio Creek occurred during severe storms of January 1983, with the creek overflowing its banks.

As shown in Figure IV.I.1, some of the 24 study area parcels or portions thereof are located in 100-year flood zones. Specifically, the northern portion of Parcel 1, and portions of Parcels 3, 9, 11, and 12 are located within the 100-year floodplain of Refugio Creek. Parcels A and H are close to Refugio Creek but not actually within its floodplain. Parcel 2 may be subject to coastal flooding due to wave run-up during storms. Parcels 1, 3, 4, 9, 10, 13 and 14 are subject to ponding of water in low areas (City of Hercules, 1991). Overland and sheet flow of runoff occurs from most of these parcels; much of the runoff enters either Refugio Creek or Rodeo Creek, just north of the study area. Runoff in urban areas increases with the amount of impermeable surfaces created. Drainage facilities help control this runoff.

Erosion Hazards

There are three types of erosion hazards within the study area. The first is coastal erosion from waves. This primarily affects Parcel 2, although portions of Parcels 1 and 6 could also be affected. The second is splash erosion from precipitation. This hazard particularly affects Parcel 8 (City of Hercules, 1991; ESA, 1991). The third type of erosion hazard, and the most prevalent and severe within the study area, is gullying of steep hillsides. Gullying currently exists within Parcel 7, where the topography is steep, and could occur in Parcel 13 with increased runoff (City of Hercules, 1991; ESA, 1991).

Erosion is amplified by the presence of soils with moderate to high erosion potential. This issue is discussed more fully in the Geology and Soils analysis (Section IV.J.) of this EIR. Such soils occur on all parcels in the study area with the exception of Parcels 2, 9, 10, 11, F, and G.

Groundwater

Groundwater underlies Refugio Valley at relatively shallow depths. There are likely several distinct water bearing zones in the bedded sediments in the valley, including a very shallow, but discontinuous perched zone. Throughout the valley, and depending on elevation, the winter water table is typically less than two to three feet deep, and declines to five to six feet during most summer months. Groundwater in the very shallow zone may be only six inches deep in the winter months of wet years. Refugio Creek is thus fed by tides and surface water runoff during winter months and by groundwater discharge during the summer months.

Water Quality

Water quality in the study area is affected by a number of pollutants that are carried into surface and ground waters by runoff. These pollutants include oil and grease from roadways; agricultural pollutants and fecal coliform bacteria from crop and grazing lands; low levels of heavy metals from the former munitions factory on Parcel 1, or from the watershed area southwest of I-80 (EDAW, 1987); and general debris from roadways. Poor surface water quality resulting from these pollutant sources has been found in Parcels 1, 7, 9, 10, and 11~~; and standing (ponded) water of poor quality has been found on Parcel 4~~ (ESA, 1991).

Monitoring and water quality analysis completed by WESCO in June 1983 indicated the shallow groundwater to be brackish and non-potable, but also not substantially affected by previous industrial uses of the properties (EDAW, Inc., 1987). (See Section IV.G., Hazardous Materials, for additional discussion.)

Regulations, Plans and Policies

Federal Requirements

A Section 404 Permit would be needed from the U.S. Army Corps of Engineers (Corps) for any dredging or filling of streams, such as a proposed channel realignment of Refugio Creek; and for dredging or filling in any low-lying areas behind coastal dikes. Realignment of the Refugio Creek riparian corridor may affect wetlands and may require formal wetland delineation and a permit approving filling activities from the Corps, in consultation with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. In some cases the Corps may issue a Nationwide Permit for fill with no formal agency notification or public review. A Nationwide Permit may be issued to fill wetlands between one and ten acres in instances where no threatened or endangered species habitat exists. Development which could affect salt marsh wetlands by Hercules Point would also be under the jurisdiction of the San Francisco Bay Conservation and Development Commission (BCDC). (See Section IV.D, Vegetation and Wildlife.)

State Requirements

Development including any alterations of Refugio Creek, such as a proposed channel realignment, would require a Streambed Alteration Agreement from the California Department of Fish and Game (CDFG).

Hercules *General Plan*

The Seismic Safety/Safety Element of the Hercules *General Plan* requires that flood hazards be taken into account during the planning process for proposed development (City of Hercules, 1989). The objective of the Seismic Safety/Safety Element is to reduce loss of life, injuries, property damage, and economic and social dislocations resulting from future flooding and geologic hazards. (See Mitigation Measure Hydrology-1 for specific policies applicable to the proposed project.)

The City of Hercules *General Plan* and Redevelopment Plan call for the realigning and widening of Refugio Creek to help stem flood conditions. Any modification to Refugio Creek would require a streambed alteration permit from the California Department of Fish and Game, as well as approval from the U.S. Army Corps of Engineers, as noted above. Future development would also have to comply with the Flood Policies outlined in the Seismic Safety/Safety Element of the Hercules *General Plan*. In addition, the study area may be subject to permit requirements from the State Water Resources Control Board, the Regional Water Quality Control Board, and the State Department of Water Resources.

The BCDC requires a Development Permit for any dredging, filling, or land use changes for all tidal areas and within 100 feet of tidal areas. The project must be consistent with the McAteer-Petris Act and the San Francisco Bay Plan. BCDC has also developed advisory policies that the City of Hercules may wish to follow, including:

- Appointing an Engineering Criteria Review Board to establish and revise safety criteria for Bay fills and structures thereon; review projects for adequacy of specific safety provisions; prescribe an inspection system for projects on Bay fills; and gather and disseminate performance data from specific projects.
- Recommending that structures built on fill at or near the shoreline have adequate height above estimated wave runup levels, or sufficient setbacks from the shoreline to avoid dynamic wave energy.
- Recommending that structures be built sufficiently high to be above the highest estimated tide level for the expected life of the project; or sufficiently protected by levees to allow for the effects of subsidence during the life of the project.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA Guidelines states that a project normally would have a significant effect if it would:

- substantially degrade water quality;
- contaminate a public water supply;
- substantially degrade or deplete ground water resources;
- interfere substantially with ground water recharge; or
- cause substantial flooding, erosion, or siltation.

Certain assumptions regarding impact significance are made based upon information contained in the Setting above. For example, because groundwater in the Hercules area is brackish and non-potable, potential impacts to its quantity and quality are not considered significant. For the purposes of this EIR, development of the City of Hercules under the Land Use and Circulation Elements Update would have a significant impact if it would:

- Result in development subject to 100-year flooding;
- Increase the potential for flooding due to increased runoff; or
- Cause or increase pollution of surface waters via runoff.

Impacts

Impact Hydrology-1: Development consistent with the proposed Land Use and Circulation Elements Update would place structures and an increased population in areas already subject to 100-year flooding from Refugio Creek and from coastal storms. Additionally, construction of new impermeable surfaces could increase runoff and contribute to flooding. This would be a significant impact.

Portions of the study area would be subject to 100-year flooding from Refugio Creek to varying base elevations. Any increase in impermeable surface cover over existing vegetation or soil in these areas would increase runoff that could also lead to, or heighten, flood conditions. As shown by Figure IV.I.1, portions of Parcels 1, 3, 9, 10, 11, ~~and~~ 12, and A lie within the floodplain of Refugio Creek. Although the purpose of channelizing the creek would be to reduce the potential for flooding, new development could be exposed to flood conditions. This effect could be exacerbated by an increase in impermeable surfaces that would be accompanied with new development that occurs near the creek.

Development on Parcel 11 would face relatively severe constraints due to the presence of the East Branch of Refugio Creek through the middle of the parcel. For this site to be developed, the creek would probably need to be installed in a large culvert beneath a substantial amount of fill. There may be regulatory constraints associated with this action due to the presence of riparian wetlands along the creek. Changing the channel location or configuration of Refugio Creek would result in changes in drainage patterns, and increase flooding in some areas.

Development on Parcel 2 (waterfront commercial) could also place structures and population in a zone of coastal flooding, up to a base flood elevation of six feet. (See Section IV.J., Geology and Soils for a discussion of earthquake-induced flooding, as from tsunami.)

Impact Hydrology-1: Mitigation Measures Proposed as Part of the Project

The following program is proposed as part of the Land Use Element Update:

> **Program 13B:** Design of the flood control improvements along Refugio Creek should be done in a manner to function as a transition area between land uses.

Impact Hydrology-1: Mitigation Measures Identified in Other *General Plan* Elements

The following measure is included in the *General Plan* Growth Management Element:

> All new structures shall be located outside the Flood Zones A and B as designated by the Flood Insurance Rate Map (prepared by the Federal Emergency Management Agency (FEMA)); or, insure that the finished floor elevation is at least one foot above the flood elevation as determined by FEMA. Development of any property shall not significantly increase the flooding potential at downstream areas, or otherwise significantly impact or aggravate a flooding problem at downstream properties. (Growth Management Element Performance Standard III.E.7.)

The following Seismic Safety/Safety Element policies contained in the City's *General Plan* would help reduce the impact to a less-than-significant level:

> **Policy C.2.e.1:** Refugio Creek Channel should be improved for existing drainage so that adequate capacity for expected flood flows is provided.
>
> **Policy C.2.e.2:** The City should develop ordinances and enforcement mechanisms which preserve, develop and maintain drainage courses.

Policy C.2.e.3: Review of any significant project proposals for areas which are not presently in flood zones should include an evaluation of increased downstream flows resulting from the project.

Policy C.2.e.4: Finished floor elevation of all developments must be one foot above the 100 year flood elevations prescribed on the Flood Insurance Rate Map.

Policy C.2.e.5: In order to protect lives and property, intensive development should not be permitted in reclaimed areas unless flood protection in such areas is constructed to the standards of the Flood Disaster Protection Act of 1973.

Impact Hydrology-1: Additional Mitigation Measures Identified in this EIR

Hydrology-1a: The City shall review and refine, as necessary, its Master Drainage Plan, including specifics for drainage on individual parcels (except those such as Parcel 6 which already have a drainage infrastructure), prior to approval of any development in the study area. This is an important measure ~~since the City's wastewater system is at capacity, and~~ since new drainage and pollution prevention and control infrastructure would have to be built to accommodate the increase in runoff.

Hydrology-1b: For each proposed development project, runoff increase calculations for the parcel at full build-out should be measured against estimates of existing runoff to ensure that no flooding would result.

Impact Hydrology-1: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level. Measures to mitigate flooding may also have impacts to Biological Resources, as discussed in Section IV.D. of the EIR.

Impact Hydrology-2: Development under the Land Use and Circulation Elements Update could result in increased non-point-source and point-source pollution of surface waters from construction activity and vehicle use. This would be a significant impact.

The effects of increased sedimentation are discussed in the Geology and Soils analysis (Section IV.J.) of this report. However, in addition to increased sediment, development of the study area parcels could increase other types of non-point source pollution. Runoff from streets, construction sites, roofs, and parking lots contains typical urban pollutants such as oil, grease, fuel, rubber, heavy metals, and solvents. Exhaust from motor vehicles contains lead and particulates that could be picked up by runoff and carried into nearby surface water bodies, such as San Pablo Bay. Degradation of surface water quality would be a significant impact.

New commercial facilities could introduce point sources of pollution for any pollution source if it would not discharge into an established issue sewer system. Since these sources would require a National Pollution Discharge Elimination System (NPDES) permit, they would not be considered significant sources of pollution.

Degradation of water quality due to introduced pollutants is already a concern in the study area, particularly in Parcels 1, 4, 7, 9, 10, and 11. Development of these areas could increase the load of nutrients, metals, oil and grease carried in runoff from roadways and industrial sources to surface and ground waters.

Impact Hydrology-2: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Hydrology-2: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following mitigation measures:

> **Hydrology-2a:** Develop a Master Water Quality Control Plan for the City, including measures to clean up existing contaminated water resources in various parcels, to identify and remove or mitigate existing sources of pollution, and to develop ways of preventing further pollution such as specific water treatment policies for industries and retention basins for surface runoff suspected of carrying roadway pollutants. Such a plan must be approved by the City Engineer and should be reviewed by the Regional Water Quality Control Board and State Department of Water Resources for correctness and thoroughness, prior to implementation.
>
> **Hydrology-2b:** Develop a set of best management practices (BMPs) for developers to follow.
>
> Implementation of best management practices by the developers would further help to mitigate this impact. Such practices may include, but are not limited to:
>
> - Use of stormwater retention or detention structures;
> - The use of oil and water separators; and
> - The use of sediment traps.
>
> Particles of sediment adsorb many of the heavy metal pollutants from automobile exhaust, as well as trapping oil and grease within their pores. Through use of water separators, and

sediment traps in conjunction with settling basins, many of the pollutants could be removed.

Impact Hydrology-2: Significance After Mitigation

Less-than-significant.

REFERENCES - Hydrology and Water Quality

EDAW Inc., *Hercules Properties, Inc./Gelsar Specific Plan Final EIR*, Hercules, California, 1987.

Engineering-Science, Inc., *Final Environmental Impact Report on the Hercules Properties, Inc./Gelsar Specific Plan*, Hercules, California, December, 1989.

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Rantz, S.E., *Mean Annual Precipitation and Precipitation Depth-Duration-Frequency Data for the San Francisco Bay Region*, California, U.S. Geologic Survey Basic Data Contribution 32, 1971.

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J. GEOLOGY AND SOILS

SETTING

The Setting provides a description of the geology, topography and slope, and soils in the City of Hercules, including all 24 parcels in the study area. Following the general description, each of the 24 parcels is briefly described individually. A description of seismic hazards follows the discussion of parcel-specific geologic and soils conditions.

Geology

Regional geology in the City of Hercules consists of alluvial (stream-related) deposits of Quaternary age (less than two million years old) on the floor of the Refugio Valley, surrounded by marine sedimentary rocks of Miocene age (between five and 23 million years old) in the adjacent uplands. The bedrock units exposed on the hills above the valley floor consist of Rodeo Shale and Hambre Sandstone to the south, and Briones Sandstone and Cierbo Sandstone to the north (Sims, et al., 1973). In many places, the bedrock is overlain by colluvium (loose soil and rock fragments that have moved downslope).

Alluvium in the Refugio Valley varies from about 12 feet in thickness in the southeast portion of the valley to about 80 feet in thickness near the valley mouth (City of Hercules, 1989). Near San Pablo Bay, a few feet of fine-grained flood plain alluvium cap weak and highly compressible bay mud deposits (EDAW, 1987). The bay mud has an estimated thickness of 35 to 40 feet along the western edge of the valley, thinning out in an up-valley direction (EDAW, 1987).

Much of the older valley floor deposits are covered by loose, artificial fill. Fill materials were placed during operation of the Hercules Powder Company, and consist of soils and bedrock excavated from adjacent hillside areas; in some places, the fill includes rubble consisting of bricks, asphalt, concrete, glass, and wood (EDAW, 1987).

Topography and Slope

Most of Hercules lies within the lower portion of the Refugio Valley, adjacent to San Francisco Bay. The valley floor is fairly level. Most slopes on the uplands surrounding the valley floor are fairly gentle (less than 15 percent), although some slopes in the study area are between 15 and 30 percent, and exceed 30 percent in very limited areas. Elevations range from about five feet above sea level along the bay margin to 200 feet in the northeastern portion of the study area.

Landslides and soil creep have occurred in the past in the steeper portions of the study area. Two landslides have been mapped along the railroad embankment in the northwestern portion of Parcel 6, the North Shore Business Park (Frizzell, et. al, 1974; EDAW, 1987). These landslides measured approximately 200 to 500 feet in their longest dimension. Approximately eight closely spaced landslide deposits have been identified on the relatively steep, north- to northeast-facing slopes in the western portion of Parcel 3 (Gelsar~~, Inc.~~) and the center of Parcel 4 (~~Hercules,~~East Bay Realty Services Inc./San Pablo site) (EIP Associates, 1989). These landslides measured approximately 100 to 250 feet in their longest dimension.

Soils

Clear Lake Clay lies on top of the alluvial deposits on the valley floor. The clay is a poorly drained soil with low erosion potential, low strength, high shrink-swell potential, and high corrosivity (U.S. Soil Conservation Service, 1977). Soils in the upland areas primarily consist of Tierra Loam, a moderately-well drained soil with moderate to high erosion potential, low strength, high shrink-swell potential, and high corrosivity (U.S. Soil Conservation Service, 1977). Other soils in the upland areas consist of Los Osos Clay Loam and Sehorn Clay, both of which are well-drained soils with moderate to high erosion potential, low strength, high shrink-swell potential, and high corrosivity (U.S. Soil Conservation Service, 1977).

Parcel-Specific Conditions

The geology, topography and slope, and soils conditions of the 24 study area parcels are discussed below.

1. Hercules Properties, Inc. The eastern portion of this parcel is underlain by bay mud. Alluvium and artificial fill overlie the bay mud. The western portion of this parcel is underlain by Rodeo Shale and Hambre Sandstone. The western portion contains slopes greater than 15 percent, which potentially could be unstable unless properly mitigated. Soils include Clear Lake Clay and Tierra Loam.

2. Hercules Point. All of this parcel is underlain by bay mud overlain by alluvium and artificial fill. The parcel is relatively flat-lying with no slopes. Soils on the this parcel consist of Clear Lake Clay.

3. Gelsar~~, Inc.~~ The central portion of this parcel is underlain by bay mud. The valley floor is underlain by alluvium, the upland area to the west is underlain by Rodeo Shale and Hambre Sandstone, and the upland area in the extreme northeastern corner is underlain by Briones Sandstone. Landslide deposits have been mapped in the western portion of this parcel (EIP Associates, 1989). Soils consist of Clear Lake Clay, Tierra Loam, and Los Osos Clay Loam.

4. ~~Hercules~~East Bay Realty Services Inc./San Pablo Site. Most of this parcel is underlain by Rodeo Shale and Hambre Sandstone. The eastern portion of this parcel is underlain by alluvium. ~~Potentially unstable slopes and previous landslide deposits are present in the central portion of this parcel (EIP Associates, 1989).~~ Soils consist of Clear Lake Clay, Tierra Loam, and Los Osos Clay Loam.

5. MRB Site. This parcel is underlain by Hambre Sandstone. Slopes are less than 15 percent. Soils on this parcel consist of Tierra Loam.

6. North Shore Business Park. The majority of the parcel is underlain by Briones Sandstone and Cierbo Sandstone. The western portion is underlain by alluvial deposits. The northwestern margins of this parcel, near the Bay, are underlain by bay mud. (Most of the "bay-mud" area is within the railroad right-of-way.) Potentially unstable slopes are also present at the perimeter of this parcel. Steep slopes and historic landslides are present along the railroad embankment, and steep slopes are present in a small area along the northernmost boundary of this parcel (Frizzell, et al., 1974; EDAW, 1987). Soils consist of Clear Lake Clay and Tierra Loam.

7. ANR Site. This parcel is underlain by Briones Sandstone and Cierbo Sandstone. Steep slopes on the northeast and southeast margins of the parcel are potentially unstable. Soils on the parcel primarily consist of Tierra Loam.

8. Hercules Square Site. This parcel is underlain by Rodeo Shale. Slopes are generally less than 15 percent. Soils on the parcel primarily consist of Clear Lake Clay and Los Osos Clay Loam.

9. ORB Site. This parcel is underlain by alluvium. Slopes are less than 15 percent. Soils consist of Clear Lake Clay.

10. BART Site. This parcel is underlain by alluvium. The area adjacent to I-80 is constrained by slopes greater than 30 percent. Soils consist of Clear Lake Clay.

11. I-80 Exit Loop Site. This parcel is underlain by alluvium. The perimeter of the parcel is constrained by slopes greater than 30 percent. Soils consist of Sehorn Clay.

12. ~~TABCO~~Williamson Site. This parcel is underlain by alluvium. Slopes are less than 15 percent. Soils consist of Clear Lake Clay and Tierra Loam.

13. Sycamore Site. The majority of this parcel is underlain by Briones Sandstone. The eastern portion of the parcel is underlain by alluvium. Slopes are less than 15 percent. Soils consist of Clear Lake Clay and Tierra Loam.

14. Five Giants Site. The western portion of this parcel is underlain by Briones Sandstone. The eastern portion of the parcel is underlain by alluvium. Slopes are less than 15 percent. Soils consist of Conejo Clay Loam, which has a moderate shrink-swell potential.

A. Church of Nazarene Site. This site, near Refugio Creek, is likely underlain by alluvium. Slopes appear to be generally less than 15 percent. Soils consist of Clear Lake Clay and Tierra Loam.

B. McLeod Family Site. This parcel appears to be underlain by the Hambre Sandstone. Slopes are generally less than 15 percent. Soils on this parcel consist of Tierra Loam.

C. Citation Site. This parcel appears to be underlain by the Rodeo Shale and/or Hambre Sandstone. The northern portion of this parcel appears to contain slopes greater than 15 percent, which potentially could be unstable unless properly mitigated. Soils include Clear Lake Clay and Tierra Loam.

D. Carone-1 Site. This parcel is probably underlain by Briones Sandstone. Slopes are generally less than 15 percent. Soils include Clear Lake Clay and Tierra Loam.

E. Carone-2 Site. This parcel is underlain by Briones Sandstone and some alluvium. Slopes are generally less than 15 percent. Soils include Clear Lake Clay and Tierra Loam.

F. Carone Sycamore Site. This parcel is likely to be underlain by alluvium. Slopes are generally less than 15 percent. Soils consist of Sehorn Clay.

G. Old ATSF Site. This parcel is underlain by alluvium. Slopes are generally less than 15 percent. On this site, particularly the north and east portions, soils may consist of Conejo Clay Loam.

H. Creekside Site. The western and eastern edges of this parcel is underlain by alluvium, while the center is underlain by Briones Sandstone. Slopes are generally less than 15 percent. Soils on the northern side of this parcel consist of Sehorn Clay. On the south and east sections of this parcel, soils consist of Clear Lake Clay and Tierra Loam.

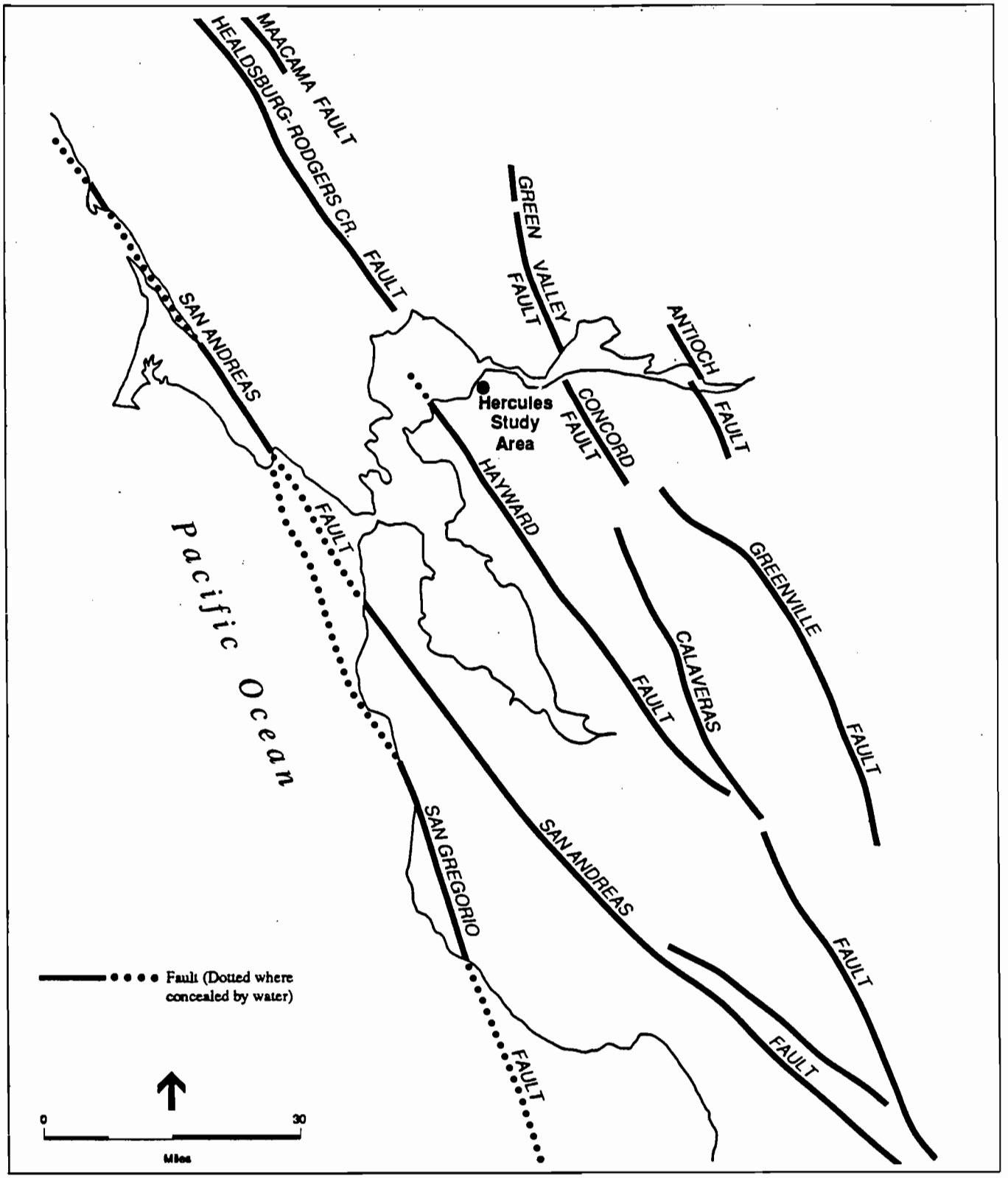
I. Willow Center Site. This parcel is underlain by Briones Sandstone and Cierbo Sandstone. Slopes are generally less than 15 percent, although there are some steeper slopes at the eastern margin of this parcel. On this parcel, especially its northern edge, soils primarily consist of Tierra Loam.

J. Church of Christ Site. This parcel is underlain by Briones Sandstone and/or alluvium. Slopes are generally less than 15 percent. Soils include Clear Lake Clay and Tierra Loam.

Seismicity

Faults

The Hercules area, as part of the San Francisco Bay Area, is in one of the most seismically active regions in the United States. The study area could be affected by ground shaking due to movement along any one of a number of active faults in the region (see Figure IV.J.1). The San Andreas Fault lies about 21 miles to the southwest of the study area, the Hayward Fault lies about two and a half miles southwest of the study area, and the Concord-Green Valley Fault lies about 11 miles east of the study area. The Calaveras Fault lies approximately 40 miles to the southeast. The Rodgers Creek Fault, which connects with the Hayward Fault beneath San Pablo Bay, is another major fault only about 10 miles away to the west.



SOURCE: Environmental Science Associates, Inc.

Hercules General Plan Land Use and Circulation Elements Update / 930314

Figure IV.J.1
Regional Fault Map

The study area would be subject to strong ground motion in the event of a moderate to severe earthquake in the Bay Area. The U.S. Geological Survey has estimated that there is a 67 percent probability that there will be one or more earthquakes of magnitude 7.0 or greater (comparable to the 1989 Loma Prieta earthquake) in the Bay Area in the next 30 years (U.S. Geological Survey, 1990). Ground shaking, rather than surface fault rupture, is the cause of the most damage during earthquakes (ABAG, 1987).

In addition to the active faults noted above, two inactive faults are located in the Hercules vicinity. Two traces of the Pinole Fault pass immediately southwest of Hercules and the Franklin Fault lies about three miles northeast of the study area. Neither of these two faults shows evidence of surface displacement in Quaternary time (the last two million years), and future movement along them is much more unlikely than along the active faults shown in Figure IV.J.1. However, a "swarm" of earthquakes in the Briones Hills in January 1977 may have been associated with the Pinole Fault (EIP Associates, 1989). The largest earthquake measured 4.3 on the Richter scale, and was followed by a series of 58 earthquakes (all less than Richter-magnitude 4.0) over the next three days. No surface fault rupture occurred.

The Alquist-Priolo Special Studies Zones Act requires the state to identify zones around "active" faults (those having evidence of surface displacement within about the last 11,000 years) in order to manage development near possible surface rupture sites. There are no Special Studies Zones within Hercules (the closest Special Studies Zone is along the Hayward Fault, about two and one-half to four miles to the southwest). The northern end of the Pinole Fault was originally included in a Special Studies Zone, but was removed from the active category after further analysis.

Seismic Hazards

There are four major hazards associated with earthquakes. These are fault surface rupture, ground shaking, ground failure, and flooding due to earthquake-generated waves or dam failures.

Fault Surface Rupture. In major earthquakes, fault displacement can cause rupture along the surface trace of the fault, leading to severe damage to any structures or other improvements located on the fault trace.

Ground Shaking. Because it affects a much broader area, ground shaking, rather than fault surface rupture, is the cause of the most damage during earthquakes.

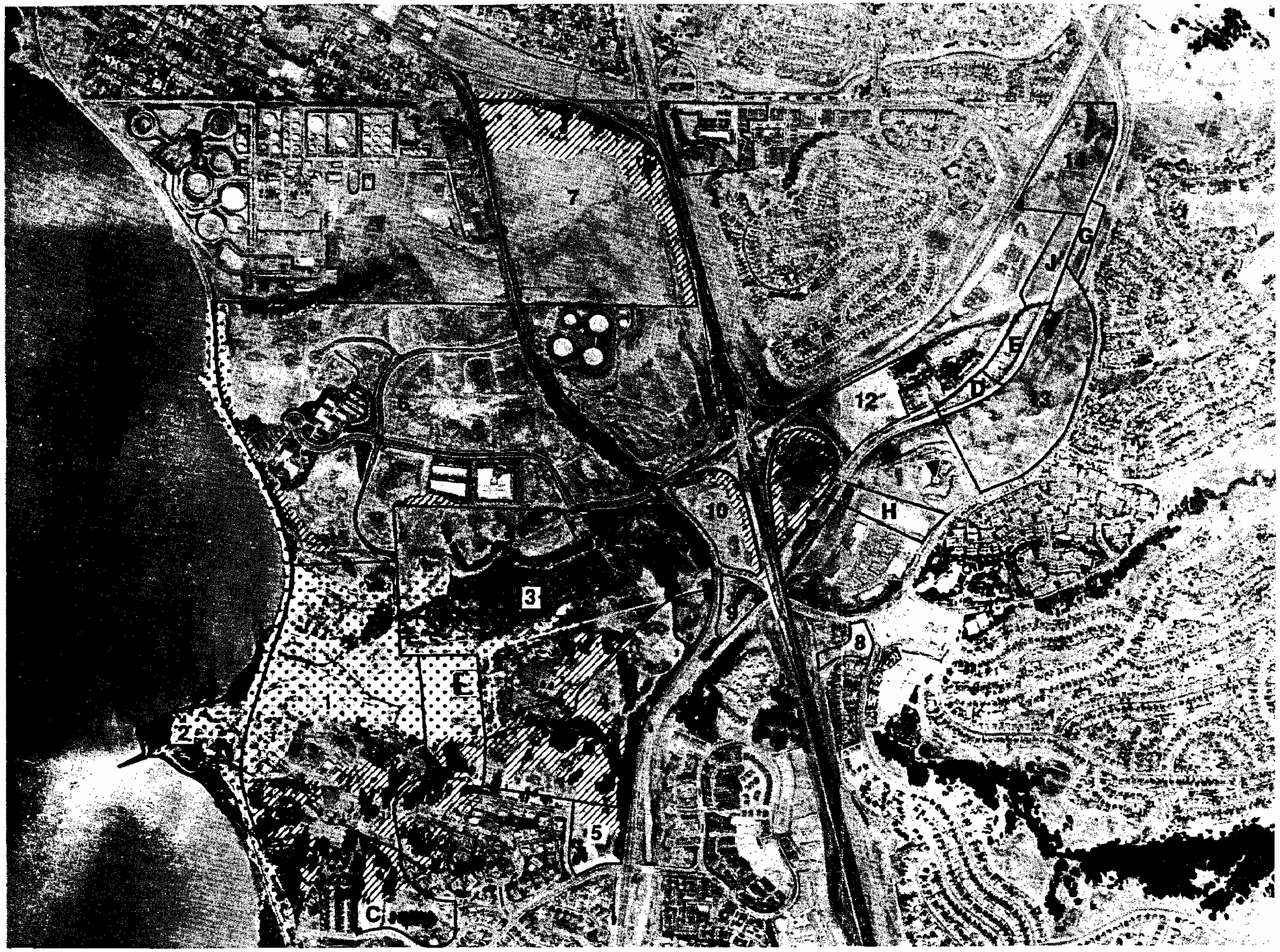
Three major factors affect the severity (intensity) of ground shaking at a site in an earthquake: the size (magnitude) of the earthquake, the distance to the fault that generated the earthquake, and the geologic materials that underlie the site. Larger magnitude earthquakes cause the ground to shake harder and longer, and affect larger areas. Given similar subsurface conditions, the intensity of ground shaking decreases with distance from the causative fault. Thick, loose soils, such as uncompacted alluvium and artificial fill, tend to amplify and prolong the ground shaking, while bedrock is less susceptible to ground shaking.

The Association of Bay Area Governments (ABAG) has mapped portions of the study area's susceptibility to ground shaking as "extremely high" (the highest rating) and the maximum ground shaking intensity for those portions of the study area as "C - Very Strong" to "B - Violent" (where "A - Very Violent" is the most severe) (ABAG, 1987). These areas generally coincide with the bay mud underlying a portion of the valley floor. The approximate extent of bay mud in the study area is shown in Figure IV.J.2. The risk of ground shaking damage in the areas underlain by bay mud is rated as "extremely high" (6.1 percent expected damage and above) for tilt-up concrete buildings, "high" (4.1-5.0 percent damage) for concrete and steel buildings, and "moderate" (2.1-3.0 percent damage) to "moderately high" (3 -4 percent damage) for wood frame dwellings (ABAG, 1987).[1] The risk of ground shaking damage is much lower for the portions of the study area not underlain by bay mud, although areas underlain largely by alluvium are expected to endure strong ground shaking as well.

Ground Failure. Earthquakes can cause secondary ground failures, such as landsliding, liquefaction, lurching, and settlement. All of these involve a displacement of the ground surface due to loss of strength, failure, or compaction of the underlying materials due to ground shaking.

An earthquake could trigger landslides, particularly upon steeper slopes where slide activity has already occurred. The amount of sliding would be intensified if an earthquake were to occur during wet winter months when the slopes were in a saturated, weakened condition. Figure IV.J.2 shows areas where slopes are greater than 15 percent.

1 ABAG derived the expected damage from damage ratios (the cost of repairing a building divided by the cost of replacing that building, which can be viewed as a percentage loss) calculated for hypothetical large earthquakes on 31 major active faults in the region. The damage ratios resulting from each hypothetical earthquake were multiplied by their recurrence interval (probability), discounted to their present value, and then added together to estimate the composite risk. Because of the additive process used to calculate these values, they also represent cumulative damage potential from earthquakes in the Bay Area.



POTENTIAL GEOLOGIC CONSTRAINTS

Area Underlain by Bay Mud

Area of Potential Slope Instability (Slopes greater than 15% and areas showing evidence of historic landslides)

1, A Parcel Reference

SOURCE: Environmental Science Associates

NOTE: Parcel B not included. Parcel B is not underlain by Bay Mud and is not in an Area of Potential Size Instability

NOTE: This map is intended to show general areas of potential geologic constraints for planning purposes only. Site-specific geologic investigations should be performed prior to development.

0 2000
Feet

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Figure IV.J.2
Geologic Resources and Constraints

Liquefaction is the sudden loss of strength in loose, saturated materials (predominantly sands) during an earthquake, which results in the temporary fluid-like behavior of those materials (much like quicksand). Liquefaction typically occurs in areas where groundwater is shallow, and materials consist of clean, poorly consolidated, fine sands. The upland areas surrounding the valley floor are underlain by bedrock and would not be subject to liquefaction. Bay mud underlying the western portion of the valley floor is not likely to liquefy, although sand seams occasionally contained within the bay mud or fine-grained alluvium or artificial fill on top of the bay mud could be susceptible to liquefaction. The liquefaction potential in the area of the rest of the valley floor generally is not known, although the there is no indication that materials that would be particularly susceptible to liquefaction are present.

Lurching, or lurch cracking, is the cracking of the ground surface in soft, saturated material as a result of earthquake-induced ground shaking. Lurch cracking is likely to occur in areas of bay mud and fill in moderate to large earthquakes (Goldman, 1969). Lurch cracking can occur in water-saturated sediments, soils, and alluvium at distances of up to 75 miles from the earthquake epicenter (Goldman, 1969). The probability of lurching in the valley floor areas is unknown, but its occurrence would not be unexpected.

Differential settlement (where adjoining areas settle different amounts) most commonly occurs in loose, uncompacted materials of variable density and strength. Artificial fills on the site would likely be most susceptible to differential settlement. Transition areas between bedrock and alluvial deposits would also be subject to differential settlement.

Earthquake-Induced Inundation. Seismic activity off the coast of California could induce a tsunami, commonly but incorrectly referred to as a "tidal wave," that could enter San Francisco Bay through the Golden Gate. Tsunamis are waves that increase in size with distance traveled, and can cause destruction when they pile up at shallow shoreline areas (Ritter and Dupre, 1972). There is no evidence that any portion of Contra Costa County that is exposed to potential tsunami inundation has experienced significant damage from this phenomenon, and likelihood of damage to the City of Hercules from one is small (City of Hercules, 1989).

A major earthquake could theoretically create a seiche, a type of oscillating wave that sloshes around in an enclosed basin and can cause severe damage at the shoreline. No such wave has been recorded in San Francisco or San Pablo Bays within historic time, however.

A large earthquake could induce a landslide adjacent to a nearby reservoir, creating the geologic hazard known as landslide splash, an overtopping of waters resulting from earth sliding into the reservoir. Additionally, failure of reservoir dams themselves could directly result from a major earthquake. However, the City of Hercules does not lie within the path of inundation from any regional reservoirs.

Regulations, Plans and Policies

Hercules *General Plan*

California Government Code Section 65302 (g) requires a safety element of all city and county general plans, addressing such issues as geologic and seismic hazards. The Seismic Safety/Safety Element of the Hercules *General Plan* requires that seismic and geologic hazards be taken into account during the planning process for proposed development (City of Hercules, 1989). The basic objective of the Seismic Safety/Safety Element is to reduce loss of life, injuries, property damage, and economic and social dislocations resulting from future earthquakes and other geologic hazards. (See Mitigation Measure Geology-1 for specific policies applicable to the proposed project.)

Local Ordinances

The City of Hercules has adopted a grading ordinance that establishes standards for grading operations, requires grading permits, and provides for the approval of grading plans and the inspection of grading and construction. The grading ordinance provides for testing in areas where there are potential geologic hazards. In addition, the city has adopted the Uniform Building and Fire Codes to provide control over public safety in building design and construction.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project normally will have a significant effect on the environment when it would:

- cause substantial flooding, erosion, or siltation; or
- expose people or structures to geologic hazards.

Based on Appendix I of the CEQA *Guidelines*, a project could have a significant impact if it were to result in:

- Unstable earth conditions, or changes in geologic substructures;
- Disruptions, displacements, compaction, or overcovering of soil;
- Change in topography or ground surface relief features;
- The destruction, covering or modification of any unique geological or physical features;
- Any increase in wind or water erosion of soils, either on or off the site;
- Changes in deposition or erosion of beach sands; or changes in siltation, deposition or erosion which may modify the channel of a river or stream, or the bed of the ocean or any bay, inlet, or lake; or
- Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards.

Because of specific site conditions, and the rarity of certain events, some geologic impacts can be ruled as being insignificant. These include impacts on unique geological features or beach sands, fault surface rupture, and impacts from tsunamis and seiches.

Impacts

Impact Geology - 1: Development consistent with the proposed Land Use and Circulation Elements Update would involve construction of facilities in a seismically active zone, characterized by a high probability of strong ground shaking. Ground shaking could pose a threat to the structural integrity of any developed structures and associated underground utility lines, as well as a threat to the welfare and safety of people occupying the sites. This would be considered a significant impact.

Each of the 24 parcels would be affected by strong ground shaking due to a moderate to severe earthquake in the Bay Area. Any development within the region is likely to experience ground shaking from a major earthquake within its operational or post-operational life span. In addition, any other structures (such as those on Parcel 1) could collapse as a result of seismic activity. The parcels on bay muds, expected to receive the strongest ground shaking resulting from an earthquake, are Parcels 1 (eastern portion), 2, 3 (central portion), and 6 (northwestern margins). Parcels on alluvium, subject to the second strongest ground shaking, are Parcels 9, 10, 11, 12, A, F, G, H, and possibly Parcel J.

The Uniform Building Code would require new development to incorporate seismic safety features.

Impact Geology-1: Mitigation Measures Proposed as Part of the Project

The following mitigation measure is a proposed program in the Land Use Element Update:

> **Program 8A.1:** Develop plans to preserve and rehabilitate key historic buildings but not the former plant equipment and manufacturing structures.

Impact Geology-1: Mitigation Measures Identified in Other *General Plan* Elements

The following policies and implementing actions in the Seismic Safety/Safety Element contained in the City's *General Plan* would help reduce the impact to a less-than-significant level:

> **Policy C.1:** Improperly compacted existing fills and backfills should be excavated from areas to be filled.
>
> **Policy C.2:** All areas to be graded should be stripped of vegetation and the top few inches of highly organic topsoil.
>
> **Policy C.3:** Organic topsoil should be stripped and stockpiled and used for landscaping.
>
> **Policy C.4:** Lower valley areas where bay mud deposits are exposed or are blanketed by shallow thicknesses of poorly compacted fill will require detailed studies prior to site grading.
>
> **Policy C.5:** Sidehill "sliver" cuts and fills should be avoided.
>
> **Policy C.6:** Special consideration should be given to slope stability in the steep hillside areas.
>
> **Policy C.7:** Steep sideslopes should be felt in their natural condition where possible.
>
> **Policy C.8:** Setbacks should be determined based on detailed soils investigations in individual cases opposite landslide prone slopes to reduce the potential for slide damage to improvements.
>
> **Policy C.9:** Expansive soils should be considered in the design of road pavement sections.
>
> **Policy C.10:** Site Planning should consider the potential of differential settlement where compressible soils exist.
>
> **Policy C.11:** Areas underlain by soft bay mud will require further detailed soils investigations.

Policy C.12: Slopes should be planted as soon as possible after completion of construction to develop a protective organic mat.

Policy C.13: Dense pockets of brush and trees located on steep slopes should be left intact where possible to prevent potential landsliding.

Policy C.14: The sides of the stream channel in portions of Refugio Valley should be improved to protect erosion - induced slumping. Care should be taken to maintain the natural appearance of the water-course in the open space areas.

Implementation Action 2.a. *Planning Review.* Specific plans must be prepared and adopted for each neighborhood in the City prior to approval of development plans. Safety measures will be incorporated into these specific plans to provide adequate protection from seismic, geologic and fire hazards.

The review and approval of zoning applications, tentative maps and planned unit developments will include consideration of safety policies and standards contained in the General Plan, neighborhood plans or other specific plans.

Implementation Action 2.b. *Subdivision and Grading Regulations.* The subdivision and grading regulations govern the subdivision of land, and designing and construction of site improvements. Seismic, geologic and fire hazards will be considered in review and approval of tract maps, grading and improvement plans.

Impact Geology-1: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following implementation programs:

Geology-1a: No critical facility or school should be permitted in areas subject to very strong ground shaking or ground failure until an evaluation of alternative sites with reduced earthquake and flood hazards is completed. For each proposal, require a feasibility study to determine whether any proposed critical facilities (emergency response centers, police stations, and hospitals) and schools could be sited in areas with lesser earthquake hazards. An alternative site feasibility assessment should include a consideration of sites in areas with lesser earthquake (and flood) hazards in addition to considerations of service area, accessibility, and economic considerations.

Geology-1b: For projects proposed in areas subject to very strong earthquake ground shaking or ground failure, conduct geotechnical studies and structural design evaluations for all critical facilities, schools, high-population facilities (such as shopping malls) and industries using or generating significant amounts of hazardous materials.

If the alternative site feasibility study for a critical facility or school were to indicate that other less hazardous sites are not available for the critical facility, then geotechnical studies and structural design processes for the facility would be conducted in compliance with State of California requirements and recommendations of the Seismic Safety Commission. These could include detailed studies of the geologic materials at the site,

seismic event response evaluations to identify design criteria, foundation design criteria and dynamic method analyses of proposed structures, and others. As these studies are costly and the resulting foundation and structural designs are often expensive to construct, it is recommended that the alternative site feasibility study be conducted first.

For the other types of facilities, the alternative site feasibility assessment would be an optional requirement of the City (an alternatives site evaluation may be required under CEQA). A rigorous geotechnical evaluation and structural design process would be required to ensure that the proposed structures would perform in major earthquakes without creating a life safety hazard to occupants or people in surrounding areas.

~~**Geology-1a:** Require critical facilities (emergency response centers, fire and police stations, and hospitals), high-population facilities (schools, malls, or shopping centers), or industries using or generating significant amounts of hazardous materials, to be sited outside of areas subject to very strong ground shaking (such as over bay muds).~~

Geology-1c: Prepare or update an Earthquake Preparedness and Emergency Response Plan for the City to deal with the specific effects of seismic-induced ground shaking, liquefaction, and lurching.

Geology-1d: Require site-specific geotechnical investigations for every new development.

Impact Geology-1: Significance After Mitigation

Although the risk of seismically induced ground shaking would not be eliminated, implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Geology-2: Development consistent with the proposed Land Use and Circulation Elements Update would involve grading that would disrupt, compact, and overcover existing soil. This could alter the capacity of native soils to absorb precipitation and runoff and increase their erosion potential. This would be considered a significant impact.

The native soils on some of the project parcels are poorly drained clays over alluvium. Most of the soils in the project area are well-drained loams and clays. Both loams and clays have moderate to high water-holding capacities that would be diminished by overcovering the soils with structures and increasing the amount and weight of overburden above them. This would increase the amount of runoff from these compacted soils. Additionally, disruption of the soils would increase their already high susceptibility to erosion, leading to further problems discussed below. All of the project parcels could be potentially affected by this impact. The indirect effects of this include runoff and erosion, which are discussed below in Impact Geology-3.

Impact Geology-2: Mitigation Measures Identified in Other *General Plan* Elements

Implementation of the Seismic Safety/Safety Element contained in the City's *General Plan* (described under Mitigation Measures for Impact Geology - 1) would help reduce the impact to a less-than-significant level.

Impact Geology-2: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on implementation of the following mitigation measures:

> **Geology-2a:** Development of the project sites should minimize the amount of native soils compacted by construction vehicles and structures, as well as the amount of soil disturbed through grading and excavation. As much as possible, native soils should be left undisturbed and used for open space and landscaping purposes.
>
> **Geology-2b:** Development of the project sites should also maximize the use of pervious materials, including fill, and incorporate proper drainage structures capable of handling anticipated increases in surface runoff.
>
> **Geology-2c:** Minimize amount of grading when building on hill sides.

Impact Geology - 2: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Geology - 3: Development consistent with the proposed Land Use and Circulation Elements Update would accelerate natural erosion of native soils and fill by wind and water. If uncontrolled, increased erosion could undermine structures built upon the study area parcels. Eroded materials could also increase sedimentation in nearby Refugio Creek and in San Pablo Bay. This would be considered a significant impact.

Construction activities taking place on soils with high erosion potential can lead to excessive siltation of nearby surface waters, degrading water quality and affecting aquatic habitat. This can have a significant impact on a natural community.

Given the combination of highly erosive soils (Tierra Loam, Los Osos Clay Loan, and Sehorn Clay) in many of the parcels described above, and the potentially unstable slopes in certain areas, new construction in many parts of the study area could result in excessive siltation of surface

waters, such as Refugio Creek and San Pablo Bay. Eroded soil that is left unstabilized could be carried by surface runoff to topographic low areas such as streams. Turbid water conditions would then be created, and any water-dependent uses of the stream such as fishing or swimming would be affected. Moreover, soil particles have a large surface area which can adsorb contaminants such as pesticides, oil or grease, or other hazardous substances that could then be introduced into surface waters via runoff. All these effects could pose harm to human health as well as affecting aquatic habitat for other organisms.

The project parcels most likely to be affected by this impact include those with the steepest and most unstable slopes (Parcels 1, 3, ~~4,~~ 6, 7, 10, C and I) and those with loam soils having moderate to high erosion potential (Parcels 1, 3-8, 12-14, A-E, and G-J). Recent geotechnical reconnaissance of Parcel 4 (Shields, 1995), indicates that, while this parcel has slopes greater than 15 percent, it does not appear to contain landslide features or other evidence of unstable slopes.

In the City's grading ordinance provides for testing in areas where there are potential geologic hazards, and for City approval of grading plans. The grading ordinance also leads to periodic construction inspection of individual development proposals.

Impact Geology-3: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Geology-3: Mitigation Measures Identified in Other *General Plan* Elements

Implementation of the following Seismic Safety/Safety Element measures contained in the City's *General Plan* would help reduce the impact to a less-than-significant level:

Policies C.2, C.3, C.5, C.6, C.12, C.13 and C.14, as described above.

Impact Geology - 3: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following implementation program:

Geology-3a: No grading should occur on slopes steeper than 30 percent, and cut slope angles no greater than 33 percent be maintained (Griggs and Gilchrist, 1977).

Geology-3b: The use of silt fencing, sediment trapping basins, runoff diversion devices, and hydroseeding of barren slopes can minimize or prevent this impact. It is recommended that applicants for construction permits within the City of Hercules submit an erosion control plan for the proposed development site, based on soil and underlying substrate conditions and using criteria obtained from the City's Grading Ordinance.

Grading in the City should occur with no increase in discharge of sediments to wetlands, Refugio Creek, or San Pablo Bay. Measures to be implemented by the developers should be identified in their erosion and sediment control plans, as required by the City's Grading Ordinance. Measures identified in the report should be incorporated as conditions of approval for the development.

Impact Geology - 3: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Geology-4: Development consistent with the proposed Land Use and Circulation Elements Update could result in changes in topography and construction on steep slopes in some portions of the study area that would accelerate the development of landslides or mudslides. This would be a significant impact.

Most landslides occur on slopes greater than 15 percent, in areas where landsliding has previously taken place, and in areas underlain by landslide-prone geologic units. Areas with slopes greater than 15 percent and that show evidence of past landslide activity are shown in Figure IV.J.2 (small areas of steep slopes on parcels along highway or railroad embankments are not shown for Parcels 1, 3, 4, 6, 7, 10, 11). Bay muds are also susceptible to failure, even when nearly level. These unconsolidated, soft muds tend to flow laterally into cuts and are particularly susceptible to failure during earthquakes (Nilsen, et al., 1979).

Slope instabilities in areas of steep slopes and previous landslides could be aggravated by development such as changes in topography that increased relief or steepness of slopes, particularly artificially cut slopes. Slope instabilities could also be triggered by seismically induced ground shaking. Earthquake-induced landslides generally occur in areas already susceptible to landslides due to other factors. Earthquakes may trigger landslides that might not otherwise occur until a later time. As discussed above, landslides are relatively common in the

project vicinity; ground shaking could reactivate existing slides and trigger new slides, particularly if the groundshaking occurred during a wet period.

The parcels, or portions thereof, that contain the steepest slopes (greater than 15 percent) and have the highest potential for landslides are Parcels 1, 3, ~~4,~~ 6, 7, 9, 11, C, and J. Recent geotechnical reconnaissance of Parcel 4 (Shields, 1995), indicates that, while this parcel has slopes greater than 15 percent, it does not appear to contain landslide features or other evidence of unstable slopes.

Impact Geology-4: Mitigation Measures Proposed as Part of the Project

Implementation of the Land Use Element Update Policies below, in addition to the existing Seismic Safety/Safety Element contained in the City's *General Plan,* would help reduce the impact to a less-than-significant level:

> **Policy 6A:** Large scale residential development should include a mix of dwelling types, taking into account the land use designation and density range of the area, and recognizing constraints imposed by topography and feasibility.

Impact Geology-4: Mitigation Measures Identified in Other *General Plan* Elements

Implementation of the following Seismic Safety/Safety Element policies contained in the City's *General Plan* would help reduce the impact to a less-than-significant level:

> **Policies C.5, C.6, C.7, C.8, C.12, C.13 and C.14**, described above.

Geology - 4: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following implementation measures:

> **Geology-4a:** Develop and implement hillside drainage plans to reduce the risk of further movement by existing landslides. Site new structures away from steep hillsides and the toes of existing landslide surfaces, reducing the potential for damage from landslide movement or burial. Require potential developers to perform site-specific slope stability analyses, including field estimation of the soil properties significant to slope stability, for those parcels or portions thereof identified as having the steepest slopes or greatest potential for landslides.

In addition, the City should add the following policies to the proposed Land Use Element Update:

> **Geology-4b:** Develop the study area parcels in such a way as to minimize the potential for creating new landslides or reactivating old ones.

Impact Geology-4: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Geology-5: Development consistent with the proposed Land Use and Circulation Elements Update could expose people and structures to the hazard of differential settlement. This would be a significant impact.

The foundation properties of bay mud and artificial fill that underlie much of the valley floor are poor. The bay mud has low strength, deforms plastically, and is compressible. The artificial fill materials are not well compacted. These materials therefore have undesirable engineering properties. These materials can be subject to differential settlement that could damage overlying structures. Development in the study area could potentially expose people or structures to the hazard of differential settlement, resulting in vertical separation of portions of structures and damage to both structures and buried utility lines. Differential settlement would be a potential hazard for development over non-engineered fill, alluvium, and/or bay muds such as on Parcels 1, 2, 3, 9, 10, 11, 12, F, and G; and on sites containing transition zones between alluvium and bedrock, such as on Parcels 1, 3, 4, 6, 13, 14, E, H, and J.

Impact Geology-5: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Geology-5: Mitigation Measures Identified in Other *General Plan* Elements

Implementation of the following Seismic Safety/Safety Element policies contained in the City's *General Plan* would help reduce the impact to a less-than-significant level:

> **Policies C.1, C.4, C.10 and C.11.**

Impact Geology-5: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following mitigation measure:

> **Geology-5a:** For proposed structures in areas subject to settlement hazards, conduct a geotechnical engineering investigation to determine the degree of hazard and the appropriate approach to reducing the hazard to an acceptable level of risk.

As settlement can result in severe damage to foundations and structures, and even their collapse, a detailed evaluation of the conditions causing settlement at a proposed site should be conducted by a registered geologist or engineering geologist. The engineering geologist should provide specific recommendations about ways to reduce settlement to within acceptable levels through site treatment (for example, compaction, surcharging, removal of problematic compressible geologic materials, and others) or through foundation design (for example, construction of piles bearing in stable geologic materials, drilled shaft and grade beams, mat foundations, and others, as deemed appropriate by the specific site conditions).

> ~~**Geology-5a:** Place buildings and other structures on pile supports sunk and anchored to bedrock beneath fill, alluvium or muds.~~

Impact Geology-5: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

Impact Geology-6: Development consistent with the proposed Land Use and Circulation Elements Update would result in construction on soils with high shrink-swell potential and corrosive potential, which could cause cracking of foundations and corrosion of concrete. This would be a significant impact.

In general, all the soils in the study area present limitations in terms of low strength, high shrink-swell potential, and high corrosivity. These materials therefore have undesirable engineering properties. Expansive soils would damage foundations unless properly mitigated. With the exception of Clear Lake Clay, soils in the study area have moderate to high erosion potential. The highly corrosive soils throughout the study area could damage utilities and foundations unless properly mitigated.

All of the parcels in the study area, with the exception of Parcel 14, have soils with high shrink-swell potential; and all but Parcel 2 have soils with high erosive potential.

Impact Geology-6: Mitigation Measures Identified in Other *General Plan* Elements

Implementation of the following Seismic Safety/Safety Element measures contained in the City's *General Plan* would help reduce the impact to a less-than-significant level:

> **Policies C.1, C.4, C.9, C.11**, described above.

Impact Geology-6: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on the following mitigation measures:

> **Geology-6a:** Applicants for development of structures within the City of Hercules shall submit a report by a California certified engineering geologist documenting the geotechnical suitability of the site for the proposed development based on soil and underlying substrate conditions; and the measures required to ensure public safety and the protection of property.

Impact Geology - 6: Significance After Mitigation

Implementation of the mitigation measures listed above would reduce the impact to a less-than-significant level.

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K. AIR QUALITY

SETTING

Factors Influencing Air Quality

The primary factors that determine air quality are the locations of air pollutant sources and the amounts of pollutants emitted. Meteorological and topographical conditions, however, also are important. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants.

The San Francisco Bay Area climate is Mediterranean in character, with mild, rainy winter weather from November through March, and warm, dry weather from June through September. There is a high percentage of sunshine away from the immediate coast, particularly in summer. Movements of marine air, which in large part determine the temperature, humidity, wind, and precipitation throughout the year, depend upon the location and strength of the dominant Pacific high-pressure system and the coastal temperature gradient.

In summer, the Pacific high-pressure system typically remains near the coast of California, diverting storms to the north through the northern states and Canada. Subsidence of warm air, associated with the Pacific high, creates frequent summer atmospheric temperature inversions. Subsidence inversions may be several hundred to several thousand feet deep, effectively trapping pollutants in a small volume of air near the ground. In winter, the Pacific high-pressure system moves southward, allowing ocean-formed storms to move through the region. Stagnant atmospheric conditions can exist for several days between storms. The frequent storms and infrequent periods of sustained sunny weather are not conducive to smog formation. Radiational cooling during the evening, however, sometimes creates thin inversions and concentrates air pollutant emissions near the ground.

In general, northwesterly winds generated by high-pressure cells over the Pacific Ocean are drawn through the Golden Gate and forced into a more westerly orientation. Once through the Gate, this air mass is split and rechanneled by the East Bay hills, producing southwesterly winds at San Pablo and northwesterly winds at San Jose. The wind monitoring station closest to the City of Hercules is located in Rodeo. Wind data taken in Rodeo indicate that winds from the south-southwest occur more than 50 percent of the time (California Air Resources Board, 1984).

These data also indicate that the area is relatively well-ventilated with winds averaging approximately seven miles per hour on an annual basis (California Air Resources Board, 1984).

Air Quality Regulatory Context

Federal

Regulation of air quality is achieved through both federal and state ambient air quality standards and emissions limits for individual sources of air pollutants. The federal Clean Air Act (CAA) required the U.S. Environmental Protection Agency (EPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), suspended particulate matter (PM_{10}), and lead (Pb). These pollutants are called "criteria" air pollutants because the standards satisfy criteria specified under the Clean Air Act. Table IV.K.1 shows the NAAQS as well as their California counterparts as discussed below.

Pursuant to the 1990 CAA Amendments, the EPA has classified Air Basins, or portions thereof, as either "attainment" or "nonattainment" for each criteria air pollutant, based on whether or not the NAAQS have been achieved. O_3 nonattainment areas are categorized as "extreme," "severe," "serious," "moderate," or "marginal." The CO and PM_{10} nonattainment regions are divided into "serious" and "moderate" classifications. The City of Hercules is located within the San Francisco Bay Area Air Basin, which has been classified as attainment for NO_2, Pb, and SO_2 (California Air Resources Board, 1993a). Under the federal system, the San Francisco Bay Area Air Basin has been categorized as "moderate" for O_3 and CO. The Bay Area Air Quality Management District (BAAQMD) recently applied for attainment status for O_3, as the federal standard has been met for the past three years. A Maintenance Plan that would maintain the standard for the next ten years has been developed, and was submitted with the redesignation request. The CO standard has not been exceeded in the Bay Area for two years, and the BAAQMD will be applying for attainment status in 1994. The Bay Area is unclassified for PM_{10}, but it is expected that Contra Costa County will be classified as attainment in 1995 (Marshall, 1994).

Regulation of toxic air contaminants (TACs), termed Hazardous Air Pollutants (HAPs) under federal regulations, is achieved through federal and state controls on individual sources. Federal law defines HAPs as non-criteria air pollutants with short-term (acute) and/or long-term (chronic or carcinogenic) adverse human health effects. The 1977 Clean Air Act Amendments required

TABLE IV.K.1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	SAAQS/a/	NAAQS/b/
Ozone	1 hour	0.09 ppm/c/	0.12 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	NA
	Annual	NA	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	NA
	3 hour	NA	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	NA	0.03 ppm
Respirable Particulate Matter	24 hour	50 $\mu g/m^3$/c/	150 $\mu g/m^3$
	Annual	30 $\mu g/m^3$	50 $\mu g/m^3$
Sulfates	24 hour	25 $\mu g/m^3$	NA
Lead	30 day	1.5 $\mu g/m^3$	NA
	Calendar Quarter	NA	1.5 $\mu g/m^3$
Hydrogen Sulfide	1 hour	0.03 ppm	NA
Vinyl Chloride	24 hour	0.010 ppm	NA

/a/ SAAQS (i.e. California standards) for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, respirable particulate matter are values that are not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

/b/ NAAQS (i.e. national standards), other than ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

/c/ ppm = parts per million by volume; $\mu g/m^3$ = micrograms per cubic meter.

NA: Not Applicable.

SOURCE: California Air Resources Board, *California Air Quality Data Summary*, 1992.

the EPA to identify National Emission Standards for Hazardous Air Pollutants (NESHAPs) to protect public health and welfare. NESHAPs were established for benzene, vinyl chloride, inorganic arsenic, beryllium, mercury, asbestos, radio nuclides, and coke oven gas. The establishment of NESHAPs failed to result in substantial reductions of the emissions of HAPs, however.

The 1990 Clean Air Act Amendments offer a comprehensive plan for achieving significant reductions in both mobile and stationary source emissions of HAPs. A total of 189 air pollutants have been designated HAPs because of their adverse human health effects. Title III of the 1990 Clean Air Act Amendments amends Section 112 of the Clean Air Act Amendments to replace the former program with an entirely new technology-based program. Under Title III, EPA must establish maximum achievable control technology emission standards for all new and existing "major" stationary sources. Stationary sources of HAPs are required to obtain an operating permit from the BAAQMD pursuant to Title V of the 1990 CAA Amendments.

State

The Air Resources Board (ARB), California's state air quality management agency, regulates mobile emissions sources, and oversees the activities of County Air Pollution Control Districts and regional Air Quality Management Districts. The ARB indirectly regulates local air quality by having established state ambient air quality standards and vehicle emission standards, by setting guidelines, by conducting research activities, and by planning and coordinating activities.

California has adopted ambient standards for the criteria air pollutants that are more stringent than the federal standards. The State Ambient Air Quality Standards (SAAQS) are shown in Table IV.K.1. The California Clean Air Act, passed in 1988, calls for the establishment of a program to secure air quality data for each Air Basin in the State, and to inventory and monitor air pollutants. Under the California Clean Air Act, patterned after the federal Act, areas have been designated as attainment or nonattainment in relation to the SAAQS (rather than the national standards). The nine-county Bay Area has been designated as "non-attainment" with respect to the state standards for O_3, PM_{10}, and as "transitional" for CO (California Air Resources Board, 1993a). O_3 and PM_{10} are categorized as "severe" with respect to the state air quality standards (meaning that the ARB has determined that the region cannot attain the state air quality standards by December 31, 1994, or an attainment date cannot be identified (Marshall, 1994).

California State law defines TACs as air pollutants having carcinogenic effects. Assembly Bill (AB) 1807 (the Tanner Bill, passed in 1983) established the State Air Toxics Program and the methods for designating certain air toxics as TACs. A total of 191 substances have been designated TACs under California law; they include the 189 (federal) HAPs adopted as TACs in accordance with AB 2728. The Air Toxics Hot Spots Information and Assessment Act of 1987 (AB2588) seeks to identify and evaluate risk from air toxics sources; AB 2588 does not regulate air toxic emissions. Under AB 2588, sources emitting more than 10 tons per year of any criteria air pollutant must estimate and report their toxic air emissions to the local Air Districts. The local Air Districts then prioritize facilities on the basis of emissions, and "high priority" facilities are required to submit a health-risk assessment and communicate the results to the affected public. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. The BAAQMD is responsible for implementing AB 2588 in the San Francisco Bay Area Air Basin.

Local

The BAAQMD is the regional agency empowered to regulate air pollutant emissions in the San Francisco Bay Area Air Basin. The BAAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review activities. The BAAQMD operates a regional network of monitoring stations that provides information on ambient concentrations of air pollutants, including TACs. Emissions of criteria air pollutants are regulated through both emissions limitations and the SAAQS. Emissions of TACs are evaluated by the BAAQMD on a case-by-case basis under a policy-based new source review program called "Risk Screening/Risk Management Procedures."

The *Bay Area '91 Clean Air Plan* (*'91 CAP*) describes the Bay Area's current plans for meeting State clean air laws (Association of Bay Area Governments, et al., 1991). The goal of the *'91 CAP* is to improve air quality through the 1990s through tighter industry controls, cleaner cars and trucks, cleaner fuels, and increased commute alternatives. The *'91 CAP* encourages cities and counties to adopt measures in support of this goal. Identified measures include: developing rules to reduce vehicle trips to and from major residential developments, shopping centers, and other indirect sources; encouraging cities and counties to plan for high density development; and clustering development with mixed uses in the vicinity of mass transit stations. The *'91 CAP* discourages "urban sprawl," while strongly endorsing high-density mixed-use developments near transit centers that reduce the need for commuting by personal vehicles.

The Toxic Air Contaminant Control Program has been initiated by the BAAQMD to reduce public exposure to TACs from sources under its jurisdiction by 50 percent by 1995. The District is currently working to control TAC impacts from local "hot spots" and from ambient background concentrations. The control strategy involves reviewing new sources to ensure compliance with required emission controls and limits, maintaining an inventory of existing sources to identify major TAC emissions, and developing measures to reduce TAC emissions. The BAAQMD publishes the results of the various control programs in an annual report, which provides information on the current TAC inventory, AB 2588 risk assessments, TAC monitoring programs, and TAC control measures and plans.

BAAQMD Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds (BAAQMD, 1990). This regulation applies when and if the BAAQMD receives validated odor complaints (about a specific facility) from 10 or more complainants in a 90-day period.

Existing Air Quality

Criteria Air Pollutants

The BAAQMD's regional air quality monitoring network provides information on average concentrations of criteria air pollutants. Hercules is located between two air quality monitoring stations: BAAQMD's Richmond station, approximately six miles southwest of Hercules, and BAAQMD's Vallejo station, approximately eight miles north of Hercules. The data collected would be expected to be fairly representative of the air quality in Hercules. Air pollutant concentrations are compared with the SAAQS, which are more stringent than the corresponding NAAQS. Tables IV.K.2 and IV.K.3 are five-year summaries of air pollutant concentrations in Richmond and Vallejo, respectively.

Currently, most of the 24 parcels are undeveloped and emit negligible amounts of PM_{10} from sources such as windblown dust and hydrocarbons (HCs) from biogenic sources. Portions or all of Parcels 6, 8, B, C, D, & I are developed and have stationary sources that include boilers, solvent use, and entrained road dust. These sources emit HCs, nitrogen oxides (NO_x), and PM_{10}. Mobile sources of air pollutants are also associated with current development on these parcels.

TABLE IV.K.2 RICHMOND AIR POLLUTANT SUMMARY, 1989-1993

Pollutant	Std./b/	Monitoring Data by Year/a/ 1989	1990	1991	1992	1993
Ozone (O_3)						
Highest 1-hr. average, ppm/c/	0.09	0.10	0.06	0.05	0.08	0.12
Number of violations		1	0	0	0	2
Carbon Monoxide (CO)						
Highest 1-hr. average, ppm	20.0	9.0	7.0	7.0	5.0	N/A
Number of violations		0	0	0	0	N/A
Highest 8-hr. average, ppm	9.0	4.1	4.0	4.5	4.1	3.4
Number of violations		0	0	0	0	0
Nitrogen Dioxide (NO_2)						
Highest 1-hr. average, ppm	0.25	0.11	0.08	0.08	0.08	0.08
Number of violations		0	0	0	0	0
Sulfur Dioxide (SO_2)						
Highest 1-hr. average, ppm	0.25	0.04	0.07	0.05	0.03	N/A
Number of violations		0	0	0	0	N/A
Particulate Matter (PM_{10})						
Highest 24 hr. average $\mu g/m^3$	50	115	109	97	55	N/A
Number of violations/d/		5	5	9	3	3
Annual geometric mean, $\mu g/m^3$	30	26.5	23.0	24.4	23.4	22.5
Lead (Pb)						
Highest monthly average, $\mu g/m^3$	1.5	0.14	0.16	0.29	0.03	N/A
Number of violations		0	0	0	0	0

/a/ All data are from the Richmond 13th Street monitoring station.
/b/ State standard, not to be exceeded, except for Pb standard, not to be equaled or exceeded.
/c/ ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
/d/ Samples typically taken every six days.

Note: Underlined values are in excess of applicable standard. N/A = Not Available.

SOURCE: California Air Resources Board, *Air Quality Data Summaries*, 1989-1993; Bay Area Air Quality Management District, *Air Currents*, April 1994.

TABLE IV.K.3: VALLEJO AIR POLLUTANT SUMMARY, 1989-1993

Pollutant	Std./b/	Monitoring Data by Year/a/ 1989	1990	1991	1992	1993
Ozone (O_3)						
Highest 1-hr. average, ppm/c/	0.09	0.12	0.11	0.11	0.10	0.11
Number of violations		3	4	2	1	3
Carbon Monoxide (CO)						
Highest 1-hr. average, ppm	20.0	13.0	12.0	13.0	11.0	N/A
Number of violations		0	0	0	0	0
Highest 8-hr. average, ppm	9.0	11.5	9.0	9.6	6.6	7.9
Number of violations		2	0	1	0	0
Nitrogen Dioxide (NO_2)						
Highest 1-hr. average, ppm	0.25	0.13	0.08	0.09	0.07	0.07
Sulfur Dioxide (SO_2)						
Highest 1-hr. average, ppm	0.25	0.03	0.04	0.02	0.03	N/A
Highest 24-hr. average, ppm	0.04	0.01	0.01	0.01	0.02	0.01
Number of violations		0	0	0	0	0
Lead (Pb)						
Highest monthly average, $\mu g/m^3$	1.5	0.11	0.09	0.07	0.02	N/A
Number of violations		0	0	0	0	N/A

/a/ All data are from the Tuolumne Street monitoring station in Vallejo. PM_{10} is not measured at the Vallejo station.
/b/ State standard, not to be exceeded, except for Pb standard, not to be equaled or exceeded.
/c/ ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

Note: Underlined values are in excess of applicable standard. N/A = Not available.

SOURCE: California Air Resources Board, *Air Quality Data Summaries*, 1989-1992; Bay Area Air Quality Management District, *Air Currents*, April 1994.

Major sources of air pollutants in Hercules and the immediate vicinity are the Pacific Refinery in Hercules, Unocal Refinery in Rodeo, and motor vehicles on SR 4 and I-80 freeways and local streets. Minor sources of air pollutants are the sewage treatment plant, and commercial and residential development.

The six criteria air pollutants are described below.

Ozone (O_3). The state O_3 standard is regularly violated in parts of the Bay area and, therefore, the Air Basin is non-attainment for O_3. O_3 is not emitted directly into the atmosphere, but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving HC and NO_x. Significant O_3 production generally requires about three hours in a stable atmosphere with strong sunlight. O_3 is a regional air pollutant because its precursors are transported and diffused by wind concurrently with O_3 production. Motor vehicles are the major source of O_3 precursors in the Bay Area.
O_3 causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease. O_3 also is damaging to vegetation and untreated rubber. As shown in Tables IV.K.2 and IV.K.3, the state O_3 standard is exceeded on occasion in both Richmond and Vallejo.

Carbon Monoxide (CO). CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances. About 70 percent of the CO emitted in the Bay Area comes from motor vehicles (BAAQMD, 1993a). Ambient CO concentrations normally correspond closely to the spatial and temporal distributions of vehicular traffic. CO concentrations also are influenced by wind speed and atmospheric mixing. Under inversion conditions, CO concentrations may be distributed more uniformly over an area out to some distance from vehicular sources. High levels of CO can impair the transport of oxygen in the bloodstream, thereby aggravating cardiovascular disease and causing fatigue, headaches, and dizziness. The state CO standard has been violated in Vallejo several times over the past five years, but not since 1991. In 1992, oxygenated gasoline was introduced into the Bay Area over the winter months to reduce CO emissions from motor vehicles during the season when violations of CO standards typically occur. The BAAQMD expects CO emissions to decrease through 2010 (BAAQMD, 1993a).

Respirable Particulate Matter (PM_{10}). PM_{10} consists of particulates 10 microns or less in diameter, which can be inhaled and cause adverse health effects. Particulates in the atmosphere

result from many kinds of dust- and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Demolition, construction, and vehicular traffic are major sources of particulates in urban areas. Natural sources of particulates include wind erosion from exposed surfaces. Particulate concentrations near residential sources generally are higher during the winter, when more fireplaces are in use and meteorological conditions prevent the dispersion of directly emitted contaminants. Very small particles of certain substances (e.g., sulfates and nitrates) can cause lung damage directly, or can contain adsorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Particulates also can damage materials and reduce visibility. The state PM_{10} standard is occasionally violated in the vicinity of Hercules, based on measured concentrations in Richmond. The BAAQMD predicts that particulate concentrations will increase steadily through year 2010.

Nitrogen Dioxide (NO_2). NO_2 is the "whiskey brown" colored gas readily visible during periods of heavy air pollution. The major sources of NO_2 are vehicular, residential, and industrial combustion. The standards for NO_2 are being met in the Bay Area, and the BAAQMD does not expect these standards to be exceeded in the future. Nitrogen oxide emissions are expected to decrease slightly until 1996, and then increase very slightly until year 2010 (BAAQMD, 1993a).

Sulfur Dioxide (SO_2). The major source of SO_2 in the Air Basin is combustion of high-sulfur fuels. Ambient standards for SO_2 are being met throughout the Bay Area, and the BAAQMD does not expect these standards to be exceeded in the future. The BAAQMD expects SO_2 emissions to increase slightly until year 2010.

Lead (Pb). Gasoline-powered automobile engines used to be the major source of airborne Pb in urban areas, but are no longer the major source since leaded fuels have been phased out of the gasoline market. Pb can cause hematological (blood-related) effects, such as anemia (iron-deficient blood) and inhibition of enzymes involved in blood synthesis. Ambient levels in the Bay Area are well below the ambient standard and are expected to continue to decline.

Odorous Emissions

The Hercules Sewage Treatment Facility, located between Parcels 1, 3, 4, and C, is an existing source of odors in the City. Sewage sludge processing often generates hydrogen sulfide, methyl mercaptan, sulfur dioxide, and dimethyl disulfide gases. Fatty acids are a prominent source of

odors in sewage sludge. The BAAQMD has not received any complaints linked to odors from the Hercules Wastewater Treatment Facility (Walker, 1994).

Pacific Refining Company, located adjacent to Parcels 6 and 7 in the northern portion of the City, is also an odor source. Rodeo residents have complained repeatedly (420 unconfirmed complaints between March 1990 and July 1992) to the BAAQMD about odors from the Pacific Refining Company. Odorous substances released during the refinery process consist of hydrogen sulfide and sulfur dioxide gases. As a result of the complaints and orders issued by the BAAQMD, Pacific Refining Company has implemented a variety of plant modifications and maintenance measures. Some Rodeo residents indicate that the refinery continues to emit odors, and that the decrease in complaints is actually due to frustration with the BAAQMD's response to their complaints (Woodward-Clyde Consultants, 1993).

Existing TAC Sources

The major source of TACs contributing to ambient risk in the Bay Area is motor vehicles (45 percent of the risk associated with all sources); the chemicals that contribute most to the risk are benzene (35 percent) and 1,3 Butadiene (18 percent) (BAAQMD, 1992). The BAAQMD's *Toxic Air Contaminant Control Program, Annual Report 1992* lists the major industrial sources of TACs in the City of Hercules. The report does not include mobile sources of TACs. A summary of major TAC point sources in Hercules along with the parcels closest to each source is shown in Table IV.K.4.

Pacific Refinery Company recently proposed to modify its refinery facility through a fuels modification process which would increase the amount of airborne TACs. A health-risk assessment prepared for the overall existing facility calculated an exposure level of 37 in one million (37×10^{-6}) at the maximum exposed individual (MEI) off the site. A screening-level health risk assessment for the proposed expansion showed an incremental increase of less than one in a million, so that the theoretical maximum cancer risk from the modified refinery would be 38 in one million (38×10^{-6}) (Woodward-Clyde Consultants, 1993). Worst-case meteorological conditions and standard models were used to simplify the screening-level health risk assessment, which is generally considered to present an upper bound to the level of screening level health risk posed by a project. The screening-level health risk assessment result determines whether further analysis is required. Under BAAQMD policy, if the results of the health risk assessment indicate a project cancer risk of less than one in one million (1×10^{-6}),

TABLE IV.K.4: MAJOR POINT SOURCES OF AIR TOXICS IN HERCULES AND VICINITY, 1991

Plant Name	Pollutant Emissions (lb/year)	Parcels Nearest Source
Hercules Cleaners (1581 Sycamore Avenue)	1,200 lb/yr of perchloroethylene	8, F, & H
Hercules Wastewater Treatment Facility (555 Railroad Avenue)	30 lb/yr of chloroform	1, 3, 4, & C
Pacific Refining Company (4901 San Pablo Avenue)	3,000 lb/yr of benzene 12,000 lb/yr of toluene 7,400 lb/yr of xylene	14, 9, & J
Willow Cleaners (844 Willow Avenue)	1,200 lb/yr of perchloroethylene	7 & I
Pinole-Hercules Wastewater Treatment (Foot of Tenant Ave, Rodeo)	86 lb/yr of chloroform 200 lb/yr of methylene chloride 230 lb/yr of trichloroethane	6, 7, & I
Union Chemicals (2101 Franklin Canyon Road, Rodeo)	0.4 lb/yr of chromium 1,200 lb/yr of hydrochloric acid 180 lb/yr of mercury 9 lb/yr of nickel 220 lb/yr of zinc	6, 7, & I
Unocal Corp (San Pablo Avenue, Rodeo)	2 lb/yr of arsenic 12,000 lb/yr of benzene 8 lb/yr of cadmium 2 lb/yr of chromium 1,700 lb/yr of formaldehyde 250 lb/yr of hydrogen sulfide 81 lb/yr of mercury 250 lb/yr of PAHs 26,000 lb/yr of phenol 28,000 lb/yr of toluene 23,000 lb/yr of xylene	6, 7, & I

SOURCE: Bay Area Air Quality Management District, *Toxic Air Contaminant Control Program, Annual Report,* 1992; Environmental Science Associates.

and no non-cancer toxic effects would be expected (determined by comparison to non-cancer effect criteria), then under the BAAQMD Public Risk Management policy, no further action is required. The Pacific Refinery modification falls into this category.

Sensitive Receptors

Land uses such as schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because infants, the elderly, and people with health afflictions, especially respiratory ailments, are more susceptible to respiratory infections and other air-quality-related health problems than the general public. Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present.

Industrial and commercial districts are less sensitive to poor air quality because exposure periods are shorter and workers in these districts are, in general, the healthier segment of the public. Recreational land uses are moderately sensitive to air pollution. Although exposure periods are generally short in such places, vigorous exercise associated with recreation places a high demand on the human respiratory functions, which air pollution can impair.

For the Land Use and Circulation Elements Update, sensitive receptors include schools, old-age and retirement homes, convalescent homes, residences, and other similar air pollution-sensitive land uses or activities that could be adversely affected by air pollutants generated by future City-wide growth and development. Section IV.A, Land Use, Plans and Policies, shows existing and proposed land uses in the City.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Appendix G of the CEQA *Guidelines* states that a project would normally have a significant air quality impact if it would violate air quality standards, contribute substantially to existing or projected air quality violations, or expose sensitive receptors to substantial concentrations of air pollutants. The BAAQMD recommends five significance criteria in its *Guidelines for Assessing Impacts of Projects and Plans* (BAAQMD, 1985). The BAAQMD's criteria expand on the

criteria contained in the CEQA *Guidelines*. The following BAAQMD significance criteria are used to evaluate the proposed Land Use and Circulation Elements Update:

- Any project or plan, when added to background levels, that would generate carbon monoxide concentrations above the state or national carbon monoxide standards would be of "significant effect" by definition.

- The level of emissions from a total of direct and indirect sources would be considered significant if they exceed 150 lb/day for hydrocarbons, nitrogen oxides, sulfur dioxides, and particulates, and 550 lb/day for carbon monoxide.

- Any project or plan should also be considered of significant effect if emissions of any criteria contaminant from combined direct and indirect sources reaches or exceeds one percent of County emissions of the contaminant.

- If the population or employment projections, as compiled by the Association of Bay Area Governments, would be exceeded because of the project or plan, there would be a finding of a "lack of consistency or conformity with the Bay Area Air Quality Plan." That is, in itself, equivalent to a finding of significant adverse effect.

Methodology

Total vehicle-miles traveled (VMT) were estimated using trip generation rates assigned to the West County Traffic Model by the traffic consultant, DKS Associates. The model ascribes trip generation rates and trip lengths to various land uses. Based on the trip generation rates, buildout of the 24 parcels by 2010 would result in an increase of 844,000 daily vehicle miles of travel (VMT) compared to existing conditions. EMFAC7F emission factors for the year 2010 were then used to estimate criteria air pollutant emissions from mobile sources, at an average speed of 30 miles per hour (BAAQMD, 1993c).

Stationary source emissions (combustion of natural gas for heating, etc.) from 3,816 multi-family residential units and 5,186,327 square feet of commercial and industrial space were estimated using gas consumption factors developed by the South Coast Air Quality Management District (SCAQMD, 1992). The gas consumption factors were applied to the U.S. EPA's *AP-42* emission factors for natural gas combustion (U.S. EPA, 1993). Stationary and mobile source emissions were added and total emissions were compared to County-wide emissions projections for the year 2010 to determine the project's relative contribution to regional emissions.

Roadside CO concentrations were modeled using the Caltrans computer model CALINE4. This Gaussian dispersion model calculates one-hour concentrations on the basis of peak-hour traffic volumes, roadway configurations, and worst-case meteorological assumptions. EMFAC7F emission factors were used for this modeling effort. Program-generated concentrations were added to 2010 projected background concentrations, which were obtained from the BAAQMD's CO isopleth map for the region. Eight-hour CO concentrations were estimated from the one-hour concentration by using a persistence factor of 0.7. The resulting ambient CO concentrations were then compared to the one-hour and eight-hour state CO standards to determine if there would be any air quality standard violations.

Project-generated population and employment estimates were compared with ABAG's regional projections to determine consistency and conformance with the Air Quality Plan.

Impacts

Impact Air-1: Fugitive dust generated by construction and demolition activities under the Land Use and Circulation Elements Update would add to ambient PM_{10} levels. This would be a significant impact.

Construction of individual projects consistent with the proposed Land Use and Circulation Elements Update would generate substantial amounts of dust. Dust emissions would vary day to day, depending on the level and type of activity, silt content of the soil, and the prevailing weather. A large portion of the total construction dust emissions from a particular development would result from equipment traffic over temporary roads at the construction site. Other sources of fugitive dust during construction would include excavation, earth movement, grading, and wind erosion from exposed surfaces.

Demolition activities presently generate a substantial amount of PM_{10} in the Bay Area. Demolition of existing structures would be required for development on Parcels 1, B, D, and E. The intensity of demolition dust depends on the level of demolition activity, structural material, and prevailing weather.

Construction and demolition dust emissions were not quantified for this report, as the specifications, timing and specific locations of individual development projects are not known. Because the region is already non-attainment for PM_{10}, with regular violations, the State 24-hour PM_{10} standard would likely be violated at times in the vicinity during construction, and

visibility could be temporarily affected. Construction of individual projects could also emit more than 150 pounds per day of PM_{10}. The potential to expose sensitive receptors to substantial quantities of dust could also be a significant impact, if unmitigated.

Impact Air-1: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Air-1: Mitigation Measures identified in other *General Plan* Elements

The following mitigation measures are policies or programs in the *General Plan* Economic Development Element:

> **Policy 3:** The City will assist in the improvement of air quality as one part of "quality of life."
>
> **Program 3:** The City will monitor air quality programs at the regional and state level to help insure that a balance is maintained between air quality and other quality of life issues, and will review new development to ensure that adopted air quality standards are not violated.

Impact Air-1: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development proposals on implementation of the following dust abatement program:

> **Air-1a:** The elements of the dust abatement program include the following dust control measures:
>
> - Sprinkle all construction areas with water (recycled when possible) at least twice a day, during excavation and other ground-preparing operations, to reduce fugitive dust emissions. Wetting could reduce particulate (dust) emissions by up to 50 percent.
>
> - Cover stockpiles of sand, soil, and similar materials, or surround them with windbreaks. This measure would substantially reduce wind erosion of stockpiled materials during demolition, and construction, reducing the potential of the project to contribute to excessive suspended particulate (dust) concentrations when the wind exceeded 10 miles per hour.
>
> - Cover trucks hauling dirt and debris to reduce spillage onto paved surfaces.

- Post signs that limit vehicle speeds on unpaved roads and over disturbed soils to 10 miles per hour during construction.
- Use canvas drapes to enclose building floors during the application of mineral-based fiber insulation to structural steel frames.
- Sweep up dirt and debris spilled onto paved surfaces immediately to reduce resuspension of particulate matter through vehicle movement over those surfaces.
- Require the construction contractor to designate a person or persons to oversee the implementation of a comprehensive dust control program and to increase watering, as necessary.

Impact Air-1: Significance After Mitigation

The mitigation measures identified above would reduce PM_{10} emissions during construction and demolition of individual projects, and would mitigate the impact to a less-than-significant level.

Impact Air-2: Exhaust emissions from construction equipment would increase criteria air pollutant emissions during the construction periods for individual projects under the proposed Land Use and Circulation Elements Update. This would be a significant impact.

Motor vehicles emit exhaust fumes that adversely affect the air quality of a region. Exhaust emissions during construction of individual development projects would result from construction-related vehicular traffic, such as construction equipment and machinery operations, material haul operations, and automobiles transporting workers to and from each site. Exhaust would include CO, NO_x, and O_3 precursors (HC and NO_x). Most construction equipment is diesel-powered, which generates substantial amounts of NO_x. Exhaust emissions from construction vehicles would vary depending on the type of equipment, duration of use and the number of transport trips for people and material.

Because the specific locations, timing, and specifications of individual projects to be developed under the proposed Land Use Element Update are not known, construction-related emissions were not quantified. Due to the relatively large amount of construction that would occur, exhaust-generated criteria air pollutant emissions (NO_x, in particular) could occasionally exceed the BAAQMD's 150 pounds per day threshold and be significant.

Impact Air-2: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Air-2: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Air-2: Additional Mitigation Measures identified in this EIR

The City shall condition approval of individual projects upon implementation of the following mitigation measures:

> **Air-2a:** Require construction contractors to maintain and operate construction equipment so as to minimize exhaust emissions. All internal combustion engines should be kept well-tuned with regular and periodic inspection and maintenance checks to minimize exhaust emissions. During construction, trucks and equipment should be running only when necessary.
>
> **Air-2b:** Require that construction of large projects be timed to avoid significant periods of overlap.

Impact Air-2: Significance After Mitigation

Proper maintenance of construction equipment would reduce construction emissions to a less-than-significant level.

Impact Air-3: Projected development under the proposed Land Use and Circulation Elements Update would generate criteria air pollutants that would increase total air pollutant emissions in the region. This would be a significant impact.

Long-term air quality would be adversely affected by air pollutant emissions from both mobile and stationary sources. Criteria air pollutants would be attributable to residential and commercial stationary source emissions, including combustion of natural gas for heating. Table IV.K.5 shows the estimated increase in mobile and stationary source emissions at buildout of the Land Use Element Update.

The emissions estimate in Table IV.K.5 is the net increase between current emissions and buildout emissions.

Stationary and mobile source emissions are added together in Table IV.K.5 to determine the total air pollution contribution of the Land Use and Circulation Elements, and are compared to County-wide emissions in 2010. As shown in Table IV.K.5, mobile sources are the largest

TABLE IV.K.5: ESTIMATED INCREASE IN DAILY EMISSIONS OF CRITERIA AIR POLLUTANTS DUE TO PROJECT, 2010

	Emissions (pounds/day)				
	Hercules				
Air Pollutant	Mobile Sources/a/	Stationary Sources/b/	Total	Contra Costa County/c/	Increase in Emissions as a Percent of County Emissions (%)
CO	6,622	28	6,650	627,692	1.06
NO_x	1,391	37	1,428	284,250	0.50
SO_x	129	1	130	110,000	0.12
HC	575	24	599	158,709	0.38
PM_{10}	2,356	12	2,368	187,787	1.26

/a/ Based on full buildout, and using EMFAC7F emission factors for the Bay Area for the year 2010 and an estimated 844,000 daily increase in VMT. EMFAC7F emission factors include average speed assumption for Bay Area composite motor vehicle fleet mix.

/b/ Based on US EPA, 1993, *Compilation of Air Pollution Emission Factors (AP-42)* and SCAQMD, 1992, *CEQA Air Quality Handbook.* Includes stationary source emissions for combustion of natural gas only.

/c/ Based on projected emissions for Contra Costa County, California Air Resources Board, *Emission Inventory 1990*, 1993b and BAAQMD, 1993b, *Emission Inventory Summary Report, Base Year:1990.*

SOURCE: Environmental Science Associates, Inc.

contributor to projected emissions of CO, NO_x, SO_x, HCs and PM_{10}. Each air pollutant, with the exception of SO_x, would exceed the BAAQMD's 150 pounds/day threshold. PM_{10} and CO emissions would exceed the BAAQMD significance thresholds and be greater than one percent of total County emissions. The CO emissions would be significant, but unlikely to result in local violations of the CO standard based on the CALINE4 analysis. The NO_x and HC emissions could in the future affect O_3 "attainment," expected by the BAAQMD in 1994. Meteorological conditions and cumulative growth will also affect the amount of regional O_3. Therefore, this would be considered a significant impact.

The BAAQMD adopted Trip Reduction Ordinance (TRO) Regulation 13, Rule 1, in 1992, with a purpose of improving air quality by reducing the number vehicle trips to work sites. In Contra Costa County, the Average Vehicle Ridership (the number of employees per vehicle) must be increased to 1.35 by 1999. New commercial/retail proposals involving 100 or more employees would be required to participate in Regulation 13, Rule 1.

Impact Air-3: Mitigation Measures Proposed as Part of Project

The following policies or programs are from the proposed Land Use Element Update:

> **Policy 2B:** Develop non-residential Land Use Categories which reduce the need for residents to leave the community by providing a variety of shopping and service opportunities.
>
> **Policy 3A:** Develop transportation facilities to provide access to the region, particularly public transit systems (buses, ride sharing, and rail transit, as well as potential over water transit).
>
> **Program 3A.1:** Provide assistance and support a regional rail transit system and seek funding for a train station in Hercules.
>
> **Program 3A.2:** Work with BART to develop both short-term and long-term transit facility uses on the BART site in Hercules.
>
> **Policy 11A:** Cooperate with appropriate jurisdictions and/or agencies in preparation of State Mandated Regional Plans (e.g., Congestion Management and Source Reduction and Recycling Element).

The following objectives, policies and programs are from the proposed Circulation Element Update:

> **Objective 2.h:** Promote public transit service within the City and area.
>
> **Policy 2.e:** The City should actively participate in cooperative efforts to provide effective public transit to the City and adjacent communities, including promoting commuter rail and a train station in the City to intercept through travelers on I-80.
>
> **Implementation Program 6:** Participation in local and regional Transportation System Management (TSM) programs, such as the City's adopted Transportation Demand Management (TDM) Program, which was developed by the West Contra Costa County Transportation Advisory Committee (WCCTAC) and includes guidelines for trip reduction measures.
>
> **Implementation Program 10:** Support area-wide cooperative efforts to expand public transit service to the City and surrounding areas.

Implementation Program 14: .Continue programs that include trip reduction goals for private and public development; actions to reduce peak hour private vehicle trips (e.g. flex-time, car pools, support of transit); traffic routing controls; further review of alternative funding sources; an implementing and enforcement ordinance; and alternative financing methods for fee payment which do not put the City at risk but ease the developer impact/burden.

Impact Air-3: Mitigation Measures identified in other *General Plan* Elements:

The following mitigation measure is from the *General Plan* Economic Development Element:

Implementation Program 3: The City will assist in the improvement of air quality as one part of "quality of life." The City will monitor air quality programs at the regional and state level to help insure that a balance is maintained between air quality and other quality of life issues, and will review new development to ensure that adopted air quality standards are not violated.

Impact Air-3: Mitigation Measures Identified in this EIR

The City should consider a long-term air quality planning effort as discussed below:

Air-3a: The City could prepare an Air Quality Element of its *General Plan.*

The BAAQMD recommends that an Air Quality Element be developed for cities subject to rapid growth and change. An Air Quality Element can be used in the preparation of subsequent specific area plans, EIRs, and for the achievement of ambient air quality standards. The BAAQMD's philosophy is that air quality concerns should be an early input into the planning process. The purpose of the Air Quality Element would be to:

- contain the air quality goals of the City, based on background conditions including local and regional meteorological influences on air quality, emissions inventory data, and existing City sources of criteria, odorous and toxic air pollutants.
- provide City-approved mitigation measures for mobile sources, stationary sources, and a commitment to implementation of these measures in specific projects that are subsequently proposed.
- serve as a land-use planning tool by identifying sensitive receptors in the City.
- encourage mixed-use development that could minimize vehicle use.

Air-3b: Coordinate with the BAAQMD in planning future growth, implementing regional transportation plans and trip reduction measures, and controlling stationary source emissions. Incorporate the recommendations of the BAAQMD in General Plan policies and directing for regional growth and development.

Impact Air-3: Significance After Mitigation

The mitigation measures discussed above do not include specific performance standards on trip reduction and public transit ridership goals, and it would not possible to predict the reduction in vehicle-miles traveled and the air pollutant emission reductions that would be realized by implementing the mitigation measures. Furthermore, the involved agencies (City of Hercules, BART, WestCAT, BAAQMD) that would implement these measures have limited resources and jurisdiction. Therefore, it is possible that air quality impacts would remain significant after mitigation.

Impact Air-4: CO generated by vehicular traffic generated as a result of the Land Use and Circulation Elements Update would increase roadside CO concentrations along heavily traveled roadways and at congested intersections. This would not be a significant impact.

Roadside CO concentrations were modeled using the CALINE4 dispersion model developed by the California Department of Transportation, on the basis of peak-hour traffic conditions under worse-case meteorological conditions. Roadside CO concentrations at San Pablo Avenue/Sycamore Avenue and San Pablo Avenue/John Muir Parkway (SR 4) under the existing and proposed Land Use and Circulation Elements are shown in Table IV.K.6. Because of the projected deterioration in their levels of service and high traffic volume, these intersections are expected to have the maximum project-generated impacts.

As shown in Table IV.K.6, neither the one-hour or eight-hour standard would be violated in 2010 at the San Pablo Avenue/Sycamore Avenue or San Pablo Avenue/John Muir Parkway intersections. A comparison of the existing and proposed Land Use and Circulation Elements shows that the proposed Land Use and Circulation Elements would result in slightly higher CO concentrations at the San Pablo Avenue/Sycamore Avenue intersection. CO emissions for individual vehicles are expected to decline in future years due to federal and state regulations requiring improved engine efficiencies and cleaner-burning reformulated gasolines. Because the CO standard would not be violated, the proposed Land Use and Circulation Elements would not have a significant effect on ambient CO concentrations.

Impact Air-4: Mitigation Measures Proposed as Part of Project

The following policies or programs are from the proposed Land Use Element Update:

> **Policies 2B, 3A, and 11A and Programs 3A.1 and 3A.2** discussed in mitigation for Impact Air-3.

TABLE IV.K.6: PROJECTED CO EMISSIONS AT SELECTED INTERSECTIONS

Road Segment	Averaging Time (hr)	Concentrations (ppm) /a,b,c/ Existing General Plan, 2010	Proposed General Plan, 2010
1. San Pablo Avenue/	1	2.7	4.0
Sycamore Avenue	8	2.4	3.3
2. San Pablo Avenue/	1	3.9	3.9
John Muir Parkway (SR 4)	8	3.2	3.2

/a/ Projected using CALINE4 dispersion model, EMFAC7F composite air pollutant emission factors for motor vehicles, worst-case meteorological assumptions, and traffic data from DKS Associates, Traffic Consultants. Receptors were placed at a distance of 15 feet from the road.

/b/ One-hour concentrations include a background concentration of 1.5 ppm in 2010. Eight-hour concentrations are assumed to be 70 percent of the local contribution to the one hour concentrations, plus a background concentration of 1.5 ppm in 2010.

/c/ Background air emissions from vehicles on I-80 were included in model analysis.

Note: The state one-hour CO standard is 20 ppm and the federal standard is 35 ppm. The state and federal eight-hour CO standards are 9.0 ppm. No violations are expected at either intersection.

SOURCE: Environmental Science Associates, Inc.

The following objectives, policies and programs are from the proposed Circulation Element Update:

Objective 2.h, Policy 2.e, and **Implementation Programs 6, 10,** and **14** discussed in mitigation for Impact Air-3.

Impact Air-4: Mitigation Measures identified in other *General Plan* Elements:

None identified.

Impact Air-4: Mitigation Measures Identified in this EIR

Mitigation Measures 3a and 3b discussed in mitigation for Impact Air-3.

Impact Air-4: Significance After Mitigation

No mitigation is required, and the impact would remain less-than-significant.

Impact Air-5: The Land Use Element Update would result in increases in population and employment beyond ABAG projections and, therefore, would not be consistent or in conformance with the *1991 Clean Air Plan*. This would be a significant impact.

BAAQMD Guidelines state that if a project or plan would cause population or employment in the affected subregion to exceed population or employment forecasts used to develop regional air quality plans, that project or plan would be inconsistent with those plans, and the inconsistency would be considered a significant adverse air quality effect (BAAQMD, 1985). The applicable population and employment forecasts are those developed by the Association of Bay Area Governments (ABAG).

The *'91 CAP*, mandated under state law, contains strategies for improving air quality in the San Francisco Bay Area Air Basin that were developed on the basis of population and employment forecasts contained in *Projections '90* (ABAG, 1989). The recently submitted federal O_3 plan for the Air Basin was based on population and employment forecasts contained in ABAG's *Projections '92* (ABAG, 1992). Population and employment forecasts in *Projections '92* are compared to buildout under the proposed Land Use and Circulation Elements and shown in Table IV.K.7.

Under the proposed Land Use and Circulation Elements Update, population would exceed ABAG projections for 2010 by approximately 31 percent. Employment could exceed ABAG projections by approximately 150 percent. By generating higher population and employment than originally planned for, buildout under the Land Use Element Update could render some of BAAQMD's projected attainment schedules invalid, particularly for mobile source emissions. The proposed Land Use Element would reduce the growth in industrial uses, compared to the existing land Use Element. Therefore, stationary source emissions would be expected to be relatively less than projected by BAAQMD.

TABLE IV.K.7: POPULATION AND EMPLOYMENT PROJECTIONS FOR HERCULES COMPARED TO ABAG PROJECTIONS

	Population		Employment	
Year	Land Use Element /a/	Projections '92/b/	Land Use Element /a/	Projections '92/b/
1993	18,157	18,157	2,909	2,909
2010	29,796	22,700	17,698	7,070

/a/ Data from Sedway and Associates, Inc, shown in Section IV.N., Fiscal Analysis.
/b/ Association of Bay Area Governments, *Projections '92*, July 1992.

SOURCE: Sedway and Associates, 1994; ABAG, 1992.

Growth projected to occur under the Land Use Element Update represents the maximum growth potential. If the projected growth occurs by that time, the project would not be consistent with the BAAQMD's *'91 CAP*. This would be a significant impact.

In order to reduce vehicular emissions, the single largest contributor of air pollution, the BAAQMD in its *'91 CAP* recommends high-density mixed-use types of developments near transit centers. This type of development discourages "urban sprawl" by concentrating residential and retail/commercial uses to centrally located transit.

The proposed Land Use Element would designate Parcels 1, 3, 4, 5, and 13 for Planned Commercial-Residential and Multi-Family Residential development. These parcels are located along West Contra Costa Transit Authority (WestCAT) bus routes and would be in close proximity to retail/commercial uses. Under the existing land use designations, these parcels would generally be developed with lower density residential uses. While population and employment could exceed ABAG projections, the development pattern would be consistent with the *'91 CAP*.

Impact Air-5: Mitigation Measures Proposed as Part of the Project

The following policies or programs are from the proposed Land Use Element Update:

> **Policies 2B, 3A, and 11A, and Programs 3A.1 and 3A.2**, discussed in mitigation for Impact Air-3, would help minimize air quality effects and therefore facilitate compliance with *'91 CAP*.

The following objectives, policies and programs are from the proposed Circulation Element Update:

> **Objective 2.h, Policy 2.e,** and **Implementation Programs 6, 10,** and **14** discussed in mitigation for Impact Air-3, would help minimize air quality effects and therefore facilitate compliance with *'91 CAP*.

Impact Air-5: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Air-5: Mitigation Measures Identified by this EIR

> **Mitigation Measure Air-3a and Air-3b**, discussed in mitigation for Impact Air-3.

Impact Air-5: Significance After Mitigation

ABAG projections, on which the *'91 CAP* is based, reflect existing City and County General Plans. Given the increased rate of population and job growth forecast in the Land Use Element Update compared to the existing Land Use Element (adopted *General Plan*), this impact likely would be significant and unavoidable.

Impact Air-6: Development consistent with the Land Use and Circulation Elements Update could expose sensitive receptors to existing and future emissions of non-criteria pollutants. This would not be a significant impact.

Non-criteria air pollutants include toxic air contaminants (TACs) and objectionable odors. Existing and future sensitive receptors could be exposed to future sources of TACs and objectionable odors. Existing odor sources include the Hercules Wastewater Treatment Plant, Pacific Refinery Company, and smaller stationary sources. Existing TAC sources are listed in

Table IV.K.4. Parcels 1, 3, 4, 6, 7, are closest to the industrial TAC and odor sources. Parcels 7, 9, 10, 11, 12, and 14 are located adjacent to mobile TAC sources.

TAC and odorous emissions existing and future stationary sources would be subject to close scrutiny by the BAAQMD, through the permit process as well as the AB2588 program. The BAAQMD would also respond and act on citizen complaints and concerns regarding odorous emissions from new and existing stationary sources. Non-criteria air pollutant emissions from future stationary sources, therefore, are not expected to be a source of major concern. Non-criteria pollutants from future mobile sources are expected to be relatively steady, although the number of auto trips would increase.

Impact Air-6: Mitigation Measures proposed as part of the project

None identified.

Impact Air-6: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Air-6: Mitigation Measures Identified in this EIR

None Identified.

Impact Air-6: Significance after Mitigation

No mitigation is required, and the impact would remain less-than-significant.

REFERENCES - Air Quality

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L. NOISE

SETTING

Introduction

Sound waves travel outward from a source and exert a sound pressure (commonly called "sound level") measured in decibels. A decibel (dB) is a logarithmic unit of sound energy intensity. Environmental noise is usually measured in A-weighted decibels (dBA). An A-weighted decibel is a decibel corrected for the variation in frequency response of the human ear at commonly encountered noise levels. In general, people can perceive a three-decibel difference in noise levels; a difference of 10 dBA is perceived as a doubling of loudness. Some commonly-encountered noise sources and their associated noise levels are shown in Figure IV.L.1.

Environmental noise levels typically fluctuate over time, and different types of noise descriptors are used to account for this variability. The ambient noise level is the background noise generated by all sources in the vicinity. Typical noise descriptors include the energy equivalent noise level (L_{eq})[1] and the Community Noise Equivalent Level (CNEL). CNEL is a time-averaged noise descriptor that weights noise exposure to account for the increased annoyance of evening and nighttime noise. The CNEL accounts for the lower tolerance of people to noise during the evening (7:00 p.m. - 10:00 p.m.) and nighttime (10:00 p.m. - 7:00 a.m.) periods, relative to the daytime period (7:00 a.m. - 7:00 p.m.) by adding a five-dBA "penalty" to measured noise levels during the evening period and a 10-dBA penalty to nighttime noise. The CNEL and L_{eq} noise descriptors are commonly used in establishing noise exposure guidelines for specific land uses. The L_{max} is the highest noise level experienced over a short period. Noise levels are measured on a logarithmic scale, and therefore, are not additive in the usual arithmetic manner.

The noise level experienced at a receptor depends on the distance between the source and the receptor, presence or absence of noise barriers and other shielding devices, and the amount of noise attenuation (lessening) provided by the intervening terrain. For line sources such as a highway, noise decreases by about 3.0 to 4.5 dBA for every doubling of distance from the roadway. For point or stationary sources, such as electric motors, a noise reduction of

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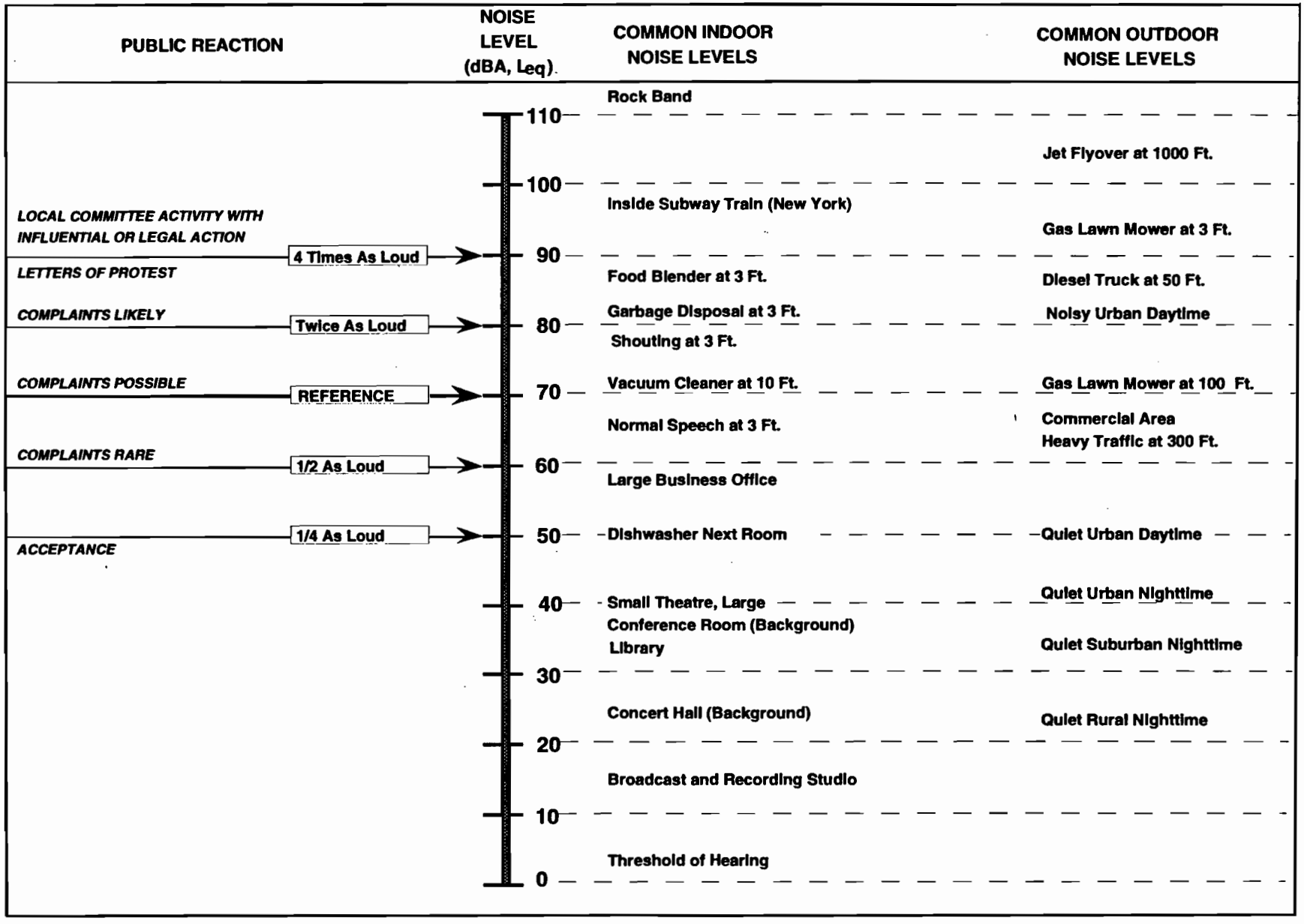
1 L_{eq}, the energy-equivalent noise level, is the equivalent steady-state continuous noise level which, in a stated period, would contain the same acoustic energy as the time-varying sound level actually measured during the same period.



SOURCE: Caltrans Transportation Laboratory Noise Manual, 1982; and Modification by Environmental Science Associates

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Figure IV.L.1
Representative Noise Levels

6.0 to 9.0 dBA is experienced for each doubling of the distance from the noise source. The amount of noise attenuation depends to a large extent on the sound absorptive characteristics of the intervening terrain. For example, soft earth with vegetative cover provides a 4.5 dBA attenuation rate with every doubling of distance from a line source; hard exposed surfaces provide a noise attenuation rate of only 3.0 dBA per doubling of distance. For point sources, the corresponding noise attenuations are 9.0 dBA and 6.0 dBA. Noise barriers or shielding devices that break the line of sight between the source and receptor would generally provide a noise attenuation of about 5.0-10.0 dBA.

Noise Sources and Levels

The primary noise sources in Hercules are transportation-related, including motor vehicle traffic and trains. The major roadways through the City include I-80, SR 4, San Pablo Avenue, and Refugio Valley Road. I-80 in Hercules supports approximately 142,000 average daily traffic (ADT) south of SR 4 and 105,000 ADT north of SR 4 while SR 4 supports approximately 32,000 ADT (California Department of Transportation, 1993). The vehicle mix on I-80 and SR 4 is characterized by a substantial number of medium and heavy trucks. The heavy trucks generate substantial noise. The two rail lines that extend through the City are the Southern Pacific (SP) line that runs along the shoreline of San Pablo Bay and the Atcheson-Topeka and Santa Fe (AT&SF) line that runs through the City in an east-west orientation.

Noise contours for these major noise sources were developed for the Noise Element of the *General Plan* (City of Hercules, 1988). Noise levels today are expected to be higher since traffic has increased since 1988. Based on the Noise Element noise contours, traffic noise levels along I-80 exceeded 60 dBA, CNEL within approximately 2,000 feet of the roadway. Traffic noise along SR 4 exceeded 60 dBA, CNEL within approximately 800 feet of the roadway. Traffic noise along the other roadways was shown to be substantially less than along either of the highways.

Noise measurements conducted in 1991 for the City of Hercules Master Environmental Assessment (Table IV.L.1, locations 1 through 7) indicate that peak-hour noise levels are approximately 70 dBA, L_{eq} along San Pablo Avenue and Sycamore Avenue near the intersection of those two streets, approximately 65 dBA, L_{eq} along Refugio Valley Road, and less than 60 dBA, L_{eq} along most other City streets. Noise measurements conducted for this EIR indicate that peak-hour noise levels are approximately 60 dBA, L_{eq} along John Muir Parkway in the

TABLE IV.L.1: MEASURED NOISE LEVELS ALONG SELECTED ROADS AND ON VACANT PARCELS

	Measured Noise Levels dBA/a,b,c/		
Location	Duration (hr)	L_{eq}	L_{max}
1. Railroad Avenue	0.25	52	63
2. James Watson Road	0.25	53	65
3. Bayberry Road	0.25	59	81
4. San Pablo Avenue at Hercules Avenue	0.25	64	74
5. San Pablo Avenue, between Sycamore Avenue and State Route 4	0.25	71	78
6. Sycamore Avenue at San Pablo Avenue	0.25	70	83
7. Refugio Valley Road at Sycamore Avenue	0.25	65	87
8. Sycamore Avenue at Palm Avenue	0.25	61	80
9. Skelly Avenue at Parcel B	0.25	59	66
10. Santa Fe Road at Parcel C	0.25	55	73
11. John Muir Parkway on Parcel 6	0.25	61	75

/a/ Noise levels for locations 1 through 11 were measured at about 20 feet from the centerline of the road, except the noise measurement at San Pablo Ave. and Hercules Ave., which was measured at about 50 feet from the centerline of the road.

/b/ Noise at locations 1 through 7 was measured by ESA technical staff on February 6, 1991, and noise at locations 8 through 11 on were measured on March 17, 1994, using a Metrosonics db-308 Sound Analyzer, calibrated before and after each use.

/c/ Noise levels were measured along major roads between 5:00 p.m. and 6:00 p.m. in order to simulate worst-case traffic noise conditions. Noise levels for locations far from major roads were measured between 3:00 and 6:30 p.m.

SOURCE: Environmental Science Associates

North Shore Business Park, and 55 dBA, L_{eq} along Santa Fe Road near Parcel C (Table IV.L.1, locations 8 through 11). Overall, in most parts of the City, away from major roads and rail lines, ambient noise levels are well below 60 dBA, CNEL. In these areas, traffic noise is barely audible, and the dominating noise sources are residential uses, wind, or building equipment.

Train noise levels along the SP line are higher than along the AT&SF line. Train noise levels exceed 60 dBA, CNEL within approximately 1,300 feet from the SP tracks and approximately 800 feet from the AT&SF tracks. The high noise levels (in terms of CNEL) that characterize the two train lines that run through the City are mostly the result of nighttime train operations, because the CNEL noise descriptor applies a weighting factor to nighttime noise to take into account its more intrusive character (City of Hercules, 1988).

Noise Regulations, Plans, and Policies

Title 24, Part 2 of the California Code of Regulations contains requirements for construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings, intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as the California Noise Insulation Standards. For limiting noise transmitted between adjacent dwelling units, the Standards specify the extent to which walls, doors, and floor-ceiling assemblies must block or absorb sound. For limiting noise from exterior sources, the Standards set forth an interior standard of 45 dBA, CNEL in any habitable room with all doors and windows closed and require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA, CNEL. Title 24 standards are enforced by local agencies through the building permit application process.

The Noise Element of the Hercules *General Plan* provides community noise control objectives and standards (City of Hercules, 1988). The basic objective of the Noise Element is to protect the citizens of Hercules from excessive noise levels which are annoying to the senses and can be detrimental to health. Towards this goal, future residential development sites are to be designed to attain specific residential noise standards. The noise standards used for residential areas are also to be applied to other sensitive land uses, such as schools, hospitals, and libraries. Noise attenuation is to be provided along transportation routes to protect adjacent, sensitive land uses. Recognizing the potential noise impact associated with truck traffic, the Noise Element calls for restricting truck traffic in residential areas except for deliveries within the area or on designated

truck routes, and, to the extent possible, for limiting truck usage in residential areas to daylight hours (City of Hercules, 1988).

Table IV.L.2 lists the City's noise/land use compatibility standards, which indicate the CNEL noise level ranges that are acceptable for various types of land uses within the community. It shows, for various land uses, the noise level below which a new land use would be considered compatible with the exterior noise environment with no special noise insulation requirements. Table IV.L.2, used in conjunction with the noise measurements and the noise contours developed by the City of Hercules, provides a means to evaluate quickly potential land use conflicts with the existing noise environment.

The City of Hercules does not currently have a noise ordinance.

Sensitive Receptors

Some land uses are more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both time and insulation from noise) and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, parks and outdoor recreation areas are more sensitive to noise than are commercial and industrial land uses. Based on this definition, future residents of the 24 parcels would be considered sensitive receptors, and the open space/riparian corridor along Refugio Creek would be considered and sensitive land use.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Based on the CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would increase substantially the ambient noise levels for adjoining areas. Short-term construction noise impacts of the project would be considered significant if: construction activities were to affect noise-sensitive receptors for a substantial amount of time; expected noise levels would endanger the hearing of receptors near the construction site; or construction activities would affect receptors during noise sensitive periods. Construction noise would also be significant if it conflicted with local construction noise standards or policies.

TABLE IV.L.2: NOISE / LAND USE COMPATIBILITY GUIDELINES FOR THE CITY OF HERCULES

	Noise Levels (dBA,CNEL)			
Land Use Category	Normally Acceptable/a/	Conditionally Acceptable/b/	Normally Unacceptable/c/	Clearly Unacceptable/d/
Residential: All types	< 60	60 - 70	70 - 75	75 +
Transient Lodging: Motels, Hotels	< 60	60 - 70	70 - 80	80 +
Schools, Libraries, Churches, Hospitals, Nursing Homes	< 60	60 - 70	70 - 75	75 +
Sports Arenas, Outdoor Spectator Sports, Playgrounds, Neighborhood Parks	< 60	60 - 70	70 - 80	80 +
Golf Courses, Riding Stables, Water Recreation, Cemeteries	< 65	65 - 70	70 - 80	80 +
Office Buildings, Business Commercial, and Professional	< 70	70 - 75	75 - 80	80 +
Industrial, Manufacturing, Utilities, Agriculture	< 70	70 - 75	75 +	NA
Auditoriums, Concert Halls	< 50	50 - 65	65 - 75	75 +
Amphitheaters	< 50	50 - 55	55 - 65	65 +

/a/ Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Indoor and outdoor will be pleasant.

/b/ Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice. Outdoor environment will seem noisy, but tolerable.

/c/ Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.

/d/ Clearly Unacceptable: New construction or development should generally not be undertaken. Construction costs to make the indoor environment acceptable would be prohibitive and the outdoor environment would not be usable.

SOURCE: City of Hercules, Noise Element of the *General Plan*, October 1988.

Long-term noise impacts would be considered significant if a project would: cause noise levels to increase by five dBA or more, and in the process create a noise environment that is incompatible with acceptable noise levels for existing or planned land uses; cause a three dBA increase (the threshold of noticeable change) where the existing noise environment is already marginally unacceptable for its current use; or introduce new noise sensitive uses into an area that does or would have acceptable noise levels.

According to the CEQA *Guidelines*, a project would normally have a significant effect on the environment it would conflict with adopted environmental plans and goals of the community where it is located. Thus, implementation of the proposed Land Use and Circulation Elements Update would have a significant noise impact if it would introduce new noise-sensitive receptors in areas where ambient noise levels are above the City's recommended noise compatibility standards for "normally acceptable" noise levels.

Impacts

Impact Noise-1: Development consistent with the Land Use and Circulation Elements Update would result in temporary noise impacts related to construction activities. This would be a short-term significant impact.

Construction preparation activities would involve excavation, grading, earth movement, stockpiling, batch dropping operations and vehicle travel. Construction activities such as foundation laying, building construction and finishing operations would also generate noise. Construction equipment would generate vehicular noise. Construction-related material haul trips would raise ambient noise levels along haul routes, depending on the number of haul trips made and types of vehicles used. In addition, certain types of construction equipment generate impulsive noises, which can be particularly annoying. Table IV.L.3 shows typical noise levels for different construction stages; Table IV.L.4 shows typical noise levels for various construction equipment.

Assuming a maximum noise level of 89 dBA (no pile driving or rock drilling) at about 50 feet from the source, and a noise attenuation of about 6 dBA to 9 dBA for every doubling of distance, noise levels from construction activities would drop to about 62 dBA to 71 dBA (the maximum normally acceptable noise level in residential areas) at about 400 feet from the source. Under a worst-case scenario, noise-sensitive land uses within 400 feet of a construction site could be exposed to noise levels above the recommended standards during the construction period.

TABLE IV.L.3: TYPICAL OFFICE CONSTRUCTION NOISE LEVELS

Construction Phase	Noise Level (dBA, L_{eq})/a/
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	89

/a/ Average noise levels 50 feet from the noisiest source and 200 feet from the rest of the equipment associated with a given construction phase.

SOURCE: United States Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances,* 1971.

TABLE IV.L.4: TYPICAL NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dBA at 50 feet)
Dump Truck	88
Portable Air Compressor	81
Concrete Mixer (Truck)	85
Jackhammer	88
Scraper	88
Dozer	87
Paver	89
Generator	76
Piledriver	101
Rock Drill	98
Pump	76
Pneumatic Tools	85
Backhoe	85

SOURCE: Cunniff, *Environmental Noise Pollution*, 1977.

Possible sensitive receptors to construction activities would include new multi-family residential development on Parcels 1, 3, 4, 5, and 13. Existing residential development south of Parcels 1 and 4, and near Parcel 13 could also be noise sensitive.

Because the potential for construction activities to raise ambient noise levels above recommended standards at nearby sensitive receptor locations, construction noise would be considered a short-term, significant impact.

Impact Noise-1: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Noise-1: Mitigation Measures identified in other *General Plan* Elements

The following measure is an objective in the City's Noise Element that would apply to construction-related truck traffic:

> **Objective 1.d:** Restrict truck traffic in residential areas except for deliveries within the area or on designated truck routes. To the extent possible, truck usage in residential areas should be limited to daylight hours.

Impact Noise-1: Additional Mitigation Measures Identified in this EIR

The City shall condition approval of individual development projects on implementation of the following construction noise abatement programs (alternatively, the City could adopt a noise ordinance that includes these measures):

> **Noise-1a:** ~~R~~For construction near sensitive receptors, require that noisy construction activities be scheduled for periods, such as between 8 a.m. and 6 p.m. on weekdays and 9 a.m. to 6 p.m. on Saturday, when loud noises would have the least impact on adjacent residents or other sensitive receptors.~~and workers.~~
>
> **Noise-1b:** Develop a construction schedule that minimizes potential cumulative construction noise impacts and accommodates particularly noise-sensitive periods for nearby land uses (e.g., for schools, churches, etc).
>
> **Noise-1c:** ~~R~~Where feasible, require that holes for driven piles be pre-drilled to reduce the level and duration of noise impacts.

Noise-1d: ~~C~~Where feasible construct temporary, solid noise barriers between source and sensitive receptor(s) ~~receiver~~ to reduce off-site propagation of construction noise. This measure could reduce construction noise by up to five decibels.

Noise-1e: Require internal combustion engines used for construction purposes to be equipped with a properly operating muffler of a type recommended by the manufacturer. Also, require impact tools to be shielded per manufacturer's specifications.

Impact Noise-1: Significance after Mitigation

Given the temporary nature of construction noise impacts, the measures would reduce the impact to less than significant.

Impact Noise-2: Development consistent with the Land Use and Circulation Elements Update would result in a long-term increase in traffic noise levels along the City road network. This would be a significant impact for existing noise-sensitive uses along several roads.

Development consistent with the Land Use Element would increase traffic along the City road network. The increase in traffic-generated noise could impact existing noise-sensitive receptors. As a percentage increase over existing traffic volumes, the following major roadways would experience the greatest increase: SR 4; Hercules Avenue; and San Pablo Avenue.

Roadside noise levels would increase with the increase in traffic volumes. Peak-hour noise levels have been estimated for existing and future project traffic scenarios using the results of data included in Section IV.B., Transportation and Circulation. Calculated estimates using the Federal Highway Administration (FHWA) Noise Reduction Model are shown in Table IV.L.5.

As discussed above, an increase of 3 dBA would be considered noticeable, and a 5 dBA increase would be considered significant. The following roadways would have a noticeable increase (3 dBA to 4 dBA) in noise due to traffic: San Pablo Avenue between Hercules Avenue and Sycamore Avenue; and San Pablo Avenue between Sycamore Avenue and SR 4. A significant increase (5 dBA or more) would occur on Hercules Avenue, between San Pablo Avenue and Santa Fe Avenue (9.8 dBA increase). The increase would raise the ambient noise level to 66.0 dBA, L_{eq} for existing noise-sensitive land uses along Hercules Avenue and possibly the proposal commercial-resident development on Parcel 5. This noise level is within the City's "Conditionally Acceptable" noise compatibility guideline for residential land uses.

TABLE IV.L.5: ESTIMATED PEAK-HOUR NOISE LEVELS ALONG SELECTED ROAD SEGMENTS IN HERCULES

	Noise level (dBA, L_{eq})/a,b/		
		Year 2010	
Road Segment	Existing	Existing Land Use/ Circulation Elements	Proposed Land Use/ Circulation Elements
1. SR 4 (Between Willow Avenue and Bayberry Avenue)	77.8	80.4	80.7
2. I-80 (Between Sycamore Avenue and SR 4)	81.4	81.4	81.5
3. Hercules Avenue (Between San Pablo Avenue and Santa Fe Avenue)	56.2	63.8	66.0
4. Refugio Valley Road (Between Sycamore Avenue and Partridge Drive)	67.3	68.0	68.6
5. San Pablo Avenue (Between Hercules Avenue and Sycamore Avenue)	73.4	75.8	76.7
6. San Pablo Avenue (Between Sycamore Avenue and SR 4)	68.1	70.1	71.9
7. Willow Road (Between Franklin Canyon and I-80)	68.7	68.8	68.4

/a/ Estimates were made using the FHWA Highway Traffic Noise Prediction Model and correspond to a distance of 50 feet from the centerline, and 100 feet from SR 4 and I-80.

/b/ Assumes the following medium- and heavy-duty truck percentages: 3 percent medium and 5 percent heavy on SR 4; 3 percent medium and five percent heavy-duty on I-80 (California Department of Transportation, 1992).

SOURCE: Environmental Science Associates, 1994.

Traffic-generated noise would also increase along roadways not selected in the modeling analysis. These areas may include: North Shore Business Park roadways; Skelly Avenue; Railroad Avenue in the Historic District area, and SR 4 East of Willow. Because at least one road used in the modeling analysis (Hercules Avenue) and possibly others would experience a 5 dBA increase due to traffic noise and also be in the City's "Conditionally Acceptable" category for residential land uses, this would be a significant impact.

Impact Noise-2: Mitigation Measures Proposed as Part of the Project

The following objectives are contained in the proposed Circulation Element:

> **Objective 2.b:** Coordinate the street system with land use and other elements of the *General Plan.*
>
> **Objective 2.g:** Minimize through traffic in residential neighborhoods.

Impact Noise-2: Mitigation Measures identified in other *General Plan* Elements

Noise Element implementation measures that apply to existing noise-sensitive land uses that would be subject future traffic noise include:

> **Implementation Measure 2.a**: Traffic Planning. Roadway design, traffic signalization and other traffic planning techniques can reduce noise caused by speed or acceleration of vehicles. The limiting of truck traffic to certain designated sections of the City can help in maintaining acceptable noise levels in residential neighborhoods.
>
> **Implementation Measure 2.d**: Noise Barriers. Noise barriers are commonly used to reduce noise levels from ground transportation noise sources and industrial sources. Noise barriers serve a dual purpose in that they can reduce the noise level both outdoors and indoors. To be effective, a noise barrier must be massive enough to prevent significant noise transmission through it and high enough to shield the receiver from the noise sources. The minimum acceptable weight for a noise barrier is four lb/square foot (equivalent to 3/4 inch plywood) and the barrier must be carefully constructed so that there are no cracks or openings. The be effective, a barrier must interrupt the line-of-sight between the noise source and the receiver. Another important consideration in the design of noise barriers is the phenomenon of flanking. The effects of flanking can be minimized by bending the wall back from the noise source at the ends of the barrier.
>
> **Implementation Measure 3**: Noise levels from transportation systems and other sources should be monitored in terms of community standards as the City grows. If levels are found to be increasing to unacceptable levels, the City may choose to adopt and enforce ordinances regulating various noise generators within the City.

Impact Noise-2: Mitigation Measures Identified in this EIR

Noise-2a: The City shall limit truck traffic to between 7:00 a.m. and 6:00 p.m. and prohibit heavy-duty diesel trucks on Hercules Avenue.

Impact Noise-2: Significance after Mitigation

If the City applied Implementation Measure 2a from the Noise Element and Mitigation Measure Noise-2a identified above, existing noise-sensitive land uses would not likely be exposed to unacceptable noise levels from an increase in traffic. ~~The traffic noise would be mostly due to the heavy duty diesel trucks that would be expected to use Hercules Avenue.~~ The impact could be mitigated to a less-than-significant level.

Impact Noise-3: Noise from stationary sources developed under the Land Use and Circulation Elements Update could raise ambient noise levels above City standards. This would be a significant impact.

Stationary noise sources would include residential units and commercial (retail, industrial, and other research) land uses. Noise from residences and commercial land uses that can be heard at surrounding uses consists mainly of noise from heating and ventilation (HVAC) equipment. Noise levels from commercial central air conditioning units is over 100 dBA at very close distances (U.S. EPA, 1971). Without shielding, noise from such units decreases to about 65 dBA or less at about 700 feet from the source. These units normally have noise shielding cabinets, and are not generally cited as or found to be sources of significant noise impacts. The use of loading docks and associated truck traffic could be a significant noise source. (Noise from vehicle operations is discussed in Impact Noise-2.)

Where new noise sources are sufficiently far from noise-sensitive land uses, with noise-buffering "soft" land uses such as open space in between, new noise sources would not be expected to raise ambient noise levels at those land uses noticeably. Existing residential land uses would, however, be located close enough to new noise sources to be exposed above the City's recommended noise standards. Existing residential areas south of Sycamore Avenue, south of Parcel 1, and in the Historic District could be exposed to new noise sources that are above City standards. Future residents of the parcels with mixed Planned Commercial-Residential and Industrial-Residential land use designations could also be exposed to noise from stationary sources that would be developed in proximity. Noise impacts from future stationary sources could be considered a significant impact.

Impact Noise-3: Mitigation Measures Proposed as Part of the Project

None identified.

Impact Noise-3: Mitigation Measures identified in other *General Plan* Elements

The following measures are from the City's Noise Element:

"Normally Unacceptable" Land Use Compatibility: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features must be included in the design. Outdoor areas must be shielded.

Implementation Measure 1.a-1.b: General Plan, Zoning Proposals and Neighborhood Plans. The proposed neighborhood plan will be reviewed in terms of present and future noise levels and means of noise attenuation. Techniques such as site and building design, barriers, and traffic planning will be considered and incorporated into the Plan where needed.

Implementation Measure 2.b: Site Planning. Proper site planning to reduce noise impacts is the first area that should be investigated for a given project. By taking advantage of the natural shape and contours of the site, it is often possible to arrange the buildings and other uses in a manner which will reduce and possibly eliminate noise impacts. Site planning techniques include:

- Increasing distance between the noise source and receiver.
- Placing non-noise sensitive structures such as parking lots, maintenance facilities and utility areas between the source and receiver.
- Using non-noise sensitive structures such as garages to shield noise-sensitive areas.
- Orienting buildings to shield outdoor spaces from a noise source.

Implementation Measure 2.c: Architectural Layout. In many cases, noise reduction requirements can be met by giving attention to the layout of noise-sensitive spaces. Bedrooms, for example, will be considerably quieter if placed on the side of the house facing away from the highway. Proper architectural layout often can eliminate the need for costly construction modifications.

Implementation Measure 2.e: If site planning, architectural layout, noise barriers or a combination of these measures do not achieve the required noise reduction for the building in question, it will be necessary to modify the building's construction. Indoor noise levels due to exterior sources are controlled by the noise reduction characteristics of the building shell.

In general, windows and doors are the acoustical weak links in a building. Often all that is required is that the windows be sealed on the noisy side of the building and an alternate means of ventilating the building be provided. Beyond this, thicker windows or double-glazed windows will be required. Doors should not be located on the side of the building facing a noisy source. If they are, they should be solid core doors and should be equipped with an appropriate acoustical door gasket.

In cases where more noise reduction is required, the ceiling, roof, and/or walls must be modified to provide the required noise reduction. The actual modifications will depend on the amount of noise reduction required.

Implementation Measure 2.f: The Noise Exposure Contours and the California Noise Insulation Standards. The California Noise Insulation Standards (Title 24 of the California Government Code) for multi-family dwellings requires an acoustical report for dwellings proposed in areas where the CNEL exceeds 60 dBA. The purpose of the acoustical report is to demonstrate the manner by which the development will meet the standards for interior noise levels. The year 2000, 60 dBA, CNEL noise contours on the noise exposure map should be used to determine where a noise measurement will be required to determine compliance with the standard. In those cases where development will be located in an area where the CNEL exceeds 60 then the acoustical report would be required.

Impact Noise-3: Mitigation Measures Identified in this EIR

Noise-3a: As discussed in Impact Noise-1, the City could revise the Municipal Code to include a Noise Ordinance. The Noise Ordinance would encourage the scheduling of noisy activities during normal business hours so that they would have the least interrupting and intrusive effect at nearby residential land uses.

Condition approval of individual development projects under the Land Use Element Update upon the following mitigation measure:

Noise-3b: The City shall review new development proposals for noise sources that could impact existing land uses. Proposed projects must demonstrate that any new noise sources would not impact existing land uses.

Impact Noise-3: Significance After Mitigation

The *General Plan* Noise Element is self-mitigating. Noise impacts from stationary sources would be reduced to a less-than-significant level.

Impact Noise-4: New roads developed under the Circulation Element Update would increase noise levels along the new alignments. This would be a less-than-significant impact.

The proposed Circulation Element would require development of additional roadways in the North Shore Business Park and a roadway (Claeys Road) connecting Sycamore Avenue with residential areas of Refugio Valley. The new roadways would introduce traffic-generated noise into an undeveloped area. Traffic-generated noise would likely be 5 dBA, L_{eq} above the existing noise level in North Shore Business Park; however, the traffic volumes would be relatively low and would be unlikely to exceed the City's "Normally Acceptable" noise

compatibility guideline of 70 dBA, CNEL for professional land uses. Furthermore, there are no existing or planned noise-sensitive land uses along these roadways. Therefore, the impact would be less-than-significant.

For the proposed Claeys Road extension between Sycamore Avenue and Lupine Road, peak-hour traffic-generated noise would increase to about 57 dBA, L_{eq}. The proposed Claeys Road extension would add traffic to existing residential roadways (such as Lupine Road) that are currently quiet due to low traffic volumes. The projected peak-hour noise level of 57 dBA, L_{eq} would be within the City's "Normally Acceptable" noise compatibility guideline of 60 dBA. In this category, existing residential development would not require any special noise insulation requirements and the exterior noise environment would be "pleasant" (City of Hercules, 1988). Since the projected noise environment would be compatible with the existing residential development, the impact would be less-than-significant.

Impact Noise-4: Mitigation Measures Proposed as Part of the Project

The following objectives are contained in the proposed Circulation Element Update:

> **Objective 2.b:** Coordinate the street system with land use and other elements of the *General Plan.*
>
> **Objective 2.g:** Minimize through traffic in residential neighborhoods.

Impact Noise-4: Mitigation Measures identified in other *General Plan* Elements

The following measure is an objective in the City's Noise Element:

> **Objective 1.d:** Restrict truck traffic in residential areas except for deliveries within the area or on designated truck routes. To the extent possible, truck usage in residential areas should be limited to daylight hours.

Impact Noise-4: Mitigation Measures Identified in this EIR

> **Noise 4a:** The City shall post signs prohibiting trucks from using the proposed Claeys Road extension, except for local deliveries. All other trucks shall be required to use Sycamore Avenue to reach the Claeys Road/SR 4 interchange.

Impact Noise-4: Significance After Mitigation

No mitigation is required, and the impact would remain less-than-significant.

Impact Noise-5: Development consistent with the proposed Land Use and Circulation Elements Update would expose future noise-sensitive land uses to traffic and railroad noise above the City's recommended standards. This would be a significant impact.

Roadways that would experience an increase in traffic could be accompanied with a 5 dBA noise increase (the increases on some roadways are shown in Table IV.L.5). This could expose future City residents to noise levels above City standards. This would occur where the traffic noise level is within the City's "Conditionally Acceptable" noise compatibility guideline of 60 dBA, CNEL or more, and would be a significant impact. Some roads, including San Pablo Avenue, may currently generate noise levels above City standards for adjacent residential uses.

According to the Noise Element of the *General Plan*, Portions of Parcels 13 and B lie within the Santa Fe Railway 60 - 70 and 70 - 75 dBA, CNEL noise contour line. Trains operate at all hours on the Santa Fe line, including between the hours of 10:00 p.m. and 7:00 a.m. The CNEL noise level used in the Noise Element penalizes each nighttime operation by 10 decibels (i.e., it weights each nighttime operation as the equivalent of 10 daytime operations). The proposed multi-family medium-density designation on Parcel 1 could also expose future residents to noise from trains on the Southern Pacific line. The Noise Element uses the CNEL to take into account the increased sensitivity of persons to noise that occurs during sleeping hours. The City's Noise Contours are based on worst-case noise conditions of high train frequency and do not account for varying terrain.

Under the proposed Land Use Element, Parcels 13 and B would be developed with planned commercial/residential and multi-family low density residential uses, respectively. The Noise Element compatibility guidelines show 70 -75 dBA, CNEL as the "Normally Unacceptable" category for this type of residential land use. According to the Noise Element, development in the "Normally Unacceptable" category is discouraged and requires a noise analysis. Development on Parcels 13 and B without a noise analysis (and appropriate mitigation) would be a significant impact.

Impact Noise-5: Mitigation Measures Proposed as Part of the Project

The following objectives and policies are contained in the proposed Circulation Element Update:

> **Objective 2.b:** Coordinate the street system with land use and other elements of the *General Plan*.
>
> **Objective 2.g:** Minimize through traffic in residential neighborhoods.

Policy 2.b: Neighborhood design should discourage through traffic on local streets.

Policy 2.c: Residential streets will be designed in relation to the needed capacity and the adjoining housing patterns.

Impact Noise-5: Mitigation Measures identified in other *General Plan* Elements

The following measures are from the City's *General Plan* Noise Element.

Implementation Measures 1.a, 1.b, 2.a, 2.b, 2.c, 2.d, 2.e, 2.f, 3, and the "Normally Unacceptable" Land Use Compatibility guideline identified above.

Impact Noise-5: Mitigation Measures identified in this EIR

Mitigation Measure Noise-2a identified above.

Impact Noise-5: Significance After Mitigation

The *General Plan* Noise Element provides adequate policies and implementation measures to protect future residents for traffic and train noise levels that are above City standards. With mitigation, the impact would be less than significant.

REFERENCES - Noise

California Department of Transportation, *1991 Annual Average Daily Truck Traffic on the California State Highway System*, November 1992.

California Department of Transportation, *1992 Traffic Volumes on California State Highways*, July 1993.

City of Hercules, Noise Element of the *General Plan*, October 1988.

Cuniff, Patrick F., *Environmental Noise Pollution,* 1977.

United States Environmental Protection Agency, *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances,* 1971.

M. ENERGY

SETTING

Energy Conservation, Plans, Policies and Standards

State

State energy-related policies recognize the vulnerability of the State due to dependence on foreign sources of oil to meet energy demands and the connection between energy consumption and air pollution. Thus, the California Energy Commission (CEC) calls for the State to aggressively work to increase the efficiency of its transportation system and the vehicles that use it, since they consume three-fourths of the oil and half of all the energy used in the state, and are the major source of air pollution in California (California Energy Commission, 1991).

This policy is to be advanced by local governments, which are to promote energy savings by requiring cost-effective, energy-efficient integrated transportation and land use planning. The State is to encourage more passengers per vehicle through expanded use of vanpools, carpools, and shuttles. The State is also to provide cost-effective facilities that improve the availability, convenience, and acceptability of walking, biking, and public transit, and to increase travel efficiency by use of on-board automobile computer systems.

Energy consumption of new buildings in California is regulated by the State Building Energy Efficiency Standards, embodied in Title 24 of the California Code of Regulations (California Energy Commission, 1992). The efficiency standards apply to new construction of both residential and non-residential buildings, and regulate energy consumed for space heating, cooling, ventilating, water heating, and lighting. The building efficiency standards are enforced through the local building permit process.

Compliance with Title 24 can be achieved through either a "performance" or a "prescriptive" approach. In the performance compliance approach, a building must be designed to consume no more energy than specified in the appropriate energy "budget." The energy budget is based on building size and type, and the climatic zone in which it is located. Under the prescriptive approach, the builder can choose from a variety of alternative component packages which specify features such as insulation, glazing, lighting, shading, and water- and space-heating systems. There are also certain mandatory requirements that must be fulfilled under both compliance approaches.

Energy Supply and Use

Oil provides about 54 percent of the state's energy need, and natural gas provides about 31 percent (California Energy Commission, 1990). The remaining 15 percent of the state's energy need is provided by other sources, such as nuclear, hydroelectric, and solar power. The two major uses of energy are as fuel for transportation and electricity.

The City of Hercules is within the electricity and natural gas service area of Pacific Gas and Electric Company (PG&E). PG&E provided over 76 billion kilowatt-hours[1] of electricity to its customers in 1993 from various generating sources, including oil-fired power plants, hydroelectric and nuclear plants, and other producers, including wind farms and cogeneration facilities, among others. During 1993, PG&E supplied its customers with approximately 430 billion cubic feet of natural gas (PG&E, 1994).

PG&E supplies electricity and natural gas to the City of Hercules. The City is served by the PG&E Franklin electrical substation. This substation has one 60/12 kilovolt (kV) transformer bank with a summer-normal capability of 20.63 megawatts (MW).[2] The 1990 summer peak load on the substation was 18.0 MW, which leaves a reserve capacity of 2.63 MW. Currently, one 60-kV and one 115-kV transmission line cross through Hercules. There are plans to transfer loads from the circuits serving Hercules in order to accommodate new loads. PG&E maintains two major gas transmission pipelines through Hercules (Gore, 1994).

Most of the 24 parcels are currently undeveloped, and consume minimal amounts of energy. Existing developments on the parcels that consume natural gas and electricity include the Hercules Square retail-office center (Parcel 8), the North Shore Business Park (Parcel 6), and industrial development associated with the former Hercules Powder Plant (Parcel 1). The Willow Shopping Center (Parcel I) is developed and also uses natural gas and electricity. Current development in Hercules also consumes non-renewable energy for vehicle trips, specifically gasoline and diesel fuels. Energy consumption on Parcels 8 and I would not increase under the proposed Land Use Element Update, as the parcels are currently developed and would only be redesignated.

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1 One kilowatt-hour (kWh) electric equal roughly 10,000 British Thermal Units (Btu) depending on the conversion factor assumed for converting fossil fuel into electricity. One Btu is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level.

2 One megawatt (MW) is one million watts.

IMPACTS AND MITIGATION MEASURES

Significance Criteria

Under the CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would encourage activities that resulted in the use of large amounts of fuel or energy, or would use fuel or energy in a wasteful manner. There are no specific State or federal standards that indicate what is considered to be a "large amount" of energy. For purposes of this report, the project would be considered to use fuel or energy in a wasteful manner if it would use more fuel or energy than would be reasonably expected or would use energy in a manner that is inconsistent with common energy conservation practices.

Impacts

Impact Energy-1: Increased energy consumption related to construction and operation of development consistent with the Land Use and Circulation Elements Update would derive mostly from non-renewable energy resources. This would not be a significant impact.

Construction energy expenditures would be short-term, and would consist of both direct and indirect expenditures of energy. Combustion of the refined petroleum products needed to operate construction equipment would be a direct energy expenditure. Indirect energy is consumed through sectors that provide inputs to an activity, rather than energy consumed by the activity itself. For example, the use of a steel beam in construction indirectly represents energy consumed in all of the industries that contributed to the production of the beam (e.g., energy consumed through mining and extraction of raw materials, manufacturing, and transportation). Indirect energy typically represents about three-quarters of total construction energy; direct energy represents about one-quarter of total energy construction (Hannon, 1978).

Assuming that buildout occurred as proposed, the amount of energy that would be required for construction would be about 11,000 billion Btu.[3] Annualized over a 15-year period (expected buildout is in year 2010), total construction energy would be about 750 billion Btu/year.

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3 Construction energy estimates were derived from a factor of 700,000 Btu/square foot for residential use and a factor of 940,000 Btu/square foot for commercial use. Calculations assume the construction of 9.8 million square feet (3,816 units with an average size of 2,500 square feet) of residential use and 5.1 million square feet of commercial use. Both of these factors are from Hannon, B., et al., "Energy and Labor in the Construction Sector," 1978, *Science* 202; pp. 837-847. Actual construction energy consumption could be less, as estimate assumes maximum number of square feet for residential and commercial.

Table IV.M.1 provides a summary of the total energy that would be consumed during construction under the proposed Land Use and Circulation Elements Update.

TABLE IV.M.1: ANNUAL PROJECT ENERGY CONSUMPTION, 2010

Consumption Phase	Energy Resource Description	Btu/year
Construction/a/	Direct and Indirect	750 billion
Operational	Electricity	856 billion
	Natural Gas	395 billion
	Gasoline, Diesel	6 billion
TOTAL		2,007 billion

/a/ Annualized over a 15-year development lifetime.

SOURCE: Hannon, B., et al., "Energy and Labor in the Construction Sector," *Science* 202; pp. 837-847.

Once operational, new land use development in Hercules would increase consumption of electricity, natural gas, and gasoline/diesel fuel. Buildings constructed in the City would be designed in accordance with Title 24, which would reduce the need for consumption of electricity and natural gas for heating, cooling, ventilating, water heating and lighting purposes. Increased employment in the area would result in greater vehicle trips to and from developed operational sites with a corresponding increase in the consumption of gasoline and diesel fuel.

At buildout, annual electrical consumption with operation of 5.1 million square feet of commercial and 9.5 million square feet of residential development would be 86 million kWh, equivalent to approximately 856 billion Btu. Annual natural gas consumption would increase by approximately 359 million cubic feet, equivalent to approximately 395 billion Btu.[4]

4 Future (Year 2010) energy consumption estimates were based on PG&E annual electricity factors of 12.43 kWh/square foot for commercial uses, and South Coast Air Quality Management District electricity factors for residential use of 6,081 kWh/unit/year. Gas consumption based on 3,918 cubic feet/unit/month for 3,816 residential units and 2.9 cubic feet/square feet/month for 5,186,327 square feet of commercial land use. One cubic foot of natural gas is equal to 1,100 Btu.

Transportation uses would consume an additional 47,150 gallons of gasoline and diesel per year (6 billion Btu).[5] On an annual basis, the total increase in energy attributable to the project (including electricity, natural gas, gasoline/diesel fuel, and annualized construction-related energy consumption) in 2010 would be approximately 2,007 billion Btu. Almost all of this energy would be derived from non-renewable resources, although some of the electricity would be derived from wind, solar, or cogeneration sources. This would not be considered a large amount of energy, and would not be used in a wasteful manner. Therefore, the increase in energy consumption due to the project would not be significant.

Impact Energy-1: Mitigation Measures Proposed as Part of the Project

The following mitigation measure is required by law and would be considered part of the project:

> **Energy-1a:** All new buildings would be required to meet the standards for energy efficiency as set forth in Title 24 of the California Code of Regulations. These standards would reduce the possibility of wasteful energy use with respect to building heating, cooling, and lighting.

Impact Energy-1: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Energy-1: Mitigation Measures Identified in this EIR

The City could encourage developers to use ~~shall condition approval of individual development proposals on~~ the following mitigation measures:

> **Energy-1b:** A performance standard that exceeds Title 24 Standards by 10 percent. Under such a standard, the developers~~City would require project sponsors~~ of individual projects could~~to~~ design their projects to exceed Title 24 energy conservation performance standards by a certain percentage (at least 10 percent), based on the same calculation methods required for demonstrating compliance with the standard. Title 24 energy conservation performance standards are not particularly challenging, and so achieving an energy efficiency substantially greater than the minimum 10 percent could be interpreted as maximizing the energy efficiency of the project. Sponsors could meet the standard by incorporating the same or all of the following into their projects.

5 Transportation-related energy estimates are based on an estimated 844,000 daily increase in vehicle-miles traveled in the San Francisco Bay Area and an average gasoline efficiency of 17.9 miles per gallon in a composite fleet mix (California Department of Transportation, 1989). One gallon of gasoline is roughly equal to 140,000 Btu.

- Design large commercial and office structures with a computer-controlled HVAC system for maximum efficiency.

- Install occupant-controlled light switches and thermostats to permit individual adjustments to lighting, heating, and cooling, to avoid unnecessary energy consumption.

- Ensure that larger commercial and multi-family residential structures built are well-sealed to prevent outside air from infiltrating and increasing interior space-conditioning loads. Design building entrances with vestibules to restrict infiltration of unconditioned air and exfiltration of conditioned air.

- Design window systems and use other means to reduce thermal gain and loss, and thus cooling loads, during warm weather and heating loads during cool weather.

- Air distribution systems in large commercial structures could be designed by the project sponsor to cascade ventilation air from high-priority areas to low-priority areas before exhausting it, thereby decreasing the volume of ventilation air required. For example, air could be cascaded from occupied space to corridors to mechanical spaces before being exhausted.

- Install high-efficiency lamps for all street and parking lot lighting to reduce electricity consumption.

- In large commercial structures, install low-and-medium-static pressure terminal units and ductwork to reduce energy consumption by air distribution systems.

- In commercial buildings, limit domestic hot water outlet temperatures to 100° Fahrenheit.

- In large commercial projects, finish exterior walls with light-colored materials having emissivity characteristics to reduce cooling loads.

- Design open space within and around the project to minimize paved areas and maximize landscape plantings using low-water species to reduce outdoor temperatures around the buildings in warm weather.

- In commercial structures, install fluorescent and high-intensity discharge lamps, which give the highest light output per watt of electricity consumed, wherever possible.

Energy-1c: To reduce transportation-related energy, implement the measures that are identified in Sections IV.B., Transportation and Circulation, and IV.K., Air Quality.

Impact Energy-1: Significance After Mitigation

Less-than-significant.

Impact Energy-2: Development would result in interference with PG&E transmission and distribution facilities. This would be a less than significant impact.

PG&E operates 60-kV and 115-kV transmission lines through Hercules. These lines run parallel to, or across Parcels 1, 7, and 12. The overhead line that crosses Parcel 12 leads to the adjacent Franklin substation. Development on any of these parcels could impede access to these lines by PG&E crews for routine or reconstruction work.

Impact Energy-2: Mitigation Measures Proposed as Part of the Project

None Identified.

Impact Energy-2: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Energy-2: Mitigation Measures identified in this EIR

> **Energy-2a:** The City shall preserve access for PG&E to work on electric and natural gas lines that extend through or adjacent to Parcels 1, 7, and 12, possibly through deeding of access rights-of-way.
>
> **Energy-2b:** The City shall require individual developers or commercial tenants contact PG&E during the building application process to allow PG&E to review specific development plans with respect to potential impacts on PG&E distribution facilities.

Impact Energy-2: Significance After Mitigation

The impact would remain at a less-than-significant level.

Impact Energy-3: Development consistent with the Land Use and Circulation Elements Update would require additional electrical distribution lines and a second transformer bank at the Franklin substation. This would be a less than significant impact.

In order to serve the load demand for each parcel, distribution lines would have to be installed, extended, and/or upgraded. Electricity would be provided to unimproved parcels if the developer agrees to pay for on-site distribution line improvements and extensions.

In addition, a second transformer bank would have to be installed at the Franklin substation. As discussed above the Franklin substation serves the entire Hercules area, and part of Pinole and Crockett. The installation of the transformer bank and the feeders to the vicinity of unimproved parcels would require a capital investment by PG&E (Gabriel, 1994). Since PG&E would supply the increased demand for electricity from electricity and gas sales, the impact would be less-than-significant.

Impact Energy-3: Mitigation Measures Proposed as Part of the Project

None identified

Impact Energy-3: Mitigation Measures identified in other *General Plan* Elements

None identified.

Impact Energy-3: Mitigation Measures Identified in this EIR

None identified.

Impact Energy-3: Significance After Mitigation

No mitigation is required, and the impact would remain less than significant.

REFERENCES - Energy

California Department of Transportation, *California Motor Vehicle Stock, Travel and Fuel Forecast,* November 1989.

California Energy Commission, *Energy Agenda*, 1990.

California Energy Commission, *The 1992-1993 California Energy Plan,* 1991.

California Energy Commission, *California Code of Regulations, Title 24, Part 2, Chapter 2-53.* Enforcement of Title 24 standards is addressed in the *California Code of Regulations, Title 20, Chapter 2.*

Gabriel, Jose, Distribution Engineer, Pacific Gas and Electric, letter to Mr. Gary Hembree, City of Hercules, March 17, 1994.

Gore, Nat, Division Gas Engineer, Pacific Gas and Electric Company, telephone conversation, November 17, 1993.

Hannon, Bruce, et al., "Energy and Labor in the Construction Sector," Science 202; pp. 837-847.

Pacific Gas and Electric Company, *1993 Annual Report*, February 1994.

V. IMPACT OVERVIEW

A. SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

The Land Use and Circulation Elements Update, if implemented, could result in significant adverse environmental impacts. Mitigation measures included as policies, programs, and regulations in the updated Land Use Element Update, as well as measures identified by this report, would reduce most of the impacts to a less-than-significant level. The following significant adverse impacts would be unavoidable, even with the implementation of the identified mitigation measures (page where impact appears is shown in parentheses):

Impact Transportation-1 (IV.B-25): Traffic generated by development consistent with the proposed Land Use and Circulation Elements Update would contribute to unacceptable levels of service at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections in the a.m. and p.m. peak hours.

Impact Transportation-3 (IV.B-36): Traffic generated by development consistent with the proposed Land Use Element would contribute to unacceptable cumulative levels of service on the I-80 freeway.

Impact Schools-1 (IV.F-17): Development consistent with the proposed Land Use and Circulation Elements Update would increase the number of students served by the West Contra Costa Unified School District.

Impact Park-1 (IV.F-29): Development consistent with the Land Use and Circulation Elements Update would increase the need for neighborhood and community parks.

Impact Hazard-7 (IV.G-34): Generation of hazardous waste by new industries in the project area (as discussed under Impact Hazard-3) would add to cumulative hazardous waste disposal requirements in the County. Cleanup and disposal of any contaminated soils within the project area (as discussed under Impact Hazard-1) would increase the cumulative burden on existing landfill storage capacity.

Impact Air-3 (IV.K-18): Projected development under the proposed Land Use and Circulation Elements Update would generate criteria air pollutants that would increase total air pollutant emissions in the region.

Impact Air-5 (IV.K-24): The Land Use Element Update would result in increases in population and employment beyond ABAG projections and, therefore, would not be consistent or in conformance with the *1991 Clean Air Plan*.

B. SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES AND COMMITMENT OF RESOURCES

Development allowed by the Land Use and Circulation Elements Update would require an irreversible commitment of natural resources for building construction, such as wood, refined metals, petroleum, and stone. It would result in the irretrievable commitment of energy and water to support the projected urban development that would occur. Where the development would involve substantial grading, excavation, or other alteration to existing topography, these effects would also be irreversible.

C. GROWTH INDUCEMENT

Growth inducement concerns are related to those characteristics of a project that would foster or encourage population and/or economic growth. The Land Use and Circulation Elements Update would directly affect growth as a result of jobs or housing created as allowed under the Land Use Element Update, secondary growth which might be fostered by the presence of new businesses or residents, and growth that might result from a development project that removes an obstacle to population or economic expansion.

Development consistent with the proposed Land Use and Circulation Elements Update would increase the City of Hercules' population by approximately 11,000 people and introduce additional residential and commercial development, as well as employment, into the West Contra Costa County area. It would directly foster growth in the City of Hercules as well as indirectly encourage additional growth in portions of the area surrounding the City, including Richmond, Pinole, Rodeo, Martinez and other East Bay communities.

Employment growth would occur within the area through the development of commercial land uses. Employment growth resulting from the project would not always be reflected directly in an increased demand for new housing, as some new jobs would be held by individuals who already live in the City, who live in the City but were previously unemployed, or who live outside the City by choice or for reasons of housing affordability. However, the substantial growth in employment projected under the Land Use Element Update (from approximately 3,000 jobs in Hercules in 1994 to approximately 18,300 jobs in Hercules in 2010) would likely result in a demand for housing in Hercules and in surrounding communities. As discussed in Section IV.C., Population, Employment, and Housing, Hercules is currently a substantial net importer of labor (*i.e.*, the City has more employed residents than jobs). Development under the proposed Land

Use and Circulation Elements Update would move the City toward at least a theoretical jobs-housing balance, which could have beneficial effects on traffic and air quality.

Increased employment and housing resulting from the project would also increase the demand for retail goods and services provided through the commercial and regional shopping centers. The introduction of new retail and commercial uses could act to further attract new residents to the area as well as intensify development in portions of the City.

D. CUMULATIVE IMPACTS

CEQA defines cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA *Guidelines*, Section 15355). Because the direct impact of the Land Use and Circulation Elements Update would involve no immediate physical environmental impact, the EIR impact analysis has focused on the secondary (indirect) impacts of the updated Elements. These secondary impacts would result primarily from the development of each of the 24 parcels.

Because these impacts would occur over time as part of individual residential and commercial development projects, a project horizon year (2010) was established for buildout of the City. The growth and changes in land use that were analyzed as secondary impacts of the project throughout the EIR were projected to the year 2010, employing a cumulative analysis methodology. Future growth was projected by Sedway and Associates and information developed by the Association of Bay Area Governments. Section IV.C, Population, Employment and Housing, includes a discussion of the methodology applied to generate future estimates, and includes specific consideration of other growth in Hercules not included as part of the project (*i.e.*, outside the 24 parcels that make up the study area). Where appropriate, regional growth is also considered, as in Section IV.B, Transportation and Circulation.

As detailed in the body of the EIR, the Land Use and Circulation Elements Update would increase the intensity of urban uses in certain areas of Hercules, particularly the portion of the City west of I-80 and near San Pablo Bay, as well as areas along SR 4 and Bayberry Avenue. The additional daily trips would add to the cumulative increase in traffic along all major arterials in the region and along roadways within Hercules. Related increases in the emission of total organic gases, carbon monoxide, and nitrogen oxides would all locally add to cumulative increases in vehicular emissions. Projected development at buildout under the Land Use and Circulation Elements Update also would decrease the overall open space within the Hercules

City Limits, adversely affecting wildlife; add to the cumulative demand for hazardous waste disposal in Contra Costa County; and increase the amount of impervious surfaces within the City, thereby adding cumulatively to increased amounts of storm water runoff, which would lead to a degradation of water quality and could lead to increased flood hazards.

Projected growth resulting from implementation of the updated Land Use Element Update would also add cumulatively to the demand for police protection, fire suppression, school, and park and recreational services, and would add cumulatively to the demand for water supply. Generation of wastewater, storm water runoff (noted above), and solid waste by the new development would also add to cumulative increases in the demand for collection, treatment and disposal services for these wastes. Additional students would have a cumulative impact on school district facilities; in particular, elementary schools in the West Contra Costa Unified School District, which are currently overcrowded, would continue to have enrollment exceed capacity with implementation of the Land Use and Circulation Elements Update, and this impact would be aggravated by students generated by other approved and reasonably foreseeable development in Hercules.

E. IMPACTS FOUND NOT TO BE SIGNIFICANT

The following impacts were examined in the Initial Study and determined not to be significant and therefore are not analyzed further in this EIR:

- Creation of objectionable odors;
- Alteration or air movement, moisture or temperature, or change in climate;
- Reduction in acreage of any agricultural crop;
- Increase in the rate of use of any natural resource;
- Substantial depletion of any non-renewable natural resource;
- Possible interference with an emergency response plan;
- Alterations to waterborne, rail or air traffic;
- Alterations to electricity, natural gas, or communications utilities; and
- Effects on unique cultural vales or restrictions on religious or sacred use of the area.

Some issues addressed in the Initial Study are nevertheless analyzed in the EIR, including increased water use and increased handling of hazardous materials.

VI. ALTERNATIVES

CEQA requires an evaluation of the comparative effects of a range of reasonable alternatives to the project which would feasibly attain most of the basic objectives of the project and reduce or eliminate significant effects (CEQA *Guidelines* Section 15126(d)). The range of alternatives is governed by the "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA *Guidelines* Section 15126(d)(5)). Evaluation of a No-Project Alternative and identification of an environmentally superior alternative are required. The significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project (CEQA *Guidelines* Section 15126(d)(3).

The following four alternative land use scenarios are considered (along with a so-called No Development Alternative, which is found to be infeasible).

- No-Project (Existing Land Use and Circulation Elements)
- Commercial Emphasis Alternative
- Residential Emphasis Alternative
- Reduced-Density Alternative

For the Commercial Emphasis and Residential Emphasis alternatives, the anticipated land uses would change (compared to the project) on portions of four parcels designated as Planned Commercial/Residential. Portions of each of the four parcels were assigned either commercial or residential use by the Community Panel. The proposed Land Use Element Update includes a specific mix of commercial and residential development on each parcel, and these alternatives would alter the mix on those portions of the parcels designated for either commercial or residential. (Land uses on Parcels 3, 4, and 13 would change with the Commercial Emphasis Alternative, while land uses on Parcels 4, 5, and 13 would change with the Residential Emphasis Alternative.) The result would be a change in the square footage of commercial development proposed and in the number of residential units proposed. For the Reduced-Density Alternative, the mix of land uses would not change, compared to the project, but the development densities would generally be less.

A. NO-PROJECT ALTERNATIVE

A.1. NO DEVELOPMENT ALTERNATIVE

A project-specific EIR typically analyzes a No Project Alternative that is the equivalent of a "No Development" alternative. That is, the No Project Alternative would result in disapproval or withdrawal of the project being analyzed, and the resulting impacts generally would be a maintenance of existing environmental conditions. For this EIR, which evaluates the impacts of buildout under the proposed updated Land Use and Circulation Elements of the *Hercules General Plan,* disapproval or withdrawal of the "project" would result in the existing Land Use and Circulation Elements remaining in effect, and the environmental impacts would be those of buildout under the existing Elements. A No Development alternative is not considered feasible, in that it would require that the City refuse to approve any development proposals on the 24 parcels included in the Study Area. Should such a No Development alternative come to pass, however, the resulting impacts would be maintenance of existing environmental conditions as described in the Setting portions of Chapter IV for those conditions that would otherwise change with development in Hercules. Certain impacts described in Chapter IV would occur whether or not additional development were to occur in Hercules. For example, even with no future development in Hercules, traffic conditions on I-80 and San Pablo Avenue would be congested due to traffic traveling through Hercules to and from other destinations; increased background traffic unrelated to Hercules development would generate increased levels of criteria pollutants.

A.2. EXISTING LAND USE AND CIRCULATION ELEMENTS

DESCRIPTION

The No Project Alternative would involve no change to the City's existing *General Plan* Land Use and Circulation Elements. Buildout would occur under the existing elements. This alternative would retain existing Industrial land use designations over most of the Study Area west of Interstate 80, including all of Parcels 1, 2, and 7 and most of Parcels 3 and 6; the remainder of those latter two parcels would be designated Industrial Commercial. Parcel 4 would retain designations for what were proposed junior and senior high school sites, and Parcel C would remain designated for an elementary school, although the West Contra Costa School District no longer proposes school construction on any of those sites. Other parcels west of I-80 would retain existing designations of Highway Commercial (9 and 10) and Neighborhood Commercial (5 and B). East of I-80, Parcel A would be designated for an elementary school, while other parcels would be designated Highway Commercial (11, 12, and I), Service

Commercial (8 and 13), Multi-Purpose (14, D, E, F, G, and J), and Town Center Commercial (H). Existing *General Plan* land use designations are shown in Figure IV.A.1 in Section IV.A, Land Use.

Under this alternative, there would be no residential uses and no mixed-use designations on any of the 24 Study Area parcels. As a result, population growth would be substantially less, and the year 2010 buildout population of Hercules would be approximately 23,600, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 7,000, compared to about 18,350 with the project.

IMPACTS

Under this alternative, Hercules would gain both population and jobs at a substantially slower rate than with the project. Total population at buildout (2010) would be about 20 percent less than with the project, and employment would be 60 percent less. Land use would be a lower intensity, particularly in the area west of I-80, where the Industrial designation would predominate. Large-scale industrial development might not be as feasible as the commercial development anticipated by the project, and this could result in a further diminution of employment. With less job growth than the proposed Land Use and Circulation Elements, this alternative would result in Hercules continuing to be a substantial exporter of employed residents (although the jobs/housing balance would improve, compared to current conditions).

Impacts related to the intensity of development generally would be less substantial with this alternative than with the project. Land use incompatibilities could still occur, however, particularly between potential industrial development west of I-80 and existing residential development. Less employment, particularly west of I-80, would diminish traffic impacts, compared to the project. In particular, traffic volumes would be less on San Pablo Avenue between Sycamore Avenue and John Muir Parkway (State Route 4), which under the project would carry a substantially greater volume of traffic than at present. However, background growth plus development under the No Project Alternative would result in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Resulting vehicle emissions and vehicle noise would be less with lower traffic volumes. Operational noise and emissions of criteria and non-criteria air pollutants could be somewhat greater than with the project due to the greater level of industrial development,

although there would be few sensitive receptors in proximity to most industrial lands. With less residential development than the proposed Land Use and Circulation Elements update, this alternative also would result in the creation of fewer new noise- and pollutant-sensitive land uses. However, emissions of criteria air pollutants would be a significant and unavoidable effect, as with the project. Greater energy for industrial use could be somewhat offset by less energy demand with fewer residential units, compared to the proposed Land Use and Circulation Elements Update. This alternative would not result in increases in population and employment beyond ABAG projections, and therefore would be consistent with the *1991 Clean Air Plan;* compared to the proposed project, which would not be in compliance, resulting in a significant unavoidable effect.

Hazardous materials impacts would be expected to be greater with this alternative, compared to the project, if industrial uses that were developed would employ hazardous materials in their production processes. Existing laws and regulations would largely govern the handling of those materials. Additional project-specific environmental review of industrial process development could be required once a project were proposed. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County - most likely to a greater degree, given the anticipated greater amount of industrial activity - and would result in a significant unavoidable effect.

Demand for public services would be less substantial than with the project because of the lower population and employment forecasts. As with the proposed Land Use and Circulation Elements Update, projected elementary school enrollment would exceed capacity, and school effects would be significant and unavoidable. If substantial industrial development were to occur, there could be an increased need for specialized fire fighting and/or other emergency response capabilities. Such demand would be expected to be mitigated through the development approval process in conjunction with the fire district. Less residential population, compared to the project, would lessen the need for City park and recreation facilities, and this impact would not be significant, in contrast to the project, which would result in significant effects on park services.

Impacts related to existing site-specific conditions, such as cultural resources, vegetation and wildlife, and geology, would be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site. However, fewer new residents would be exposed to a 100-year flood, compared to the proposed project.

Impacts related to potential contamination of surface waters due to point-source pollution could be greater than with the project due to the expected increase in industrial development with this alternative. Visual impacts could be greater than with the project, because industrial development could result in different types of structures than with residential or commercial development. Such impacts might be mitigated through use of building design and/or vegetative screening, but project-specific review could be required.

B. COMMERCIAL EMPHASIS ALTERNATIVE

DESCRIPTION

The Commercial Emphasis Alternative would change (compared to the project) the anticipated land uses of portions of three parcels, resulting in an increase in the square footage of commercial development proposed and a decrease in the number of residential units proposed. This alternative would result in approximately 5.75 million square feet of commercial development, compared to about 5.01 million square feet with the proposed Land Use Element Update (about 14.8 percent more). This alternative would result in about 1,870 multi-family residential units, compared to about 3,815 with the proposed Land Use Element Update (about 51 percent fewer).

The parcels that would have different land uses would be:

- Parcel 3 (Gelsar) - 45.0 acres of Planned Commercial/Residential proposed for up to 1,350 dwelling units under the Land Use Element Update would instead accommodate up to 588,060 sq. ft. of commercial development.
- Parcel 4 (~~Hercules~~East Bay Realty Services Inc.) - 6.5 acres of Planned Commercial/Residential proposed for up to 42,471 sq. ft. of commercial development and up to 98 dwelling units under the Land Use Element Update would instead accommodate up to 84,942 sq. ft. of commercial development.
- Parcel 13 (Sycamore) - 25.1 acres of Planned Commercial/Residential proposed for up to 54,880 sq. ft. of commercial development and up to 502 dwelling units under the Land Use Element Update would instead accommodate up to 164,657 sq. ft. of commercial development.

Land use designations and anticipated land uses would remain the same for all other parcels, and the proposed Circulation Element Update would not be altered. Table VI.1 is a summary of each parcel, the proposed land use designation, and maximum development scenario that could occur, assuming commercial development at typical FARs.

TABLE VI.1: COMMERCIAL EMPHASIS ALTERNATIVE: MAXIMUM DEVELOPMENT POTENTIAL

Parcel	Common Name	Preferred Designation Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR	U/AC	Units
1	HPI Site	Historic Town Center	8.6	85,000	&		25
		Planned Office/R&D	21.1	459,558	0.5		
		General Commercial	3.8	82,764	0.5		
		Planned Office/R&D	15.3	199,940	0.3		
		Planned Office/R&D/Res	3.0	39,204	0.3	36	108
		Multi-Family, Med Dens	22.3			30	669
		Open Space/Creek Corridor	32.0	n/a	n/a	n/a	n/a
		Total Acreage	106.1				
2	Hercules Point	Waterfront Commercial	6.0	52,272	0.2		
		Undeveloped Remainder	9.0	n/a	n/a	n/a	n/a
		Total Acreage[a]	15.0				
3	Gelsar Site	General Commercial	14.1	153,549	0.25		
		Planned Commercial/Res	45.0	588,060	0.3		
		Planned Office/R&D	18.5	241,758	0.3		
		Open Space/Creek Corridor	26.4	n/a	n/a	n/a	n/a
		Total Acreage	104.0				
4	East Bay Realty Services Site	Multi-Family, Med Dens	24.5			30	735
		Planned Commercial/Res	6.5	84,942	0.3		
		General Commercial	10.5	137,214	0.3		
		Total Acreage	41.5				
5	MRB Site	Multi-Family, Med Dens	4.6			30	138
		Planned Com/Res	1.0	13,068	0.3		
		Total Acreage	5.6				
6	North Shore Business Park	Planned Off/R&D	60.9	795,841	0.3		
		General Commercial	15.5	202,554	0.3		
		Planned Off/R&D	67.5	900,000	0.3		
		Total Acreage	143.9				
7	ANR Site	Planned Cmrcl./Industrial	41.6	543,629	0.3		
		Planned Cmrcl./Industrial	20.8	362,419	0.4		
		Total Acreage	62.4				
8	Hercules Square	Community Commercial	2.9	31,581	0.25		
9	ORB Site	General Commercial	3.5	20,000	0.15	plus gas station	
10	BART Site	Public/Semi-Public	6.6	Park & Ride			
11	I-80 Loop Site	General Commercial	6.3	82,328	0.3		
12	Williamson Site	General Commercial	8.9	116,305	0.3		
13	Sycamore Site	Planned Com/Res	25.1	164,657	0.15		
14	Five Giants	General Commercial	7.0	91,476	0.3		
	SUBTOTAL		538.8	5,448,119			1,675

[a] Excluding 55.1 acres of tidelands on which development generally would be prohibited.

(Continued)

TABLE VI.1: COMMERCIAL EMPHASIS ALTERNATIVE: MAXIMUM DEVELOPMENT POTENTIAL (Continued)

Parcel	Common Name	Preferred Designation Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR	U/AC	Units
A	Church of Nazarene	Multi-Family, Low Dens	5.0			10	50
B	McLeod	Multi-Family, Low Dens	7.4			10	74
C	Citation	Multi-Family, Low Dens	5.6			12	67
D	Carone - 1	General Commercial	2.0	26,136	0.3		
E	Carone - 2	General Commercial	1.8	23,522	0.3		
F	Carone - Sycamore	Community Commercial	2.6	33,977	0.3		
G	Old ATSF	Community Commercial	1.7	22,216	0.3		
H	Creekside	Community Commercial	25.25	160,455	var.		
I	Willow Center	General Commercial	3.4	31,000	var.		
J	Church of Christ	General Commercial	7.0	church			
	SUBTOTAL		61.8	297,306			191
	TOTAL		**600.6**	**5,745,425**			**1,866**

Note: Maximum development figures for properties that are partially developed are "gross" and include existing built space; figures for "new" space may be derived by subtracting existing space from these figures.

Under this alternative, there would be about 1,950 fewer dwelling units compared to the proposed project, and population growth therefore would be somewhat less. The year 2010 buildout population of Hercules would be approximately 24,300, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 20,000, compared to about 18,350 with the project.

IMPACTS

Effects of this alternative would be similar to those of the proposed Land Use and Circulation Elements Update, because the overall level of development would be similar, although certain parcels would contain more commercial and less residential development. Under this alternative, of those Study Area parcels west of San Pablo Avenue, Parcels 1, 4, and 5 would include residential development. There would be no residential development on Parcel 3 (as there would with the proposed Land Use Element Update), and residential development on Parcels 4 and 5 would be less than with the proposed project. (There would be commercial development on all parcels west of San Pablo Avenue (except Parcel 10, the BART site), as with the proposed project. No residential development would occur on Parcel 13, along Sycamore Avenue east of the Civic Center, as it would with the proposed Land Use Element Update.

Impacts related to the intensity of development generally would be similar with this alternative compared to the project. Land use compatibility would be similar to that with the proposed project, but the decreased residential development, compared to the project, would reduce somewhat the potential for sensitive receptors west of I-80 to be exposed to air quality effects, noise, and light and glare generated by commercial land uses. Increased employment compared to the proposed Land Use and Circulation Elements Update would result in the City being a greater net importer of workers than with the proposed project, with a jobs/housing ratio of about 1.61. Greater employment, particularly west of I-80 and along Sycamore Avenue, would increase related traffic impacts, compared to the project, although that increase would be partially offset by a smaller number of residential units. Daily and p.m. peak-hour trip generation would be about 9 percent greater than with the project. Background growth plus development under the Commercial Emphasis Alternative would result in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Resulting vehicle emissions and vehicle noise would increase. Operational noise and, potentially, air pollutants emitted by stationary sources, would be incrementally greater than with the proposed project due to the greater amount of commercial space. Emissions of criteria air pollutants and lack of compliance with the *1991 Clean Air Plan* would be significant unavoidable effects, as they would with the proposed Land Use and Circulation Elements Update. Energy impacts could increase incrementally, compared to the project, depending on the nature of commercial development; as noted, the overall intensity of development would be comparable to that of the project.

Demand for public services would be comparable to the demand that would be anticipated with the proposed Land Use and Circulation Elements Update because, despite the lower total population, employment would increase, relative to the proposed project. School impacts would be significant and unavoidable, as with the project. Less residential population, compared to the project, would lessen the need for City park and recreation facilities, and this impact would not be significant, in contrast to the project, which would result in significant effects on park services.

Impacts related to existing site-specific conditions, such as vegetation and wildlife and geology, would be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. As this alternative would replace some multi-family residential development with commercial development, lot coverage for buildings and parking areas, plus landscaping, would be expected to be similar. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; as with the No Project Alternative, the population potentially exposed to the 100-year floor would be smaller than with the project. Impacts related to hazardous materials and to potential contamination of surface waters due to point-source pollution could be marginally greater than with the project due to the greater commercial development with this alternative; actual effects would depend on the nature of the commercial development approved. Existing laws and regulations would largely govern the handling of hazardous materials. This alternative would expose fewer residents to hazards, although use of hazardous materials and generation of hazardous waste as a result of commercial uses could increase slightly. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County, and would result in a significant unavoidable effect.

Impacts related to cultural resources (historic buildings and archaeological resources) would also largely be a function of the location, and not the nature, of development, and would be similar to those of the proposed Land Use and Circulation Elements Update.

Visual impacts could be greater than with the project, because commercial development would be expected to result in larger structures than with residential development. This would particularly be true on Parcel 3, where the portion that abuts much of the south side of the Refugio Creek open space corridor would be the site of commercial rather than residential development. Such impacts might be mitigated through use of building design and/or vegetative screening, but project-specific review could be required.

C. RESIDENTIAL EMPHASIS ALTERNATIVE

DESCRIPTION

The Residential Emphasis Alternative would change (compared to the project) the anticipated land uses of portions of three parcels, resulting in a decrease in the square footage of commercial development proposed and an increase in the number of residential units proposed. This alternative would result in approximately 4.89 million square feet of commercial development, compared to about 5.01 million square feet with the proposed Land Use Element Update (about two percent less). This alternative would result in about 4,200 multi-family residential units, compared to about 3,815 with the proposed Land Use Element Update (about 10 percent more).

The parcels that would have different land uses would be:

- Parcel 4 (~~Hercules~~East Bay Realty Services Inc.) - 6.5 acres of Planned Commercial/Residential proposed for up to 42,471 sq. ft. of commercial development and up to 98 dwelling units under the Land Use Element Update would instead accommodate up to 195 dwelling units.

- Parcel 5 (MRB) - one acre of Planned Commercial/Residential proposed for up to 13,068 sq. ft. of commercial development under the Land Use Element Update would instead accommodate up to 30 dwelling units.

- Parcel 13 (Sycamore) - 25.1 acres of Planned Commercial/Residential proposed for up to 54,880 sq. ft. of commercial development and up to 502 dwelling units under the Land Use Element Update would instead accommodate up to 753 dwelling units.

Land use designations and anticipated land uses would remain the same for all other parcels, and the proposed Circulation Element Update would not be altered. Table VI.2 is a summary of each parcel, the proposed land use designation, and maximum development scenario that could occur, assuming commercial development at typical FARs.

Under this alternative, there would be about ~~1,950 fewer~~200 more dwelling units compared to the proposed project, and population growth therefore would be incrementally greater.~~somewhat less.~~ The year 2010 buildout population of Hercules would be approximately 31,000, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 18,100, compared to about 18,350 with the project.

TABLE VI.2: RESIDENTIAL EMPHASIS ALTERNATIVE: MAXIMUM DEVELOPMENT POTENTIAL

Parcel	Common Name	Preferred Designation Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR		U/AC	Units
1	HPI Site	Historic Town Center	8.6	85,000		&		25
		Planned Office/R&D	21.1	459,558	0.5			
		General Commercial	3.8	82,764	0.5			
		Planned Office/R&D	15.3	199,940	0.3			
		Planned Office/R&D/Res	3.0	39,204	0.3		36	108
		Multi-Family, Med Dens	22.3				30	669
		Open Space/Creek Corridor	32.0	n/a	n/a		n/a	n/a
		Total Acreage	106.1					
2	Hercules Point	Waterfront Commercial	6.0	52,272	0.2			
		Undeveloped Remainder	9.0	n/a	n/a		n/a	n/a
		Total Acreage[a]	15.0					
3	Gelsar Site	General Commercial	14.1	153,549	0.25			
		Planned Commercial/Res	45.0				30	1350
		Planned Office/R&D	18.5	241,758	0.3			
		Open Space/Creek Corridor	26.4	n/a	n/a		n/a	n/a
		Total Acreage	104.0					
4	East Bay Realty	Multi-Family, Med Dens	24.5				30	735
	Services Site	Planned Commercial/Res	6.5				30	195
		General Commercial	10.5	137,214	0.3			
		Total Acreage	41.5					
5	MRB Site	Multi-Family, Med Dens	4.6				30	138
		Planned Com/Res	1.0				30	30
		Total Acreage	5.6					
6	North Shore Business Park	Planned Off/R&D	60.9	795,841	0.3			
		General Commercial	15.5	202,554	0.3			
		Planned Off/R&D	67.5	900,000	0.3			
		Total Acreage	143.9					
7	ANR Site	Planned Cmrcl./Industrial	41.6	543,629	0.3			
		Planned Cmrcl./Industrial	20.8	362,419	0.4			
		Total Acreage	62.4					
8	Hercules Square	Community Commercial	2.9	31,581	0.25			
9	ORB Site	General Commercial	3.5	20,000	0.15		plus gas station	
10	BART Site	Public/Semi-Public	6.6	Park & Ride				
11	I-80 Loop Site	General Commercial	6.3	82,328	0.3			
12	Williamson Site	General Commercial	8.9	116,305	0.3			
13	Sycamore Site	Planned Com/Res	25.1				30	753
14	Five Giants	General Commercial	7.0	91,476	0.3			
	SUBTOTAL		538.8	4,597,392				4,003

[a] Excluding 55.1 acres of tidelands on which development generally would be prohibited.

(Continued)

TABLE VI.2: RESIDENTIAL EMPHASIS ALTERNATIVE: MAXIMUM DEVELOPMENT POTENTIAL (Continued)

Parcel	Common Name	Preferred Designation Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR	U/AC	Units
A	Church of Nazarene	Multi-Family, Low Dens	5.0			10	50
B	McLeod	Multi-Family, Low Dens	7.4			10	74
C	Citation	Multi-Family, Low Dens	5.6			12	67
D	Carone - 1	General Commercial	2.0	26,136	0.3		
E	Carone - 2	General Commercial	1.8	23,522	0.3		
F	Carone - Sycamore	Community Commercial	2.6	33,977	0.3		
G	Old ATSF	Community Commercial	1.7	22,216	0.3		
H	Creekside	Community Commercial	25.25	160,455	var.		
I	Willow Center	General Commercial	3.4	31,000	var.		
J	Church of Christ	General Commercial	7.0	church			
	SUBTOTAL		61.8	297,306			191
	TOTAL		**600.6**	**4,894,698**			**4,194**

Note: Maximum development figures for properties that are partially developed are "gross" and include existing built space; figures for "new" space may be derived by subtracting existing space from these figures.

IMPACTS

Effects of this alternative would be similar to those of the proposed Land Use and Circulation Elements Update, because the overall level of development would be similar, although certain parcels would contain less commercial and more residential development. As noted above, the decrease in commercial development, relative to the proposed Land Use and Circulation Elements Update, would be about two percent. Under this alternative, of those Study Area

parcels west of San Pablo Avenue, Parcels 1, 3, 4, and 5 would include residential development. There would be no commercial development on Parcel 5 (as there would with the proposed Land Use Element Update), and commercial development on Parcel 4 would be less than with the proposed project. (There would be commercial development on all parcels west of San Pablo Avenue except for Parcel 5 and Parcel 10 [BART site].) No commercial development would occur on Parcel 13, along Sycamore Avenue east of the Civic Center, as it would with the proposed Land Use Element Update.

Impacts related to the intensity of development generally would be similar with this alternative compared to the project. Issues related to land use compatibility would be virtually the same as with the proposed project, with the only sizable area where residential development would replace commercial development being Parcel 13. There, residential development could be affected by the adjacent Santa Fe Railroad tracks and by commercial uses north of the tracks. Decreased employment compared to the proposed Land Use and Circulation Elements Update would result in the City remaining a slight exporter of employed residents: this alternative would achieve the closest to a theoretical jobs/housing balance of all alternatives examined, with a jobs/housing ratio of approximately 1.14. Less employment, particularly west of I-80 and along Sycamore Avenue, would decrease related traffic impacts, compared to the project; that decrease would be partially offset by a greater amount of residential development, but daily and p.m. peak-hour trip generation would be about 5 percent less than with the project. Background growth plus development under the Commercial Emphasis Alternative would result in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project. Resulting vehicle emissions and vehicle noise would decrease incrementally. Operational noise and stationary source emissions would be incrementally less than with the proposed project due to the relatively greater amount of residential versus commercial land use. Emissions of criteria air pollutants and lack of compliance with the *1991 Clean Air Plan* would be significant unavoidable effects, as they would with the proposed Land Use and Circulation Elements Update. Energy impacts would be similar to those of the project because of the similar overall intensity of development.

Demand for public services would be comparable to the demand that would be anticipated with the proposed Land Use and Circulation Elements Update because, despite the greater total population, employment would decrease, relative to the proposed project. Impacts on school enrollment would be significant and unavoidable, as with the proposed project, and would be

somewhat greater than with the project. The greater residential population, compared to the project, would incrementally increase the need for City park and recreation facilities; this impact would be significant and unavoidable, as with the project.

Impacts related to existing site-specific conditions, such as vegetation and wildlife and geology, would be similar to those with the proposed project, as those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development. Similarly, impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; the population potentially exposed to the 100-year floor would be slightly larger than with the project. Impacts related to hazardous materials and to potential contamination of surface waters due to point-source pollution could be marginally less substantial than with the project due to the lesser commercial development with this alternative. Existing laws and regulations would largely govern the handling of hazardous materials. This alternative could incrementally increase the number of persons exposed to hazards; with a similar level of commercial activity, it would be expected to generate about the same amount of hazardous materials and waste as would the project. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County, and would result in a significant unavoidable effect.

Impacts related to cultural resources (historic buildings and archaeological resources) would also largely be a function of the location, and not the nature, of development, and would be similar to those of the proposed Land Use and Circulation Elements Update.

Visual impacts would be similar to those of the proposed Land Use and Circulation Elements Update, and would be expected to be less than with the Commercial Emphasis Alternative because the amount of residential development would be in the same locations as with the project.

D. REDUCED-DENSITY ALTERNATIVE

DESCRIPTION

The Reduced-Density Alternative represents a variety of scenarios that could result in less intensive development than that envisioned by the project. For purposes of analysis, the Reduced-Density Alternative assumes the same land use designations for all parcels as does the project, and assumes that development would occur at a density that reflects the low end of the

density range for each designation. That is, where the project would include, for example, commercial development in the General Commercial designation at a floor-area ratio (FAR)[1] of 0.3, this alternative postulates development in the General Commercial designation at a FAR of 0.2. Similarly, where the project would include multi-family, medium-density residential development at 30 units per acre, this alternative postulates residential development at 12 units per acre.

While the Reduced-Density Alternative could be achieved through across-the-board reductions in permitted development density, based on the assumptions outlined above, it could also represent a substantially greater reduction in permitted development on certain parcels (such as parcels containing potential wetlands or important visual features), compared to the project, while retaining the same level of development on other parcels as would the project. For example, this alternative could encompass the effects of half a dozen key parcels being developed at a FAR that is below the low end of the density range specified in the draft Land Use Element Update, while the remaining 18 parcels were developed at the FAR currently specified in the draft Land Use Element Update.[2]

For purposes of analysis, the Reduced-Density alternative would result in approximately 3.78 million square feet of commercial development, compared to about 5.01 million square feet with the proposed Land Use Element Update (about 24.4 percent less). This alternative would result in about 1,572 multi-family residential units, compared to about 3,815 with the proposed Land Use Element Update (about 59 percent fewer).

Under this alternative, there would be about 2,240 fewer dwelling units compared to the proposed project, and population growth therefore would be less. The year 2010 buildout population of Hercules would be approximately 23,400, compared to approximately 29,900 under the proposed project. Total employment in 2010 under this alternative would be about 14,700, compared to about 18,350 with the project.

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1 FAR is calculated by dividing the gross floor area of a building by the area of the lot in which it is built.

2 While limiting the FAR on a particular parcel would result in a reduced building "footprint" (area on the ground occupied by building[s]) other things being equal, a reduced footprint could also be achieved without a corresponding reduction in FAR by permitting additional building height. For example, a single-story building on a particular site has the same FAR as a two-story building that covers half of the same site. Changes in FAR generally result in changes related to intensity of development (for example, traffic congestion, air quality, traffic noise, population, demand for public services), while changes in building footprint generally result in changes in site-specific impacts (for example, effects on wetlands and other natural communities, geologic and hydrologic effects, and some visual effects). If building footprint were reduced to avoid effects on biological resources but FAR were to remain the same as proposed with the project, effects related to intensity of development, such as traffic conditions, would be generally the same as with the project. At a program level of analysis, as is undertaken in this EIR, effects related to intensity of development are more clearly identifiable, since site-specific effects must, in general, be more carefully analyzed when specific development proposals are made.

IMPACTS

Impacts related to the intensity of development generally would be less substantial with this alternative than with the proposed Land Use and Circulation Elements Update; that is, traffic, air quality, traffic-related noise, and demand for public services, including schools, would be reduced. Daily and p.m. peak-hour trip generation would be about 22 percent less than with the project. Despite the reduced trip generation, background growth plus development under the Reduced-Density Alternative would result in Level of Service F at the San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue intersections, as with the project. This is because so much of the traffic on San Pablo Avenue is a result of drivers who use San Pablo Avenue as an alternative to I-80 (see Section IV.B., Transportation and Circulation). Other intersections in Hercules would operate at acceptable levels of service, with mitigation. Freeway operations on I-80 would be at LOS E/F to LOS F, as with the project, again largely due to traffic not generated in Hercules. As noted above, vehicle emissions and vehicle noise would decrease, compared to the project. Operational noise and, potentially, air pollutants emitted by stationary sources, would be incrementally less than with the proposed project due to the lesser amount of commercial space. Because, even with reduced development, this alternative would result in a substantial number of vehicle trips, emissions of criteria air pollutants would be a significant unavoidable effect, as with the proposed Land Use and Circulation Elements Update. Population would be comparable to that with the existing Land Use Element (No Project Alternative), but employment would be substantially greater (although less than with the proposed project), and this alternative probably would not be in compliance with the *1991 Clean Air Plan;* this would be a significant, unavoidable effect, as with the project.

Land use compatibility would be similar to that with the proposed project, but the decreased residential development, compared to the project, would reduce somewhat the potential for sensitive receptors west of I-80 to be exposed to air quality effects, noise, and light and glare generated by commercial land uses. Because the reduction in employment compared to the proposed Land Use and Circulation Elements Update would be similar to the reduction in employed residents, the jobs/housing ratio of about 1.23 would be similar to that expected with the project, meaning the City would be a net importer of workers. Energy impacts could decrease incrementally, compared to the project, depending on the nature of commercial development.

Demand for public services would be less than the demand that would be anticipated with the proposed Land Use and Circulation Elements Update because of reduced population and

employment. Because of the reduced population, compared to the project, school impacts would be less than with the project. However, because elementary school capacity would not be sufficient to accommodate demand and this alternative would not result in sufficient fees to construct a new school, this impact would be significant and unavoidable, as with the project. Less residential population, compared to the project, would lessen the need for City park and recreation facilities, and this impact would not be significant, in contrast to the project, which would result in significant effects on park services.

Impacts related to existing site-specific conditions, such as vegetation and wildlife and geology, could be similar to those with the proposed project, depending on whether specific parcels were designated for substantially less density. As those impacts would be largely a function of whether a particular parcel were developed and would be less dependent on the nature of development, a uniform reduction in permitted density would not itself result in substantially different impacts compared to the project. If development on more environmentally sensitive parcels were more highly restricted, this alternative could have less impact than the project on those parcels. Impacts related to risk of flooding and to vehicle effects on runoff would relate to the placement of development on a site; as with the No Project Alternative, the population potentially exposed to the 100-year floor would be smaller than with the project. Impacts related to hazardous materials and to potential contamination of surface waters due to point-source pollution would be somewhat less than with the project due to the lesser commercial development with this alternative; actual effects would depend on the nature of the commercial development approved. Existing laws and regulations would largely govern the handling of hazardous materials. This alternative would expose fewer residents to hazards. As with the proposed project, this alternative would contribute to the cumulative hazardous waste disposal requirements in Contra Costa County, and would result in a significant unavoidable effect.

Impacts related to cultural resources (historic buildings and archaeological resources) would also largely be a function of the location, and not the nature, of development, and would be similar to or less than those of the proposed Land Use and Circulation Elements Update.

Visual impacts could be less substantial than with the project due to the smaller amount of development. This would be particularly true if certain visually sensitive parcels were designated for substantially less development. Such impacts might be mitigated through use of building design and/or vegetative screening, but project-specific review could be required.

Because impacts of this alternative related to the intensity of development generally would be less substantial than with the proposed project, and because this alternative would not have significant, unavoidable effects on park and recreation services or on air quality relative to the 1991 *Clean Air Plan*, in contrast to the proposed project, the Reduced Density Alternative is considered the environmentally superior alternative. However, this alternative could also result in less financial benefit for the City.

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INTRODUCTION

CEQA PROCESS

On February 3, 1995, the City of Hercules (the Lead Agency under CEQA) released for public review a Draft Environmental Impact Report (Draft EIR or DEIR) on the proposed Hercules *General Plan* Land Use and Circulation Elements Update and Redevelopment Plan Amendments (EIR SCH No. 95033027; NOP SCH No. 94033034). The public review and comment period on the DEIR began on February 3, 1995, and closed on April 3, 1995, which is longer than the required 45 days. The City held a public hearing on the Draft EIR on April 3, 1995.

The Draft EIR for the Hercules *General Plan* Land Use and Circulation Elements Update and Redevelopment Plan Amendments, as revised, together with the Responses to Comments contained in this Chapter VIII of the Final EIR, constitute the complete Final EIR for the proposed project. The Final EIR is an information document prepared by the Lead Agency that must be considered by the agencies before approving or denying the proposed project. California Environmental Quality Act (CEQA) *Guidelines* (Section 15132) specify the following:

> "The Final EIR shall consist of:
>
> (a) The Draft EIR or a revision of the draft.
>
> (b) Comments and recommendations received on the Draft EIR either verbatim or in summary.
>
> (c) A list of persons, organizations, and public agencies commenting on the Draft EIR.
>
> (d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
>
> (e) Any other information added by the Lead Agency."

This document has been prepared pursuant to CEQA Guidelines. The chapter of the Final EIR incorporates comments from public agencies and the general public, and contains appropriate responses by the Lead Agency to those comments.

METHOD OF ORGANIZATION

This Chapter VIII of the Final EIR for the proposed Hercules *General Plan* Land Use and Circulation Elements Update and Redevelopment Plan Amendments contains information in response to concerns raised during the public comment period.

This introduction describes the organization of the Responses to Comments and also contains a list of all persons and organizations who submitted written comments on the Draft EIR and/or who testified at the public hearing held on April 3, 1995. Comments were also made at a series of three public workshops held jointly by the Hercules City Council and Planning Commission.

Section A of this Chapter VIII contains copies of written comments received during the public comment period and responses to those comments. Each letter of comment is designated alphabetically; each comment is numbered in the margin of the comment letter, and the responses to all of the comments in a particular letter follow that letter. In some cases, the response refers to another response to a similar comment; the comments are referenced alphanumerically by letter and comment number, as in "the response to Comment A-2" (meaning the response to the second comment in letter A). Where a response includes a change to the text of the Draft EIR, a reference is made to the appropriate page of the Final EIR, where the changed text changes is indicated by double underlining and deletions are shown in ~~strikethrough~~. Where the text includes a change, there is also a vertical line in the margin, as shown at left. (The only exceptions are in some tabular data and minor editorial changes (*e.g.*, change of singular word to plural, change of case, etc.), where, for clarity and ease of reading, new text is shown double underlined, but deletions are not shown in strikethrough.)

Note that, for comments on the text of DEIR Chapter II, Summary, responses refer to the applicable page in the main body of the text (Chapters III, IV, V or VI). Where a text change is indicated in one of those four chapters, the change is also made to the Summary, where applicable.

Section B of this Chapter VIII includes the minutes of the three joint City Council/Planning Commission workshops on the Draft EIR held on February 27, March 1, and March 8, 1995, along with responses comments on the Draft EIR made at the workshops. As with the written comments, each individual's hearing comments are designated alphabetically; each comment is numbered in the margin of the hearing transcript, and the responses to all of the comments made

by a particular commenter follow that commenter's entry in the transcript. The public hearing comments are designated as "Comments AA-___" (February 27 workshop); "Comments BB-___" (March 1 workshop); and "Comments CC-___" (March 8 workshop). Not all comments made at the workshops are numbered; generally, only comments on the adequacy of the Draft EIR are identified and responses provided, as required by CEQA, although there are some informational responses about the *General Plan* update itself. As with the responses to written comments, if a response refers to another response an alphanumeric reference is provided, as in "the response to Comment DD-2" (meaning the response to the second comment in Hearing Comments DD). Where a response includes a change to the text of the Draft EIR, a reference is made to the appropriate page of the Final EIR, where the changed text changes is indicated by double underlining and deletions are shown in ~~strikethrough~~. Where the text includes a change, there is also a vertical line in the margin, as shown at left.

Section C of this Chapter VIII similarly includes the minutes of the April 3, 1995, public hearing on the Draft EIR, along with responses to these comments. As with the written comments, each individual's hearing comments are designated alphabetically; each comment is numbered in the margin of the hearing transcript, and the responses to all of the comments made by a particular commenter follow that commenter's entry in the transcript. The public hearing comments are designated as "Comments DD-___." As with the public workshops, generally only comments on the adequacy of the Draft EIR are identified for response. As with the responses to written comments, if a response refers to another response an alphanumeric reference is provided, as in "the response to Comment DD-2" (meaning the response to the second comment in Hearing Comments DD). Where a response includes a change to the text of the Draft EIR, a reference is made to the appropriate page of the Final EIR, where the changed text changes is indicated by double underlining and deletions are shown in ~~strikethrough~~. Where the text includes a change, there is also a vertical line in the margin, as shown at left.

Comments were received after the close of the comment period from the following agencies: U.S. Fish and Wildlife Service, California Department of Transportation, and East Bay Regional Park District. CEQA does not require that responses be provided for late comments. The City has elected to respond to late comments individually in writing to the commenting agency. Accordingly, those comments and responses do not appear in this document.

LIST OF PERSONS COMMENTING ON THE DRAFT EIR

1. Persons and Organizations Commenting in Writing

The following agencies, organizations, and individuals submitted written comments on the Draft EIR during the EIR review period (February 3 - April 3, 1995).

Karen Ortega, President, Board of Trustees, West Contra Costa Unified School District
John B. Lampe, Director of Water Planning, East Bay Municipal Utility District
Annamaria Perrella, Executive Officer, Contra Costa County Local Agency Formation Commission
Craig A. Goldblatt, Transportation Planner / Analyst, Metropolitan Transportation Commission
Lisa Hogeboom, Program Manager, West Contra Costa Transportation Advisory Committee
James W. Cutler, Assistant Director of Comprehensive Planning, Contra Costa County Community Development Department
Georgia Kelley, Georgia Kelley Consulting Services *(Parcel 3)*
John M. Gioia, for Penterra Co. *(Parcel 4)*
Nancy G. Cantwell, Vice President, East Bay Realty Services *(Parcel 4)*
Robert S. Binasuca, Vice President, A.N. West Inc., for Penterra Co. *(Parcel 4)*
Craig Shields, P.E., Treadwell & Rollo *(Parcel 4)*
Jeffrey Heller, FAIA, Heller Manus Architects *(Parcel 4)*
Donald S. Rosenberg, Rosenberg, Reisman & Stein, for MRB Partnership *(Parcel 5)*
Donald S. Rosenberg, Rosenberg, Reisman & Stein, for ORB Partnership *(Parcel 9)*
Larry R. Williamson *(Parcel 12)*
Carol S. Arnold, President, Chelsea by the Bay Homeowners Association
Debra Longwood, Glenwood at Village Park Homeowners Association
Fred Kilby and Steve Lawton
John F. Petty, Robert Lamb Hart Planners, Architects and Landscape Architects Ltd., for Hercules Properties Inc. *(Parcel 1)*

2. Persons and Organizations Commenting at the Public Hearing

The following persons provided DEIR comments at the City Planning Commission Public Hearing on the Draft EIR, at Hercules City Hall on Monday, April 3, 1995.

Nancy Cantwell, Hercules Inc. (East Bay Realty Services Inc.)
Michael Garton, for MRB Partnership and ORB Partnership
Georgia Kelley, Georgia Kelley Consulting Services
Robert Taylor
Jacob Ng
Lorraine Peters
Pete Ward
Dennis Barry
Fred Kilby
Commissioner Desmond
Commissioner Lewallyn

A. WRITTEN COMMENTS AND RESPONSES

A

RECEIVED
APR - 3 1995
CITY OF HERCULES

West Contra Costa Unified School District
1108 Bissell Avenue
P.O.Box 4014
Richmond, California 94801-3135
Telephone (510) 234-3825

Karen Ortega
President, Board of Education

Herbert M. Cole, Jr., Ed.D
Superintendent of Schools

March 31, 1995

Gary Hembree
Community and Business Development Director
City of Hercules
111 Civic Drive
Hercules, California

Subject: **Comments for City of Hercules, General Plan Land Use and Circulation Elements Update And Redevelopment Plan Amendments Draft Environmental Impact Report, Dated February 3, 1995**

Dear Mr. Hembree:

The West Contra Costa Unified School District (WCCUSD)/formerly Richmond Unified School District, appreciates the opportunity to work with the City of Hercules, Community and Business Development Department to provide its residents the best educational facilities and programs possible. Please consider this correspondence the official response from the West Contra Costa Unified School District to your request for comments to the above referenced document for the city.

As stated in the above document, Hanna Ranch Elementary School opened in January 1995, and currently houses 243 students for grades 4-6 that had previously been housed at Hercules Elementary School. Due to the square footage reduction and redesign required by the Office of School Construction, it is now estimated that the middle senior high to be built in Hercules will open in September 1999.

According to adopted policy of WCCUSD and the State of California, temporary classrooms or portables, are not considered adequate, permanent housing. Therefore, the portables housing Hercules students at schools in Hercules and Pinole were never intended to be permanent, adequate housing for students.

Many of the portables installed when the schools opened in 1977 for Hercules and 1979 for Ohlone were from other sites, and were not new when the school opened. Twelve of the portables at Hercules are over 25 years old, and thirteen portables at Ohlone are 25 years old. At the time that Hercules and Ohlone Elementary were built, Hercules was one of the fastest growing city in California, and at that time the district had no choice but to use old portables to house the students generated from the new growth.

The life of a portable is approximately 20 years, after which the following problems develop:

- Floor tiles can lift due to building deflection.
- Roof leakage is common, due to the fact that the buildings are constructed in two parts with a seam in the center.
- The wood foundations are susceptible to dry rot.
- Exterior finish often needs repair or replacement. The exterior of a portable is wood, rather than a more durable surface such as stucco or masonry, commonly used in school construction.
- Covered walkways are difficult to construct and often omitted.
- Ramping to portable buildings are required. Permanent buildings are kept at grade and therefore do not require any ramping for handicapped access.
- Schools assembled from portable structures often do not include the same administrative support facilities as a permanent structure.

During the past several years, the district has spent in excess of $361,000 for repairs for health and safety items on the portable structures at Hercules and Ohlone. Had new permanent buildings been constructed at the opening of the Hercules and Ohlone Schools in 1977 and 1979 respectively, it is unlikely many of these expenses would have been required. Because of the above inherent problems common to portables, the state does not require portable structures to be loaded as adequate housing in order to calculate capacity for schools.

It is stated in the Draft EIR that (page IV-F-19) "With additional increase in population of about 500 due to approved and reasonable foreseeable development, elementary school enrollment would exceed capacity by about 1,110 students." This is a very significant number of unhoused students .

The District assumes, but cannot identify in the Draft EIR that there is a significant impact finding in the matter of adequate housing for students generated by new growth. From the text of the Draft EIR, it is assumed that there is a finding of "significant impact" on the district; however, the mitigation measures as set forth in the Draft EIR do not significantly reduce the impact to less than a significant impact.

It is impractical and inequitable to maintain non-uniform policies within the school district boundary. For example, Contra Costa County and the City of Richmond have adopted language in their recent General Plans stating project applicants are required to pay school impact fees as determined by the District. The City of Pinole has included similar language in their final General Plan that is pending approval by the city council. A-1

To be consistent and equitable, it is recommended that the City of Hercules include similar language in its Revised General Plan. It is not acceptable to the District to have "unmet demand in school enrollment of 1,100 students." The district believes this impact could and should be fully mitigated by fees paid to the district by the developers causing the growth.

March 31, 1995
Comments to the City of Hercules, General Plan Land Use, Draft EIR
Page 3

In closing, the level of impact after mitigation measures stated in the Draft EIR will not significantly reduce the impacts created. A-1 cont'd

Surely, the City of Hercules does not intend to adopt a statement of overriding consideration in such an important issue as adequate housing for students.

I hope this information assists you in preparation of the Final Environmental Impact Report for the Revision of the City of Hercules' General Plan. Please do not hesitate to contact Dr. Santiago Wood at (510) 234-3825, extension 2208, if you have any questions or comments regarding the District's responses and concerns. Please mail notices of all public meetings and hearings on this matter to Dr. Wood at 1108 Bissell, Richmond, 94801-3135.

Thank you for your attention in this matter.

Sincerely,

Karen Ortega /mtr

Karen Ortega
President, Board of Trustees
West Contra Costa Unified School District

KO:grf:csb

cc: Members, Board of Education
Dr. H. Cole, Jr.
Dr. S. Wood
Paul Loya
Jack Schreder
Gary Freschi

Letter A - Karen Ortega, President, Board of Trustees, West Contra Costa Unified School District, March 31, 1995

A-1) The Draft EIR concludes, on p. IV.F-20, that the project would result in a significant, unavoidable impact on public school facilities, because elementary school enrollment would exceed capacity by about 1,035 students, which is a deficit of about 40 students more than the existing conditions deficit (prior to the opening of Hanna Ranch Elementary School in January 1995). For clarification, the following additional information is provided in regard to school impacts.

As noted on pp. IV.F-4 - 5, as revised, existing 1994-95 enrollment (without Hanna Ranch school) exceeds capacity by about 1,250 in elementary, middle and high schools serving Hercules students. As stated in Table IV.F.2, p. IV.F-5, the figures for school capacity includes only "adequate" facilities, as defined by the State Department of Education and the West Contra Costa Unified School District; the figures do not include portable classrooms not owned by the district (*i.e.*, leased or on lease-purchase arrangement but not fully paid for). To clarify the actual physical capacity of each school (as opposed to the state-defined "adequate" capacity, the information in Table IV.F.2 is presented below in Table R.1, with additional information concerning the capacity of portable classrooms at each school. Table R.1 shows that, even counting non-owned ("inadequate") portable classrooms, there is a shortage of physical capacity at four of the five schools serving Hercules students of between 25 and 90 spaces. (Note that the "adequate capacity" of Ohlone School has been revised from the DEIR figure of 124 to 434, based on information provided by the school district; this revision has been made in Tables IV.F.2 and IV.F.3, pp. IV.F-5 and IV.F-18, respectively, of the EIR, as well as in the text on p. IV.F-17 - 18.) The enrollment and capacity figures in Table R.1 are much closer than those accounting only for adequate capacity; that is, assuming some overcrowding, all students are accommodated within physical structures during the instructional portion of the school day. Nevertheless, because the EIR uses the state-defined "adequate" capacity as a standard by which to measure impacts, the analysis presented in Table IV.F.3, p. IV.F-18, remains valid, and the conclusion of significant impact also remains accurate.

In regard to potential mitigation, as noted by the commenter, some communities have chosen to impose, through the legislative process, a fee established by the West Contra

TABLE R.1: HERCULES SCHOOL CAPACITIES AND ENROLLMENTS, 1994-1995

School	Enrollment	Adequate Capacity /a/	Non-Adequate Capacity /b/	Physical Capacity /c/
Hercules Elementary /d/	560	434	62	496
Ohlone Elementary /d,e/	769	434	310	744
Collins Elementary	681	458	155	613
Subtotal	2,010	1,326	527	1,853
Pinole Middle	952	583	279	862
Pinole Valley High	2,099	1,909	217	2,126
Subtotal	3,051	2,492	496	2,988
TOTALS	5,061	3,818	1,023	4,841

/a/ Portable classrooms are currently used to accommodate a large number of students. The state Department of Education does not consider certain non-permanent classrooms (*i.e.*, leased portables and older portables) as adequate facilities. Capacity figures include only adequate classrooms according to the state definition.
/b/ Includes portable classrooms not included in "Adequate Capacity" column.
/c/ Includes adequate and non-adequate capacity.
/d/ All classrooms are non-permanent (portable) classrooms.
/e/ School operates on year-round sessions.

SOURCE: Burkhart, 1994, 1995.

Costa Unified School District (WCCUSD). The district fee is $3.45 per square foot of residential construction, or almost precisely double the state-mandated maximum fee of $1.72 per residential square foot. This fee is more than 50 percent of the cost of new school construction, and would allow the district higher priority in receiving state school construction fees. However, the state currently does not have uncommitted school construction funds, pending passage of a future school construction bond measure (Small, 1994). Collection of a fee of $3.45 would not necessarily fully mitigate school facilities impacts, since it would not be expected to generate sufficient funds for construction of a new elementary school to accommodate students generated by development under the proposed Land Use Element update.

Generally, the school district is not permitted to collect more than the $1.72 per residential square foot, and must rely on local jurisdictions where a higher fee is to be

collected. Under case law, in the event of a legislative action, such as a *General Plan* amendment, or amendment to a Zoning Ordinance, the $1.72 limit does not apply, and a local jurisdiction (city or county) can collect a higher school impact fee if it chooses and can justify its decision. It is WCCUSD's position that the legislative action exemption applies to a *General Plan* amendment or update when no specific development proposal is involved (as is the case with the proposed Land Use and Circulation Elements update). This interpretation argues that adoption of a *General Plan* policy establishing a school impact fee in excess of $1.72 would automatically apply the higher fee to subsequent development projects. It should be noted that the district's interpretation has not, to date, been resolved in case law.

The City could elect to impose a school impact fee higher than the $1.72 through the *General Plan* or Zoning Ordinance update, or could support other options for enhancing school financing, such as participation in a Mello-Roos district by a property proposed for development. Property owners might also be encouraged to donate school sites; because land cost represents approximately 50 percent of school construction costs, availability of land at no cost could largely or fully mitigate school facility impacts. Further, school impact fees can be used to expand existing schools, to the extent that land remains available. Mitigation Measure Schools-1c is added to p. IV.F-20 to include these potential options; further analysis of the impacts of specific projects would be required on a case-by-case basis. However, the EIR conclusion remains that, absent a proven source of funding for construction of adequate school facilities, the project would have a significant unavoidable impact on school facilities.

The following additional revisions are made to the EIR analysis:

- On p. IV.F-4, the text is revised to acknowledge the opening of Hanna Ranch Elementary School in January 1995 and the current schedule for the proposed new middle-senior high school, now anticipated to open in 1999 instead of 1997.

- On p. IV.F-19, the construction cost for an elementary school to accommodate the approximately 690 students that would be generated by the project has been revised to $14.5 million, consistent with the fiscal analysis presented in Appendix E (p. 29). The DEIR had used a figure of $12.5 million for a "typical" 600-student elementary school, while the fiscal analysis figure was based on the actual projected enrollment.

REFERENCES - Comment Letter A

Burkhart, Cate, Facilities Planner, West Contra Costa Unified School District, letters, October 12, 1993 and November 21, 1994; telephone conversations, July 19, October 13 and November 3, 1994, and May 11, 1995; and facsimile transmission, May 11, 1995.

Small, Leroy, Statewide Consultant for School Facilities and Site Acquisition, California Department of Education, telephone conversation, November 2, 1994.

B

EAST BAY
MUNICIPAL UTILITY DISTRICT

JOHN B. LAMPE
DIRECTOR OF WATER PLANNING

March 31, 1995

Mr. Gary Hembree
Director of Community and Business Development
City of Hercules
111 Civic Drive
Hercules, CA 94547

SUBJECT: Circulation of DEIR related to the Update of the Land Use and Circulation Elements of the General Plan for the City of Hercules (State Clearinghouse No. 94033034).

Dear Mr. Hembree:

Thank you for the opportunity to review and provide written comments to the City of Hercules Draft EIR for the City's update of the Land Use and Circulation Elements. EBMUD has the following comments regarding the DEIR:

1. Table IV.C.4 on page IV.C-7 outlines the existing and projected households, population and employment for the City. According to this table, the increase in households based on the proposed 2010 Land Use Element plus cumulative units is 11,127. This household increase is substantial in comparison to the District's demand projections used for its Water Supply Management Plan, which indicated the number of households at 7,440 for Hercules by the year 2010.

   As noted above, the projected number of households in the proposed General Plan update exceeds the District's demand projections by 50 percent, a significant amount. This increase may generate needs for improvements in water storage facilities in several pressure zones including Maloney (0-200 feet), Mendocino (200-400 feet) as well as zones above Mendocino, and for water treatment, pumping, and water distribution major transmission lines. B-1

2. On page IV. F-21, the draft indicates that the City is part of EBMUD's Reclaimed Water Master Plan. It also states that use of reclaimed water is not financially feasible in Hercules at this time because of the high level of treatment required for potential industrial users. This statement is incorrect. The reclaimed water project (2-4 mgd) for the Hercules area is currently included in the District's plans for an additional 8 mgd (District-wide) of reclaimed water by the year 2005. However, the project is not currently active. The District recommends that individual development projects have dual plumbing to allow future use of reclaimed water for non-domestic purposes such as landscape irrigation, commercial and industrial process uses and toilet flushing in non-residential buildings, and that this be included as a mitigation measure within the Public Services and Utilities chapter(F). B-2

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P.O. BOX 24055 . OAKLAND . CA 94623-1055
BOARD OF DIRECTORS ANDREW COHEN . JOHN A. COLEMAN . STUART FLASHMAN
JOHN M. GIOIA . KATHERINE McKENNEY . NANCY J. NADEL . KENNETH H. SIMMONS

Mr. Gary Hembree
March 31, 1995
Page 2

3. The DEIR's discussion of Hazardous Materials (Chapter G) indicates there are several properties that are contaminated with hazardous materials. Furthermore, the State Department of Toxic Substances Control is responsible for regulating the management of hazardous wastes in California, and has been working to remediate these properties described in the DEIR. On page IV.G-18, the mitigation indicates that an environmental audit, including site inspections for hazardous materials be prepared, and submitted for City review and approval(second paragraph, fourth sentence under Hazard-1a). The District requests that it receive copies of all environmental audits and assessments for properties where water mains are proposed for construction. The District will review this information and any information on mitigation measures prior to entering into any agreement for major facilities, water main extensions or replacements. B-3

It is recommended that impacts of a development in the Franklin Canyon area within the City's Sphere of Influence, and in the Franklin Canyon golf course development within the City, be included as part of the land use chapter and analyzed as part of this General Plan update. B-4

This concludes the District's comments on the Draft EIR for the City of Hercules General Plan update. If you have any questions, or if the District can be of further assistance, please contact John Houlihan, Senior Civil Engineer, at (510) 287-1139.

Very truly yours,

W.R. [signature] for

John B. Lampe
Director of Water Planning

JBL:MAJ:dd
9503.mj

Letter B - John B. Lampe, Director of Water Planning, East Bay Municipal Utility District, March 31, 1995

B-1) The Draft EIR acknowledges, on p. IV.F-20, the potential need for improvements in East Bay Municipal Utility District (EBMUD) facilities that would result from the project. The DEIR identifies mitigation measures on pp. IV.F-21 - 22, including incorporation of a policy in the Land Use Element that would ensure that subsequent individual projects would pay their fair share of the cost of EBMUD improvements.

B-2) The pilot study of potential reclaimed wastewater use referenced on p. IV.F-21 of the Draft EIR (FEIR p. IV.F-22) found that a biological treatment process, which would be less expensive than chemical treatment, was not reliable enough to implement as a full-scale treatment project. Therefore, the Hercules area reclaimed wastewater project was not given higher priority on EBMUD's Reclaimed Wastewater Master Plan project list and, as noted by the commenter, the project is not currently active. The use of reclaimed wastewater would be feasible if adequate funding were identified. Please see p. IV.F-22 of the FEIR for a clarification of the DEIR language.

As noted by the commenter, dual plumbing systems would be required to accommodate future use of reclaimed wastewater for non-domestic purposes. The City encourages the implementation of reclaimed wastewater use where appropriate but, in the absence of EBMUD policy requiring installation dual plumbing systems in all new development, is not able to impose a requirement on new development in Hercules to undertake such installation. See p. IV.F-22 of the FEIR for a new Mitigation Measure under Water-1a to encourage the installation of dual plumbing systems to accommodate future reclaimed wastewater use.

B-3) The City could provide reports requested by EBMUD, but it is not possible at this time for the City to determine the specific reports to be provided. Mitigation Measure Hazard-1a on p. IV.G-18 of the EIR has been revised to state that the City would provide EBMUD with applicable reports upon request.

B-4) Proposed residential and hotel development at Franklin Canyon is included in the cumulative forecasts used in the Draft EIR (see footnote 1, p. III-17). However, the Franklin Canyon site is not analyzed in detail in this EIR, as it is not subject to

redesignation as part of the Land Use Element update. The Franklin Canyon site has been the subject of two EIRs (most recently, a Final EIR was completed in November 1991), and an additional Supplemental EIR will be required for the proposed Franklin Canyon project when a Specific Plan for the site is completed.

C

CONTRA COSTA COUNTY LOCAL AGENCY FORMATION COMMISSION
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MEMBERS
Gayle Bishop, *County Supervisor*
Dwight Meadows, *Special Districts*
Frances Greene, *Public Member*
Michael Menesini, *Martinez City Council*
David Jameson, *Special Districts*
Mark DeSaulnier, *County Supervisor*
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Martin B. McNair, *Public Member*
Susan McNulty Rainey, *Special Districts*
Tom Torlakson, *County Supervisor*

EXECUTIVE OFFICER
ANNAMARIA PERRELLA

February 15, 1995

City of Hercules
Community Development Department
111 Civic Drive
Hercules, CA 94547

Re: Draft EIR for the Revised Land Use and Circulation Elements

Thank you for submitting the subject document to LAFCO for review.

Figure III.1 shows the EIR study area, the City boundaries, Sphere of Influence (SOI) and Planning Area. The map corresponds to my records as well. It appears that no area within the SOI boundary is proposed for redesignation. If that's the case, I have no comments on the DEIR. C-1

Yours truly,

Annamaria Perrella

Annamaria Perrella
Executive Officer

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Letter C - Annamaria Perrella, Executive Officer, Contra Costa County Local Agency Formation Commission, February 15, 1995

C-1) Comment noted. For information, the commenter is correct in that the project would not affect any sites outside the Hercules City Limits.

DIANNE MCKENNA, CHAIR
Association of Bay Area Governments

JAMES SPERING, VICE CHAIR
Solano County and Cities

ART AGNOS
U.S. Department of Housing and Urban Development

JANE BAKER
Cities of San Mateo County

JAMES T. BEALL JR.
Santa Clara County

SHARON BROWN
Cities of Contra Costa County

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State Business, Transportation and Housing Agency

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City and County of San Francisco

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Napa County and Cities

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Deputy Executive Director

MTC
METROPOLITAN TRANSPORTATION COMMISSION

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D

March 24, 1995

Mr. Gary Hembree
Director
Community and Business Development Dept.
City of Hercules
111 Civic Drive
Hercules, CA 94547

RE: DEIR, CITY OF HERCULES GENERAL PLAN UPDATE

Dear Mr. Hembree,

This letter contains Metropolitan Transportation Commission (MTC) staff comments on the transportation system impact analysis contained in the draft environmental impact report (DEIR) for the *City Of Hercules General Land Use And Circulation Elements Update And Redevelopment Plan Amendments*. Buildout consistent with the proposed land use element update could result in the development of up to about 5.0 million square feet of commercial and industrial uses, and approximately 3,800 new multi-family residences. The circulation element update describes several roadway and other transportation improvement projects that are either already funded or are expected to be complete by 2010.

Transportation Systems Impact Analysis

Overall, we are concerned about the adequacy of the impact analysis on State Route 4. Traffic impacts on this facility might be understated for the following reasons:

- The DEIR assumes the reconstruction of SR 4 between I-80 and Cummings Skyway to a four-lane freeway by 2010. The full freeway project is projected to have a funding shortfall of federal, state, and local funding over the next 20 years and is not currently included in the twenty-year *Regional Transportation Plan* (RTP). However, the RTP does include a Route 4 safety and continuity project that can be funded. As you know, CCTA has conducted a Major Investment Study (MIS) and indicates that a four-lane expressway could be accomplished in this corridor as an initial phase of a full freeway project in the future. The EIR should consider the transportation impacts on the smaller "fundable" project as well as for the full freeway project. **D-1**

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- A service level analysis is not available for highway operations on Route 4. Instead, the DEIR relies on a previous traffic analysis performed for the *West Contra Costa Action Plan for Routes of Regional Significance*. This analysis concludes that with the planned freeway improvements, SR 4 between I-80 and Cummings Skyway, in and near Hercules, will operate at level-of-service (LOS) C/D. Are the land-use assumptions underlying the Action Plan analysis consistent with the proposed Hercules General Plan amendments? If not, the EIR should indicate how the LOS on SR 4 will change consistent the proposed plan amendments. **D-2**

Alternatives Analysis Section

To better understand the differences between the alternatives analyzed it would be helpful if the FEIR presented information on the project and project alternatives in tabular form. We would particularly be interested in seeing LOS measures presented in such a manner. **D-3**

Potential Mitigation Measures

If projected traffic conditions result in significant adverse impacts, one strategy to consider would be staging of development to match available funding and capacity improvements on SR 4. **D-4**

We look forward to receiving the final environmental impact report for the general plan update. In the meantime, if we can be of any assistance, please do not hesitate to call. Thank you for the opportunity to comment.

Sincerely,

Craig A. Goldblatt

Craig A. Goldblatt
Transportation Planner/Analyst

xc: Commissioner McKenna
Commissioner Brown
Commissioner Torlakson
Chris Brittle

Letter D - Craig A. Goldblatt, Transportation Planner/Analyst, Metropolitan Transportation Commission, March 24, 1995

D-1) As stated on p. IV.B-2 of the EIR, the traffic analysis was based on the Contra Costa Transportation Authority's West County Travel Demand Model. Future roadway configurations were those assumed in this regional traffic model. The West County Model includes, in the 2010 scenario, a divided freeway on SR 4 between Interstate 80 and Cummings Skyway, as stated on p. IV.B-20. Should a four-lane expressway or other roadway, rather than a freeway, be constructed in place of the current two-lane roadway on SR 4 by the project buildout in 2010, SR 4 would accommodate fewer vehicles than assumed in the DEIR analysis. This would affect capacity on SR 4, but would not be expected to substantially alter internal circulation within Hercules such that intersection levels of service as analyzed in the Draft EIR would change.

As stated on p. IV.B-36, construction of an SR 4 freeway would result in diversion of traffic from Interstate 680 to Interstate 80; without the SR 4 freeway, this diversion would be substantially less, so that 2010 impacts on I-80 could be incrementally less substantial, although expected traffic growth in the I-80 corridor alone would result in operations of LOS E/F and LOS F. SR 4 currently operates at LOS E/F in the p.m. peak hour. Without an SR 4 freeway, some traffic diversion from I-680, along with regional growth and project traffic, could cause operations on SR 4 to continue congested.

Alternatives for improvements to SR 4 will be fully analyzed in an environmental impact report/environmental impact statement that will be prepared separately for the SR 4 project.

D-2) The commenter is correct that the *West Contra Costa County Action Plan* forecasts do not include growth that would result from the proposed project. With construction of an SR 4 freeway, as was assumed in the EIR analysis, SR 4 would operate at an acceptable level of service (LOS E or better, per the *Action Plan*). If the freeway were not constructed, SR 4 operations would be substantially worse (see the response to Comment D-1, above).

D-3) As directed in the CEQA *Guidelines*, the DEIR analysis of alternatives is presented in less detail than the analysis of the proposed project. No intersection level-of-service

calculations were performed for the alternatives. As noted in Chapter VI, Alternatives, under each alternative, including the No Project Alternative, significant unavoidable traffic impacts would result at the intersections of San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue. Freeway operations on Interstate 80 also would be at LOS F with all alternatives.

D-4) By definition, development foreseen by the Draft EIR would be phased, since the analysis assumes that 24 separate parcels would be developed by different property owners, and no specific projects are analyzed. Further, as noted on DEIR p. III-17, the EIR assumes that buildout under the updated *General Plan* would occur by 2010, which is a conservative assumption, given the volume of development anticipated. It is possible that some of the development assumed in the EIR analysis would not occur until later. As stated on p. IV.B-31, the City will continue to work with the West Contra Costa Transportation Authority and the Contra Costa Transportation Authority on implementation of Action Plans for Routes of Regional Significance, including SR 4.

E

WCCTAC

West Contra Costa Transportation Advisory Committee
One Alvarado Square • San Pablo • California 94806

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Members:
El Cerrito
Hercules
Pinole
Richmond
San Pablo
Contra Costa County
BART
AC Transit

April 3, 1995

VIA FAX AND U.S. MAIL

Mr. Gary Hembree
Community and Business
Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547

Dear Gary:

The following comments are in response to the *City of Hercules' General Plan Land Use and Circulation Elements Update, Environmental Impact Report* dated February 3, 1995:

1. Page II-4 - Second Paragraph

   The language reads "The draft Circulation Element Update also includes revised traffic level of service standards." How do these revised level of service standards compare to the Proposal for Adoption West County Action Plan dated December 9, 1994? **E-1**

2. The acronym "WCCTAC" should always refer to the West Contra Costa Transportation Advisory Committee. In several instances (e.g. Page II-4, fourth paragraph) "Traffic" was used instead of "Transportation." **E-2**

3. Has Hercules defined the traffic mitigation fee program referenced in the first paragraph on Page II-5? If so, it would be helpful for WCCTAC staff to review and use the information as we develop the Subregional Traffic Mitigation Program for West County. **E-3**

4. Page IV. B-1 - Second Paragraph

   Measure "C" is a ½ cent sales tax, not a .05 percent sales tax. **E-4**

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Mr. Gary Hembree
Page 2
April 3, 1995

5. Page IV. B-4 - First Paragraph

The document states that a Route of Regional Significance is a "roadway serving more than one locality." There are actually four criteria for designating a Route of Regional Significance (see Page 27 of the Proposal for Adoption West County Action Plan):

- A roadway connects two or more "regions" of the County.
- A roadway crosses county boundaries.
- A roadway carries a significant amount of through-traffic (a threshold might be specified by the Regional Committee).
- A roadway provides access to a regional highway or transit facility (e.g. a BART station or freeway interchange).

E-5

6. Page IV. B-15 - Transportation Demand Management

"Retail establishments, contractors, and certain government agencies" are not categorically exempt from participating in the TDM Program. Any employer that meets certain exemption criteria may be exempt from the program. Definition of the exemptions, employees, and certain types of employees can be found in the Hercules Trip Reduction Ordinance or the Bay Area Air Quality Management District's Regulation 13, Rule 1.

The final performance objective (goal) of the TDM Program is an AVR of 1.35 in 1998. The document only references the AVR for 1997.

E-6

7. Page IV. B-20 - Second Paragraph

The key numbers in terms of traffic issues are outlined in this paragraph - "Changes in land use with the proposed Land Use Element Update by 2010 would collectively add about 3,800 households, 15,300 jobs, and 5.0 million square feet of commercial, office and light industrial space. The daily trip generation resulting from these projects would add up to approximately 166,800 trips, including 7,790 during the weekday a.m. peak hour and 16, 125 during the weekday p.m. peak hour, as shown in Table IV.B.5."

Do the mitigations directly reference these numbers and the potential for mitigating daily trip generation? Are there any mitigations for employer, school, and/or residential-based trip reduction? The WCCTAC TDM staff would be pleased to work with the City of Hercules on aggressive mitigation programs in these areas.

E-7

8. Page IV. B-25 - San Pablo Avenue/John Muir Parkway

The West County Action Plan does not specifically reference this intersection since the West County Action Plan only analyzed signalized intersections at the time it was prepared. Perhaps it (and any other congested intersections not referenced in the current Action Plan) should be added to the next update of the Action Plan in approximately two years. E-8

9. Page IV. B-31 - Last Paragraph

At the end of the first sentence "The City shall implement a Transportation Demand Management Program...adopted by the Contra Costa Transportation Authority" add "*and Trip Reduction Ordinances passed by the local jurisdictions.*" E-9

10. General Plan Amendments in Relationship to the West County Action Plan

Pages 112 and 113 from the Proposal for Adoption West County Action Plan are attached. The Action Plan defines a process for review of General Plan Amendments. As stated in the Action Plan on page 112, does the proposed *City of Hercules' General Plan Land Use and Circulation Elements Update* "(1) violate Action Plan policies or the ability to meet Action Plan traffic service objectives, or (2) have modifications to the Action Plan been proposed that will prevent the General Plan Amendments from adversely affecting the regional transportation network? If neither of these can be done, a jurisdiction's approval of the general plan amendments may constitute a violation of procedures established in the Action Plan and could lead to a finding of non-compliance with the Measure C Growth Management Program." If required, WCCTAC staff is available to assist in the determination of whether or not the proposed amendment conforms with the West County Action Plan. E-10

Also, Page A-20 of the Proposal for Adoption West County Action Plan has been attached which is the list of responsibilities for the City of Hercules. Have these responsibilities been directly addressed in the proposed amendment?

Thank you for the opportunity to comment on the Environmental Impact Report. If you have any questions or comments, please feel free to contact me at (510) 215-3044.

Sincerely Yours,

Lisa Hogeboom

Lisa Hogeboom
Program Manager, WCCTAC

cc: WCCTAC Board and Technical Advisory Committee

8.2 Review of General Plan Amendments

8.2.1 Background

The Action Plan was developed using forecasts of future land development allowed within the framework of existing general plans. General plan amendments enacted after adoption of the Action Plan could threaten the effectiveness of Action Plan policies.

The Action Plan is therefore required to contain a process for notification and review of the impact of proposed general plan amendments.

This process includes specifying a threshold for general plan amendments that will be subject to WCCTAC review. WCCTAC may also set up a procedure to review the cumulative impacts of a series of small plan amendments.

The responsibilities of WCCTAC are as follows:

- demonstrate that the amendment will not violate Action Plan policies or the ability to meet Action Plan Traffic Service Objectives; or
- propose modifications to the Action Plan that will prevent the general plan amendment from adversely affecting the regional transportation network.

If neither of these can be done, approval of the General Plan amendment may lead to a finding of non-compliance with the Growth Management Program.

8.2.2 Procedures for Review of General Plan Amendments

The development review process identified in this plan pertains to the review of General Plan Amendments and the affect of those amendments on the adopted Action Plan. The following procedures are proposed for general plan amendments that generate more than 100 trips during a peak hour:

- Through its participation in WCCTAC, the jurisdiction considering the amendment must either:
  - demonstrate that the amendment will not violate Action Plan policies or the ability to meet Action Plan traffic service objectives, or
  - propose modifications to the Action Plan that will prevent the general plan amendment from adversely affecting the regional transportation network.
- If neither of these can be done, a jurisdiction's approval of the general plan

amendments may constitute a violation of procedures established in the Action Plan and could lead to a finding of non-compliance with the Measure "C" Growth Management Program.

8.3 Schedule for Action Plan Review

The Action Plans are to be periodically reviewed for effectiveness, i.e. whether it is successful in meeting the traffic service objectives. If not, an update of the Action Plan may be required.

The following schedule for review of the Action Plan is to be followed:

- Traffic conditions on regional routes, the status of transportation improvement projects contained in the Action Plan, and the land use forecasts upon which the Action Plan is based are to be monitored on a biennial basis and submitted to WCCTAC in a report on traffic service objective compliance, project funding status, and changes in the forecasted growth rate.

- If any of the traffic service objectives have not been met, or if the status of transportation improvement projects or the growth assumptions have significantly changed, WCCTAC will prepare a focused revision to the Action Plan.

- A complete review of the Action Plan should be made on a four-year cycle.

- Individual corridors may be reviewed every two years, if deemed appropriate by WCCTAC.

WCCTAC shall discuss potential funding for future Action Plan updates and monitoring as part of the Circulation Draft.

8.4 The First Update of the Action Plan

The preparation of the First Update of the Action Plan should begin two years after adoption of this Action Plan. The First Update should consider these issues which could not be resolved within the time frame of the current Action Plan:

1. Update Land Use Forecasts

The Action Plan is based upon population and employment forecasts that were developed during 1991 in close consultation with local jurisdictions. The cities of Richmond and Hercules have made significant revisions to their General Plans since the land use forecasts were developed for the Action Plan. Several other cities are in the process of updating their General Plans.

C.4 City of Hercules Responsibilities

7.4 San Pablo Avenue

7.4.j. Explore the feasibility of constructing a second northbound right turn lane on San Pablo Avenue between Sycamore and SR 4 to allow right turns on westbound Sycamore Avenue while preserving the public investment in the City of Hercules transit transfer station.

7.4.k. Promote new driveway restrictions and other uniform design standards aimed at improving circulation.

7.4.l. Encourage development of higher density residential/commercial mixed-use development.

7.4.m Discourage speeding on San Pablo Avenue through increased police presence and unmanned speed monitors.

7.4.n. Adopt design standards for new development to minimize turning movements on and off of San Pablo Avenue.

7.4.o. Synchronize signal timing on San Pablo Avenue where warranted by close signal spacing and high traffic volumes.

7.6 Willow Avenue

7.6.a. Monitor level of service on Willow Avenue.

7.6.b. Encourage Caltrans to extend Willow Avenue via a State Route 4 over-crossing to connect to Bayberry Avenue as part of the State Route 4 West project.

7.6.c. Widen Willow Avenue by two lanes between I-80 and San Pablo Avenue.

Letter E - Lisa Hogeboom, Program Manager, West Contra Costa Transportation Advisory Committee, April 3, 1995

E-1) The referenced text refers to the City of Hercules' Level of Service standards, contained in the previously adopted Growth Management Element of the Hercules *General Plan*. These standards, which apply to signalized intersections on Measure C-designated Basic Routes, are first referred to in the Draft EIR in Chapter II, Summary, p. II-1, and are fully defined in Section IV.B, Transportation and Circulation, on p. IV.B-16, under Significance Criteria. The Significance Criteria on pp. IV.B-16 and 17 also contain traffic objective standards for Routes of Regional Significance, as defined in Measure C; in Hercules, these routes are San Pablo Avenue, I-80 and SR 4, as stated on p. IV.B-4. The Level of Service standards for Routes of Regional Significance were obtained from the Circulation Draft of the *West County Action Plan,* dated July 29, 1994. These standards were not changed in the Proposal for Adoption, dated December 9, 1994. The *West County Action Plan* does not contain Level of Service Standards for Basic Routes.

E-2) Comment noted. The reference to the WCCTAC is corrected on p. II-4, fourth paragraph and p. IV.B.-39, in the discussion below Impact Transportation-4.

E-3) The City currently has a traffic mitigation fee of $2.58 per square foot that is applicable only to non-residential development. That fee program and its implementation are currently under review. Implementation Action 7 of the draft Circulation Element update, identified on EIR p. IV.B-30, calls for establishment of a traffic mitigation fee to be paid by all remaining development projects to offset the needed improvements outlined in the *General Plan Circulation Element Transportation Technical Report.*

City staff are currently working with West Contra Costa Transportation Advisory Committee staff on the issue of Subregional Traffic Mitigation Programs and/or Fees.

E-4) The sales tax established by Measure C (1988) is correctly stated on p. IV.B-1 to be a 0.5 percent (not 0.05 percent, as stated by the commenter) sales tax, which is the same as a ½ cent tax per dollar of sales.

E-5) Comment noted. The definition of a Route of Regional Significance on p. IV.B-4 is revised to include the four criteria described by the commenter.

E-6) Comment noted. The description of the City of Hercules Transportation Demand Management Program on p. IV.B-15 has been revised.

E-7) As stated on p. IV.B-15, the trip generation estimates in the Draft EIR do not assume any reduction for transportation demand management. The DEIR identifies numerous mitigation measures on pp. IV.B-28 - 31 that would reduce or minimize vehicle trips, including, among others, Land Use Element Policy 2B, "Develop non-residential Land Use Categories which reduce the need for residents to leave the community by providing a variety of shopping and service opportunities"; Policy 3A, "Develop transportation facilities to provide access to the region, particularly public transit systems (buses, ride sharing, and rail transit, as well as potential over-water transit)"; Program 3A.1, "Provide assistance and support a regional rail transit system and seek funding for a train station in Hercules"; Program 3A.2, "Work with BART to develop both short-term and long-term transit facility uses on the BART site in Hercules"; Policy 11A, "Cooperate with appropriate jurisdictions and/or agencies in preparation of State-Mandated Regional Plans (e.g. Congestion Management and Source Reduction and Recycling Element)"; and Objective 12, "Encourage mixed use development that provides for an integrated mixture of residential and employment-generating uses within the same structure."

Also included are Circulation Element Objective 2h, "Promote public transit service with the City and area"; Policy 2e, "The City should actively participate in cooperative efforts to provide effective public transit to the City and adjacent communities, including promoting commuter rail and a train station in the City to intercept through travelers on I-80"; Implementation Action 6, "Participation in local and regional Transportation System Management (TSM) programs, such as the City's adopted Transportation Demand Management (TDM) Program, which was developed by the West Contra Costa County Transportation Advisory Committee (WCCTAC) and includes guidelines for trip reduction measures"; Implementation Action 10, "Support area-wide cooperative efforts to expand public transit service to the City and surrounding areas"; Implementation Action 11, "Encourage pedestrian and bicycle travel for home-to-work and home-to-local-shopping trips through the provision of pathways and bicycle storage"; and Implementation Action 14, "Continue programs that include trip reduction goals for private and public development."

The Draft EIR also identifies Growth Management Element, Implementing Policy/Program E.10, "The City shall implement a Transportation Demand Management Program, including the required policies adopted by the Contra Costa Transportation Authority. Such a program may be jointly implemented in western Contra Costa County by the five cities and the County through the West Contra Costa Transportation Advisory Committee."

Because the EIR is a program EIR and does not analyze any specific development proposals, no specific volume of trip reduction is forecast. The effectiveness of the above mitigation measures, and other potential measures, in minimizing vehicle traffic, would depend on the nature of specific projects proposed for subsequent approval.

E-8) Comment noted. The City takes part in regional transportation planning efforts, including provision of input and comment on future updates of the *West County Action Plan.* As noted on p. IV.B-31 of the EIR, the City shall continue to participate actively (at both the staff and policy level) in the West Contra Costa Transportation Advisory Committee and the Contra Costa County Transportation Authority.

E-9) Implementation of the Transportation Demand Management Program referenced by the commenter is called for in the City of Hercules' Growth Management Element, which does not include the requested language. The paragraph referenced by the commenter does state, "Such a program may be jointly implemented in western Contra Costa County by the five cities and the County through the West Contra Costa Transportation Advisory Committee."

E-10) Regarding conformity with the *West County Action Plan,* as stated on p. IV.B-25 of the DEIR, even without traffic generated by development consistent with the proposed Land Use and Circulation Elements Update, the intersections of San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue would operate at LOS F in at least one peak hour and would therefore not meet the *West County Action Plan* traffic service objective for San Pablo Avenue of LOS E. Project-generated traffic would cause the p.m. peak-hour LOS at San Pablo Avenue/Sycamore Avenue to degrade below acceptable LOS and would contribute to degraded conditions and an unacceptable level of service in the a.m. peak hour at San Pablo Avenue/Sycamore Avenue and in both the a.m. and p.m. peak hours at San Pablo Avenue/John Muir Parkway, as stated on

p. IV.B-26. As stated on p. IV.B-36, traffic generated by development consistent with the proposed Land Use Element would contribute to unacceptable cumulative levels of service on the I-80 freeway.

As stated on p. IV.B-34, a regional effort aimed at developing alternatives to single-occupant automobile use in the I-80 corridor, including pursuing BART extensions in West County, commuter rail service to Solano County, and improved bus connections, is called for in the *West County Action Plan*. It should be recognized that this approach is not likely to result in meeting the traffic service objective on San Pablo Avenue (LOS E) if future development in western Contra Costa County, Solano County and the remainder of the Bay Area occurs generally as anticipated in the West County Travel Demand Model.

Regarding the City of Hercules responsibilities under the *West County Action Plan,* item 7.4.j (second turn lane on San Pablo Avenue) is included in the DEIR as Mitigation Measure Transportation-1a, p. IV.B-32. Item 7.4.l (encourage higher density mixed-use development) is addressed in the proposed Land Use Element update, which includes new mixed-use land use designations, including Planned Commercial-Residential, described in the DEIR on p. III-11. Items 7.4.n and 7.4.o (minimize turning movements and synchronize signals on San Pablo Avenue) are included in the DEIR as part of Mitigation Measure Transportation-1b, p. IV.B-32. The City encourages limitations on driveways on San Pablo Avenue, as called for in Item 7.4k. Regarding Item 7.4.m, the Hercules Police Department actively enforces speed restrictions on San Pablo Avenue. Items 7.6.b and 7.6.c (Willow Avenue improvements) are included in the list of projected roadway improvements described in Table III.2 of the draft Circulation Element and in DEIR Table IV.B.6 and Figure IV.B.4, on pp. IV.B-21 and 22, respectively. Regarding Item 7.6.a, the City monitors Willow Avenue level of service through periodic environmental and traffic reports.

Community
Development
Department
County Administration Building
651 Pine Street
4th Floor, North Wing
Martinez, California 94553-0095

Phone: 646-2035

Contra
Costa
County

Harvey E. Bragdon
Director of Community Development

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March 27, 1995

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MAR 30 1995
CITY OF HERCULES

Mr. Gary Hembree, Director
Community Development Department
City of Hercules
111 Civic Drive
Hercules, CA 94547

Dear Mr. Hembree:

Thank you for the opportunity to comment on the City of Hercules General Plan Land Use and Circulation Elements update and the Redevelopment Plan Amendments Environmental Impact Report.

The project description clearly identifies that this amendment is to focus on the potential redesignation of up to 24 parcels of land within the corporate limits of Hercules. It is somewhat difficult for the reader to appreciate the exact extent of the proposed changes; a table which would clearly display each properties existing general plan designation and its proposed change would greatly help in understanding the full nature of the proposed land use amendments.

It appears from Figure IV.A-2 (Existing General Plan Land Use Designations) that most of the change will be from Industrial to other designations. It is clear that a surplus of industrially designed lands currently exists within Contra Costa County and that redesignation of some of these lands is desirable. F-1

It should also be noted that all the 24 parcels are within the urban fabric of the City and infill development should be considered. Both ABAG and County General Plan policies encourage to densification and redevelopment of infill vacant and under-utilized parcels. Their use for urban purposes should be considered a <u>beneficial</u> impact.

Recent professional literature has indicated that there is currently far more land set aside (or built) for commercial usage than is warranted and that can be accommodated by existing population levels in almost all areas of the Country. With this in mind, the Final EIR might analyze an alternative or potential modification of the plan proposals to allow for more residential acreage and limiting some of the "outlying" Planned Commercial- F-2

Residential Mixed Use areas. It is unlikely that so much new commercial acreage can be built given current market forces. Concentrating commercial uses along I-80 may be desirable. The Sedway & Associates material found in the Appendix provides valuable information assuming full buildout of the revised plan; it doesn't estimate the reality of the assumptions behind the proposed plan changes. The Final EIR could be a good tool for determining how much of this change can realistically be expected to occur within the plan horizon. **F-2 cont'd**

There appears to be some confusion on the proposed designation of parcel 7. In the Project Description Section on page III-11, it lists parcel 7 as proposed for Industrial (paragraph C) and the existing plan currently shows it for Industrial use. On Figure IV.A-3, under Proposed General Plan Land Use Designation, it is designated PCI: Planned Commercial-Industrial (and on Table III-1, too). Which is correct? What is the significance of this new designation; what will be allowed within this designation? The Final EIR should also consider wording that would provide a buffer along the north end of this site with the Rodeo community to avoid incompatible future land uses. **F-3**

The term John Muir Parkway is defined on page IV B-6 as west of terminus of State Route 4 (SR4). SR4, on page IV B-4, includes that land east of I-80. Yet, Figure IV.B.1 shows it as the name for both the roads west of I-80 and along SR4. This is confusing. Hercules, the County, and Caltrans should coordinate efforts to officially name SR4 across the Briones Hills as the John Muir Parkway. **F-4**

The Circulation Element Update assumes construction of a four lane northerly re-alignment of State Route 4 between Cummings Skyway and I-80 by the Year 2010. A recent study of three freeway alignment alternatives for the State Route 4 gap closure estimated the project costs in the range from $96 million to $112 million. It is noted that the State Route 4 highway gap closure project is listed the 1994 Regional Transportation Plan as a safety and route continuity project, not the freeway project assumed in the DEIR. Given current financial realities, perhaps a more realistic, worse case assumption for the twenty year time horizon of the General Plan is that completion of a four lane highway alignment will be phased in first with a four lane expressway as suggested in the Major Investment Study (MIS) for the Route 4 Gap recently issued by the Contra Costa Transportation Authority. Although the MIS recommends completion of a four lane highway for further environmental study, it also recommends environmental study of a four lane "expressway" as the initial phase for upgrading State Route 4 from I-80 to Cummings Skyway. To properly deal with this issue, we offer the three options for the General Plan FEIR to consider: **F-5**

1) evaluate the City's future transportation network, listing State Route 4 as a four lane expressway between I-80 and Cummings Skyway, as the most financially feasible, worse case scenario for the Year 2010;

2) add a new mitigation measure which phases future growth permitted under the General Plan update based on completion of the freeway gap closure project envisioned in the DEIR; and **F-5 cont'd**

3) modify **Implementation Action #7, Circulation Element** (pp. IV.B-30) to clarify that traffic mitigation fees would be assessed on all new development permitted under the General Plan update as the "fair share" contribution to funding the freeway project for State Route 4 envisioned in the DEIR.

The updated Circulation Element assumes a new freeway interchange between I-80 and Cummings Skyway in the vicinity of Claeys Road. During the course of preparing the Project Study Report (1994) for the State Route 4 gap closure project the proposed Claeys Road interchange was sited within an area identified by resource agency representatives as a wetlands and they advised that the interchange may need to be relocated to avoid the wetlands. Any impact the interchange would have on wetlands should be acknowledged in the FEIR. The proposed Claey's Road interchange close proximity to the new Willow Avenue overcrossing/interchange may require an exception to the one mile interchange spacing standard established by the Federal Highway Administration. Also, as noted in our previous comment, we question the viability of a Claey's Road freeway interchange since an upgrading of State Route 4 between I-80 and Cummings Skyway to a four lane expressway with signalized intersections at certain locations, including Claey's Road, appears to be a more financially realistic, worse case assumption for the Year 2010. **F-6**

It is noted that the proposed Land Use Element update involves the redesignation of 24 parcels which would enable up to 5 million square feet of commercial/industrial uses and approximately 3800 new dwelling units. This new development would generate an additional 16,125 P.M. Peak Hour Vehicle Trips according to the DEIR. Although the DEIR identifies the potential of a traffic mitigation program for new development to pay its fair share of the cost to improve such regional routes (DEIR, page IV.B-31), it is referenced under the already adopted Growth Management Element policies. These Growth Management Element policies related to a traffic mitigation seem to rely on implementation in accordance with the Action Plan for the affected regional route and then distinguishes between improvements to a regional route which are sponsored by the City or sponsored by another agency. We note, however, the West County Action Plan Proposal For Adoption does not include a regional transportation mitigation fee program **F-7**

for routes of regional significance. In the context of existing shortfalls in State and Measure C funds to complete a full freeway gap closure project on State Route 4, envisioned by the DEIR, the FEIR should include a stronger commitment by the City of Hercules to contribute developer funds toward improving the local and regional transportation system (i.e. Willow Ave. Overcrossing, the new Bayberry on-ramps to State Route 4, and the State Route 4 gap closure). **F-7 cont'd**

Figure IV.D-1 shows a significant amount of Freshwater Wetlands and other vegetation communities. An alternative method the Final EIR could analyze would be to show this resource as open space on the General Plan land use map (given proposed EIR mitigations). This would help future developers recognize the land use constraint on these properties. **F-8**

The San Francisco Bay Conservation Development Commission has requested all shoreline jurisdictions when reviewing their planning policies to consider the Greenhouse Effect and its related sea level rise in making planning decisions. They project a 3-4 rise in water elevation in the next 50 years. What effect would that have on parcels 1, 2 and 6, for example? Maybe additional policies are needed within the Safety Element to deal with this issue. Such a rise would effect existing ground water levels and might effect vegetation characteristics. Figure IV.I.1 also may be very conservative when sea level rise is considered. **F-9**

Page IV F-19 provides a mitigation measure for schools which is tied to legislation action by City Council. The City might wish to require rezoning to Planned Unit Development as a requirement of this general plan amendment, thereby forcing legislative review for all supplemental actions for residential uses. **F-10**

Lastly, Hercules, along with the County and seven other cities, have adopted the Briones Hills Agricultural Preservation Agreement. The County, Martinez, and Richmond have included reference to this Agreement within their respective General Plans. The Final EIR should consider this matter so your City Council could also consider adding support of this regional compact to the Hercules General Plan. For staffs convenience, I have included the County map and text on this subject. **F-11**

Sincerely yours,

James W. Cutler
Assistant Director of Comprehensive Planning

JWC:gms
pl5:Herc-EIR.ltr

Enclosure

Adopted this Order on August 4, 1987 by the following vote:

AYES: Supervisors Powers, Fahden, Schroder, Torlakson & McPeak

NOES: None

ABSENT: None

ABSTAIN: None

SUBJECT: A Joint Resolution of the Cities of Martinez, Pleasant Hill, Lafayette, Orinda, Richmond, San Pablo, Pinole, Hercules and Contra Costa County establishing an agricultural preservation area in the Briones Hills.

RESOLUTION NO. 87/483

WHEREAS, the lands within the Briones Hills are generally planned for agricultural or other open space uses by the County and the cities as defined in Section 65560 of the Government Code; and

WHEREAS, the predominant use of land in this area is for agricultural and grazing purposes, with secondary uses being for parks and watershed purposes; and

WHEREAS, lands within the Briones Hills lying between the West County cities and communities and the Central County cities are difficult to serve with sewer, water, police and other urban services; and

WHEREAS, the lands within the area are generally designated as Open Space, Agricultural Lands, Parks and Recreation, Watershed or other compatible open space categories on the adopted County and city open space plans; and

WHEREAS, the lands are generally located outside of LAFCO adopted municipal or urban service district spheres of influence; and

WHEREAS, the County and the affected cities, hereby declare that the lands described below are worthy of retention in agricultural and other open space uses for the overall best interests of the cities, the County and the State; and

NOW THEREFORE BE IT RESOLVED by the Contra Costa County Board of Supervisors and the City Councils of Martinez, Pleasant Hill, Lafayette, Orinda, Richmond, Pinole, and Hercules hereby all agree to a policy of non-annexation to urban service districts and cities for agricultural and open space properties which would lead to urban development between these cities bounded generally as described below and as shown on Exhibit A of this resolution:

- on the east and south by the Martinez, Pleasant Hill, Lafayette and Orinda City Spheres of Influence
- on the west by the Richmond, Pinole and Hercules City Spheres of Influence
- on the west and north from Rodeo to Martinez by the LAFCO adopted sewer sphere of influence boundary and the Solano/Contra Costa County line.

BE IT FURTHER RESOLVED that the Board of Supervisors and the aforementioned City Councils request the Local Agency Formation Commission of Contra Costa County to honor this agricultural preservation agreement for this area and to continue to act in a manner consistent with the preservation of the aforementioned lands for agricultural and other open space purposes; and

BE IT FURTHER RESOLVED that this agreement will be reviewed by the paricipating agencies after results of the decennial Federal Census are available; any proposed changes shall be considered in concert with the LAFCO review of sphere of influence for cities and agencies;and

BE IT FURTHER RESOLVED that should incorporated lands within the Briones Hills area become detached from the signatory cities and become unincorporated land, that area shall be included within this agricultural preservation area established by this resolution without further action by the parties hereto; and

BE IT FURTHER RESOLVED that this resolution is not intended to affect the property rights of land owners under the existing General Plan and zoning (including the right to apply for 5 acre parcels).

I hereby certify that this is a true and correct copy of an action taken and entered on the minutes of the Board of Supervisors on the date shown.

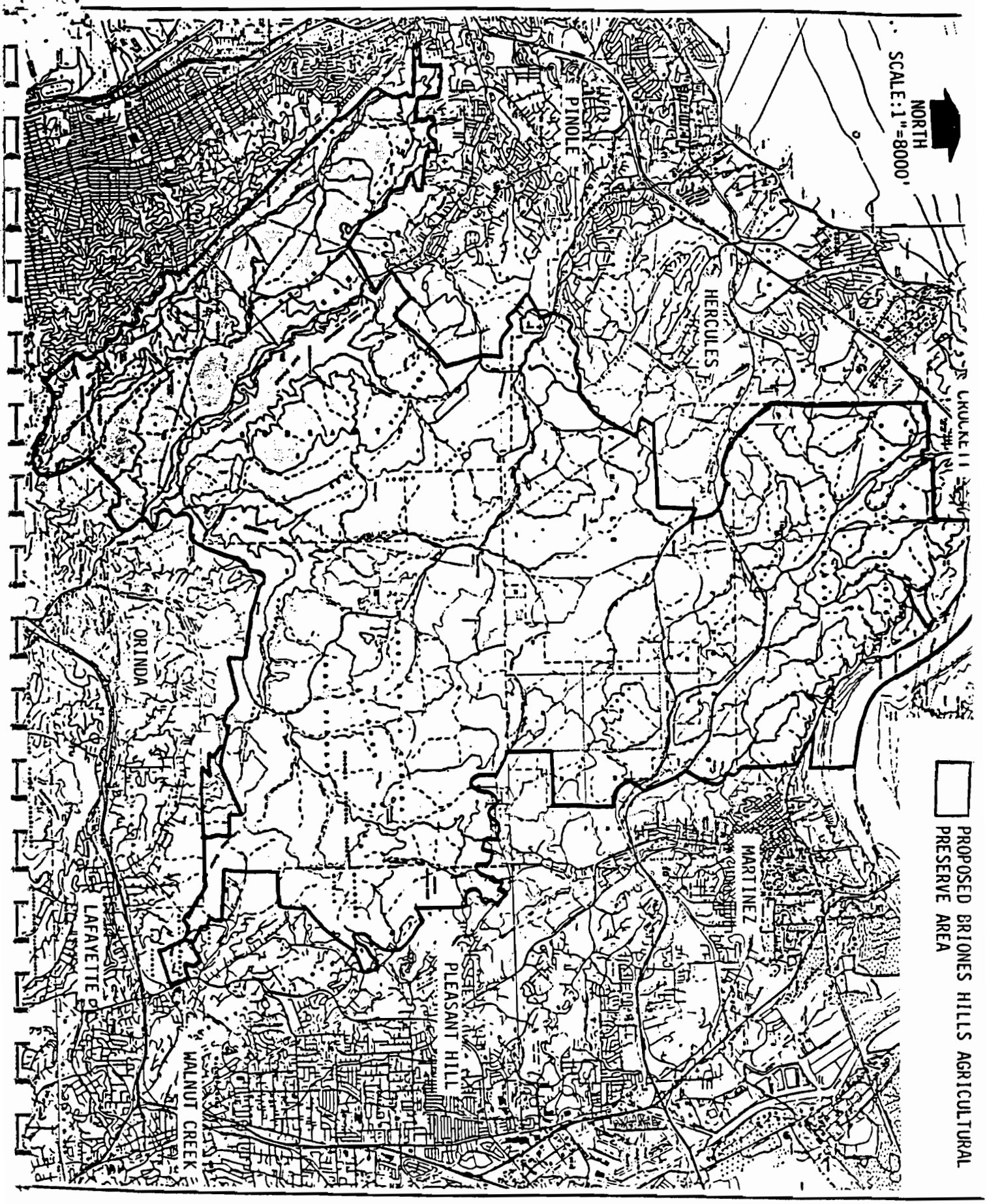
ATTESTED: August 4, 1987

PHIL BATCHELOR, Clerk of the Board of Supervisors and County Administrator

By _____, Deputy

cc: Community Development
County Counsel
County Administrator
LAFCO
All Cities

MAP 1


NORTH
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PINOLE
HERCULES
MARTINEZ
PLEASANT HILL
WALNUT CREEK
LAFAYETTE
ORINDA
PROPOSED BRIONES HILLS AGRICULTURAL PRESERVE AREA

Letter F - James W. Cutler, Assistant Director of Comprehensive Planning, Contra Costa County Community Development Department, March 27, 1995

F-1) The table below compares the existing and proposed land use designations of each of the 24 Study Area parcels. As noted by the commenter, the project would result in a change in designation on several large parcels from industrial to commercial, mixed-use designations and, to a lesser extent, residential designations, as is stated on p. IV.A-21 of the Draft EIR.

	General Plan Designation	
Parcel Number and Name	Existing	Proposed
1 - Hercules Properties Inc.	Industrial	Historic Town Center Planned Office/R&D General Commercial Multi-Family, Med. Density Res. Open Space
2 - Hercules Properties Inc.	Industrial	Waterfront Commercial
3- Gelsar	Industrial Industrial Commercial	General Commercial Planned Commercial/Resid. Planned Office/R&D Open Space
4 - East Bay Realty Svcs.	Junior-Senior High School	Multi-Family, Med. Density Res. Planned Commercial/Resid. General Commercial
5 - MRB	Neighborhood Commercial	Multi-Family, Med. Density Res. Planned Commercial/Resid.
6 - North Shore Business Park	Industrial Industrial Commercial	Planned Office/R&D General Commercial
7 - ANR	Industrial	Planned Commercial/Indust.
8 - Hercules Square	Service Commercial	Community Commercial
9 - ORB	Highway Commercial	General Commercial
10 - BART	Highway Commercial	Public/Semi-Public
11 - I-80 Loop	Multi Purpose	General Commercial
12 - Williamson	Highway Commercial	General Commercial
13 - Sycamore	Service Commercial	Planned Commercial/Resid.
14 - Five Giants	Multi Purpose	General Commercial
A - Church of Nazarene	Elementary School	Multi-Family, Low Density Res.
B - McLeod	Med-Low Density Resid.	Multi-Family, Low Density Res.
C - Citation	Elementary School	Multi-Family, Low Density Res.
D - Carone-1	Multi Purpose	General Commercial
E - Carone-2	Multi Purpose	General Commercial
F - Carone-Sycamore	Multi Purpose	Community Commercial
G - Old ATSF	Multi Purpose	Community Commercial
H - Creekside	Town Center	Community Commercial
I - Willow Center	Medium-Density Residential	General Commercial
J - Church of Christ	Multi Purpose	General Commercial

As noted on p. IV.C-6 in the Draft EIR analysis of Population, Employment, and Housing, development consistent with the proposed Land Use Element would increase the number of jobs relative to employed residents, thereby decreasing the jobs/housing imbalance in Hercules. This is identified as a beneficial impact.

F-2) As is noted on p. 14 of Appendix E, Fiscal Analysis, no market study was performed to assess future demand for retail space in Hercules. At the joint City Council/Planning Commission public workshop on March 8, 1995, a representative of Sedway & Associates noted that the amount of retail/commercial space implied by the Land Use Element update is optimistic, in that the projections assume that commercial space would be built out as designated in the Land Use Element and are not based on a market analysis (see Comment CC-6 in Section VIII.B). Further, at least one property owner in the Study Area (Parcel 3) has requested a change in proposed land use designations to reduce the acreage of commercial land and increase the acreage of mixed-use commercial-residential land as a result of the concern noted by the commenter; namely, that there is unlikely to be sufficient demand to support the amount of commercial space anticipated by the proposed Land Use Element update (see Comment G-40). Please see also the response to Comment G-16.

Substituting additional land designated for residential development in place of commercial land would be expected to result in lower trip generation on any parcel where such a change were made. As stated in response to Comment D-3, under each alternative analyzed in the Draft EIR, including the No Project Alternative, significant unavoidable traffic impacts would result at the intersections of San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue. Freeway operations on Interstate 80 also would be at LOS F with all alternatives. While reduced trip generation resulting from the Land Use Element update itself would lessen traffic congestion, it would not be expected to avoid significant traffic impacts or significant impacts due to emissions of criteria air pollutants. (See, for example, the analysis of Alternative D, Reduced Density, on pp. VI-14 - 18, which would result in 22 percent fewer trips than would the project and would still result in significant traffic and air quality impacts.) Increasing residential development relative to commercial development would increase the future population of Hercules, compared to that expected with the project, and would worsen impacts on schools and parks.

As noted in DEIR Section IV.C, Population, Employment and Housing, there is currently a substantial imbalance in the number of employed residents versus jobs in Hercules. Increased employment that could occur under the proposed Land Use Element update would reduce this imbalance and, should the full employment projected occur, would result in a slight surplus of jobs to employed residents (see pp. IV.C.6 - 7).

F-3) DEIR p. III-11 erroneously lists Parcel 7 twice, under the Planned Commercial/Industrial designation (third full paragraph) and under the Industrial designation, as noted by the commenter. The correct designation for Parcel 7 is Planned Commercial/Industrial, as indicated in Table III-1, p. III-13, and on Figure IV.A.3, p. IV.A-22. Page III-11 has been revised to indicate that the Industrial designation does not apply to any of the 24 Study Area parcels, and pp. II-3 - 4 (Summary) have been similarly revised.

As noted on p. III-11 of the DEIR, the Planned Commercial/Industrial designation would allow uses such as retail, administrative and service office, research and development, manufacturing, and business industrial services. As stated in the draft Land Use Element update, Appendix F, p. 36, warehouse, distribution or wholesale uses also would be allowed if they served or were essential to Hercules business. Because this designation would not permit heavy industry, no special buffer zone would be required.

F-4) The second paragraph of EIR p. IV.B-6 is revised to clarify that, for purposes of the EIR roadway network, John Muir Parkway extends westward from Interstate 80, the western terminus of SR 4. As stated on p. IV.B-4, SR 4 begins at I-80 and extends eastward. (As stated at the end of the second paragraph on p. IV.B-6, John Muir Parkway is the name commonly used for SR 4 between Hercules and Martinez.)

F-5) Please see the response to Comment D-1 regarding the SR 4 freeway.

Regarding the potential for phasing development based on the future status of SR 4, please see the response to Comment D-4.

Regarding Implementation Action 7 of the proposed Circulation Element Update, the traffic mitigation fee is identified as a source of funding for transportation improvements identified in the *General Plan Circulation Element Transportation Technical Report*, including improvements to SR 4. Funds raised via the fee also would help fund other

necessary improvements in Hercules, and therefore could not be dedicated solely to SR 4 improvements.

F-6) As noted in DEIR Chapter I, Introduction, on p. I-3, this EIR has been prepared as a Program EIR to identify general areas of environmental sensitivity and the potential general, cumulative effects of buildout under the proposed Land Use and Circulation Elements; as further stated on that page, the EIR focuses on the effects of development that would be anticipated to occur on 24 specific parcels defined as the EIR Study Area. The SR 4 freeway project, while assumed as part of the 2010 buildout scenario, is not analyzed in this EIR, is not a direct or indirect effect of the proposed Hercules *General Plan* Land Use Element update. Potential project-specific effects of the SR 4 freeway are beyond the scope of this EIR; those effects would be analyzed separately in environmental review for that project.

F-7) As noted in Comment F-5, the EIR includes as a mitigation measure Implementation Action 7 of the proposed Circulation Element Update, under which future projects would contribute to funding transportation improvements identified in the *General Plan Circulation Element Transportation Technical Report.* Those improvements include, among other projects, the projects noted by the commenter. (See Table IV.B.6 and Figure IV.B.4, DEIR pp. IV.B-21 - 22.)

F-8) As noted by the commenter, several parcels in the Study Area contain areas of freshwater wetlands and other vegetation communities that could be affected by future development. As noted in DEIR Chapter I, Introduction, on p. I-3, this EIR has been prepared as a Program EIR to identify general areas of environmental sensitivity and the potential general, cumulative effects of buildout under the proposed Land Use and Circulation Elements. The level of detail presented, including the identification of sensitive vegetative communities, is sufficient to provide future developers with information on potential constraints to development. The EIR does not attempt to provide a detailed analysis of each parcel; such analysis is more appropriately performed by future individual project proponents. At that time, more detailed mapping of a particular parcel would occur and the City, through means such as monitoring of identified mitigation measures and implementation of development agreements, could ensure protection of sensitive resources. For example, the owner of Parcel 3 has completed additional surveys to develop a mitigation plan for that site, including U.S.

Army Corps of Engineers confirmation of a wetlands delineation. Please see revisions to Section IV.D in the Final EIR (pp. IV.D-2, 6, 7, 30 and 32).

F-9) Parcels located along the Bay front have an elevation of five feet above mean sea level. A publication by the San Francisco Bay Conservation and Development Commission (BCDC) titled *Sea Level Rise: Prediction and Implications for San Francisco Bay*, December 1987, Revised October 1988, indicates that sea level rise in the Bay has been about 0.0468 inches per year on average over the last 100 years. In the next 50 years a rise of sea level of approximately four to five inches is predicted. A rise of Bay level of this size would result in:

1) increased risk of hazards during highest tides at the shoreline,

2) increased aggradation (sedimentation) of Refugio Creek emptying at the shoreline,

3) a rise in the groundwater table in the nearby areas, and

4) the related impact on natural and planted vegetation from higher ground water.

The overall increase of risk from higher tides probably would be modest, although it would exacerbate the existing hazards of inundation under the highest tides (approximately 7.2 feet is the highest tide of record, as noted on page IV.I-7 and 8 of the Draft EIR). The potential for a life-threatening spring tide is low in the Bay. It is possible that levee construction might be required in the event that sea level continues to rise or in the event that the land surface were to sink as a result of settlement.

A higher sea level would alter the grade of the lower reach of Refugio Creek. This, in turn, would lead to aggradation of the channel in that location, provided that no maintenance of the creek were to occur or other changes in the watershed were to happen. Aggradation of the lower channel would not have significant land use effects and the channel is not used for navigation. However, it could increase flood inundation hazards along the channel and result in vegetation changes.

The rise in sea level would affect groundwater conditions by raising the water table and by leading to greater salt water intrusion. The higher water table could prove problematic for foundations of structures excavated in the low-lying areas. More dewatering would be needed and greater moisture sealant techniques would be necessary

for such foundations. Higher groundwater also could lead to greater infiltration and inflow into buried pipelines such as sewer mains. Higher groundwater, and particularly salty groundwater, could be limiting to trees and other deep-rooted forms of vegetation. This might lead to a gradual die-off of deep-rooted trees and shrubs that are intolerant of saturated soil or saltwater. Future choices of landscaping for these sites may be more restricted by these conditions.

The natural vegetation of freshwater wetlands also could be affected by the rise in sea level. If Bay levels intrude inland, then natural freshwater marshes might be displaced by brackish water marsh or salt marsh. Areas of freshwater marsh along Refugio Creek might be affected in this way. If the rise of sea level were to affect these marshes, it might be necessary to construct one-way flood gates at the mouth of the creek that would limit the intrusion of tidal water into the area.

It is clear that the potential rise in sea level may have some effects at the site. However, it would be difficult to establish any formal policy surrounding this issue at this point. In its report, BCDC indicates that a design review procedure by affected communities may be useful to consider.

F-10) Please see the response to Comment A-1 and new Mitigation Measure Schools-1c, p. IV.F-19.

F-11) Comment noted. The Briones Hills Agricultural Preservation Agreement covers an area that is removed from the 24 parcels in the EIR Study Area. The Hercules City Council adopted the agreement by resolution 88-11, in which the City, along with Contra Costa County and the cities of Martinez, Pleasant Hill, Lafayette, Orinda, Richmond, San Pablo and Pinole, agreed that land in the preservation area would not be annexed by the cities or their urban service districts. The Briones Hills preservation area is adjacent to the Franklin Canyon area of Hercules, which, as noted in the response to Comment B-4, is not analyzed in detail in this EIR (although it is included in the cumulative forecasts), and is to be the subject of a separate Supplemental EIR that will be required when a Specific Plan for the Franklin Canyon site is completed.

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CITY OF HERCULES

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March 28, 1995

Mr. Gary Hembree
Community and Business Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547

Subject: **City of Hercules General Plan Land Use and Circulation Elements Update and Redevelopment Plan Amendments Environmental Impact Report**

Dear Gary:

Thank you for this opportunity to comment on the Draft Environmental Impact Report ("EIR") for the Land Use and Circulation Elements Update. After reviewing the Draft EIR, I have the following comments and questions:

1. I-3, Par. 2, line one. The EIR is based on the projected buildout of Hercules in 2010. How was this year determined? Is there any market research to back this assumption? G-1

2. II-7, Par. 1, last line. The City requires 100-year flood control improvements before any development can occur in a floodplain. Therefore, potential exposure of the population to a 100-year flood would be reduced with the development of a property. G-2

3. II-28, Biology-2a. Mitigation measures, including buffer zones, are determined in the Corps of Engineers (COE) permitting process. Stating that a 100-foot buffer zone should be placed around any wetlands is inappropriate. It does not allow for creativity in the planning and design process with the COE, California Department of Fish and Game (CDFG) and other environmental agencies. Please see comment 5 regarding Biology 3b mitigation measure and comment 12 regarding the Open Space Creek Corridor below. G-3

4. II-28, Biology-2c. As stated above, mitigation measures are determined during the COE permitting process. The City should not direct the environmental agencies on how to carry out their responsibilities. The required buffer zones provide the transition areas between proposed land uses and the natural community. An additional transition area should not be required. G-4

5. II-29, Biology-3b. Again, this mitigation measure does not take into account creativity in the design of riparian corridors which incorporate the 50-foot buffers into the design of the 100-year channel. This approach provides the opportunity to create a greater amount of wetland habitat within the riparian corridor. The environmental agencies look favorably upon this approach. In this case, the building footprints along the riparian corridor can be at the top of G-5

the bank and/or less than 50 feet from the edge of the corridor. Please see comment 12 regarding the Open Space Creek Corridor on the Gelsar property. G-5 cont'd

6. II-35, Visual-1c. The environmental agencies want the eucalpytus trees along Refugio Creek removed and replaced with natives. The Gelsar Mitigation Plan calls for the planting of many native trees along this corridor. The proposed hiking/biking path on the Gelsar propery will be along the southern edge of the creek corridor as requested by the environmental agencies. G-6

7. II-36, Visual-2a. As stated above, the environmental agencies want the eucalyptus trees along Refugio Creek on the Gelsar property removed and replaced with natives. The eucalyptus trees along San Pablo Avenue on the Gelsar property are within the current and proposed Refugio Creek corridor and therefore will be removed. The Community Panel agreed that these trees should be removed and replaced with natives that do not grow taller than 50 feet to provide visibility into the site from Interstate 80. G-7

8. II-42, Hazard-1b. As stated in Barbara Coler's letter from the Department of Toxic Substances Control ("DTSC") (Appendix B), DTSC is the lead agency for the investigation and cleanup of soil contaminants on properties west of Intersate 80. These properties prepare site remediation plans under the direction of DTSC, not the County Health Services Department nor the City. G-8

9. II-44, Hazard-2e. Gelsar agrees that no buildings or development should be installed within any pipeline right-of-way. However, it is common practice to have pavement and landscaping within these right-of-ways. This mitigation measure should be revised. G-9

10. II-55, Geology-5a. Any structures on fill placed over bay mud will be supported as required by soil engineers. Buildings will be appropriately engineered to avoid future potential settlement. Adequate surcharging is sufficient for mitigating the hazard of differential settlement of fill over bay mud. The requirement of placing buildings and other structures "on pile supports sunk and anchored to bedrock beneath fill, alluvium or muds" should be deleted. G-10

11. III-7. Please delete "Inc." after Gelsar (Parcel 3). G-11

12. III-10. The updated land use categories do not include a description of the Open Space Creek Corridor. The Gelsar Mitigation Plan for the Refugio Creek Corridor integrates flood control, habitat, water quality, and aesthetic goals. Approximately 160 feet of the 180-foot creek corridor will be designed to carry 100-year flood flows with 20 feet above the 100-year flood zone. Hydrologic studies prepared for Refugio Creek have determined that a 60-foot-wide channel is required to carry 100-year flood flows. The 160-foot-wide 100-year flood channel on the Gelsar property includes the required 50-foot buffers on each side in order to allow vegetation growth. The proposed creek corridor includes the preservation, enhancement and creation of riparian, seasonal wetland and upland habitats within a natural 100-year flood control channel. A pedestrian pathway will be constructed in the 20-foot wide area above the 100-year flow zone along the southern edge since the environmental agencies do not want public access into the habitat areas. G-12

13. III-11, Planned Commercial-Residential. The description states that "residential uses that would be permitted include multi-family residences. In Appendix F: Draft Land Use Element, on page 37, it states that the "residential density in this category may range from 15 to 30 units per acre (approximately 45 to 85 persons per acre); structures within this land use designation shall have a maximum height of three stories." This allowable density is equivalent to the land use designation: Multi-Family - Medium Denisty, 12-30 units/acre, on page 41. The maximum building height for this designation is 60 feet. Since the permitted residential use for the Planned Commercial-Residential designation is the same as Multi-Family - Medium Density, the maximum building height should be the same, 60 feet. In addition, the maximum building height of three stories does not allow for greater intensity or densities when avoiding wetland areas. G-13

14. III-13, Table III.1. The acreages for Parcel 3, the Gelsar property, are incorrect. As per the Gelsar Mitigation Plan, which is part of Gelsar's application for a Corps of Engineers Section 404 Permit reviewed by the environmental agencies, the proposed Refugio Creek Corridor (Open Space/Creek Corridor) is 15.1 acres, not 26.4. In addition, the proposed alignment of the Creek Corridor is shifted slightly north in one section. This correction in the alignment of the creek was presented at the City Council meeting two years ago when the Community Panel Alternative was presented. These corrections create the following changes in the other land use designation acreages: 5.6 additional acres of General Commercial, 6.2 additional acres of Planned Commercial-Residential, and 0.5 acres less of Planned Office/R & D. Therefore, the table should read: G-14

Preferred Design. Use	Acres	Maximum Sq. Ft.	Intensity/Density FAR	U/AC	Units
General Com'l	19.7	214,533	0.25		
(So. of creek 17.3)					
(No. of creek 2.4)					
Planned Com'l-Res	51.2			30	1536
Planned Off/R & D	18.0	235,224	0.30		
Open Space/Creek	15.1	n/a	n/a	n/a	n/a
Total Acreage	104.0				

Copies of the figures submitted to the Corps of Engineers and reviewed by the various environmental agencies have been given to the consultant. These figures include a cross-section of the creek corridor showing its width and depth and the proposed alignment of the creek corridor.

15. IV.A-6. Please delete "Inc." after Gelsar (Parcel 3). G-15

16. IV.A-15. The EIR states that the Land Use Element Update is in response to the findings of the Economic Development Strategy Planning Task Force in 1990. That was 5 years ago; the economy and the real estate market, especially for commercial uses, have changed considerably. The Land Use Element Update must take into account current and projected market conditions. Please see comments 36 and 40. G-16

17. IV.A-19, Par. 1. In response to the Corps of Engineers' request for comments on the Public Notice regarding Gelsar's application for a Section 404 permit, BCDC stated that the Commission has no jurisdiction over the Gelsar property. G-17

18. IV.A-27, Growth Management Policy II.E.2. The cost of maintaining adequate operations on Routes of Regional Significance should be shared by all development, existing as well as new, plus other municipalities and agencies receiving benefit from these regional roadways. G-18

19. IV.B-15, Bicycle and Pedestrian Facilities. The Open Space Element needs to be updated. The location of the Refugio Creek Corridor and the accompanying pedestrian trail has changed. G-19

20. IV.B-22., Figure IV.B.4. This figure does not show the extension of John MUir Parkway through the Gelsar property and into the HPI site. The extension of Sycamore Avenue is not known correctly along the Gelsar/Hercules Inc. property line and it does not move northward when it reaches the Hercules Wastewater Treatment Plant. The extension of Sycamore Avenue moves south around the treatment plant and then into the historic commercial area on the HPI site. The West County Action Plan is requiring a roadway across the Gelsar property which will connect John Muir Parkway with Sycamore Avenue. The exact alignment of this roadway has not been determined, but is currently shown on the Gelsar land use plan dividing the General Commercial portion of the property from the Planned Commercial-Residential portion. G-20

21. IV.B-27, Par. 3. The explanation for not including the 18.5 acres of planned office/research and development (PO/RD) land use on the Gelsar property in the analysis for the EIR is unclear. What were the changes in the land use assumptions for the Community Panel Recommended Land Use Concept? This portion of the Gelsar property has been proposed for this land use designation since the 1980's, in the Gelsar/HPI Specific Plan. The actual acreage is 18 acres of PO/RD adjacent to a 2.4 acre triangular parcel that was redesignated as General Commercial by the Community Panel. G-21

22. IV.D-5, Figure IV.D.1. This figure is incorrect. Gelsar submitted a copy of a map to the City to be used in the EIR which shows all of the wetlands on the Gelsar property under the jurisdiction of the Corps of Engineers. The smaller "potential freshwater wetlands" area adjacent to the West Branch of Refugio Creek is close to being correct. But the large "potential freshwater wetlands" area is almost completely incorrect. Almost all of the juridictional wetlands lie outside of this area designated on the figure. The brackish pond area under juridiction of the Corps also differs from the pond area designated on the figure. All of the environmental agencies are aware that it is not a true representation. But Gelsar is concerned that the public or other agencies will see this figure and believe that it represents the true situation when it does not. It doesn't represent the true situation on other parcels either. A copy of the jurisdictional delineation map for the Gelsar property has been given to the consultant. G-22

23. IV.D-30, Par. 3. A jurisdictional wetland delineation map for the Gelsar property (Parcel 3) was confirmed by the Corps of Engineers on January 18, 1991. The Corps extended its confirmation of this jurisdiction for the life of Gelsar's current Section 404 permit application. G-23

24. IV.D-31, Biology 2a and 2c. Comments on these two mitigation measures were presented above. Please see comments 3, 4 and 12. G-24

25. IV.D-32, Biology-3b. Please see comments 5 and 12 above. G-25

26. IV.F-18, Par. 1. If elementary school capacity is expected to fall short of enrollment with project buildout, and there is a possibility that a new elementary school needs to be constructed, why is the City considering the redesignation of Parcel C? Parcel C, owned by Citation, is currently designated as an elementary school site and it is located west of Interstate 80 where the majority of new housing will be built. G-26

27. IV.G-18, Hazard-1a, and IV.G-19, Hazard-1b. As stated in Barbara Coler's letter from the Department of Toxic Substances Control ("DTSC") (Appendix B), DTSC is the lead agency for the investigation and cleanup of soil contaminants on properties west of Intersate 80, These properties prepare site remediation plans under the direction of DTSC, not the County Health Services Department nor the City. G-27

28. IV.G-21, Par. 1, Parcel 3. There are PG&E and EBMUD easements along the eastern portion of Parcel 4, the Hercules Inc. property, but they do not extend into Parcel 3, the Gelsar property. There are no recorded easements on the preliminary title report for a natural gas pipeline on the Gelsar property. The 180-foot wide creek corridor on the eastern edge of Parcel 3, along San Pablo Avenue, will provide a buffer between any pipelines along San Pablo Avenue and development on Parcel 3. G-28

29. IV.G-24, Hazard-2e. Gelsar agrees that no buildings or development should be installed within any pipeline right-of-way. However, it is common practice to have pavement and landscaping within these right-of-ways. This mitigation measure should be revised. G-29

30. IV.H-4, Cultural-1a. Application for a Section 404 permit from the Corps of Engineers triggers the need for Section 106 clearance. *A Summary Report of Archival and In Field Searches for Cultural Resources at the Gelsar Hercules Project Area* was completed in November, 1993 and submitted to the archaeologist at the Corps. After review by the State Historic Preservation Office ("SHPO"), Gelsar received Section 106 clearance in 1994. G-30

31. IV.I-1, Streams, Par. 1. The portion of Refugio Creek lying west of San Pablo Avenue on Parcel 1 is tidally influenced, not on Parcel 3. G-31

32. IV.I-2, Figure IV.I.1. This map showing flood prone areas is incorrect for Parcel 3, the Gelsar property. It is based on an old topo map. In 1985, clean fill was placed in the northwest corner of Parcel 3 down to the edge of Refugio Creek following the remediation of contaminated soils. G-32

33. IV.J-19, Geology-5a. Any structures on fill placed over bay mud will be supported as required by soil engineers. Buildings will be appropriately engineered to avoid future potential settlement. Adequate surcharging is sufficient for mitigating the hazard of differential settlement of fill over bay G-33

mud. The requirement of placing buildings and other structures "on pile supports sunk and anchored to bedrock beneath fill, alluvium or muds" should be deleted. G-33 cont'd

34. In the "Report of the Community Panel Regarding an Updated Land Use Element of the General Plan" presented to the City Council on February 23, 1993 by former Planning Director, Kevin Garrett, it states on page 4: "The Panel recommended that the EIR for the revised Land Use Element should address the following points: Impacts of allowing high density residential development at some properties (eg. MRB site, Gelsar parcel)." This was not done. The EIR only makes reference to density bonuses for projects which will provide affordable housing. G-34

35. Appendix F: Draft Land Use Element ("LUE"), typos. Page 6, Par. 2, line 1. Should be "Businesses." Page 7, Par. 1, line 3. Should be "basic." Page 9, Par. 1, line 1. Should be "includes." G-35

36. LUE, p. 15, Policy IA. The General Plan must be sensitive to the changing economy and real estate markets. Landowners should have the ability to apply for a General Plan Amendment in order to make a project economically feasible; "and only allow" should be deleted from this policy. The EIR states in the second paragraph on page I-3, "Projects that would affect land use designations on individual parcels during or after adoption fo the Land Use and Circulation Elements updates would not necessarily affect the overall analysis of cumulative effects in this program-level EIR." Please see comments 16 and 40. G-36

37. Appendix G: Draft Circulation Element ("CE"), Figures III.2, III.3, and III.6. The alignment of the Sycamore Avenue extension west of San Pablo Avenue is incorrect. The proposed alignment of Sycamore Avenue, as agreed upon by the landowners of Parcels 1, 3 and 4, curves to and then follows the Gelsar/Hercules Inc. property line to the Hercules wastewater treatment plant, moves along the southern edge of the plant property, and then into the historic commercial area on the HPI property. All three figures should be corrected. G-37

38. CE, typos. Page III.20, Objective 2) a. Should be "Establish." Page III.22, Policy 2) f, line 2. Should be "and." G-38

39. Appendix H: Draft Dynamite Redevelopment Plan Amendments, typos. Amendment B.1, line 3. Should be "Land." Amendment B.2., line 2. Should be "used for the commercial uses permitted," not "residential." G-39

40. Gelsar's economic consultant, Economic and Planning Systems ("EPS"), has informed Gelsar that the amount of land designated for commercial uses on the Gelsar property is far in excess of what can be supported by the local community and any likely capture of regional market demand.

When the current land use designations in the Land Use and Circulation Elements Update were proposed for the Gelsar property in April 1992, there was considerable activity by "big box" retailers in the I-80 corridor, and elsewhere, that suggested there might be a market for such region-serving commercial uses on the site. Since then, most of this development has occurred or has been approved on other sites outside of Hercules. The market for region-serving uses G-40

in the corridor is saturated by developments in Pinole, Vallejo, Fairfield, Richmond and Emeryville, and there is very little potential to expand the market that could be served by the Gelsar site. Thus, the opportunity for several hundred thousand square feet of retail is past and has been satisfied elsewhere. This is not surprising in that, despite its location at the junction of State Route 4 and Interstate 80, the Gelsar site suffers from poor visibility and access from the freeway.

The portion of the site, south of the Refugio Creek Corridor, designated as General Commercial is sized for a rather large neighborhood center of 200,000+ square feet. There is not now and not likely to be in the future sufficient local demand to support a third neighborhood center. The two existing centers have struggled for years and are only now beginning to perform adequately. If a center were developed on the Gelsar site, it would only compete with the existing retail and result in marginalizing all three centers with little or no net gain in sales tax to the city. G-40 cont'd

What is really appropriate for the site, and needed in Hercules, is a commercial use that complements the existing retail, providing addditional commercial services to residents, while taking advantage of San Pablo Avenue access and proximity to the existing commercial activities on Sycamore Avenue. This type of development would most likely be a smaller scale specialty center in a mixed use setting with restaurants and small shop space. Such a center would require between 5 and 10 acres at most, depending on whether it is anchored by a larger user or not. Therefore, Gelsar is requesting that the larger portion of land adjacent to San Pabo Avenue that is currently designated as General Commercial in the Land Use and Circulation Elements Update be redesignated as Planned Commercial-Residential. Gelsar has submitted a formal request for redesignation to the City Council and Planning Commission. Please see previous comments 16 and 36.

If you have any questions, please call me at (707) 769-9344.

Very truly yours,

GELSAR

Georgia Kelley

Georgia Kelley
Hercules Project Manager

cc: John Howard, Gelsar

Letter G - Georgia Kelley, Georgia Kelley Consulting Services, March 28, 1995

G-1) As stated on p. III-17 of the Draft EIR, the assumption that buildout of Hercules would occur by 2010 is conservative. The year 2010 was selected because demographic projections are available from the Association of Bay Area Governments through 2010, and because the West County Travel Demand Model, which is the key analysis tool for the EIR traffic analysis, projects traffic conditions to 2010. If buildout were to occur later than 2010, the impacts described in this EIR might occur somewhat later. However, the ultimate level of impact would be expected to be similar to that described in the EIR.

G-2) The statement in the Draft EIR is related to the increase in population as a result of the new land use designations as opposed to the smaller population increase under the existing adopted City *General Plan*. It must be assumed that protection of development sites from the hazards of a 100-year flood would occur under either plan. Nonetheless, the number of people in the general area would be greater than would occur through development under the existing *General Plan*. This larger population would be subject to hazards of flood events in the area.

G-3) Comment noted. A buffer zone is placed along riparian areas and along seasonal wetlands to prevent impacts to riparian areas and wetlands and the wildlife species within. A setback is often quantified, referring to the distance from the top of the bank that is typically required by regulatory agencies. The actual width of the buffer zone can be determined by the California Department of Fish and Game or the U.S. Army Corps of Engineers. Please refer to revised Mitigation Measure Biology 2a on p. IV.D-31.

G-4) Comment noted. Mitigation Measure Biology 2c on page IV.D-31 has been revised to state that the City shall "work with" the Corps of Engineers. Program 13B of the proposed Land Use Element does not call for an "additional" transition area; rather, this program states, "Design of flood control improvements along Refugio Creek should be done in a manner to function as a transition area between land uses." A buffer zone approved by the Corps or the state Department of Fish and Game could serve this purpose.

G-5) Comment noted. Mitigation Measure Biology 3b on page IV.D-33 has been revised to specify that buildings shall be placed outside a Corps- or Department of Fish and Game-approved buffer zone.

G-6) Mitigation Measure Visual-1c, EIR p. IV.E-23, refers specifically to the proposed Refugio Creek trail. This measure has been revised to allow for replacement of eucalyptus trees. Please see also the response to Comment G-7, below.

G-7) Comment noted. The EIR addresses the biological and visual effects of removal of eucalyptus trees in Sections IV.D (p. IV.D-36) and IV.E (p. IV.E-22). As noted on p. IV.D-9, the City has considered removing some eucalyptus trees because of concern over fire hazard and safety hazard from fallen limbs, and because of the street and storm drainage maintenance problem caused by fallen eucalyptus debris. Please see revisions to p. IV.E-23 of the Final EIR for a new component of Mitigation Measures Visual-1a, Visual-1b and Visual-1c to require the replacement with other trees of eucalyptus trees that may be removed. Also see p. IV.D-37 of Section IV.D, Vegetation and Wildlife, for discussion of effects on wildlife of tree removal.

G-8) As noted by the commenter and stated on DEIR p. IV.G-10, the Department of Toxics Substances Control (DTSC) is the lead agency for cleanup of Parcels 1 and 4. Mitigation Measure Hazard-1b on p. IV.G-19 of the DEIR would apply to all Study Area parcels, including those outside the former Hercules Power Co. lands. Depending on the level and nature of contamination, required cleanup may be under the direction of various agencies, including DTSC, the Regional Water Quality Control Board, and/or the County Health Services Department. Mitigation Measure Hazard-1b has been revised to state that remediation plans would be prepared under the direction of the appropriate agencies, in accordance with applicable regulations.

G-9) Comment noted. The limitation on development easements would be imposed by the appropriate utility during project review. Mitigation measure Hazard-2e, p. IV.G-26, has been revised to so acknowledge.

G-10) Mitigation Measure Geology-5a, p. IV.J-20, use of pile supports in construction on bay mud, is one of many approaches to foundation design in areas subject to settlement. Surcharging is one method of dealing with a settlement problem and may not be an

adequate approach under all circumstances. Mitigation Measure Geology-5a has been revised in the Final EIR to accommodate alternative concepts of managing settlement hazards. Please see the revised measure on p. IV.J-20.

G-11) References to "Gelsar Inc." have been changed to "Gelsar" throughout the EIR.

G-12) Comment noted. The proposed Gelsar Mitigation Plan is described in Section IV.D of the FEIR, in the discussion of Impact Biology-2, p. IV.D-31, and Impact Biology-3, p. IV.D-33.

Regarding Open Space, the adopted *General Plan* Open Space/Conservation Element states that open space is classified into five categories: riparian, chaparral, oak groves, salt marsh and greenways, each of which is described in the Open Space Element. The element defines Refugio Creek as the major riparian system in Hercules. The Open Space Element states that Refugio Creek is to remain in its natural state for most of its length east of Interstate 80. West of I-80, the creek is to be realigned in "a multi-use open space corridor." Among the identified uses, in addition to the creek, are a utility corridor and trails. Landscaping is to provide a natural appearance and enhance wildlife habitat. The Gelsar Mitigation Plan, as described by the commenter, appears to be consistent with the Open Space Element description of the Refugio Creek corridor west of I-80.

G-13) Comment noted. The comment addresses the proposed Land Use Element, and not the adequacy of the Draft EIR. The FEIR analysis of Visual Quality has been revised to allow for the possibility that the City Council may revise upward the maximum height of buildings in the Planned Commercial-Residential designation (see pp. IV.E-19 and 24).

G-14) The revisions requested by the commenter would increase daily trip generation by about 3,350 trips, or about 2 percent of the project's daily trip generation. Such a change would not be measurable against the day-to-day fluctuation in traffic. In combination with changes on Parcels 1, 5 and 9 (see Comments S-2, M-2 and N-2), overall Study Area daily trip generation would be increased less than 4 percent. This increase similarly would be virtually unmeasurable, but could result in incrementally higher vehicle/capacity ratios, particularly at the intersections on San Pablo Avenue at Sycamore Avenue and John Muir Parkway, which are projected to operate at Level of

Service (LOS) F in 2010. The increased traffic would not be expected to alter the LOS at these or other intersections, and no additional impacts would result, nor would additional mitigation measures be required. Other impacts that would be incrementally increased in severity would include emissions of criteria air pollutants, generation of traffic-related noise, and demand for public services (particularly schools and parks). Impacts related to site-specific conditions would not change substantially, with the exception of anticipated effects on vegetation and wildlife. The changes recommended by the commenter are hereby acknowledged and incorporated into the Final EIR. Because the changes would not materially affect the analysis, and because the EIR is intended to describe, at a general level, the impacts of buildout throughout the Study Area, no change is made to Chapter III, Project Description, or the text of Chapter IV, except in the discussion of Park impacts (p. IV.F-29), where the reduced creek corridor has been incorporated into the revised discussion of park and open space acreage.

As noted in the response to Comment G-12, the proposed Gelsar Mitigation Plan is discussed in Section IV.D of the FEIR.

G-15) References to "Gelsar Inc." have been changed to "Gelsar" throughout the EIR.

G-16) Comment noted. Should future development proposals be inconsistent with the updated Land Use Element, the City could consider additional amendments of the *General Plan*.

G-17) Comment noted. The discussion of Bay Conservation and Development Commission policies on p. IV.A-19 has been amended to reflect the commenter's remarks.

G-18) The Growth Management Element policy noted by the commenter calls for the City to "develop and implement a mitigation program to insure that new development pays its fair share of the cost of maintaining adequate operations on the Basic Routes and the Routes of Regional Significance." Under CEQA, mitigation measures can be imposed to reduce project impacts. There is no provision for imposing mitigation measures on already existing projects. All parcels in Hercules, including those with existing development, are assessed property tax, a portion of which may be dedicated to future improvements. In addition, the City Council and/or the voters of Hercules may choose to impose special fees and/or taxes for various purposes.

G-19) As stated on p. III-17 of the Draft EIR, the City would ensure that other policies and codes, including the other *General Plan* elements, are consistent with the updated Land Use and Circulation Elements. A review of other *General Plan* elements would commence upon approval/adoption of the Land Use and Circulation Elements.

G-20) As indicated on DEIR p. III-15, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for a new roadway west of San Pablo Avenue and for its intersection with San Pablo Avenue. Likewise, the Sycamore Avenue extension west of San Pablo Avenue is shown conceptually. Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue, including a potential John Muir Parkway extension that could be included in the adopted Circulation Element. The EIR does not examine local circulation west of San Pablo Avenue because the future roadway network is speculative.

G-21) The 18.5 acres of planned office/research and development on Parcel 3 was not included in the Year 2010 traffic model as a result of the attempt to interpret the Community Panel's proposals for alternative land uses on certain parcels. As noted on p. IV.B-27, this component of Parcel 3 is not anticipated to generate new or substantially more severe impacts, nor require additional mitigation measures beyond that analyzed in the EIR.

G-22) Comment noted. Figure IV.D.1, p. IV.D-5, has been revised based on the information received. (Revisions have also been made in that figure for Parcel 4, in response to Comment I-6.)

G-23) Please see the response to Comment G-22.

G-24) Please see the responses to Comments G-3 and G-4.

G-25) Please see the responses to Comment G-5.

G-26) As noted by the City Manager at the March 1, 1995, joint City Council/Planning Commission workshop, Citation Homes, the owner of Parcel C, had never formally agreed to provide the parcel to the West Contra Costa Unified School District.

Approximately two years ago, the district indicated to Citation that the parcel was no longer under consideration for a new school. Please see the response to Comment A-1 for additional information on school impacts.

G-27) Please see the response to Comment G-8.

G-28) Comment noted. The pipeline shown in Figure IV.G.1, DEIR p. IV.G-8, is within the San Pablo Avenue right-of-way. Additionally, as noted by the commenter, the proposed wetland mitigation plan for Parcel 3 would serve as a buffer from the pipeline. The discussion of Impact Hazard-2, beginning on p. IV.G-20, has been revised.

G-29) Please see the response to Comment G-9.

G-30) Comment noted. The U.S. Army Corps of Engineers has reviewed the results of a field investigation for cultural resources on Parcel 3. The field investigation did not identify cultural resources that would constitute an archaeological site dating to either the prehistoric or historic period. Thus the Corps has concluded that there are no cultural resources eligible for the National Register of Historic Places ("historic properties" within the permit area of Parcel 3 or the adjacent affected area (Stradford, 1995).

In accordance with 33 CFR 325, Appendix C, the Corps has determined that, because of the apparent absence of historic properties, no additional studies to identify cultural resources are warranted and that the Corps has fulfilled its responsibilities pursuant to Section 106 of the National Historic Preservation Act, as amended. The Corps will notify the State Historic Preservation Officer (SHPO) of this determination and request comments from SHPO (Stradford, 1995).

An archaeological monitoring program has been recommended by the consulting archaeologist, and it appears that implementation of such monitoring is justified based on the information generated during the study. The Corps will consider adding a special condition to any permit issued to require that a monitoring plan be developed and submitted prior to the start of construction activity permitted by the Corps (Stradford, 1995).

Mitigation Measure Cultural-1a, p. IV.H-4, has been revised to delete reference to Parcel 3 in the requirement for in-field testing. Mitigation Measure Cultural-1b, which would require monitoring of excavation where there is the potential to uncover subsurface archaeological resources, would remain applicable. Please see also the revision to p. IV.H-1 to include reference to the field investigation of Parcel 3.

G-31) Comment noted. The text on DEIR p. IV.I-1 has been revised to reflect the comment.

G-32) Comment noted. The EIR analysis is based on the most current floodplain maps prepared by the Federal Emergency Management Agency (FEMA). FEMA is currently revising floodplain maps for Rodeo Creek and Garrity Creek, north and south, respectively, of Refugio Creek. However, because of development planned in the area of Refugio Creek, largely including development that would occur pursuant to the proposed Land Use and Circulation Elements Update, FEMA elected not to revised maps for Refugio Creek, as they would have to be revised again in a relatively short period of time. When topography has changed since publication of a FEMA floodplain map, a project sponsor generally must submit a floodplain study to FEMA, which would then prepare a "letter of map revision" for the proposed development area, effectively updating the map for the area in question (Temple, 1995).

G-33) Please see the response to Comment G-10.

G-34) The draft Land Use Element update is focused primarily on economic growth and implementation of the City's Economic Development Strategy Plan. For example, two of the four "concepts" stated on pp. 13-14 of the proposed Land Use Element relate to opportunities for increased employment and commercial activity. The City is attempting to attain relative balance in employment versus housing, consistent with a goal of the Association of Bay Area Governments. This goal would not be met by provision of additional housing units beyond those proposed as part of the draft Land Use Element update. However, concentration of housing units on portions of a parcel, without increasing the total number of housing units on that parcel, would result in the same overall density of residential units on the parcel and would not be anticipated to result in substantially different physical effects than are identified in the EIR. As noted by the commenter, development at higher densities could increase the potential for provision of affordable housing. Higher-density residential development near public transit facilities,

such as the transit center on Parcel 10, would be consistent with the draft Circulation Element's objectives, policies and actions to encourage the use of public transit.

G-35) Required changes in the draft Land Use Element will be made prior to adoption.

G-36) Under California law, development must be consistent with the General Plan of the jurisdiction in which it occurs. The referenced statement on p. I-3 of the DEIR is intended to indicate that the EIR provides a program-level analysis of overall buildout under the draft Land Use Element. Earlier in the same paragraph on p. I-3, the DEIR states that specific development proposed following adoption of the updated *General Plan* Elements could be subject to subsequent, project-specific environmental review. Should future development proposals be inconsistent with the updated Land Use Element, the City could consider additional amendments of the *General Plan* to attain the required consistency. A future plan amendment, including modification of the land use map, would allow for project approval consistent with the statement in Policy 1A that development must be consistent with the Land Use Diagram.

G-37) As indicated on DEIR p. III-15, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for a new roadway west of San Pablo Avenue and for its intersection with San Pablo Avenue. Likewise, the Sycamore Avenue extension west of San Pablo Avenue is shown conceptually. Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue, including a potential John Muir Parkway extension that could be included in the adopted Circulation Element.

G-38) Required changes in the draft Circulation Element will be made prior to adoption.

G-39) Required changes in the Redevelopment Plan will be made prior to adoption.

G-40) Please see the responses to Comments F-2 and G-36.

REFERENCES - Comment Letter G

Stradford, Richard, Chief, Environmental Services Section, Planning Branch, Planning and Engineering Division, San Francisco District, U.S. Army Corps of Engineers, memorandum, May 22, 1995

Temple, Sid, hydrologist, Questa Engineering, telephone conversation, May 25, 1995.

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CITY OF HERCULES

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Telephone: (510) 215-4114

Gary Hembree
Assistant City Manager
City of Hercules
City Hall
Hercules, CA

VIA FAX TO (510) 799-8247

Dear Mr. Hembree,

This letter is written on behalf of Penterra Co. and provides comments regarding the Draft Circulation Element of the Hercules General Plan.

Figure III.3. of the Circulation Element (prepared by DKS Associates) depicts the Year 2010 Committed Roadway Improvements. Figure III.3. depicts a "New Roadway Connection to San Pablo Ave." which connects the proposed Sycamore Ave. exstension and existing San Pablo Ave.

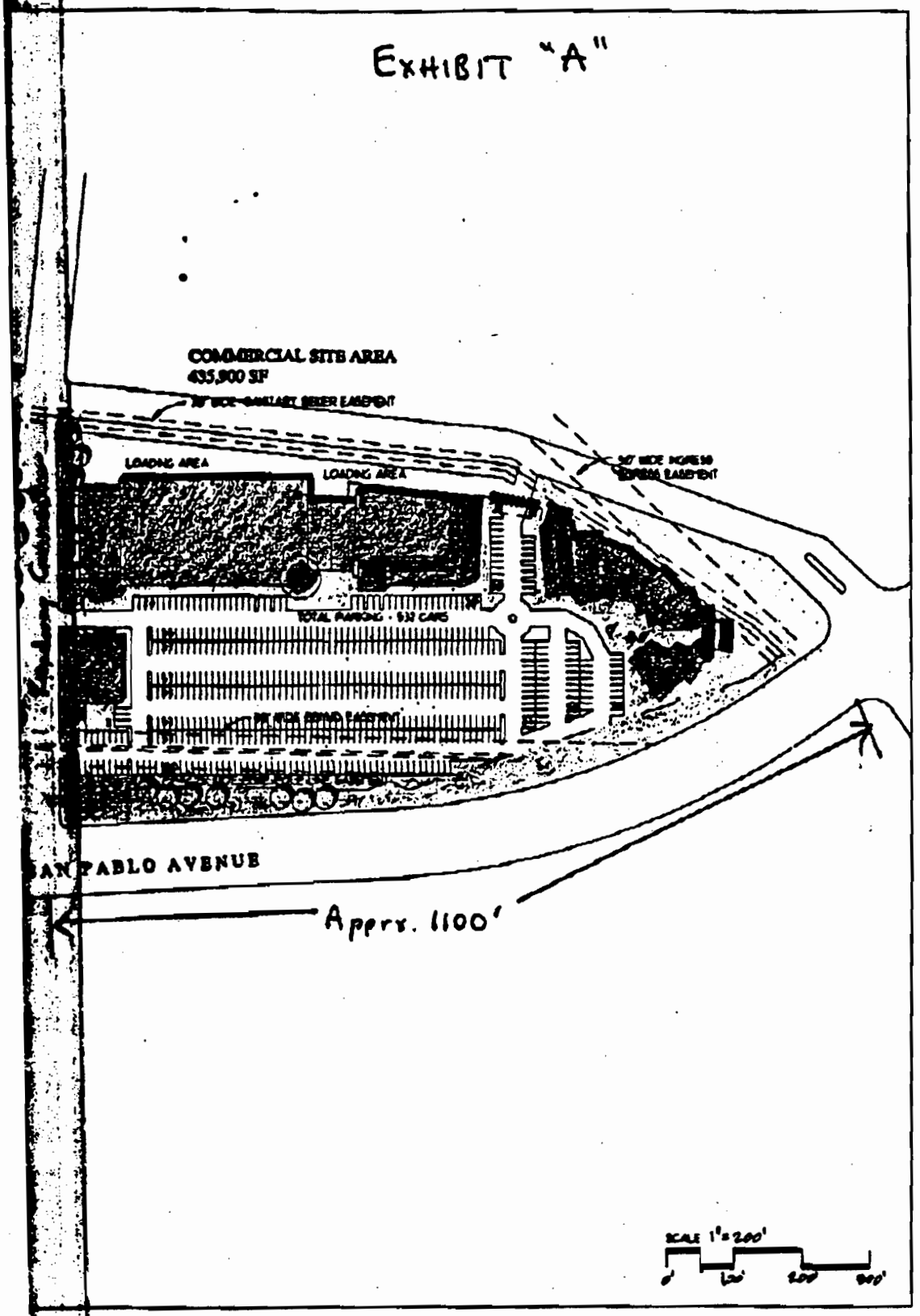
The alignment of the "New Roadway Connection to San Pablo Ave." in figure III.3. appears conceptual . Figure III.3. does not specifically indicate the actual distance of this new connection from the existing intersection of San Pablo and Sycamore Avenues. Actual topography and engineering issues will dictate the actual alignment of a preferred connector alignment. H-1

Based on Penterra's analysis of topography and engineering issues, Penterra's preferred alignment for this proposed connector would be as depicted in the attached Exibit A to this letter. The southern end of the connection would intersect with the existing San Pablo Ave. approximately 1100' west of the existing intersection of San Pablo and Sycamore Avenues.

Very Truly Yours,

John M. Gioia

EXHIBIT "A"



PLAN

3/6/95

HELLER & LEAKE ARCHITECTS

Letter H - John M. Gioia, for Penterra Co.

H-1) As indicated on DEIR p. III-15, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for a new roadway west of San Pablo Avenue and for its intersection with San Pablo Avenue. Likewise, the Sycamore Avenue extension west of San Pablo Avenue is shown conceptually. Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue. The EIR does not examine local circulation west of San Pablo Avenue because the future roadway network is speculative.

EAST BAY REALTY SERVICES, INC.
Hercules Plaza
1313 North Market Street
Wilmington, DE 19894-0001
(302) 594-5000

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CITY OF HERCULES

I

March 31, 1995

VIA HAND DELIVERY

Mr. Gary Hembree
Community and Business Development Director
111 Civic Drive
Hercules, California 94547

Re: Comments on Draft EIR General Plan Land Use and Circulation Elements Update and Redevelopment Plan Amendments

Dear Mr. Hembree:

On behalf of East Bay Realty Services, thank you for the opportunity to comment on the subject Draft EIR, and I am pleased to submit the following comments. For your convenience in responding to my comments in the Final EIR, I have numbered each of my comments, and each comment number is followed by a page, paragraph, and a sentence or line reference.

Before turning to my comments, I would like to commend you on the thoroughness and organization of the document. The Draft EIR is very well written, and I know this is a reflection of the care and effort which you devoted to its preparation. I am looking forward to seeing you next Monday at the Planning Commission's public hearing on the Draft EIR.

Please do not hesitate to call me if you have any questions regarding my comments.

Comment 1. Page III-13, Table III.1:

In this table and throughout the Draft EIR, Parcel #4 is identified as the Hercules Inc. Site. Parcel #4 is owned by East Bay Realty Services, Inc. I doubt that it is feasible to change every Parcel #4 reference in the Draft EIR, but could you please somehow recognize the correct owner of Parcel #4. I-1

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Comment 2. Page III-15, last paragraph:

As you know, East Bay Realty Services, Inc. is under contract regarding Parcel #4 with the Penterra Company, which has been discussing with you a specific development proposal for this parcel, including circulation improvements. East Bay Realty Services, Inc. certainly supports Penterra's development proposal and its specific proposal for circulation improvements. To the extent that Penterra's circulation improvement proposals may differ from those shown in the Circulation Element Update, East Bay Realty Services, Inc. supports the Penterra proposals. I-2

Comment 3. Page IV.B-7, Figure IV.B.2:

This figure does not identify and make note of the existing traffic signal at the intersection of San Pablo Avenue and Hercules Avenue. Please describe the existing capacity conditions at this intersection. Please also include the future traffic conditions at this intersection in Table IV.B.7, and discuss these conditions in the Final EIR. Please describe mitigation measures, if any. I-3

Comment 4. Page IV.D-2, Paragraph #4, second sentence:[1]

This second sentence is confusing and incorrect. There is no pond on Parcel #4. Please revise this sentence to read: "The western portion of this property contains an approximately 2 acre wetland." I-4

Comment 5. Page IV.D-2, Paragraph #4, parenthetical sentence:

To be consistent with the description of the property found at page IV.A-7, please insert the word "temporary" before "Little League baseball field." I-5

Comment 6. Page IV.D-5, Figure IV.D-1:

This figure is inaccurate concerning the symbol for "Creek, Pond" which appears as "blotches" on the map. Wetlands Research Associates have determined that there are no ponds on Parcel #4, the East bay Realty Services, Inc. I-6

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[1] Comments #4 through #11 were prepared by Michael Josselyn of Wetlands Research Associates.

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Site, but there are wetlands. The only creek is the west branch of Refugio Creek, as shown in Figures IV.G.1 and IV.I.1.

May I please request that you revise Figure IV.D-1 as follows. One, eliminate the Creek, Pond symbol as presently shown on Parcel #4 and replace it with the "Freshwater Wetlands" symbol, limited to the approximately 2 acre wetlands area which exists on the site. Exhibit A to this letter contains a map of this wetland area. Two, please show the west branch of Refugio Creek according to Figures IV.G.1 and IV.I.1. I-6 cont'd

Comment 7. Page IV.D-5, Table IV.D.1:

The "Habitat/Development Present" on Parcel #4, the East Bay Realty Services, Inc. property, is correctly described as "2 acre seasonal wetland, non-native grassland, ornamental landscaping, and developed areas (temporary ball fields)." Please revise the description in the second column of this table to reflect this. I-7

The 2 acre seasonal wetlands area is subject to a Covenant and Agreement prohibiting its development. I understand that the City of Hercules has a copy of this Agreement, but I would be happy to provide you with another copy. Since this area will not be developed and thus will not be impacted, I request that you revise the description in the third column to read "none."

Comment 8. Pages IV.D-22 through D-26:

I note that these pages describe special status species which may potentially occur within the study area, assuming that appropriate habitat is available. No studies have been performed confirming the existence of special status species on Parcel #4. As discussed in the mitigation measures of Section D, Parcel #4 and all other parcels within the study area should be surveyed prior to construction to determine if the required habitat does exist on site. I-8

Comment 9. Page IV.D-31, Biology 2a, line 2:

It may be advisable for this policy to incorporate some degree of discretion which recognizes that the size of a particular wetland buffer should reflect the sensitivity of I-9

the wetland. A uniform 100-foot buffer may not be appropriate in all cases. Suggested alternative language could read: "The City shall require project proponents to design construction footprints to avoid any wetlands and place appropriate buffer zones around the wetlands in the project area, or as determined by the CDFG or the COE." I-9 cont'd

Comment 10. Page IV.D-32:

The Draft EIR may wish to include an additional program, Biology-3d for the Circulation Element Update, to recognize: (a) the Year 2010 Committed Roadway Improvements will result in major crossings of wetlands and riparian areas, (b) most of the adverse impacts of such crossings can be reduced to a less than significant level through proper design and construction, and (c) adverse impacts which are unavoidable, if any, are justified by the need for Roadway Improvements. Such a program will give the City the flexibility needed to construct the Year 2010 Committed Roadway Improvements. I-10

Comment 11. Page IV.D-35, Biology-6c, i):

I note that the Draft EIR does not prohibit the removal of eucalyptus groves. As shown by Figure IV.D.1, eucalyptus groves are present on portions of Parcel #4, and a prohibition on their removal would severely impact and frustrate the ability of the site to achieve the development objectives which are contained in the Land Use Element Update. In particular, it will be necessary to remove eucalyptus trees in order to develop the GC - General Commercial designated area located at the east end of Parcel #4 at the intersection of San Pablo Avenue with the westerly extension of Sycamore Avenue. I-11

Comment 12. Page IV.G-9, first paragraph:

I believe that this paragraph states information relating to Parcel #4, the East Bay Realty Services, Inc. site that was correct at one time, but is now out of date. Please see Barbara Coler letter to Bruce J. Hough re: Hercules Incorporated Site - Remedial Action Certification, dated December 24, 1992. The City of Hercules received a copy of this letter, but I have enclosed an additional copy as Exhibit B. I-12

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This letter states that Final Remediation Action for this parcel was completed in May, 1992, and with the exception of the wetlands area, the parcel was remediated to Residential Cleanup Standards. Would you please revise this paragraph accordingly. I-12 cont'd

Comment 13. Page IV.G-9, second paragraph:

Please verify that a more recent ASPIS list than the 1990 list is not available. Based on the completion of the Remediation Program, it seems that the status of Parcel #4 should be "No Further Action." I-13

Comment 14. Page IV.G-15, first paragraph:

Please revise this paragraph to eliminate the reference to Parcel #4. As noted previously, the Final Remediation Action for Parcel #4 was completed in May, 1992, and with the exception of the wetlands area, the parcel was remediated to Residential Cleanup Standards. I-14

Comment 15. Page IV.G-24, Hazard-2d:

In order to be consistent with Hazard-2b, this mitigation measure should be revised to read: "If provided by a Risk Management and Prevention Plan, future residents or occupants of Parcels 1,3, and 4 ...." I-15

Comment 16. Page IV.H-5, Cultural-1b, first bullet item:

May I request that the project sponsor be added to the list of persons who would meet to determine the appropriate course of action. I-16

Comment 17. Page IV.I-1, last paragraph, last sentence:

I believe that the reference to a marsh area on Parcel 4 is incorrect. Page IV.D-4 of the Draft EIR indicates that marshes occur only on Parcel 2. I-17

Comment 18. Page IV.I-5, first paragraph, last sentence:

I believe that the reference to "standing (ponded) water of poor quality" refers to the 2 acre wetlands area which has I-18

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not been remediated to residential standards. You may wish to revise this last sentence to clarify this point. I-18 cont'd

In closing, please let me quickly draw your attention to two typographical errors in the Land Use Element. I believe at page 34, last line, "0.03" should be "0.30." Also, at page 41 it appears that Multi-Family-Low Density (ML) and the Multi-Family-Medium Density (MM) do not match the LD and MD Land Use Designations used in Figure IV.A.3 at page IV.A-22. I-19

Once again, let me thank you for the opportunity to comment on the Draft EIR. I am looking forward to your responses.

Very truly yours,

East Bay Realty Services, Inc.

Nancy J. Cantwell

Nancy J. Cantwell,
Vice President

NJC:fme
CC: Mr. Richard R. Poe, President, The Penterra Company

Exhibit A -- Map of 2 acre wetland area.

Exhibit B -- Barbara Coler letter to Bruce J. Hough re: Hercules Incorporated Site - Remedial Action Certification, dated December 24, 1992.

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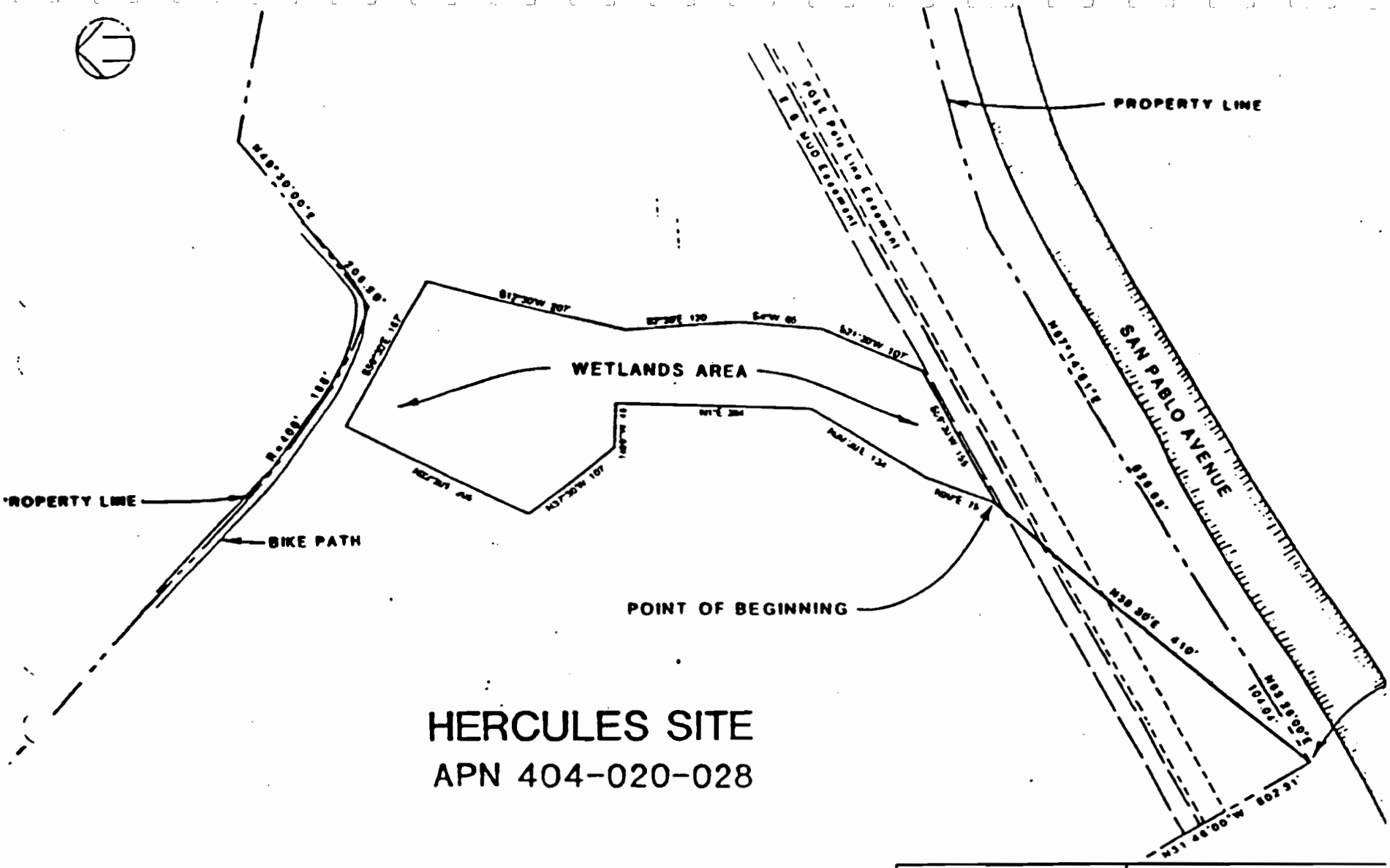
21/61/01


PROPERTY LINE
SAN PABLO AVENUE
WETLANDS AREA
POINT OF BEGINNING
BIKE PATH
PROPERTY LINE
HERCULES SITE
APN 404-020-028
SCALE 1" = 100'
Questa Engineering Corporation
Point Richmond, California
HERCULES
WETLANDS
DEED RESTRICTION

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL
REGION 2
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737
(510) 540-2122

December 24, 1992

Mr. Bruce J. Hough
Principal Environmental Engineer
Hercules Incorporated
Hercules Plaza
Wilmington, Delaware 19894

Dear Mr. Hough:

HERCULES INCORPORATED SITE - REMEDIAL ACTION CERTIFICATION

The Department has completed the removal action certification for the final cleanup of the Hercules Incorporated site. Enclosed is a copy of the certification package for your records.

We appreciate your continued cooperation. Should you have any questions regarding the certification, please call Remedios Sunga at (510) 540-3825.

Sincerely,

Barbara Coler
Unit Chief
Site Mitigation Branch

Enclosure

cc: See Attached List

cc: Mr. Jeff Peters
Questa Engineering Corporation
1220 Brickyard Cove Road
Point Richmond, California 94807

Ms. Dena Hutchin
Contra Costa County Environmental Health
4333 Pacheco Boulevard
Martinez, California 94553-2295

Ms. Marilyn Leuck
Mr. Kevin Garrett
City of Hercules
111 Civic Drive
Hercules, California 94547

Mr. Jason Beebe
Hercules Incorporated
4674 Admiiralty Way, Suite 624
Marina del Rey, California 90292

STATE OF CALIFORNIA — ENVIRONMENTAL PROTECTION AGENCY PETE WILSON, Governor

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

REGION 2
700 HEINZ AVE., SUITE 200
BERKELEY, CA 94710-2737

REMEDIAL ACTION CERTIFICATION
HERCULES INCORPORATED SITE
NOVEMBER 1992

---

1. **Site Name and Location:** (Street address, County, City and Assessor's parcel number)

   Hercules Incorporated
   San Pablo Avenue/Sycamore Avenue
   Hercules, Contra Costa County

   A. List any other names that have been used to identify sites:

   Hercules, Inc.

   B. Address of site if different from above: _____

   C. Assessor's Parcel Numbers: 404-020-028

2. **Responsible Parties:**

   Project Coordinator: Bruce J. Hough
   Title: Principal Environmental Engineer
   Firm: Hercules Incorporated
   Address: Hercules Plaza
   City: Wilmington, Delaware
   Zip: 19894
   Telephone: (302) 594-7576

   Relationship to the site: owner/operator

   Current Landowner/Operator: East Bay Realty Services, Inc.- a wholly owned subsidiary of Hercules Incorporated

3. **Brief Description and History of the Site:** (Include previous and current uses of site, a brief description of the cleanup action and concentrations of significant hazardous substances left on site)

   The 41-acre site is currently vacant and consists of hilly grassland and scattered groupings of eucalyptus trees. There are numerous concrete foundation ruins of bunkers

located throughout the site, the only remnants of the former Hercules Powder Company Plant that once occupied the site and much of the surrounding land. Small buildings and bunkers were used for the storage of raw chemical materials and for the assembly of trinitrotoluene (TNT) and other explosive devices. Operations were conducted in a series of bunkers which were periodically washed down. Washwater generated during the housekeeping of the bunkers was allowed to discharge directly onto the surrounding land surface, resulting in nitroaromatic residues in the upper soil layers surrounding each bunker ruin. The nitroaromatic contaminants detected include dinitrobenzene (DNB), dinitrotoluene (DNT) and TNT. Most of the nitroaromatic residues are mixed with the native soils and were detected at concentrations as high as 22 ppm DNB, 66,000 ppm DNT and 84,000 ppm TNT.

The site was discovered by the Department's Abandoned Site Project Team in 1980 and found lead and nitroaromatic soil contamination. Since then a series of investigations was conducted and two Interim Remedial Measures (IRMs) were implemented by excavation and offsite disposal of contaminated soil to a Class I landfill. The first IRM was conducted in March 1986 at the site's northwest section for the remediation of metal and nitroaromatic soil contamination for immediate use as baseball park by the Hercules-Pinole Little League teams. The second IRM was conducted in December 1986 throughout the site (in areas not covered by the ballpark cleanup) for the remediation of metal contamination, primarily lead and zinc. For the remaining nitroaromatic contaminants, the Remedial Action Plan was for bioremediation of contaminated soil by land farming. However, the bioremediation pilot scale studies, which were conducted from February 1990 to January 1991, were unsuccessful. Therefore, a contingency alternative outlined in the Remedial Action Plan (RAP) was implemented. The RAP was amended (January 1992) to include further discussion of the contingency alternative, i.e, excavation and offsite disposal. The final remediation of the nitroaromatic contaminated soil was conducted in April and May 1992 by excavation and disposal of 3515 and 380 cubic yards of soil to Class I and Class II landfills, respectively. The concrete foundations were decontaminated by wire brushing; cleanup verification was conducted by wipe samples.

A 2-acre wetlands area was identified and delineated at the site. Based on a Limited Scope Health Screening Risk Assessment (July 1989), less conservative cleanup levels were established for the wetlands area with the condition that this area will be monitored/restored and preserved for the sole use of wetlands habitat. Subsurface soil/sediment contamination was found at the wetlands area; remediation

was conducted by excavation and setting aside of the top 16-inch layer and excavation and offsite disposal of the next 24-inch layer. The excavated areas were backfilled with clean fill and the top soil was replaced for the restoration of the wetlands vegetation. A Deed Restriction for the use and preservation of the wetlands area was recorded with the Contra Costa County Recorder's Office on October 13, 1992. An Operation and Maintenance Plan (September 9, 1992) has been approved; an Operation and Maintenance Agreement (October 19, 1992) has been signed for the restoration and maintenance of the wetlands area for at least three years.

4. Type of Site: (Check appropriate response)
Included in Annual Workplan?

Yes X No _____ Date June 11, 1987
RCRA-Permitted Facility _____ Bond - funded _____
RCRA Facility Closure _____ RP - funded X
NPL _____
Federal Facility _____
Other (i.e., walk-in) : _____ Explain Briefly:

5. Size of Site: (Based on Annual Workplan definition of size)

Small _____ Medium X Large _____ Extra Large _____

6. Dates of Remedial Action

a. Initiated March 1992 b. Completed May 1992

*Per CERCLA as amended by SARA, all sites must be reviewed after 5 years to verify that cleanup measures are still satisfactory (CERCLA Section 121 (c)).

7. Response Action Taken on Site: (check appropriate action)

_____ Initial Removal or Remedial Action (site inspection/sampling)
X Final Remedial Action
_____ RCRA enforcement/closure action
_____ No action, further investigation verified that no cleanup action at site was needed.

A. Type of Remedial Action:

Contaminated soil excavation and offsite disposal to landfills: Class I = 3515 cubic yards
Class II = 380 cubic yards

B. Estimated quantity of waste associated with the site (i.e., tons/gallons/cubic yards) which was:

1. ___ treated Amount: _____
2. ___ untreated (capped sites) Amount: _____
3. _X_ removed Amount: 3895 cubic yards

Upland areas = 3520 cubic yards
Wetlands area = 375 cubic yards

8. **Cleanup Levels/Standards**

a. What were the cleanup standards established by DTSC pursuant to the final remedial action plan (RAP) or workplan (if cleanup occurred as the result of a removal action (RA) or interim remedial measures (IRM) prior to development of a RAP) ?

Residential Cleanup Standards:
Upland: TNT = 30 ppm, DNB = 5 ppm, DNT = 5 ppm
Wetlands: TNT = 1000 ppm, DNB = 5 ppm, DNT = 5 ppm

b. Were the specified cleanup standards met? Yes _X_ No __

c. If "no", why not: _____

9. **DTSC Involvement in the Remedial Action:**

A. Did the Department order the Remedial Action?

Yes _X_ No ___ Date of order July 1, 1988

B. Did the Department review and approve (check appropriate action and indicate date of review/approval if done):

_X_ Sampling Analysis Procedures Date July 1991

_X_ Health & Safety Protections Date October 1991
_X_ Removal/Disposal Procedures Date January 1992
_X_ Removal Action Plan Date January 1992
_X_ Completion of Remedial Action Date July 1992

C. If site was abated by a responsible party, did the Department receive a signed statement from a licensed professional on all Remedial Action?

Yes___ No_X_ Dates (from) _____ to _____

D. Did a registered engineer or geologist verify that acceptable engineering practices were implemented?

Yes ___ No _X_ Name _____ Date of verification _____

Project Coordinator, Bruce Hough, is a registered engineer.

E. Did the Department confirm completion of all Remedial Action?

Yes _X_ No ___ Date of verification _August 1992_
(i.e. manifest, sampling, demonstrated installation, and operation of treatment)

F. Did the Department (directly or through a contractor) actually perform the Remedial Action?

Yes ___ No _X_ Name of Contractor: _____

G. Was there a community relations plan in place?

Yes _X_ No ___

H. Was a Remedial Action Plan developed for this site?

Yes _X_ No ___

Final RAP _September 1989_ ; Amended RAP _January 1992_

I. Did DTSC hold a public meeting regarding the draft RAP?

Yes _X_ No ___

J. Were public comments addressed?

Yes _X_ No ___
Date of DTSC analysis and response: _February 1992_

K. Are all of the facts cited above adequately documented in the DTSC files? Yes _X_ No ___

If no, identify areas where documentation is lacking____

_____

10. EPA Involvement in the Remedial Action:

A. Was the EPA involved in the site cleanup?

Yes ___ No _X_

B. If yes, did EPA concur with all remedial actions?

Yes ___ No ___ NA X

C. EPA comments _____

_____

EPA staff involved in cleanup: _____
(Name, Title)

_____
(Address, Phone Number)

11. Other Regulatory Agency Involvement in the Cleanup Action:

Agency:		Activity:
___	RWQCB	_____
___	ARB	_____
___	CHP	_____
___	Caltrans	_____
X	Other	See below for wetlands remediation only

Name of contact persons and agency:

Carin High - U.S. Army Corps of Engineers
Michael Buelna - Department of Fish and Game

12. Post-Closure Activities:

A. Will there be post-closure activities at this site? (e.g. Operation and Maintenance)

Yes X No ___ If yes, describe: Monitoring of the 2-acre wetlands area for the restoration of wetlands vegetation for 3 years or until the wetlands has been restored to its original condition. The O&M Plan was approved in August 1992 and the O&M Agreement was signed on October 19, 1992.

B. Have post-closure plans been prepared and approved by the Department? Yes X No ___

C. What is the estimated duration of post-closure (including operations and maintenance) activities?

3 years

D. Are deed restrictions proposed or in place?

Yes _X_ No ___ If "yes" have deed restrictions been recorded with the County recorder? Yes _X_ No ___
Date _October 13,1992_

The Deed Restriction is for the wetlands area only.

If "no", who is responsible for assuring that the deed restrictions are recorded? _____

Who is the Division contact? _____
Name/Phone Number

E. Has cost recovery been initiated?

Yes _X_ No ___ If yes, amount received _$23,500 (Activity Fees paid to date)

Summary by Activity Report balance up to FY 91/92 $205,688.36

F. Were local planning agencies notified of the cleanup action?

Yes _X_ No ___ If yes, the name and address of agency: City of Hercules, Planning Department 111 Civic Drive, Hercules, California 94547

13. Expenditure of Funds and Source:
(Information to be supplied by Toxic Accounting Unit.)

Funding Source and amount expended:

___ HWCA $_____ ___ HSA $_____
___ HSCF $_____ ___ RCRA $_____
___ RP $_____ ___ Other $_____
___ Federal Cooperative Agreement $_____

14. Certification Statement: Based upon the information which is currently and actually known to the Department,

_X_ The Department has determined that all appropriate response actions have been completed, that all acceptable engineering practices were implemented and that no further removal/remedial action is necessary for the upland areas.

___ The Department has determined, based upon a remedial investigation or site characterization that the site poses no significant threat to public health, welfare or the environment and therefore implementation of removal/remedial measures is not necessary.

_X_ The Department has determined that all appropriate removal/remedial actions have been completed and that all acceptable engineering practices were implemented; however, the site requires ongoing operation and maintenance (O&M) and monitoring efforts. The site will be deleted from the "active" site list following (1) a trial operation and maintenance period and (2) execution of a formal written settlement between the Department and the responsible parties, if appropriate. However, the site will be placed on the Department's list of sites undergoing O&M to ensure proper monitoring of long-term clean-up efforts for the wetlands area.

15. **Additional Comments:** _____

_____

_____

16. **Certification of Remedial Action:**

I hereby certify that the foregoing information is true and correct to the best of my knowledge.

1. Kenneth V. Sings — Project Manager — 11/24/92 Date

2. Barbara Cox — Site Mitigation Unit Chief — 11/24/92 Date

3. Barbara J. Cox — Site Mitigation Branch Chief — 11/25/92 Date

4. Barbara J. Cox — Registered Engineer/Geologist — 11/25/92 Date

Letter I -- Nancy G. Cantwell, Vice President, East Bay Realty Services, March 31, 1995

I-1) References to "Hercules Inc." have been changed to "East Bay Realty Services Inc." or "East Bay Realty Services" throughout the EIR.

I-2) As indicated on DEIR p. III-15, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for a new roadway west of San Pablo Avenue and for its intersection with San Pablo Avenue. Likewise, the Sycamore Avenue extension west of San Pablo Avenue is shown conceptually. Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue.

I-3) Based on observations, the intersection of San Pablo Avenue and Hercules Avenue currently operates at Level of Service A in the a.m. and p.m. peak hours. In 2010, with development that would occur under the revised Land Use Element, the heaviest traffic volumes on Hercules Avenue, in the p.m. peak hour, would increase from about 100 per hour at present to about 1,000 per hour in the future. Traffic volumes on San Pablo Avenue would increase from about 2,400 at present to about 4,800 in the future. The 2010 level of service would be LOS F.

As stated on p. IV.B-2 of the EIR, the traffic analysis was based on the Contra Costa Transportation Authority's West County Travel Demand Model. Future roadway configurations were those assumed in this regional traffic model. The West County Model includes, in the 2010 scenario, a connection between Hercules Avenue and the proposed Sycamore Avenue extension; this connection is assumed to be via an extension of Railroad Avenue. Because of growth forecast on the parcels west of San Pablo Avenue, and because of the anticipated heavy traffic congestion on San Pablo Avenue, the West County Model projects a substantial increase in traffic on Hercules Avenue, as noted above. (Most of this traffic would not originate in the Hercules-by-the-Bay neighborhood, but would use Hercules Avenue as a connecting street between San Pablo Avenue and commercial and offices uses north of Hercules Avenue.)

Because it assumed the Railroad Avenue connection, the EIR was conservative in its analysis of traffic and traffic-related noise impacts on Hercules Avenue. If no connection were to be provided along Railroad Avenue between Hercules Avenue and

the Sycamore Avenue extension, most of the 2010 traffic now forecast to travel on Hercules Avenue would be diverted to San Pablo Avenue, Sycamore Avenue and, potentially, a westward extension of John Muir Parkway. Intersection operations at San Pablo Avenue/Sycamore Avenue and San Pablo Avenue/John Muir Parkway, already forecast to operate at LOS F with very high volume-to-capacity ratios, would worsen. If no connection were to be provided along Railroad Avenue, Parcels B, C and possibly Parcel 5 would have access via Hercules Avenue, as would the southern portion of Parcel 1, as is currently the case. Parcels 2 and 3 and the northern portion of Parcel 1 would be reached primarily by the proposed extensions of Sycamore Avenue and John Muir Parkway. Parcel 3 also would be accessible via Sycamore Avenue and the proposed new roadway that would intersect San Pablo Avenue between Sycamore and Hercules Avenues; these roadways also would serve Parcel 4. Emergency vehicle access would be provided between Railroad Avenue and Parcel 1. New traffic on Hercules Avenue would be limited to traffic generated by Parcels B, C, 5 and residential areas at the southern end of Parcel 1, and operations at the San Pablo Avenue/Hercules Avenue intersection would be expected to be acceptable (most likely LOS B or better).

As an alternate approach, the City may allow traffic on a roadway connection along Railroad Avenue between Hercules Avenue and the Sycamore Avenue extension, but attempt to limit traffic to local vehicles only. In this scenario, "traffic calming" would be included in the roadway design, including such options as speed bumps, roundabouts, non-linear roadways, a relatively narrow right-of-way, a reduced speed limit, and multiple stop signs. This approach would attempt to discourage through traffic by making travel on the Railroad Avenue connection less convenient and more time-consuming than would be the case if a high-capacity roadway were built, while at the same time not sacrificing traffic safety. Such traffic calming strategies could reduce through traffic diverting off of San Pablo Avenue but would still allow local residents to travel between, for example, Hercules-by-the-Bay and the North Shore Business Park and planned commercial uses on Parcels 1, 2, 3, and 4.

I-4) Comment noted. Page IV.D-2 has been revised based on the information received.

I-5) Comment noted. Page IV.D-2 has been revised based on the information received.

I-6) Comment noted. Figure IV.D.1, p. IV.D-5, does not show a pond on Parcel #4; the dark "blotches" in the base photograph are a group of oak trees. Figure IV.D.1 has been revised based on the information received.

I-7) Comment noted. Pages IV.D-2 and IV.D-6 (Table IV.D.1) have been revised based on the information received.

I-8) Comment noted. No response is required.

I-9) Comment noted. Please see revised text of Mitigation Measure Biology 2a on p. IV.D-31. Please see also the response to Comment G-3.

I-10) The Draft EIR includes mitigation measures, in connection with Impacts Biology-2 and Biology-3, that would reduce potential impacts on wetlands and riparian areas, including those of roadway creek crossings, to a level of less-than-significance.

Regarding a determination that unavoidable impacts may be justified by the need for roadway improvements, such a statement could be made as part of the environmental findings prepared in conjunction with project approval, but would not be appropriate for inclusion in the EIR.

I-11) Comment noted. The EIR states, on p. IV.D-37, that removal of eucalyptus trees, if it is undertaken, should occur from August through October, before the monarch butterfly's winter roosting season and after raptor nesting.

I-12) Comment noted. With the exception of the wetland area, Parcel 4 has been certified as "No Further Action" required by the Department of Toxic Substances Control (Coler, 1995). The wetland portion of the site is the subject of a three-year monitoring program implemented by the U.S. Army Corps of Engineers. (The status was reported correctly on DEIR p. IV.G-11.) Final EIR pp. IV.G-9, IV.G-11, IV.G-15, and Mitigation Measure Hazard-1c on page IV.G-19 have been revised to reflect the current status of remediation activities for Parcel 4.

I-13) Please see the response to Comment I-12.

I-14) Please see the response to Comment I-12.

I-15) Comment noted. Mitigation Measure Hazard-2d, p. IV.G-25, has been revised consistent with the comment.

I-16) Mitigation Measure Cultural-1b, p. IV.H-4 - 5, assumes that the project sponsor would be represented by the construction contractor. This measure has been revised based on the comment received.

I-17) The reference on FEIR p. IV.I-3 (DEIR p. IV.I-1) to a marsh area on Parcel 4 refers to the area of standing water noted on p. IV.I-5. Both references apparently refer to the two-acre wetland on Parcel 4, which has been added to the discussion in Section IV.D, Vegetation and Wildlife (see Comments I-4 through I-7); both references are deleted from Section IV.I of the Final EIR.

I-18) Please see the response to Comment I-17.

I-19) Required changes in the draft Land Use Element will be made prior to adoption.

Regarding the abbreviated designations, Figure IV.A.3, EIR p. IV.A-22, has been revised for consistency with the proposed Land Use Element.

REFERENCE - Comment Letter I

Coler, Barbara, Unit Chief, Site Mitigation Branch, California Department of Toxic Substances Control, telephone conversation, May 8, 1995.

J

A-N WEST INC.
Consulting Engineers

RECEIVED
APR - 3 1995
CITY OF HERCULES

3 April 1995
5444-01-rsb-002

Mr. Gary Hembree
Community Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547

Dear Mr. Hembree:

At the request of Richard Poe of Penterra Company, I am preparing this letter requesting certain modifications regarding "City of Hercules General Plan Land Use Circulation Elements Update and Redevelopment Plan Amendments, Environmental Impact Report dated February 3, 1995", as follows:

1. Under Section IV Environment Settings, Impacts and Mitigation Measures, we request a modification under Item D - Vegetation and Wildlife, on Page 2 specifically under Site Descriptions, Parcel 4, entitled Hercules, Inc./San Pablo, be modified to show the wetlands delineation on the western portion of the property as shown on the attached plat and legal description pages of the Covenant and Agreement between East Bay Realty Services, Inc., a wholly owned subsidiary of Hercules, Inc., and the State Department of Toxic Substance Control recorded October 13, 1992, in Book 17927, at Page 425 and 426. It should also be modified to state that no other wetland area exists on the overall parcel and that no building setbacks beyond that wetlands delineations are required. J-1

2. Also under Section IV Item I Hydrology and Water Control, specifically under Surface Water - Streams, in the third paragraph at the bottom of Page 1 we request that the last sentence be modified to read as follows: "A marsh area also exists within the western portion of the parcel on the south side of Refugio Creek as described in the above referenced legal description and plat for the wetlands area". J-2

3. It is requested that a modification be made under Table II.1: Summary of Environmental Impacts and Mitigation Measures, specifically under Item B, Significant but Mitigable Impacts under Biology 2a that it be revised to reference the above legal description and plat of the wetland area and that no setbacks be required. J-3

Thank you for your cooperation in this matter.

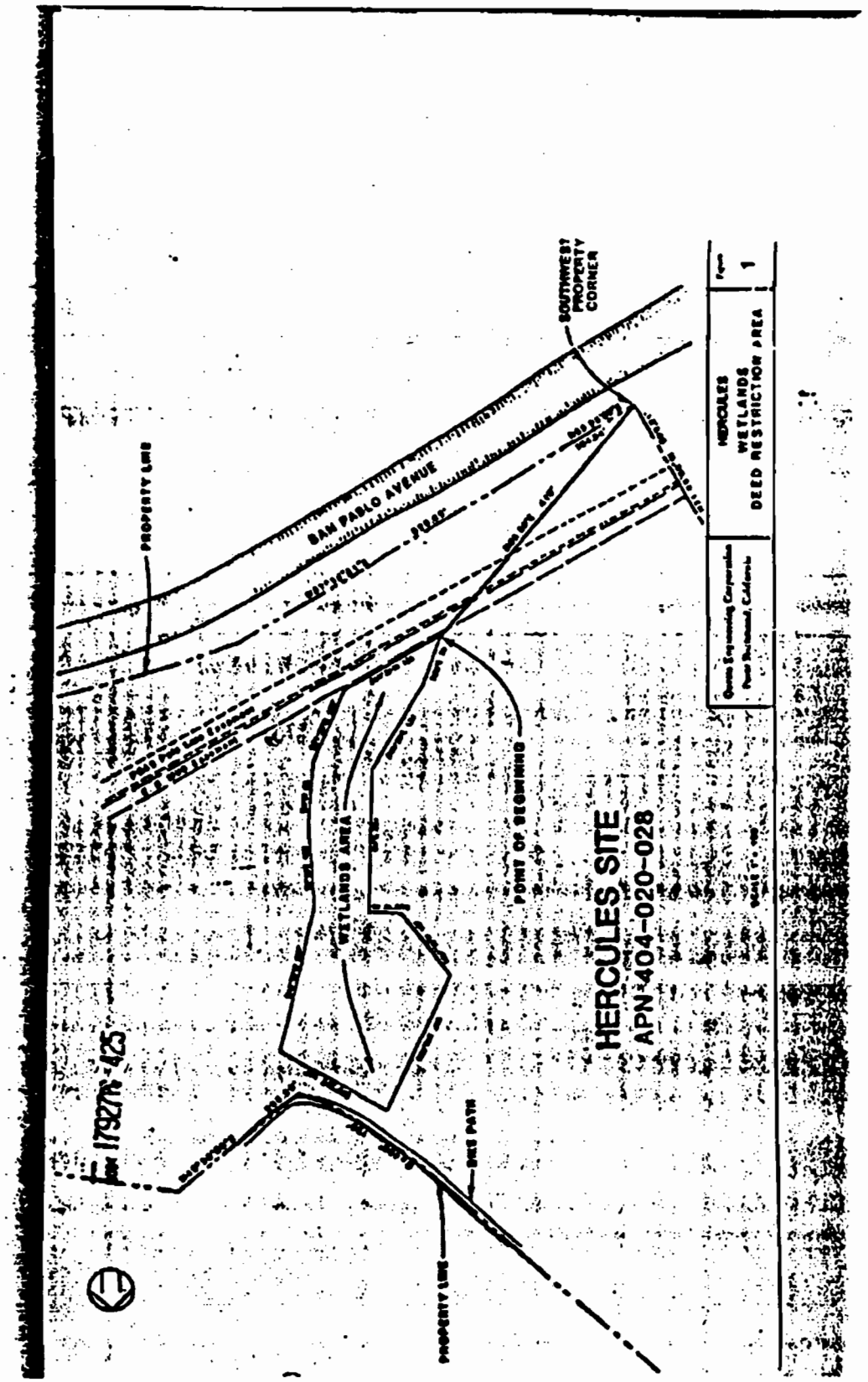
Very truly yours,

A-N WEST, INC.

Robert S. Binsacca
Vice President

RSB:kt
Attachment
cc: Richard R. Poe, Penterra Company w/attachment

4123 Lakeside Drive, Richmond CA 94806-1942 • (510) 222-9800 • FAX (510) 222-6714


HERCULES SITE
APN 404-020-028
SAN PABLO AVENUE
PROPERTY LINE
SOUTHWEST PROPERTY CORNER
WETLANDS AREA
POINT OF BEGINNING
BIKE PATH
HERCULES
WETLANDS
DEED RESTRICTION AREA
1

Legal Description

Hercules Incorporated Wetlands

Hercules, CA

Beginning at a point located 410 feet on a bearing North 38° 30' East of the southwest property corner of Lot 025 in Book 404 of maps on page 020, City of Hercules; thence, traversing North 20° East 75 feet; thence, North 30° 30' East 134 feet; thence, North 1° East 204 feet; thence, North 89° West 45 feet; thence, North 37° 30' West 107 feet; thence, North 22° 30' East 205 feet; thence, South 59° 30' East 167 feet; thence, South 12° 30' West 207 feet; thence, South 2° 30' East 120 feet; thence, South 4° West 85 feet; thence, South 21° 30' West 107 feet; thence, South 59° 30' West 155 feet to the point of beginning.

APR-03-1995 17:07 A N WEST RICHMOND 92% P.04

VIII.A-84

Letter J - Robert S. Binsacca, Vice President, A.N. West Inc., for Penterra Co., April 3, 1995

J-1) Comment noted. Please see the revised description of Parcel 4 and the revised Figure IV.D.1 on pp. IV.D-2 and IV.D-5 (Figure IV.D.1), respectively, of the Final EIR, both of which include a two-acre seasonal wetland identified in Comment I-7. Regarding other potential wetlands on Parcel 4, no other wetlands have been identified. Absent any other wetlands, the commenter correctly states that no building setbacks based on wetlands protection would be required beyond those connected with the 2-acre seasonal wetland noted above.

J-2) The description of a "marsh area" on Parcel 4 has been deleted from the first partial paragraph of p. IV.I-3. Please see the response to Comment I-17.

J-3) As noted in DEIR Chapter I, Introduction, on p. I-3, this EIR has been prepared as a Program EIR to identify general areas of environmental sensitivity and the potential general, cumulative effects of buildout under the proposed Land Use and Circulation Elements. Mitigation Measure Biology 2a (as revised in this Final EIR) would apply to any wetland area determined to be under the jurisdiction of the U.S. Army Corps of Engineers. As stated in response to Comment J-3, absent any other wetlands, this mitigation measure would not apply to any other portion of Parcel 4.

K

Treadwell&Rollo

3 April 1995
Project 1781.01

CITY OF HERCULES

Mr. Gary Hembre
City of Hercules
111 Civic Drive
Hercules, California 94547

Subject: Response to Draft EIR
Hercules Inc./San Pablo Site
Hercules, California

Dear Mr. Hembre:

We have three comments regarding the draft document entitled *City of Hercules, General Plan Land Use and Circulation Elements Update and Redevelopment Plan Amendments, Environmental Impact Report,* prepared for the City of Hercules by ESA, Inc. and dated 3 February 1995. Our comments are in response to issues raised in the EIR regarding the 41-acre Hercules Inc. parcel at the western terminus of Sycamore Avenue.

1. Item No. 4 on page IV.J-3 states that "potentially unstable slopes and previous landslide deposits are present in the central portion of this parcel (EIP Associates, 1989)".

   We recently performed a geologic reconnaissance of the site and reviewed current and historic aerial photographs of the site to check for landslides. On the basis of our work, we conclude there are no significant landslides on the site. Furthermore, existing slopes on the site show no signs of instability. K-1

   Item No. 4 may be referring to two drainage swales adjacent to the designated wetland near the center of the site. These swales could contain a few feet of colluvium or fill; however, we do not believe they are landslides features. Therefore, we request the reference to landslides and potentially unstable slopes be deleted from the EIR.

2. Hazard-1c in Table II.1 on page II-42 states the City shall mitigate the hazard by obtaining copies of closure reports prepared by Cal-EPA certifying that the two K-2

Treadwell & Rollo, Inc. *Environmental & Geotechnical Consultants*
555 Montgomery Street, Suite 1300, San Francisco, CA 94111
Telephone (415) 955-9040 Facsimile (415) 955-9041

Treadwell&Rollo

former Hercules Powder Company parcels have been remediated and pose no threats to public health.

The Remedial Action Certification, dated 24 December 1994, prepared by the Cal-EPA Department of Toxic Substances Control for the 41-acre Hercules Inc. property (Assessor's Parcel Number 404-020-028) is attached. Please revise the mitigation measures to reflect the information presented in this document. K-2 cont'd

3. Item No. 1 on page IV.G-10 summarizes the environmental conditions that existed on the property prior to remediation. Please revise page IV.G-10 to reflect the information presented in the Remediation Action Certification, which indicates the parcel characteristics have changed since 1992. K-3

If you have any questions regarding this letter, please call.

Sincerely yours,
TREADWELL & ROLLO, INC.

Craig S. Shields, P.E.
Associate

17810103.CSS

Attachment

cc: Mr. Richard Poe
Penterra Company
1900 Esplanade Drive, Suite 200
Richmond, California 94804

Letter K - Craig Shields, P.E., Treadwell & Rollo, April 3, 1995

K-1) In light of the recent studies of the East Bay Realty Services Inc. (Hercules Inc.)/ San Pablo site by Treadwell & Rollo, the reference to unstable slopes on page IV.J-3 of the Draft EIR is removed from the text and from Figure IV.J.1, p. IV.J-8. Revisions are also made to the discussion of Parcel 4 also are made on pp. IV.J-16 and IV. J-18 of the Final EIR.

K-2) Based on the other comments in this letter, this comment is directed at the discussion of Parcel 4, East Bay Realty Services Inc. (formerly Hercules Inc.)/San Pablo site. Please see the response to Comment I-12. (The attachment noted by the commenter is a December 24, 1992, letter from Barbara Coler, Unit Chief, Site Mitigation Branch, Department of Toxic Substances Control to Bruce J. Hough, Principal Environmental Engineer, Hercules Incorporated, and November 1992 Remedial Action Certification for the Hercules Incorporated Site. The same attachment accompanies Comment Letter I, and is not reproduced here.)

K-3) Please see the response to Comment I-12.

RECEIVED
APR - 3 1995
CITY OF HERCULES

HM
HELLER · MANUS
ARCHITECTS

April 3, 1995

Gary Hembree, Director
Community & Business Development
City of Hercules
111 Civic Drive
Hercules, CA 94547

VIA FAX: 510/799-8249

RE: City of Hercules
General Plan Land Use and Circulation Elements Update and
Redevelopment Plan Amendments - EIR Report

Dear Mr. Hembree:

In the circulation element as described in Figure III-3 of the General Plan, the connecting road between the sycamore Avenue extension which connects to San Pablo Avenue, was conceptual. Per our preliminary master plan, Pentern's preferred location is approximately 1100 square feet from the intersection of Sycamore and San Pablo Avenues due west.

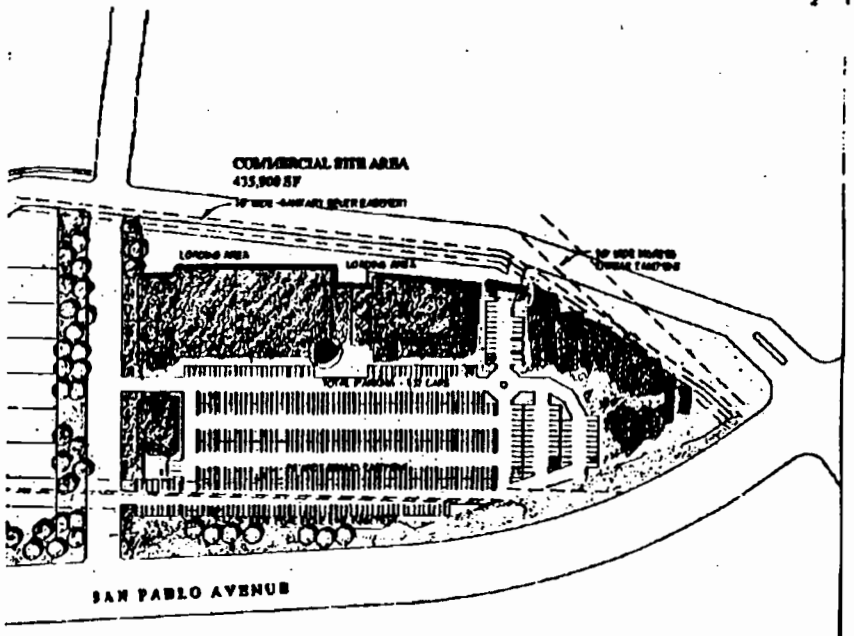
Sincerely,

Jeffrey Heller FAIA

JHHp

L-1

221 MAIN STREET SUITE 940 SAN FRANCISCO, CALIFORNIA 94105-1923
415-247-1100 FAX 415-247-1111



SITE PLAN

HERCULES MASTER PLAN

9/8/91

L

Letter L - Jeffrey Heller, FAIA, Heller Manus Architects, April 3, 1995

L-1) As indicated on DEIR p. III-15, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for a new roadway west of San Pablo Avenue and for its intersection with San Pablo Avenue. Likewise, the Sycamore Avenue extension west of San Pablo Avenue is shown conceptually. Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue. The EIR does not examine local circulation west of San Pablo Avenue because the future roadway network is speculative.

M

MRB ASSOCIATES
c/o Donald S. Rosenberg
Suite 2600, One Southeast Third Avenue
Miami, Florida 33131

March 31, 1995

VIA FACSIMILE AND FEDERAL EXPRESS

Mr. Gary D. Hembree
Community and Business Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547

Re: Comments on Draft Environmental Impact Report ("EIR") related to the Update of the Land Use and Circulation Elements of the General Plan for the City of Hercules

Dear Mr. Hembree:

This constitutes the response of MRB Associates ("MRB"), a California limited partnership. MRB is the Owner of Parcel 5 identified as the MRB Site.

MRB has actively participated in the planning process and does not object to the changing of its Highway Commercial designation in the existing General Plan and its existing Neighborhood Commercial zoning to the proposed Multi-Family Medium Density and Planned Commercial/Residential designations and zoning contemplated in the EIR provided that the intensity and/or density of development presently reflected in the EIR as applicable to MRB Site, modified as may be suggested herein, remains the same and is not reduced.

We believe that once an acceptable EIR is also adopted and the General Plan and zoning are put into effect, the opportunity to develop MRB Site and for development of the other Parcels affected will be substantially enhanced, for which matter we extend our congratulations to the City for its endeavors.

Our observations, corrections and comments to the EIR are as follows:

Technical Corrections Applicable to MRB Site.

In II. Summary (II-3), with respect to Planned Commercial/Residential, including mixed commercial and multi-family residential uses, and on III. Project Description (III-11), in the M-1

second to last sentence under Planned Commercial/Residential, reference is made to "net" acres. The word "net" should be deleted as it is inconsistent with the Community Panel's recommendation, the standard used in other areas of the report and the Draft Land Use Element (see Page VIII F-31 which says "All intensity, density and population measures are calculated on gross acreage, prior to the public streets, public easements and other public dedications from the site acreage"). The same deletion of "net" should be made in III-12 under the definition of Single Family Medium Density, Multi-Family Medium Density and Multi-Family High Density and should be deleted everywhere else in the EIR. M-1 cont'd

The MRB Site is 6.64 acres not 5.6 acres as reflected in the EIR. Accordingly, reference to the gross acres should be corrected wherever it appears, such as in Item 5 in IV.A-7. Further, the acreage to be zoned Multi-Family Medium Density and number of units should be changed to reflect 5.64 acres and 169 units. And, since the 1.0 acre to be zoning Planned Commercial/Residential is only reflected as a 0.30 FAR or 13,068 maximum square feet, it should also be shown as an alternative at 30 units per acre and 30 units. These changes should be reflected everywhere reference to the total acreage and respective to be zoned acreages are recited and in particular Table III.1 (III-13) and Table 6.1 (VI-6) and Table 6.2 (VI-11) should be properly changed.

Consistent with the above, in all places where the definition of uses within Planned Commercial/Residential is described [for example, in III. Project Description (III-11)] since either commercial or residential or a combination of both may be accommodated, the language should be changed to clearly indicate such fact. Therefore, the first sentence appearing in said location should be changed to read "Parcels with this designation would accommodate <u>either</u> commercial <u>or</u> residential uses <u>or</u> both commercial and residential uses in a mixed-use development." (emphasis added). M-2

Based upon our comments in the last two paragraphs, the Tables for Parcel 5-MRB Site should therefore be modified to reflect something such as the following:

Use	Acres	Sq.Ft.	FAR	U/AC	Units
Multi-Family, Med Dens	5.64			30	169
Planned Com/Res	1.0	13,068	0.3 or	30	30

Hazard 2e in IV.G-24 should be deleted. The only standard should be that which the utilities permit from time to time. All developments including MRB's contemplated development may place M-3

above ground improvements on top of pipeline or other utility rights-of-way, such as paving, curbing, landscaping and the like. And buildings and other improvements are commonly placed on the border of, or in close proximity to, easement rights-of-way. The proposed standard is unnecessary and unduly restrictive and not in keeping with normal development standards. M-3 cont'd

Hazard 2f in Table 2.1 (II-44) and elsewhere mentioned (IV.G-24) should be deleted. The utilities have determined the proximity within which residential or other buildings and improvements may be constructed by establishing the boundaries of and easement areas. If the utilities believed that greater separation was necessary, wider utility easements would have been established from time to time. M-4

IV.E-20 in the third paragraph suggests Multi-Family Medium-Density "Structures would not exceed 30 feet in height." This height limit needs to be changed to 60 feet to conform to the Draft Land Use Element limitation. M-5

In order to induce a developer to include affordable housing in a development, a bonus should be made available either in an increase in the number of units permitted in excess of the maximum permitted units or a credit in reduction of any development/impact fees. And, if inclusion of affordable housing is not practicable, any in-lieu fees to a City housing fund should be reasonable and not punitive. M-6

Other Comments.

We believe that the Draft Land Use Element has found that elusive middle ground where future development goals can be reached while environmental and community impacts can be minimized at the same time. No where in the EIR is this more evident than in Section V where the Significant Unavoidable Environmental Impacts are discussed. Careful reading of this section reveals problem areas that would exist without any development (eg. Transportation-1) and problems that are created by definition (eg. Hazard-7). It is very wise to recognize that there are certain impacts which simply are not capable of being mitigated and not permitting the desire for mitigation to prevent logical, practical and desirable development. M-7

As other comments may relate to the MRB Site but are more general and relate to the EIR itself and to all Parcels, see Schedule "A" annexed.

MRB will be represented by Mr. Michael W. Garton at the April 3, 1995 meeting at which comments will be taken from the public. Mr.

Garton will well articulate the specific and general comments included herein and will be prepared to discuss the same in detail with representatives of the City.

We believe the MRB Site is the best site available for development of multi-unit residences and we intend to utilize a design which will distinguish this development from others and will be high-class and not intrusive to the existing neighborhoods.

Very truly yours,

Donald S. Rosenberg

Donald S. Rosenberg
for MRB Associates

DSR:sjw
Enclosure

cc: Mr. Michael W. Garton
Mr. George D. O'Neill
Mr. George D. O'Neill, Jr.

SCHEDULE "A"

THIS SCHEDULE "A" IS ANNEXED TO LETTER DATED MARCH 31, 1995 ISSUED BY MRB ASSOCIATES TO CITY OF HERCULES IN RESPONSE TO DRAFT EIR.

II-9	Middle of page, line starting with the words "753 dwelling units." The sentence should be changed to indicate "...1,950 <u>more</u> dwelling units compared to the proposed project, and population growth therefore would be somewhat <u>more</u>."	M-8
II-52	Geology - 1: While the general intent of this mitigation is well founded, the all-inclusive and absolute language utilized is misguided. This mitigation measure could very easily be used by an opponent of almost any project in Hercules to bring it to an unfortunate halt. The measure should be deleted as everything in Hercules may be subject to earthquakes and violations already exist.	M-9
II-55	Geology - 5a: This is another mitigation that is over-reaching. Not all buildings need to be built upon pile supports. These determinations should be done on a site specific basis by qualified soils engineers (see Geology - 61).	M-10
II-57	Noise - 1c: Has a structural engineer been consulted regarding the efficacy of this proposed process? What is the cost impact of this requirement? It would be a shame if this measure made all development on Bay mud uneconomic.	M-11
II-58	Noise - 1d: The wording of this measure would seem to indicate that solid noise barriers will have to be erected on absolutely all construction sites, no matter how loud the noise being generated thereon. This is impracticable and expensive.	M-12
III-11	Planned Commercial/Residential. Definition needs to be clarified to allow development of <u>either</u> commercial <u>or</u> residential <u>or both</u>. Further, density should refer to <u>gross</u> acres, <u>not</u> net acres.	M-13
III-12	SFMD, MFMD, and MFHD densities should refer to <u>gross</u> acres, <u>not</u> net acres.	M-14
IV.E-20	Change 30 feet to 60 feet to conform to Draft Land Use Element. A 30-foot limitation is too restrictive.	M-15
IV.E-23	Last paragraph on page suggests, "Because the proposed land use designations permit only one- and two-story developments...." This is inaccurate and needs to be corrected as the height limit for Multi-Family Medium Density allows buildings up to 60 feet in height.	M-16

IV.E-24	This language is so specific that it might be used in such manner as would defeat a logical and desirable project use. Insert a provision to the effect that <u>visual standards are of a suggested and general nature only and shall not be construed as preventing adoption by the City of any plan which would be in conflict with the recited specifics</u>.	M-17
IV.F-24	In establishing developer fees under the district to fund wastewater improvements, language should be included to prevent assessments on new projects from funding the cost of old projects, all to the end that assessments will be equitable and not unfairly burden new development.	M-18
IV.I-10	Hydrology-2b. Re-word sentence to read, "Such practices <u>may</u> include, but are not limited to: ..." The present absolute requirement allows no room for common sense or educated analysis.	M-19
IV.J-13	Geology-1a. See Comment at II-52 above.	M-20
IV.J-19	Geology-5a. See Comment at II-55 above.	M-21
IV.L-10	Noise-1a. This is potentially more restrictive than rules existing in custom subdivisions in surrounding communities. Not allowing work on Saturdays would be a costly error for both developers and the City.	M-22
IV.M-5	Energy-1b: Requiring developers to exceed Title 24 Standards by 10 percent may be more onerous than suggested here. Further, placing incremental burdens on developers beyond those found in other communities is a quick way of providing an incentive for the developer to build in the other communities.	M-23
P.17	<u>Program</u> 2D should be <u>Policy</u> 2D.	M-24
P.22	<u>Policy</u> 5C.1 should be <u>Program</u> 5C.1.	M-25

Letter M - Donald S. Rosenberg, for MRB Associates, March 31, 1995

M-1) Due to an editing error, the EIR Project Description, Chapter III (and the Summary project description in Chapter II), incorrectly states residential densities as units per net acre; all densities in the draft Land Use Element are correctly expressed in units per gross acre, meaning that calculations are performed prior to setting aside roadways, utility and other easements, and other required land dedications. The editing error did not affect the technical analyses in the EIR, including the traffic analysis, which were based (where densities were applicable) on units per gross acre. Please see revisions to pp. II-3 and III-10 - 12 of the Final EIR.

M-2) The revisions requested by the commenter would increase daily trip generation by about 200 trips, or one-tenth of one percent of the project's daily trip generation. Such a change would not be measurable against the day-to-day fluctuation in traffic. In combination with changes on Parcels 1, 3 and 9 (see Comments S-2, G-14 and N-2), overall Study Area daily trip generation would be increased less than 4 percent. This increase similarly would be virtually unmeasurable, but could result in incrementally higher vehicle/capacity ratios, particularly at the intersections on San Pablo Avenue at Sycamore Avenue and John Muir Parkway, which are projected to operate at Level of Service (LOS) F in 2010. The increased traffic would not be expected to alter the LOS at these or other intersections, and no additional impacts would result, nor would additional mitigation measures be required. The changes recommended by the commenter are hereby acknowledged and incorporated into the Final EIR. Because the changes would not materially affect the analysis, and because the EIR is intended to describe, at a general level, the impacts of buildout throughout the Study Area, no change is made to Chapter III, Project Description, or the text of Chapter IV.

Regarding the definition of the Planned Commercial-Residential land use designation, the draft Land Use Element states that this category "is designed to provide the potential to accommodate both residential and commercial uses in a well-planned, mixed-use development," and that "development of these properties shall be carefully planned to insure that the benefits of mixed-use development are fully realized." However, there is no specific prohibition on developing either commercial *or* residential uses separately in a PC-R-designated area. It is the City's intent that the PC-R designation would allow for either residential or commercial development, or both, on a single parcel, consistent with

the commenter's interpretation. It is anticipated that specific development regulations would be promulgated when the City's Zoning Ordinance were revised for consistency with the updated Land Use Element.

For purposes of the EIR analysis, each of the 24 Study Area parcels was assigned a particular level of assumed development, generally at the "typical" density, as stated on p. III-10. For parcels such as Parcel 5, for which the Community Panel had recommended development of either residential or commercial uses, City staff and consultants selected a reasonably foreseeable use (or combination of uses) for analysis as the "project," with the option analyzed as part of the Residential-Emphasis or Commercial-Emphasis Alternatives.

Regarding the specific potential to designate 1 acre of Parcel 5 for commercial, rather than residential, use, this possibility is examined in the Draft EIR under the Residential-Emphasis Alternative, p. VI-10. (See Table VI.2, p. VI-11.)

M-3) Mitigation measure Hazard-2e, p. IV.G-26, has been revised. Please see the response to Comment G-9.

M-4) Please see also revisions to the text of Impact Hazard-2, pp. IV.G-20-26. Mitigation Measure Hazard-2f has been revised to state that pipeline operators shall be given the opportunity to review plans for adjacent parcels. (Such review is required by law for parcels on which pipeline easements are located.) Two new mitigation measures, Hazard-2g and Hazard-2h, p. IV.G-26, would require that the City consult with the Rodeo-Hercules Fire Protection District and pipeline operators regarding safety procedures, and that the City consider a notification requirement for residents of dwellings built near pipelines.

M-5) The general discussion of impacts on each of the three geographic subdivision in the Study Area on pp. IV.E-18 - 20, as well as the analysis and mitigation measures under Impact Visual-2, pp. IV.E-24 - 26, has been revised for consistency with the proposed height limits in the draft Land Use Element update.

M-6) The comment does not address the adequacy of the Draft EIR, and no response is necessary. For information, the City currently has a density bonus program, in

compliance with state law, that provides for a density bonus of up to 25 percent over and above the maximum density allowed by the *General Plan* and Zoning Ordinance for developments that provide a minimum percentage affordable housing units. Developers are required to provide a minimum of 10 percent affordable housing units in developments of 10 units or more, or to pay in-lieu fees based on the difference between market-rate and affordable housing.

M-7) Comment noted. As pointed out by the commenter and described in DEIR Chapter VI, Alternatives, significant unavoidable traffic impacts would result at the intersections of San Pablo Avenue/John Muir Parkway and San Pablo Avenue/Sycamore Avenue under each alternative analyzed, including the No Project Alternative. Freeway operations on Interstate 80 also would be at LOS F with all alternatives. In each case, as is described in Section IV.B, Transportation, traffic passing through Hercules (and unrelated to the proposed Land Use Element update) would contribute substantially to severe congestion on both San Pablo Avenue and Interstate 80 by 2010, and project-generated traffic would further degrade what would be already poor operating conditions. Project-generated demand for school enrollment would aggravate an existing and projected future shortfall in capacity. Chapter V does describe significant unavoidable impacts directly caused by the proposed project, including generation of substantial amounts of criteria air pollutants and generation of demand for City park facilities in excess of capacity.

M-8) The text of p. II-9 (and p. VI-10) has been corrected to reflect the fact that the Residential-Emphasis would result in about 200 more dwelling units than would the proposed project.

M-9) The Draft EIR notes that high seismic hazards associated with sites subject to very strong ground shaking create a higher degree of risk to structures than other potential sites with less ground shaking hazard. Because of the higher risk of collapse and damage to structures, siting in such areas establishes greater vulnerability of the City especially with respect to continued functionality of critical facilities and schools. Also, these sites pose higher risk of injury to large numbers of people from damage to structures in which many people would congregate (*e.g.*, shopping malls) and where the collapse of or severe damage to a structure in which large amounts of hazardous substances are stored and used could result in escape of the hazardous substances and might expose large numbers of people to adverse health effects.

Mitigation Measure Geology-1a, p. IV.J-13, presented one approach (hazard avoidance) that the City could take to eliminate the impact. This would be the most constraining approach to development of these types of facilities in Hercules. Especially in the case of siting fire stations, the avoidance approach is perhaps too constraining, as there is a higher need to have facilities located in close proximity to the service area. Fire protection must be provided at all times, whereas the potential hazards of an earthquake are infrequent. Admittedly, for all critical facilities and for schools, there is a need to ensure that such facilities do not collapse during earthquakes nor sustain such severe damage as to render them non-functional in the immediate aftermath of an earthquake, as is required under State law (e.g., Hospital Safety Act, Field Act). Additionally, there are approaches to building design to resist the strong motions of major earthquakes, although the costs for design and construction rise steeply in areas with higher earthquake hazards.

In recognition that other approaches are possible, Mitigation Measure Geology-1a has been revised, and a new Mitigation Measure Geology-1b is identified. Please see the revisions to pp. IV.J-13 - 14 of the Final EIR.

Other Mitigation Measures for Impact Geology-1 are renumbered as follows: Geology-1b becomes Geology 1c, and Geology-1c becomes Geology-1d. No change in the text of these mitigation measures is proposed.

M-10) Please see the response to Comment G-10.

M-11) Comment noted. Selection of noise mitigation for individual projects should be evaluated in terms of technical and economical feasibility. Pre-drilling of pile holes, where feasible, can substantially reduce the noise and vibration from impact pile driving. Vibratory pile driving also can reduce noise. The use of barriers and temporary berms to reduce construction noise would be appropriate if a construction site were adjacent to a sensitive land use, such as a school, hospital, or a single-family residence. Specific mitigation measures to be implemented would vary by project, and should be determined by the City during project review. Because construction noise if of limited duration and limitation to daylight hours, the implementation of selected, appropriate measures for each would likely reduce the impact of construction noise to a less-than-significant level. Mitigation Measure Noise-1a on EIR p. IV.L-10 has been revised to be applicable to

construction near sensitive receptors and to not disallow Saturday construction. Mitigation Measures Noise-1c and 1d, p. IV.L-10, have been revised to be required where feasible.

M-12) Please see the response to Comment M-11.

M-13) Please see the response to Comment M-2.

M-14) The Final EIR text has been revised to incorporate the comment. Please see the response to Comment M-1.

M-15) Please see the response to Comment M-5.

M-16) Please see the response to Comment M-5.

M-17) Mitigation Measure Visual-2a, p. IV.E-24 of the Final EIR, has been revised to state that views and view corridors should be preserved to the maximum extent feasible. Please also see the revisions to p. IV.E-23 of the Final EIR for a new component of Mitigation Measures Visual-1a, Visual-1b and Visual-1c to require the planting of replacement trees where eucalyptus trees are removed.

M-18) Comment noted. Under California law, a local jurisdiction, when imposing a development fee, must demonstrate a reasonable relationship between the amount of the fee and the cost or portion of the cost of the public improvement(s) to be made that is attributable to the development on which the fee is being imposed. Further, development fees may not be used to pay for maintenance or services, but only for capital projects. As noted in the response to Comment G-18, the City Council and/or the voters of Hercules may choose to impose special fees and/or taxes for various purposes that would apply to all parcels, including those already developed.

M-19) Mitigation Measure Hydrology-2b is revised consistent with the comment received. Please see p. IV.I-10 of the Final EIR.

M-20) Please see the response to Comment M-9.

M-21) Please see the response to Comment M-10.

M-22) Please see the response to Comment M-11.

M-23) Comment noted. Mitigation Measure Energy-1b, EIR p. IV.M-5, would not be required because Impact Energy-1 was not identified as significant; this measure has been revised to state that the City shall encourage achievement of an additional 10 percent energy savings beyond Title 24 standards.

M-24) Required changes in the draft Circulation Element will be made prior to adoption.

M-25) Required changes in the draft Circulation Element will be made prior to adoption.

N

ORB PARTNERSHIP
c/o Donald S. Rosenberg
Suite 2600, One Southeast Third Avenue
Miami, Florida 33131

March 31, 1995

RECEIVED
APR - 3 1995
CITY OF HERCULES

VIA FACSIMILE AND FEDERAL EXPRESS

Mr. Gary D. Hembree
Community and Business Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547

Re: Comments on Draft Environmental Impact Report ("EIR") related to the Update of the Land Use and Circulation Elements of the General Plan for the City of Hercules

Dear Mr. Hembree:

This constitutes the response of ORB Partnership ("ORB"), a California limited partnership. ORB is the Owner of Parcel 9 identified as the ORB Site. Said ORB Site is the subject of an agreed Owner Participation and Development Agreement, which includes an approved Site Plan, made between ORB, the City and the City's Redevelopment Agency. The actual development of ORB Site should be underway within the next 30 to 60 days. Notwithstanding such fact, we deem it vitally important that the EIR not be in conflict with the Owner Participation and Development Agreement and Site Plan, as the same may be modified between ORB, the City and Agency, and that the future use of ORB Site not be unfairly limited by reason of the EIR in the event of any change in conditions. N-1

We congratulate the City for its efforts to clarify matters in such manner as will permit the logical and businesslike development of the Parcels affected by the EIR and amendments to the General Plan and we encourage the City to put in place as soon as possible all of those public facilities and authorizations which will permit development to proceed efficiently and with avoidance of conflict. The interests of all parties will be best served if matters can be so accomplished.

With the above matters in mind, ORB is pleased to make the following observations, corrections and comments.

Technical Corrections Applicable to ORB Site.

Said ORB Site is 3.81 acres, not 3.5 acres as reflected in the EIR.

The FAR for General Commercial is specified to range from 0.20 to 1.00 with a typical of 0.30 for this category. Notwithstanding, the FAR reflected for ORB Site is 0.15, plus gas station. The FAR should be reflected as at least 0.30, plus gas station, so that any development change in the square footage can be accommodated during the existence of the Owner Participation and Development Agreement, should such be approved between ORB, City and Agency, or after expiration of the Owner Participation and Development Agreement, without requiring a modification to the EIR and/or General Plan. N-2

The foregoing will require modification to the acres, maximum square footage and FAR reflected as applicable in Table III.1 (III-13) and Table VI.1 (VI-6) and Table VI.2 (VI-11) and in IV.A-8 and at all other appropriate places in said EIR.

In Draft Land Use Element, Appendix F of VIII, on Page 34, in the last sentence of the second paragraph under General Commercial, typical FAR for this category is stated as "0.03" and should be "0.30". N-3

At IV.A-22 the designation for Parcel 9 is "CC" and should be changed to "GC". N-4

Hazard-2e in IV.G-24 should be deleted. The Site Plan approved for ORB violates this proposed standard because it both permits pavement, curbing, landscaping and the like on top of an existing pipeline, and permits the buildings and other improvements to be located within 10 feet of the pipeline right-of-way. It is common in all developments to permit certain aboveground improvements on top of various utility rights-of-way and buildings and other improvements are commonly placed in close proximity to easement rights-of-way. The only limitations on development should be those that are imposed by a utility and the proposed language does not belong in the EIR. This would not affect ORB since it has already been approved, but it might affect any future changes and surely would adversely impact other contemplated developments covered by the EIR. N-5

Other Comments.

As other comments may relate to the ORB Site but are more general and relate to the EIR itself and to all Parcels, see Schedule "A" annexed.

ORB will be represented by Mr. Michael W. Garton at the April 3, 1995 meeting at which comments will be taken from the public. Mr. Garton will well articulate the specific and general comments included herein and will be prepared to discuss the same in detail with representatives of the City.

Apparently the City intends to adopt a proactive and aggressive development promotion effort, which is applauded. Such an effort will benefit the populace and expand the tax base. To help accomplish the foregoing, the City should be sure to adopt measures such as: eliminating special design requirements which would unduly increase costs (establishing higher energy requirements); accelerating the review process to avoid costly delays; maintaining development/impact fees at a reasonable level; eliminating any special rules which would simply make construction more expensive; accelerating building inspections and any conflict resolutions; and establishing a method whereby the City can be assured that a "friendly attitude" is maintained. N-6

When development is undertaken in an open and cooperative atmosphere, the usual result is the establishment of projects which meet the community's needs and are of such character that everyone can point with pride to the City's accomplishments.

Very truly yours,

Donald S. Rosenberg

Donald S. Rosenberg
for ORB Partnership

DSR:sjw
Enclosure

cc: Mr. Michael W. Garton
Mr. George D. O'Neill
Mr. George D. O'Neill, Jr.

SCHEDULE "A"

THIS SCHEDULE "A" IS ANNEXED TO LETTER DATED MARCH 31, 1995 ISSUED BY ORB PARTNERSHIP TO CITY OF HERCULES IN RESPONSE TO DRAFT EIR. N-7

II-9 Middle of page, line starting with the words "753 dwelling units." The sentence should be changed to indicate "...1,950 more dwelling units compared to the proposed project, and population growth therefore would be somewhat more."

II-52 Geology - 1: While the general intent of this mitigation is well founded, the all-inclusive and absolute language utilized is misguided. This mitigation measure could very easily be used by an opponent of almost any project in Hercules to bring it to an unfortunate halt. The measure should be deleted as everything in Hercules may be subject to earthquakes and violations already exist.

II-55 Geology - 5a: This is another mitigation that is over-reaching. Not all buildings need to be built upon pile supports. These determinations should be done on a site specific basis by qualified soils engineers (see Geology - 61).

II-57 Noise - 1c: Has a structural engineer been consulted regarding the efficacy of this proposed process? What is the cost impact of this requirement? It would be a shame if this measure made all development on Bay mud uneconomic.

II-58 Noise - 1d: The wording of this measure would seem to indicate that solid noise barriers will have to be erected on absolutely all construction sites, no matter how loud the noise being generated thereon. This is impracticable and expensive.

III-11 Planned Commercial/Residential. Definition needs to be clarified to allow development of either commercial or residential or both. Further, density should refer to gross acres, not net acres.

III-12 SFMD, MFMD, and MFHD densities should refer to gross acres, not net acres.

IV.E-20 Change 30 feet to 60 feet to conform to Draft Land Use Element. A 30-foot limitation is too restrictive.

IV.E-23 Last paragraph on page suggests, "Because the proposed land use designations permit only one- and two-story developments...." This is inaccurate and needs to be corrected as the height limit for Multi-Family Medium Density allows buildings up to 60 feet in height.

IV.E-24 This language is so specific that it might be used in such manner as would defeat a logical and desirable project use. Insert a provision to the effect that visual standards are of a suggested and general nature only and shall not be construed as preventing adoption by the City of any plan which would be in conflict with the recited specifics.

IV.F-24 In establishing developer fees under the district to fund wastewater improvements, language should be included to prevent assessments on new projects from funding the cost of old projects, all to the end that assessments will be equitable and not unfairly burden new development.

IV.I-10 Hydrology-2b. Re-word sentence to read, "Such practices may include, but are not limited to: ..." The present absolute requirement allows no room for common sense or educated analysis.

IV.J-13 Geology-1a. See Comment at II-52 above.

IV.J-19 Geology-5a. See Comment at II-55 above.

IV.L-10 Noise-1a. This is potentially more restrictive than rules existing in custom subdivisions in surrounding communities. Not allowing work on Saturdays would be a costly error for both developers and the City.

IV.M-5 Energy-1b: Requiring developers to exceed Title 24 Standards by 10 percent may be more onerous than suggested here. Further, placing incremental burdens on developers beyond those found in other communities is a quick way of providing an incentive for the developer to build in the other communities.

P.17 Program 2D should be Policy 2D.

P.22 Policy 5C.1 should be Program 5C.1.

V-1 You are to be congratulated for recognizing that additional development may contribute to various environmental impacts (transportation, school, park, hazard and air) which are already at or near an unacceptable levels of impact and that further mitigation would be impracticable and not feasible. Such recognition and the elimination of attempts to mitigate that which may not be capable of mitigation to return any impact to an acceptable level will encourage rather than discourage the very development which the City deems desirable. N-8

Letter N - Donald S. Rosenberg, for ORB Partnership, March 31, 1995

N-1) As noted on p. IV.A-9, a small-scale commercial center, including retail stores and a service station, has been approved for construction on Parcel 9. This development would be consistent with the existing *General Plan* designation of Highway Commercial, as well as the proposed designation of Community Commercial; it also would be consistent with the existing zoning designation of CH-Highway Commercial.

N-2) As stated on DEIR p. III-12, the EIR analysis was based on the maximum development scenario that could occur given development at what is considered a reasonably foreseeable floor-area ratio (FAR). While most commercial parcels were analyzed based on the "typical" FAR, Parcel 9 was analyzed based on the now-approved development plan, a proposal for which had been received by the City at the time the EIR was in preparation.

The revisions requested by the commenter would increase daily trip generation by about 2,000 trips, or about 1 percent of the project's daily trip generation. Such a change would not be measurable against the day-to-day fluctuation in traffic. In combination with changes on Parcels 1, 3 and 5 (see Comments S-2, G-14 and M-2), overall Study Area daily trip generation would be increased less than 4 percent. This increase similarly would be virtually unmeasurable, but could result in incrementally higher vehicle/capacity ratios, particularly at the intersections on San Pablo Avenue at Sycamore Avenue and John Muir Parkway, which are projected to operate at Level of Service (LOS) F in 2010. The increased traffic would not be expected to alter the LOS at these or other intersections, and no additional impacts would result, nor would additional mitigation measures be required. The changes recommended by the commenter are hereby acknowledged and incorporated into the Final EIR. Because the changes would not materially affect the analysis, and because the EIR is intended to describe, at a general level, the impacts of buildout throughout the Study Area, no change is made to Chapter III, Project Description, or the text of Chapter IV.

N-3) Please see the response to Comment I-19. Required changes in the draft Land Use Element will be made prior to adoption.

N-4) Comment noted. Figure IV.A.3, p. IV.A-22, has been revised in the Final EIR.

N-5) Please see the response to Comment M-3.

N-6) Comment noted. The comment does not address the adequacy of the Draft EIR, and no response is required. For information, please see the response to Comment M-23 regarding energy requirements. Please see the response to Comment M-18 regarding development impact fees.

N-7) With the exception of the final comment, the comments in Schedule A of Comment Letter N are the same as those in Schedule A of Comment Letter M. The reader is directed to the responses to Comments M-8 through M-25.

N-8) Comment noted. Please see the response to Comment M-7.

LARRY R. WILLIAMSON
1070 Leland Drive
Lafayette, CA 94549
(~~415~~) 937-7530
510

O

RECEIVED
MAR 15 1995
CITY OF HERCULES

March 14, 1995

DEIR comment file

Gary Hembree
City of Hercules
111 Civic Drive
Hercules, CA 94547

Re: Draft E.I.R., parcel #12

Dear Mr. Hembree:

The draft City of Hercules E.I.R., dated February 3, 1995, uses the common name of TABCO site for parcel #12 throughout the E.I.R. I have owned parcel #12 for over 18 months and do not wish my property or myself to be shown connected in any way to TABCO or John Turner, the former property owner. O-1

Please make the appropriate name changes to the E.I.R. and any other documents changing parcel #12 to be the Williamson site. This will save all of us a lot of confusion as my site is developed.

Also, please notify me of any meetings concerning the E.I.R. and my property.

Thank you.

Sincerely,

Larry R. Williamson

Larry R. Williamson

cc: Ron Richardson

Letter O - Larry R. Williamson, March 14, 1995

O-1) References to "TABCO" have been changed to "Williamson" throughout the EIR.

P

RECEIVED
MAR 29 1995
CITY OF HERCULES

March 27, 1995

Mr. Gary Hembree
Community and Business Development Director
City of Hercules
111 Civic Drive
Hercules, CA 94547

Dear Mr. Hembree,

The community of Chelsea by the Bay has reviewed The Environmental Impact Report regarding the City of Hercules General Development Land Use. We recognize and appreciate your efforts for well-planned residential and commercial development as our city inevitably faces an era of expansion. However, we would like to express our concerns over certain issues that we feel will negatively impact our community.

1. Density - we are opposed to changing the original land use and intensity/density of Parcel C from single family to multi-family. The study recommends 67 multi-family units on this small parcel which is adjacent to single family housing. This conflicts with Policy 5A of the study which is to keep "development compatible with the surrounding neighborhood." **P-1**
2. Traffic - we are concerned about the increased traffic on Hercules Avenue and all the additional traffic on Railroad if this is turned into a through street to service Parcels 1,2,3,4,5 and C. Traffic could become congested, disturb the peace and quiet of these residential areas as well as create a safety hazard for children. We would like to have the main access through an extension of Sycamore. **P-2**
3. Parks - we are concerned about the lack of plans for park facilities to service these new developments in Parcels 1,2,3,4,5, and C. There are currently very limited park facilities West of San Pablo Ave in the area of proposed development. We are in favor of preservation of the nature trail across from the historic homes and the wetlands pond in front of the Hercules sewage treatment plant, and also support the East Bay Regional Park District's proposed trail along the entire bay front of Hercules. **P-3**
4. Trees - we are concerned about any possible removal of the Eucalyptus trees which provide shade and serve as a visual, sound and wind barrier to this area of Hercules which has strong prevailing afternoon winds from San Pablo Bay. **P-4**

Although Chelsea by the Bay has not participated to-date in any planning commission workshops due to a reorganization in the leadership of the Association, we are anxious to work with the commission in the future to ensure well-planned development while protecting precious historic and environmental areas and maintaining the quality of life which we currently enjoy in this city.

Sincerely,

Carol S. Arnold

Carol S. Arnold
President
Chelsea by the Bay HOA
106 Variz Circle
Hercules, CA 94547
724-9265

cc: Honorable Mayor and City Council Members
Hercules City Manager, Marilyn Leuck

Letter P - Carol S. Arnold, President, Chelsea by the Bay Homeowners Association, March 27, 1995

P-1) This comment does not address the adequacy of the Draft EIR, and no response is required. For information, the commenter misquotes Policy 5A of the proposed Land Use Element, which states that residential densities lower than specified in the Element "may be permitted only when specific findings are made by the Planning Commission. The findings are: the development would be compatible with the surrounding neighborhood and would not have a detrimental effect on existing or future multi-family development, or on existing or future development [and] the reduced density will not prevent the City from achieving its goals for low and moderate income housing, as set forth in the Housing Element." The draft Land Use Element update proposes development of Parcel C at a density of 12 units per acre (Multi-Family, Low Density). The Draft EIR did not identify any specific environmental impact associated with this designation.

P-2) Please see the response to Comment I-3.

P-3) Comment noted. The Draft EIR acknowledges the potential for the City to obtain additional park lands and facilities by working with prospective developers, but determines that there is no assurance that adequate park land and facilities can be provided in the future and therefore, on pp. IV.F-28 - 32, identifies the potential shortfall in neighborhood and community parks as a significant unavoidable effect of implementation of the proposed Land Use Element. The DEIR also acknowledges the lack of park facilities west of Interstate 80 (west of San Pablo Avenue) (see pp. IV.F-10 and 29).

Regarding the trail across from the historic homes, the commenter is apparently referring to the existing "Bay Access Pathway" that connects San Pablo Avenue with Santa Fe Avenue, essentially along the boundary of Parcels 3 and 4, along the northern edge of the Olympian Hills neighborhood, and across the northern edge of Parcel C. This pathway is shown in Figure IV.A.3, p. IV.A-22 of the Draft EIR. No change in this pathway is proposed as part of the project.

Regarding the "wetlands pond in front of the Hercules sewage treatment plan," the commenter is apparently referring to an area of Parcel 3, on the east side of the treatment plant, that floods seasonally. This area is part of a proposed wetlands preserve included in the mitigation plan for Parcel 3 submitted to the U.S. Army Corps of Engineers for review.

Regarding the proposed Bay trail, the Draft EIR describes the City's adopted trail alignment on p. IV.A-18. The City's alignment would extend along the Bay as far north as Refugio Creek, then follow the creek to San Pablo Avenue before heading north again. As indicated in the footnote on that page, the City believes that a trail along the entire City shoreline could present problems of safety for trail users and security for property owners. Specifically, the City is concerned about the safety of users because, in the northwesternmost portion of Hercules, only a narrow strip of land would be available immediately adjacent to the existing Southern Pacific Railroad tracks. In addition, along the shoreline of Parcel 6 (North Shore Business Park), the most suitable location for a trail would be on the bluff above the shore, adjacent to the Bio-Rad Corp. parking lot. Bio-Rad officials have indicated to City staff their concern about corporate security with public access immediately adjacent to the company's research facility (Jackson, 1995).

P-4) Please see the response to Comment G-7. As with visual effects, removal of eucalyptus trees could reduce shading and wind breaks provided by stands of trees. Because they do not form a solid barrier and often lack sufficient density, stands of trees along roadways are generally not effective at noise reduction.

REFERENCE - Comment Letter P

Jackson, Connie, Deputy City Manager/Parks and Recreation Director, City of Hercules, telephone conversation, April 19, 1995.

Q

GLENWOOD AT VILLAGE PARK HOMEOWNERS ASSOCIATION
c/o LLW Properties
3704 Mt. Diablo Boulevard, Suite 120
Lafayette, California 94549
510/284-0490

RECEIVED
MAR 17 1995
CITY OF HERCULES

March 16, 1995

Ms. Gary Hembree
Community and Business Development Director
City of Hercules
111 Civic Drive
Hercules, California 94547

Re: Draft Environmental Impact Report

Dear Mr. Hembree:

This letter is in reference to your drafted Environmental Impact Report. This is not dated! I find that ridiculous and irresponsible, especially when you present yourself as having asked for Homeowner Association input! Our Board just received this! Secondly, this report is huge and your cover memo doesn't show what we need to be aware of in reviewing this document. Q-1

There is no direction in the memo as to the context for this report. Why not ... what are you trying to do, where are you trying to go with this subject?

As a business person, I find this report and memo frustrating ... why are you sending this to us?

Very truly yours,

Debra Longwood

Debra Longwood

Letter Q - Debra Longwood, Glenwood at Village Park Homeowners Association, March 16, 1995

Q-1) The Draft EIR and cover and cover page are dated February 3, 1995. Regarding the purpose of the EIR, Chapter I, Introduction, explains the relationship of the *General Plan* update process to the process of environmental review (p. I-2) and describes the purpose and organization of the EIR on pp. I-3 - 4. The public review process is explained on p. I-4.

RECEIVED
APR - 3 1995
CITY OF HERCULES

Hercules General Plan Update
Land Use and Circulation Elements

Comments on the Draft EIR

On: April 3, 1995

Authors:

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Summary of These Comments and Questions

Contents of This Document

This document is organized into two major parts. In this first part, we provide a thematic summary of our comments and concerns. In the second part, we provide our comments and questions organized according to the chapter headings in the Draft EIR.

Although these comments reflect the views of the authors as of the EIR comment-period deadline, they will be submitted for ratification by the Hercules By The Bay Homeowners Association and endorsement by individual homeowners in the coming weeks.

In the following sections, we provide the reader with five themes that run through our detailed comments.

Theme One:
Historic Town Corridor

The EIR does not adequately address the impacts of the Update on the contiguous, integrated historic corridor extending from the site of the former Triangle Park (near Fawcett and Santa Fe) northwest to Railroad Avenue thence eastward to the top of the hill (Historic Town Center). **R-1**

The EIR does not fully consider the impacts on the study area contiguous to the parcels studied. For example, there is currently an uninterrupted corridor of broad views and semi-rural character extending both sides of Santa Fe Avenue from the corner of Fawcett to Railroad Avenue, where the vista is completed **R-2**

with a nearly 180-degree bay view. Proceeding generally northwest, the public is afforded a wide view of Army Corps-mandated wild lands Any development on Parcel C will necessarily interrupt this view corridor, which is last such corridor remaining accessible to the public from along the street or sidewalks. **R-2 cont'd**

Theme Two:
Pinole Creek/ Wetlands Integrity

The manner in which the EIR study area was constructed prevents proper consideration of the impact of the Update projects on the integrity of the original plan and development concept for the Hercules By the Bay homes. Dense development on Lot C, the proposed development around the Town Center, and the failure to establish and protect a continuous shoreline trail would have a cumulative negative impact on HBTB stakeholders. The existing bird sanctuary/ wetland adjacent to Railroad Avenue should be regarded as a major asset focal point in the EIR. **R-3**

Theme Three:
HBTB Impacts Not Adequately Addressed in the EIR

Support impacts of Project development (traffic, noise, sewer) will cumulatively and disproportionately affect HBTB stakeholders. **R-4**

Theme Four:
Concerns on Process

Map details for the affected Historic and HBTB areas are missing or erroneous. Unexplained discrepancies exist with regard to tracing the Community Panel inputs for land use designations, planning objectives, and unknown other guidances. **R-5**

Theme Five:
Implicit Assumptions of the General Plan Update Process Not Reflected in the EIR

Ultimately, the EIR is only as sound as the assumptions which undergird the General Plan Update Process. These assumptions are severely flawed. For example, the EIR study area, as defined, does not take into account important economic assets and community interdependencies of adjacent Pinole and Rodeo.

The Land Use Update Process is described in the EIR as an attempt to preserve the rationale for an independent unit of local government. Given the current state and likely future for municipal finance in California, we believe that this is the wrong goal. Even if it were the right goal, the EIR itself concludes that development cannot achieve it. **R-6**

The central driving force for the General Plan Update is the continued financial viability of the City of Hercules as an independent unit of government. However, the EIR has exhaustively shown that there is little prospect that any

development alternative can ever achieve the goal of a balanced economy and thus a long-term, sound financial basis for local government.

Some or all of the actions proposed in the Update may not be necessary to achieve the policy goals reflected in the EIR. For example, the City or many of its major services could be combined with adjacent city or county-level governments.

Public finance for many, if not most of the small cities of western Contra Costa County is critically problematic. These cities have outlived their original rationales for existence. Services and land-use planning can be provided far more effectively on a comprehensive regional basis.

R-6 cont'd

Specific Comments and Questions with Page References to the Draft EIR

I. Introduction

No comments at this time

II. Summary

II-3

COMMENT

The Draft EIR apparently did not follow the Community Panel direction with regard to land use designations. The following Table 1 presents a comparison of the land-use designations in the two documents. The shaded rows highlight the designations which differ as between the two documents.

R-7

71 *Table 1*
72 *Comparison of Maximum Density Designations Between*
73 *EIR and Community Panel*

Designation	Maximum Density Draft EIR	Maximum Density Indicated by the Community Panel
Historic Town Center	17 units/ acre	17 units/ acre
Waterfront Commercial	**0.3 FAR**	**60,000 sq. ft leasable space**
General Commercial	**1.0 FAR**	**0.5 FAR**
Community Commercial	**1.00 FAR**	**0.25 FAR**
Recreational Commercial	0.4 FAR	0.4 FAR
Planned Office and R&D	1.00 FAR	0.3 FAR
Planned Commercial/ Industrial	**0.5 FAR**	**0.3 FAR**
Planned Commercial/ Residential	30 units/acre no height restriction	30 units/ acre max. height 3 stories
Industrial/ Residential	25 units/ acre 0.5 FAR no height restriction	25 units/ acre 0.5 FAR 40 foot height restriction
Single Family Estate	2 units/ acre	2 units/ acre
Single Family	7 units/ acre	7 units/ acre
Single Family Medium Density	**12 units/ acre**	**not included**
Multi Family Low Density	**12 units/ acre**	**10 units/ acre**
Multi Family Medium Density	30 units/ acre	30 units/ acre
Multi Family High Density	55 units/ acre	55 units/ acre

R-7 cont'd

74 QUESTION

75 What is the basis for this discrepancy? For example: Why the higher density
76 for Medium Family Low Density in the EIR than in the Community Panel?

77 COMMENT

78 Single Family Medium Density housing allows for the same density as
79 Multifamily Low Density and would fit more appropriately within the
80 existing residential setting.

R-8

QUESTION

Why is Single Family Medium Density housing not being considered?

COMMENT

The Community Panel did consider designations of Single Family - Estate and Single Family (ref.: Community Panel Report to City Council February 23, 1993) Single family housing will more likely bring in residents who will want to stay and participate within in the City to the benefit of the City. **R-8 cont'd**

QUESTION

Why is there no consideration for Single Family housing in this EIR

II-5

COMMENT

We agree that the Reduced Density Alternative is the environmentally superior choice. **R-9**

III. Project Description

III-4

COMMENT

The Land Use Goals and Objectives as stated within the Draft EIR appear to be significantly different than those recommended by the Community Panel. For example; the Community Panel Goal 5 states "Preserve and enhance the historic district... " but the City's goal is only "Preserve Hercules history while developing its future" . **R-10**

QUESTION

Why has the City chosen not to address the enhancing of the historic district and fails to mention the district at all in the goals?

COMMENT

The Community Panels Proposed Land Use Goals, Objectives and Policies place a significant emphasis on developing non-residential land uses (retail, high growth technical industry, health care services) that could lead to employment opportunities. **R-11**

QUESTION

Why does the City's land use objectives have a larger significant focus on developing residential land uses?

III-7

COMMENTS

The Railroad mini park is described as being 2 acres when in fact it is 1.73 acres gross and 1.31 acres net. Also only approximately one third of this lot is actually usable park. The remainder of the land is slope, an abandoned City building and a storage facility containing toxic materials. **R-12**

QUESTIONS

Why was the actual useful description not included?

Should this storage facility be included in the EIR under Hazardous Materials?

Why are there no new park/open space being considered for the residential area that connect to and are intersected by parcels 1, C, B and 5? There is being proposed increased residences but no increase for recreational facilities which are already lacking (IV.F-10).

R-12 cont'd

COMMENTS

The boundaries of Property C shown on the map are incorrect. The map shows Property C extending east nearly to Staples Court and includes land owned by Hercules By the Bay Homeowners Association. The lot being shown in the maps have included property that belongs to Hercules By The Bay H.O.A. on the south and overextends the actual land boundary to the north as described by the Contra Costa County Recorders Office. Please see attached excerpt of Contra County Recorders map for subdivision 5338.

R-13

QUESTIONS

How were the land sizes determined for the maps?

Will the EIR maps be corrected to reflect the actual lot configurations?

COMMENT

- This area is historically significant as the former Triangle Park center of the company town.
- Table III.1 on page III-14 show 12 units/ acre for a total of 67 units on the Citation property in property C. In 1992, Citation Homes presented plans to build out its parcel on C, to a density which would exceed these maximums.

R-14

QUESTION

How can this proposed density be reconciled with the stated city planning objectives?

IV. Environmental Setting, Impacts & Mitigation Measures

IV.A Land Use, Plans & Policies

IV.A-6

COMMENT

The EIR is unclear or incorrect in its site description of the Historic Homes area. This important definition undergirds all subsequent treatment in the EIR of these irreplaceable historic urban assets.

R-15

QUESTION

Does the Historic Homes of Hercules restoration project include all the homes on Bay Street, Talley Way and Pinole Street? **R-15 cont'd**

IV.A-15

COMMENT

City Staff, not the Community Panel, revised the density designations (I-1) for lots A, B, and C without input from the community.

QUESTIONS

What is the basis for the assertion in the EIR that the Community Panel's Report of February 1993 included a recommendation for Multi-Family housing on Parcels 1,3,4,5,13, A, B and C? **R-16**

Why is the density level designation for lots A, B and C attributed to the Community Panel?

IV.A-18

COMMENT

The simple assertion that a shoreline trail is hazardous is unsupported.

QUESTION

Why does the City consider a shoreline trail a safety hazard for users and property owners when the trail already goes by and through residential and commercial properties near the water? **R-17**

IV.A-23

COMMENT

We would like to point out a potential conflict with the Proposed Land Uses. Parcel C is surround three quarters of the way by Hercules By The Bay Homeowners Association. The Historic Homes are part of this Homeowners association as are the single family homes west of San Pablo. Any land use designation needs to take this into consideration as all of Hercules By The Bay consists of single family homes. Any development of this parcel must be consistent with the existing area as it will divide this Association in two. **R-18**

QUESTION

How is the City going to ensure the consistency of this neighborhood if Parcel C is designated as Multi Family inside a Single Family neighborhood (see attached map)?

COMMENT

Furthermore, the Association maintains a private pool and private park. The Association has current plans to develop a small portion of this land, adjacent to parcel C, into an additional private park setting for its members. Any development could have a negative impact on the Associations private property, for example by non-member use of immediately adjacent Association facilities? **R-19**

QUESTION

Where is the mitigation measure to ensure that there will be adequate recreational facilities and amenities for the residents on the bayside should parcels B and C be developed.? **R-19 cont'd**

IV.E Visual

IV.E-2

COMMENT: IMPACT VISUAL 2-A

The EIR omits mention of the views of and from the existing Historic Homes. For example, consider views from Santa Fe and Fawcett looking north; from the same location looking northeast and northwest; and from Railroad Avenue at the Hercules city line looking east. **R-20**

QUESTION

Why were these views omitted?

COMMENT

The maps showing the current Land Use Elements have omitted the Historic District Overlay. Its omission as a Proposed Land Use Element is highlighted by reference to the Community Panel report "Land Use Goals and Objective 5". **R-21**

QUESTION

Why does the EIR fail to mention the Historic District Overlay?

IV.L Noise

IV.L-11

COMMENT

The EIR notes that a "significant noise increase on Hercules Ave between San Pablo and Santa Fe" will occur. **R-22**

QUESTION

What is the anticipated vehicle mix supporting this statement?

IV.L-14

COMMENT:

IMPACT NOISE-2 AND MITIGATION MEASURE NOISE 2-A

The EIR notes "Heavy duty diesel trucks on residential street Hercules Ave". **R-23**

QUESTIONS

Why the traffic increase leading to increased noise? What are the origins/ destinations for this traffic?

COMMENT

Commercial traffic on residential streets obviously raises the inherent hazard level of street traffic. The EIR suggests "mitigation by limiting traffic". **R-24**

QUESTION

Please provide basis for assertion that the proposed mitigation is practical and sufficient. **R-24 cont'd**

V. Impact Overview

No comment at this time.

VI. Alternatives

VI-18

COMMENT

The Reduced Density Alternative appears to be in the plan that would be best for Hercules and it's residents. The EIR itself proclaims this alternative "the environmentally superior alternative". We agree. **R-25**

VI-2

COMMENT

The next best alternative is the No-Project Alternative A.2 (Existing Land Use and Circulation Elements), which is consistent with the 1991 Clean Air Plan and will have fewer significant impacts than the proposed plan. **R-26**

COMMENT: SEWAGE LIFT CAPACITY

Development on parcels B and C may impact the Bayside Lift Station, which was under built originally and now represents an expense to the City.

QUESTION

Where in the EIR is the following impact addressed: sewage increase should parcels C and B be developed? **R-27**

VII. Report Preparation

No comments at this time

VIII. Appendices

VIII-G Density

Policy 5A.

COMMENT

Consider the following:

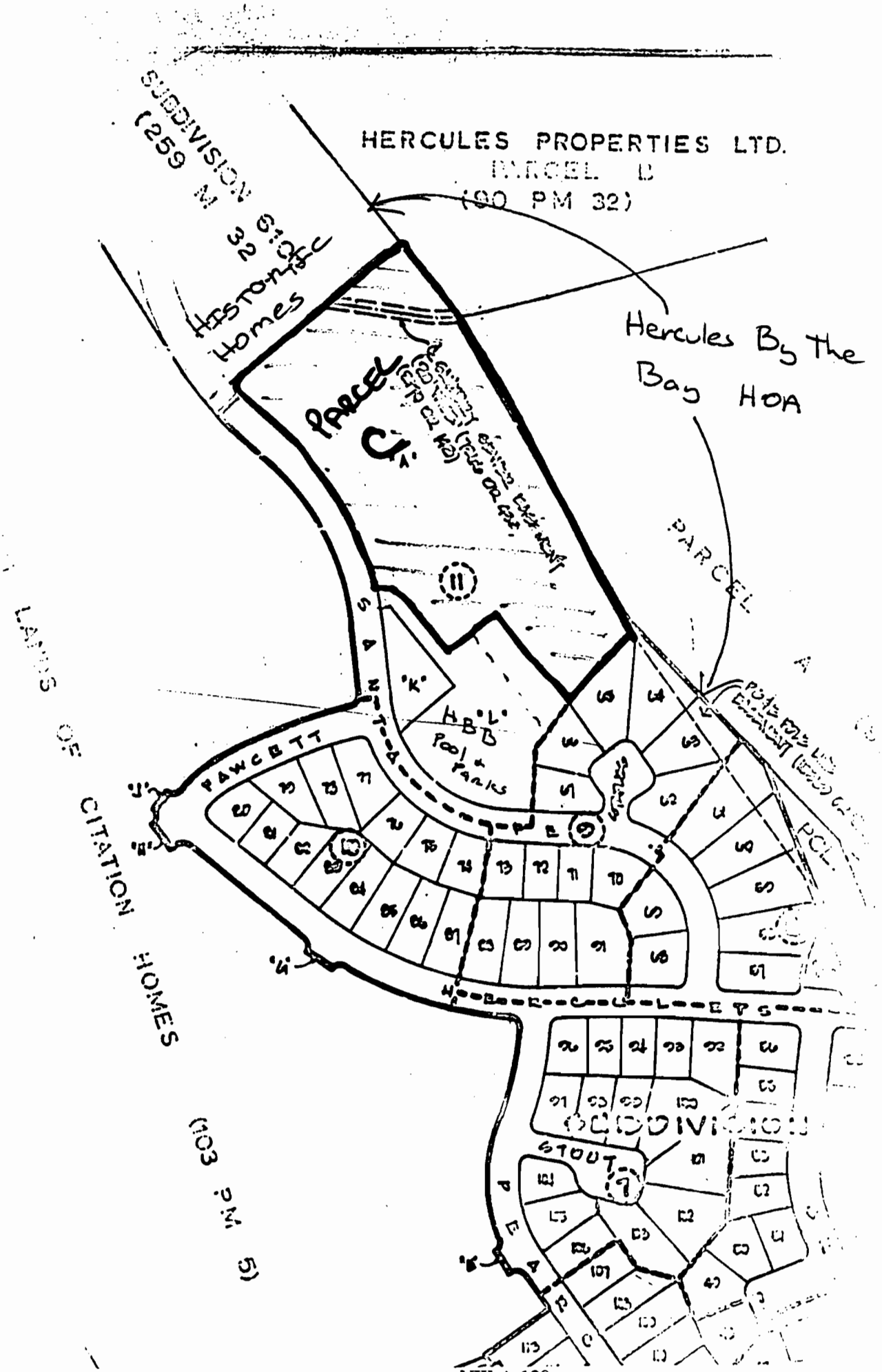
1. The residential density designations for the parcels 1-14 under review were set by the City with limited community input
2. Density designations for Parcels A-J were made without any community input
3. The EIR indicates that no parcels would be developed at less than Multi Family Low Density

Single family housing would be more consistent when considering existing neighborhoods, **R-28**

269 QUESTION

270 How is it reasonable to propose a new public policy that limits the role of the
271 Planning Commission to permit lower densities while easily allowing for
272 increased densities?

R-28 cont'd


HERCULES PROPERTIES LTD.
PARCEL B
(90 PM 32)
SUBDIVISION 610
(259 M 32
Historic Homes
Hercules By the Bay HOA
PARCEL C
PARCEL A
LANDS OF CITATION HOMES
(103 PM 5)
PAWCETT
HERCULES
STOUT
SUBDIVISION
HBB
Pool & Parks
'K'
'L'
11
9
7

Letter R - Fred Kilby and Steve Lawton, April 3, 1995

R-1) The EIR adequately addresses potential impacts of development on historic resources of the former Hercules company town in Impact Cultural-1, DEIR p. IV.H-3, where it is noted that development on Parcels 1 or C could result in damage to these structures.

R-2) As noted in DEIR Chapter I, Introduction, on p. I-3, this EIR has been prepared as a Program EIR to identify general areas of environmental sensitivity and the potential general, cumulative effects of buildout under the proposed Land Use and Circulation Elements. The level of detail presented, including the identification of sensitive viewpoints, is sufficient to provide future developers with information on potential constraints to development. The EIR does not attempt to provide a detailed analysis of each parcel; such analysis is more appropriately performed by future individual project proponents. The Draft EIR does identify, in Impact Visual-2, p. IV.E-23 (FEIR p. IV.E-24), blockage of scenic views, including views of San Pablo Bay, as a potential significant effect of the project. Mitigation Measure Visual-2a, as revised in the Final EIR, pp. IV.E-24 - 25, would require that these views be protected, to the maximum extent feasible, in subsequent review of specific projects that are proposed for development.

R-3) The EIR evaluates physical, environmental impacts at a general level, primarily on the 24 affected parcels that compose the Study Area, and on adjacent and nearby areas where applicable. No impacts on Pinole Creek or the shoreline near the creek's mouth at the Hercules-Pinole border, were identified. Regarding the shoreline trail, please see the response to Comment P-3.

R-4) Issues related to traffic, noise and wastewater treatment are analyzed in the DEIR in Sections IV.B, IV.L, and IV.F at an appropriate level of detail. As noted in the response to Comment R-1, the EIR is a Program EIR, and does not analyzed parcel-specific impacts in detail. Please see also the responses to the remaining comments in this letter.

R-5) This comment does not address specific items for response. Please see the response to Comment R-13 regarding map errors.

R-6) The commenters apparently argue against the continuation of the City of Hercules as a governmental entity and do not address the adequacy of the Draft EIR. No response is required.

R-7) As stated on DEIR p. III-4, the City incorporated the Community Panel recommendations into the proposed Land Use Element update. The Panel's recommendations were the basis for the draft Land Use Element update (and EIR project description) of Parcels 1-14, and City staff added 10 mostly smaller parcels to the proposed Element (and EIR), as stated on pp. I-1 and III-8, to provide for a more complete analysis of remaining lands available for development. Staff also made certain adjustments to the Community Panel recommendations to ensure that the proposed Land Use Element update could be feasibly implemented. These changes included adjusting the maximum permitted floor-area ratio (FAR) for the General Commercial and Community Commercial designations 1.0, and the FAR for the Planned Commercial-Industrial designation to 0.5 to maximize the potential for commercial development. Staff also added a FAR of 0.3 for the Waterfront Commercial designation, which had no maximum FAR in the Community Panel report.

Regarding the increased maximum residential density in the Multi-Family, Low-Density designation from 10 units per acre to 12 units per acre, the increase was effected to enhance the possibility of construction of affordable housing, as Hercules currently has very few affordable housing units and risks losing state housing assistance funds as a result. (See draft Land Use Element Policy 5B and Programs 5B.1 and 5B.2, and Policy 5C and Program 5C1.) It should be noted that the Planned Commercial-Residential designation in the proposed Land Use Element has a three-story height limit, and the Industrial-Residential designation has a 40 foot height limit (see Appendix, pp. 37-38).

R-8) The comment does not address the adequacy of the Draft EIR, and no response is required. For information, the draft Land Use Element update includes three single-family housing designations (Single-Family Estate, Single-Family, Low-Density, and Single-Family, Medium-Density). None of the 24 Study Area parcels is proposed for designation as single-family housing because the City is required to facilitate development of affordable housing, as stated in the response to Comment R-7. It should be noted that the current Hercules Zoning Ordinance allows for single-family dwellings

in all residential zoning districts. The Multi-Family Low-Density Land Use designation proposed for Parcels A, B and C would, subject to revision of the Zoning Ordinance, accommodate single-family dwellings at the same density (7-12 units per acre). This is the same density as provided for by the proposed Single-Family, Medium-Density Land Use designation, and would permit development at densities common in Hercules. As noted on p. III-10 of the Draft EIR, the project analyzed in the EIR is based generally on typical density levels that are anticipated. Certain parcels may develop at lower densities within the allowable range for each designation.

R-9) Comment noted.

R-10) The comment does not address the adequacy of the Draft EIR, and no response is required. For information, the draft Land Use Element update includes Policy 8A, "Preserve and enhance the historic district area"; and Program 8A.1, "Develop plans to preserve and rehabilitate key historic buildings but not the former plant equipment and manufacturing structures related to former industrial sites."

R-11) The comment does not address the adequacy of the Draft EIR, and no response is required. For information, the draft Land Use Element update is focused primarily on economic growth and implementation of the City's Economic Development Strategy Plan. For example, two of the four "concepts" stated on pp. 13-14 of the proposed Land Use Element relate to opportunities for increased employment and commercial activity.

R-12) City staff is not aware of the meaning of "net" acreage of Railroad Mini Park, which is referenced on p. IV.F-9 of the Draft EIR. It is possible that the commenters are referring to the land available exclusive of the hillside that occupies the northern portion of the park. Regarding total acreage of the park, at a Program EIR level of detail, the difference between 2 acres and 1.7 acres is not meaningful. Regarding the alleged "toxic" materials, the commenters may be referring to a building (the former Civic Arts House) adjacent to the park property that was formerly used for the Tiny Tots pre-school program. That use was discontinued because it was determined that there is exposed asbestos in the basement.[1] The second building adjacent to the park property is a former

[1] Asbestos removal is regulated by the Bay Area Air Quality Management District, and must be conducted by a licensed contractor. Disposal of removed asbestos is regulated by state and federal law. The City, as the property owner, would be responsible for abatement of asbestos in the former Civic Arts House at the time of renovation or demolition.

storage shed for the one-time City corporation yard that was near the park. There are no toxic materials stored anywhere on the park property. As noted on DEIR p. IV.G-18, reuse of historic buildings could require removal and disposal of hazardous building materials; such materials might include asbestos and polychlorinated biphenyls (organic oils that were formerly used in electrical equipment), among others. Cleanup of such materials would be in accordance with site inspections and remediation plans provided for in Mitigation Measures Hazard-1a and Hazard-1b. Regarding the question of overall park impacts, particularly on the west side of Interstate 80, please see the response to Comment P-3.

R-13) Comment noted. Figure III.2, p. III-7, and other EIR maps using this figure as a base map have been corrected in the Final EIR.

R-14) If the proposed Land Use Element were approved, the designation therein for Parcel C (as for other parcels in the Study Area) would be the adopted City standard.

R-15) The Draft EIR describes the Historic Homes as being south of Parcel 1 and west of the Olympian Hills neighborhood. This description is provided for site context; the Historic Homes are not included in the EIR Study Area and would not be directly affected by the project. Regarding the remainder of the existing Historic Overlay Zoning District that includes portions of the former dynamite plant on Parcel 1, the historic buildings on Parcel 1 are discussed in Section IV.H., Cultural Resources. The Historic Overlay District is part of the Hercules Zoning Ordinance, not the *General Plan.*

R-16) The statement on DEIR p. IV.A-15 that the Community Panel recommended multi-family housing on Parcels A, B, and C is incorrect; the statement has been revised in the Final EIR to state that "the proposed Housing Element acknowledges the <u>draft Land Use Element update</u> recommendation for multi-family housing on Parcels 1, 3, 4, 5, 13, A, B, and C." The EIR states on pp. I-1 and III-8 that City staff was responsible for including in the Land Use Element update the 10 parcels not evaluated by the Community Panel.

R-17) Please see the response to Comment P-3 regarding the shoreline trail.

R-18) As stated on p. IV.A-24 in the discussion of potential land use conflicts, physical, environmental effects of one type of land use on another could include noise, dust, and

light and glare. Other such effects could include odor and exposure to hazardous materials. Each section of Chapter IV of the DEIR evaluates the potential physical effects associated with development consistent with the proposed Land Use Element, including the potential land use conflicts noted above. None of these impacts is inherently associated, at a level that would be considered significant under CEQA, with mixed residential densities or different residential densities adjacent to one and other, and the Draft EIR identified no such impacts specific to Parcel C.

R-19) Regarding overall park and recreation facility impacts, please see the response to Comment P-3. There would be not be expected to be any physical, environmental impact of the project on existing private recreational facilities.

R-20) Please see the response to Comment R-2. It should be noted that the Historic Homes are discussed in the analysis of visual quality on DEIR pp. IV.E-9, 14, 21, and 25-27.

R-21) As stated in response to Comment R-15, the Historic Overlay District is part of the Hercules Zoning Ordinance; it is not included in the *General Plan.* As stated on p. III-17 of the DEIR, the City would revise its Zoning Ordinance for consistency with the Land Use Element update.

R-22) The increase in noise is a direct result of elevated traffic levels. The existing peak-hour traffic volume on Hercules Avenue, according to the West County Traffic Model, is about 100 vehicles. With development consistent with the proposed Land Use and Circulation Elements, this volume would increase to about 980 vehicles per hour, according to modeling performed for the Circulation Element *Transportation Technical Report*. For the purposes of noise modeling, a traffic volume was established for the Hercules Avenue "link" between San Pablo Avenue and Santa Fe Avenue.

The anticipated vehicle mix used in the Federal Highway Administration (FHWA) Traffic Noise Prediction Model (results shown in Table IV.L.5 on page IV.L-12 of the DEIR) assumed one percent heavy-duty trucks and one percent medium-duty trucks. Based on the traffic analysis, a peak-hour traffic volume of about 980 vehicles and a speed of 30 miles per hour was used in this analysis. By prohibiting heavy-duty trucks and generally limiting truck traffic (Mitigation Measure Noise-2a, p. IV.L-14), and by incorporating the City's General Plan (Noise Element Implementation Measure 2.a),

noise from vehicles traveling on Hercules Avenue would be reduced to less-than-significant levels.

As noted in the response to Comment I-3, the EIR traffic analysis assumed a connection along Railroad Avenue between the Hercules-by-the-Bay neighborhoods along Hercules Avenue and the proposed development on Parcels 2 and 3 and the northern portion of Parcel 1. Regardless of whether this connection is provided, truck traffic could be restricted on Hercules Avenue. Because only limited truck traffic would be expected on Hercules Avenue. The paragraph below Mitigation Measure Noise-2a, p. IV.L-14 is revised to delete the statement regarding heavy-duty diesel trucks on Hercules Avenue. Please see the response to Comment I-3 for further discussion of Hercules Avenue traffic.

R-23) Please see the response to Comment R-22.

R-24) As noted in the response to Comment R-22, mitigation would involve limiting truck traffic, not limiting all traffic as implied by the commenter. Please see the response to Comment R-22.

R-25) Comment noted.

R-26) Comment noted.

R-27) Effects of the proposed project on wastewater treatment capacity are discussed on pp. IV.F-22 - 24. Mitigation measures include a requirement that the City ensure adequate treatment capacity is available for new development, and that such new development pay its fair share of the cost of required system improvements.

R-28) The comment does not address the adequacy of the Draft EIR, and no response is required. For information, the draft Land Use Element update includes, in Policy 5A, the potential for additional environmental review for projects that proposed residential development at higher densities than authorized in the Land Use Element. This is a stricter standard than the findings required to be made by the Planning Commission for lower-density housing.

S

ROBERT LAMB HART

Planners, Architects and
Landscape Architects, Ltd.
New York • San Francisco

242 California Street
San Francisco, Ca. 94111
415 986-4260

March 29, 1995

Mr. Gary Hembree
Director Community and Business Development
City of Hercules
111 Civic Drive
Hercules, CA 94547

RE: General Plan Land Use and Circulation Elements
Update, and Redevelopment Plan Amendments

Draft Environmental Impact Report (February 3,1995)

Dear Gary:

On behalf of Hercules Properties Inc., we are pleased to present for your consideration the following review comments on the General Plan Land Use and Circulation Elements Update, and Redevelopment Plan Amendments Draft Environmental Impact Report (February, 1995). We look forward to participating in the public hearings to follow.

Circulation

Considering it is intended to be an update of the City's General Plan Circulation Element, it does not appear to be as farsighted as may be warranted. p.III-15, paragraph 2, states: S-1

> *"The Circulation Element Update describes several roadway and other transportation improvement projects that are either already funded or are otherwise expected to be complete by 2010."*

Also on p.III-15, last paragraph, the EIR project description states: S-2

> *"The draft Circulation Element Update includes a conceptual alignment for a new roadway that could be constructed to serve development west of San Pablo Avenue."*

However, Figure IV.A.3 "Proposed General Plan Land Use Designations" does not include any indication of this conceptual alignment.

Figure III.3 in Appendix G - The Draft Circulation Element, shows an extension of Sycamore Avenue into the Gelsar site, together with a connection south back to San Pablo Avenue across Hercules Properties land. However, there is no indication of the Sycamore extension providing access to the historic town center. S-3

The Panel's idea of extending John Muir Parkway seems to have been totally ignored. The Circulation Plan seems to be silent on the issue of providing access to the waterfront. S-3 cont'd

Railroad Station

The Draft Circulation Element in Appendix G does make reference to *"promoting commuter rail and a train station in the City..."* in policy E on p.III-22, but there are no locational indications on the accompanying maps. S-4

Tidelands

There is no mention of any future use of tideland areas, other than reference to State Lands Commission and BCDC jurisdictional responsibilities (pp.IV.A-18 & 19.) S-5

Soils

Policy E 11 on p.IV.J-12 states that *"Areas underlain by soft bay mud will require further detailed soils investigations."*

Figure IV.J-2 indicates that nearly all of the northern portion of Parcel I would be covered by such a policy.

Additionally, the EIR on p.IV.J-13 recommends an additional mitigation measure to *"Require critical facilities (emergency response centers, fire, police stations and hospitals) or industries using or generating significant amounts of hazardous materials, to be sited outside of areas subject to very strong ground shaking (such as over bay muds)."*

It seems the phrase *"significant amounts of hazardous materials"* is very vague and could be used to preclude most industrial uses. S-6

It also seems that there are sufficient safeguards built into other additional mitigation measures such as:

- Geology 1c (p.IV.J-13) *"Require site-specific geotechnical investigations for every new development."*
- Geology 5a (p.IV.J-19) *"Place buildings and other structures on pile supports sunk and anchored to bedrock beneath fill, alluvium or muds."*
- Geology 6a (p.IV.J-20) *"Applicants for development of structures within the City of Hercules shall submit a report by a California certified engineering geologist documenting the geotechnical suitability of the site for the proposed development based on solid and underlying substrate conditions; and the measures required to ensure public safety and the protection of property."*

9068/L.Hembree/EIR/3.29.95

Land Use

There are significant differences between the Community Panel Land Use Plan and the Proposed General Plan Land Use Designations (Figure IV.A-3). The most significant of these are as follows:

- There appear to be two parcels of PO/RD in the Historic Town Center area, the boundaries of which appear to have expanded considerably. S-7
- The Low Density/Medium Density Residential boundary between parcels #1 and C has moved considerably. S-8
- The width of the open space corridor along the Refugio Creek appears to have been considerably increased. S-9

Thank you for this opportunity to participate in the review of the Draft Environmental Impact Report. Please feel free to call Mr. Patterson or me if you have any questions or need any further information.

Sincerely,

John F. Petty

JFP:smw
cc: Jerry Patterson

9068/L.Hembree/EIR/3.29.95

Letter S - John F. Petty, Robert Lamb Hart, Planners, Architects and Landscape Architects Ltd., for Hercules Properties, Inc., March 29, 1995

S-1) This comment addresses the project and not the adequacy of the EIR, and no response is required. For information, the EIR assumed a 2010 "buildout" under the proposed Land Use and Circulation Elements because that is the furthest point in time for which regional projections are available. Similarly, for purposes of transportation planning and drafting the proposed Circulation Element Update, the West County Traffic Model, on which traffic analysis is based, currently has a 2010 horizon year.

S-2) As stated, Figure IV.A.3 is intended to depict land use designations. Proposed roadway improvements are shown in Figure IV.B.4, p. IV.B-22, as revised in the Final EIR, including a potential John Muir Parkway extension that could be included in the adopted Circulation Element.

S-3) As indicated on DEIR p. III-15, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for a new roadway west of San Pablo Avenue and for its intersection with San Pablo Avenue. Likewise, the Sycamore Avenue extension west of San Pablo Avenue is shown conceptually. The potential John Muir Parkway extension westward from San Pablo Avenue was not shown in the EIR or draft Circulation Element Update because it is not as far advanced in the planning process as is the proposed Sycamore Avenue extension. Revised Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, respectively, include a conceptual alignment for an extension of John Muir Parkway that could be included in the adopted Circulation Element.

S-4) Although there has been discussion about potential operation of commuter rail service on the Southern Pacific tracks along the Hercules waterfront, and the commenter correctly notes that the draft Circulation Element includes a policy promoting commuter rail and a Hercules station, as does the draft Land Use Element, there is no formal proposal for a commuter rail station in Hercules at present, and the designation of a site for such a station as part of the EIR would be speculative. Should commuter rail serve Hercules in the future, it is likely that a station would be located on Parcel 1, which offers the only substantially undeveloped frontage on the Southern Pacific rail line.

S-5) Please see p. IV.A-6, where a reference to the tidelands on Parcel 2 has been added. As noted there, development within San Francisco Bay is strictly regulated by the Bay Conservation and Development Commission, and no development that would require filling of the Bay is anticipated. Potential water-related use, such as a ferry service, could be permitted by BCDC. Such a use would require additional, subsequent traffic analysis, and is considered speculative at this time.

S-6) Please see revised Mitigation Measures Geology-1a and Geology-1b, pp. IV.J-13 - 14. Please see also the response to Comment M-9.

S-7) Based on comments received on the Draft EIR, and after further review of background materials developed in connection with the Community Panel process, Figure IV.A.3, DEIR p. IV.A-22, has been revised to change the designation of two relatively small areas of Planned Office/Research & Development use (PO/RD on the map) at the southwest corner of Parcel 1, near the existing Historic Homes and the area proposed to be designated as Historic Town Center. Those two areas, which include the location of the existing historic Club House and the historic Civic Arts House, have been revised to be designated P, or Public (City Facilities). Under the proposed Land Use Element Update, the historic Club House is expected to continue its existing use as a community center. The City currently schedules events at the Club House, and such a program would be expected to continue. The Civic Arts House, which until recently served as a child care center, could also be used for public activities in the future, most likely following renovation, although the future use of this facility is not formally programmed.

S-8) Figures in the Final EIR have been revised to clarify the boundaries of Parcel 1 and Parcel C.

S-9) Figure IV.A.3, p. IV.A-22, shows a conceptual width and alignment for the proposed Refugio Creek Open Space corridor. Based on information supplied separately by the commenter, the amount of open space proposed on Parcel 1 is approximately 18 acres, compared to 32 acres stated in the DEIR project description. Other adjustments were made to the acreage of portions of Parcel 1 because, according to the commenter, the original acreages were not calculated based on gross area (*i.e.*, roadway acreage was excluded). These changes would increase the acreage of commercial uses by about

4 acres, to about 56 acres, and of residential uses by about 1.5 acres, to about 27 acres. (The overall parcel size, however, has been separately reduced by five acres.) In addition, development assumptions have been adjusted to reduce the residential density from 36 units per acre to 30 units per acre on a portion of the parcel. These changes would increase daily trip generation by about 800 trips, or about 0.5 percent of the project's daily trip generation. Such a change would not be measurable against the day-to-day fluctuation in traffic. In combination with changes on Parcels 3, 5 and 9 (see Comments G-14, M-2 and N-2), overall Study Area daily trip generation would be increased less than 4 percent. This increase similarly would be virtually unmeasurable, but could result in incrementally higher vehicle/capacity ratios, particularly at the intersections on San Pablo Avenue at Sycamore Avenue and John Muir Parkway, which are projected to operate at Level of Service (LOS) F in 2010. The increased traffic would not be expected to alter the LOS at these or other intersections, and no additional impacts would result, nor would additional mitigation measures be required. Other impacts that would be incrementally increased in severity would include emissions of criteria air pollutants, generation of traffic-related noise, and demand for public services (particularly schools and parks). Impacts related to site-specific conditions would not change substantially, with the exception of anticipated effects on vegetation and wildlife. The changes recommended by the commenter are hereby acknowledged and incorporated into the Final EIR. Because the changes would not materially affect the analysis, and because the EIR is intended to describe, at a general level, the impacts of buildout throughout the Study Area, no change is made to Chapter III, Project Description, or the text of Chapter IV, except in the discussion of Park impacts (p. IV.F-29), where the reduced creek corridor has been incorporated into the revised discussion of park and open space acreage.

B. CITY COUNCIL/PLANNING COMMISSION WORKSHOPS: COMMENTS AND RESPONSES

Special Meeting
Hercules City Council/Planning Commission
February 27, 1995
7:00 P.M.

Council Chambers
City Hall
111 Civic Drive
Hercules, CA 94547

I. CALL TO ORDER - ROLL CALL

City Council:

Present: Councilmembers Manuel, Segerberg, Tucker, Wagstaff, Mayor Bartke

Absent: None

Planning Commission:

Present: Commissioners Desmond, Lewallyn, Pandya, Balico

Absent: Commissioner Leong

Staff: Marilyn Leuck, City Manager
Craig Labadie, City Attorney
Gary Hembree, Director, Community and Business Development Department
Dennis Tagashira, Associate Planner
Ron Richardson, City Engineer/Public Works Director

Consultants: Arlyn Purcell, ESA, Inc.
Karl Heisler, ESA, Inc.
Jeff Buxbaum, DKS Associates

II. PLEDGE OF ALLEGIANCE

Mayor Bartke led the Pledge of Allegiance.

III. PUBLIC COMMUNICATION

There was no public communication.

IV. CITY MANAGER REPORTS

Review Draft Environmental Impact Report (EIR) Related to the Update of the Land Use and Circulation Elements of the General Plan for the City of Hercules (with Related Amendments to the Dynamite Redevelopment Project Plan)

City Manager Marilyn Leuck turned the initiation of the discussion over to Community and Business Development Director Gary Hembree who introduced Arlyn Purcell and Karl Heisler of ESA, Inc., and Jeff Buxbaum of DKS Associates, the consultants involved with the preparation of the Draft EIR. He described the format to highlight the key issues of the document.

The chapters to be reviewed at this time included Chapter One, an overview of the project; Chapter Two, a summary of the project description, significant environmental effects of the proposed project and mitigation measures identified to reduce those effects; Chapter Three, a detailed description of the project location and boundaries of the planning area, project characteristics and discretionary approvals required from the City; and Chapter Four, an assessment of the environmental setting, potential impacts under build-out of the updated land uses organized by environmental topic, and mitigation measures.

Explaining that this and subsequent sessions were not intended to be public hearings, Mr. Hembree advised the audience that comments were otherwise encouraged, with substantive comments to be processed through the California Environmental Quality Act (CEQA) process to be made in writing.

The background of the process was also described to establish a vision of the residential and commercial development mix the City hoped to see in the next 25 years, along with the steps needed to get there. The need for a balanced City, a jobs/housing balance, affordable housing, commercial revenues and jobs was also identified.

It was reported out of that process, City staff had reviewed fourteen specific parcels and had conducted a Master Environmental Assessment (MEA) on those parcels which had become the baseline for the joint City Council/Planning Commission consideration. In addition, staff had reviewed the development potential and had found other in-fill parcels which would be important to include because they were either zoned residential or were parcels away from the primary arterials of I-80 and Highway 4.

Using an overhead display, Mr. Hembree delineated the 24 parcels involved. He also referenced the project boundaries of the Hercules Redevelopment Agency, important because of the fact the plan itself would be amended to be consistent with the new designations proposed. Each of the fourteen primary parcels and ten in-fill parcels were identified by size, location and specific site irregularities or other considerations, and included:

- HPI property, currently undergoing remediation. (106 acres)
- Hercules Point, the topic of a detailed analysis as to the types of land uses to include on the site, the only area not able to be remediated to insignificant levels. (15 acres)
- Gelsar site, which included a number of environmental concerns regarding wetlands remediation and mitigation. Characterized as very challenging, but also a very beautiful property with many development potentials and natural resources which could benefit the community. (104 acres)
- Hercules, Inc. property, currently under contract to a development group, with commercial seen as optimal on the I-80 side which had excellent visibility, with residential on the backside. (42 acres)
- MRB site, at the intersection of Hercules and San Pablo Avenues, with residential on the backside utilizing the access to San Pablo and to Hercules, and with possible commercial at that corner, given high traffic volumes and local commercial needs. (6.6 acres)

- North Shore Business Park, with the CC&R's in place, the designations would remain unchanged.

- ANR site, a site of much interest by the development community with good visibility onto I-80 going westbound, with the potential for regional serving uses, particularly for commercial uses. The MEA did not delineate anything unusual or peculiar about the site and there were no specific development constraints. Characterized as one of the more prime sites in the City with good access onto I-80 and San Pablo Avenue, considered for planned commercial and industrial, building onto regional commercial as well as office development, with good location, visibility and proximity to the North Shore Business site. (63 acres)

- Hercules Square site, a small difficult parcel with a proposed designation of community commercial to complement adjacent uses, such as MacDonald's and the Creekside and Raley's Shopping Centers. Constraints included terrain and circulation difficulties which were reportedly not insurmountable. (3 acres)

- ORB site, with construction on the first portion of the community/commercial site imminent, although there had been some utility issues which needed to be resolved.

- BART site and Transit Transfer Center, a public/semi-public use, consistent with the use envisioned for that site.

- Loop site, controlled by the Carone Family, with great visibility, although with terrain and access problems, envisioned for general commercial use. (6 acres)

- Williamson property (formally known as the TABCO property), an excellent site for commercial development in a general commercial designation, although property unusually configured due to a PG&E substation in the area creating an irregularly shaped piece of property, with excellent Highway 4 and I-80 visibility. (9 acres)

- Sycamore site, seen as a planned commercial residential site with development potential.

- Five Giant Site, seen as a general commercial site.

- In-fill Parcel A, Church of the Nazarene site off of Sycamore, low-density multi-family residential 10/units acre.

- Parcel B, McLeod parcel with a multi-family low density designation. (7 acres)

- Parcel C, Citation Homes, considering low-density multi-family, 10 units/acre, to mirror adjacent development. (5.6 acres)

- Parcels D and E, Carone Family small in-fill sites, might need to be reconfigured and combined with other properties to assemble a developable site. (1 and 2 acres)

- Parcel F, a Carone Sycamore small parcel which would need to be packaged with other parcels, particularly between the railroad right-of-way and Highway 4, with a commercial designation.

- Parcel G, Old ATSF sliver of parcel, for Highway 4 visibility and access to I-80 and Highway 4, in a commercial designation. (1.7 acres)

- Parcel H, Creekside vacant parcel, to be designated for general commercial use. (25.3 acres)

- Parcel I, Willow Center, designated for general commercial use. (3.4 acres)

- Parcel J, controlled by the Church of Christ, also designated for general commercial use.

An overhead was presented to delineate the parcels themselves by number with their actual uses was presented at this time along with an identification of the major new mixed use designations of Waterfront Commercial, Recreational Commercial, Commercial Public, Planned Commercial Residential and Industrial Residential.

Community and Business Development Hembree described the thrust of the Land Use Element Update to reflect the development patterns ongoing in the development community, as well as to promote Hercules and to establish a vision to identify and mirror what was occurring in the market. He added the EIR was being viewed as a Master EIR to facilitate economic development. In response to Commission Pandya, he explained the land use designations were based upon review by the Community Land Use Panel or technical analysis by staff based upon adjacent land uses, land use trends, and on proximity to infrastructure and to roadway access, to determine the most ideal and suitable use of a property.

ARLYN PURCELL of ESA, INC. focused on Chapter 4, the impacts of the document. For the benefit of the discussion, she explained the Draft EIR was a programmed EIR which covered a program of development which could take place over a long period of time and which would involve a number of different actions. Because the format and development on each site was unknown, the EIR had been prepared as a general programmed EIR to cover the overall effects of the parcels and not the specific development of each parcel, although the document could be used by a developer to tier off of.

Although the Land Use and Circulation Elements update had covered the entire City, Ms. Purcell advised that the analysis had focused on the 24 parcels. In order to conduct an analysis of development of those parcels, it was assumed those parcels would be built out by the year 2010, at a typical Floor Area Ratio (FAR) of the land use. In addition, the impacts were considered in accordance with CEQA. The MEA analysis which had been done in 1991, updated to 1994 conditions, had also been used as background, along with consideration of the policies in the existing General Plan and those proposed as part of the Land Use and Circulation Elements to identify, avoid or mitigate impacts.

Referring to Page 8, IV. A. discussing Parcel 8, which was reported to be currently developed with a professional retail services designation, Mayor Pro Tem Tucker stated the parcel was vacant. AA-1

On that same Page under 9, the Mayor Pro Tem also objected to the reference that the parcel had already been graded. On Page 10, Lot C, with respect to Zoning R-1, which was always one-acre residential, he was not certain the lot referenced had been zoned as one-acre residential. AA-1 cont'd

Ms. Purcell highlighted particular sections of the document and identified the land use impacts as general impacts related to the overall land use issues. Three significant impacts were identified; related to land use incompatibilities, related to the increased density and the change in land use patterns, and the level of development and how that related to the availability of public services that development might occur without public services being available.

Mayor Pro Tem Tucker explained it would be helpful under the increased density section if numbers could be used to more easily identify how much was expected from existing zoning as opposed to any new designation. AA-2

In terms of adjacent uses and what was being proposed in a neighborhood, Councilmember Wagstaff referred to Parcels B and C and noted that low-density, multi-family residential of 10/units acre was proposed. He noted the Bay side of that site was single family and he inquired why townhouses could be designated when the area was surrounded by single family residential uses, to which Mr. Hembree explained given the proximity of the parcel to a busy street, those uses could serve as a transition between the street and the lower family residential behind. AA-3

City Manager Leuck explained when the Community Land Use Panel had met, there had been a significant education effort as to the City's responsibility to provide affordable housing units and quite a number of them, because the City was essentially being judged at zero. The references specified were an attempt to rectify that situation by taking an approach of using most of the undeveloped parcels as traditional single family along an inclusionary housing realm, although even that would not provide the City with the required numbers. She added it was not uncommon that high density designations were proposed to capture that need.

Councilmember Wagstaff explained that discussion was a very important one and he questioned whether the level of uses, particularly the affordable housing proposed, would fit in with the ambiance of the areas involved. With respect to Parcel 1, he did not believe the designation proposed was what had been discussed and he questioned its appropriateness, particularly in the historic district, to which Ms. Purcell advised that a programmed EIR could cover a land use designation on a very small site. Councilmember Wagstaff also expressed his concern as to why the Bay access trail/open space area had not been included in the General Plan document, to which Ms. Purcell explained that area had been taken into account and that its exclusion from the map appeared to be in error. AA-4 AA-5

Councilmember Segerberg was also concerned with the Victorian homes abutting an area proposed for office and research and development uses. AA-6

In response to Chairman Balico's concern for Parcel B because of the large homes located adjacent to it, Mr. Hembree noted the effective densities of existing development should be determined for comparison purposes to the proposed 10 units/acre designation being considered. AA-7

As a member of the Land Use Panel, Commissioner Desmond briefly explained the panel had discussed all of the designations in that parcel.

While not a member of the Land Use Panel, Mayor Pro Tem Tucker noted there had been a lot of concern expressed for the historic use of the property and what might fit in to an historic type use. He commented the objective of the research and development (R&D) uses was that with residential very close, a small level R&D close to the residential might be appropriate.

Ms. Purcell expressed her understanding that Parcel 1 was subject to a specific plan or a master plan, to which Mayor Pro Tem Tucker concurred that was his understanding and with that caveat, that area was not as much concern to him as was Parcel B.

In response to Councilmember Wagstaff that he believed the City Council had approved a specific plan for recognition of the historic uses and to a waterfront study which he believed had been conducted, City Manager Leuck explained to her knowledge that plan which had been discussed many years ago had never come to fruition. She explained she would check the records to follow-up on that information, if desired.

JEFF BUXBAUM, DKS Associates, explained they had worked on the EIR and the Circulation Element which he explained were intertwined. He stated the existing Circulation Element, which had been adopted in 1988, had been taken as a basis with the Community Panel recommendations for the land use on the properties involved to see what that would mean in the context of growth in other areas of Contra Costa County, Alameda County and the rest of the Bay Area in terms of circulation for the City of Hercules.

Using an overhead, Mr. Buxbaum stated all the signalized intersections in the City operated within the standards set. Areas of concern with no traffic signalization were identified as Highway 4 at Sycamore and Highway 4 at Willow, where it was difficult for traffic turning out of the side streets onto the main highway. In terms of existing conditions, he characterized that as the worst deficiency on City streets. In terms of the freeway with I-80 congestion from the Carquinez Bridge to the Bay Bridge on most mornings and many afternoons, he stated there were improvement plans for that over time but that was not a condition which would be able to be mitigated. He identified the ~~transit~~ services in the City, the BART express line, the two AC transit lines and the four WCCTAC buses providing for local circulation.

With resect to future conditions, Mr. Buxbaum stated they had looked at proposed changes to the land use in the 24 parcels and had also included, in a cumulative sense, an assumption that 800 homes and a hotel would be built in Franklin Canyon. The growth throughout the rest of Contra Costa County and the Bay Area through the year 2010 had also been evaluated through the traffic models put out by the Contra Costa Transportation Authority (CCTA). A variety of transportation improvements committed to the City had also been included in the review.

Mr. Buxbaum stated the traffic generation due to the new growth on the 24 parcels from a combined two million square feet of retail or commercial development, 2.8 million square feet of office, R&D or light industrial, and over 3,800 dwelling units, would generate 166,000 daily trips, an amount 2.6 times the amount of traffic generated by the City in 1990.

As part of the analysis, Mr. Buxbaum reported they had looked at what had been committed with respect to transportation improvements, the majority of which had been identified as improvements to Highway 4 with the assumption that this would ultimately become a freeway, grade separated interchanges at Willow at Sycamore, and a new road running from the Sycamore interchange into a new neighborhood. Some ramp improvements at Bayberry Avenue allowing traffic directly onto Highway 4 and allowing traffic off of I-80 to turn left on Bayberry Avenue had also been included. An assumed widening of Willow Avenue to four lanes with a Willow Avenue interchange in the westbound off and westbound on directions, and the widening of Refugio Valley Road to four lanes, was also described.

In response to Mayor Pro Tem Tucker as to the status of the on and off lanes at Willow Lane after the development of the freeway, City Engineer/Public Works Director Richardson stated Caltrans had made a specific requirement that those ramps not connect to the freeway once Highway 4 became a freeway, but there was no specific requirement that they be eliminated. They would therefore be available for internal use should the City choose to use them. **AA-8**

Mr. Buxbaum stated with respect to future roadway improvements and growth projections, the impact to most of the streets within the City would mean they would remain within standards with the exception of San Pablo Avenue between John Muir Parkway essentially to the end of the City Limits, where there would be significant overcapacity problems. A third of the traffic would be traffic diverting off the freeway looking for other routes because I-80 would also be overcapacity. Options were considered as a result and he referred to the WCCTAC Action Plan to address the traffic with such things as encouraging traffic to stay on the freeway and investigating a second right turn lane onto Sycamore Avenue from San Pablo Avenue. Other options which might be considered included a complete rebuild of the interchange, increasing the capacity of San Pablo Avenue from four to six lanes along that stretch and creating grade separations along the two intersections which would, in effect, encourage the use of San Pablo Avenue as a diversion route. He emphasized, however, that encouraging the use of San Pablo Avenue as a diversion route was not desirable.

As a result, Mr. Buxbaum stated they were not suggesting anything to improve that area. Instead they were looking at encouraging regional transit improvements, BART extensions, commuter rail and Transportation Demand Management (TDM) measures. Although there would be some effect, it was not expected that effect would be sufficient to alleviate that impact. Therefore it was an impact in the EIR shown as still significant after mitigation. He added if nothing was developed in the City, there would still be problems. The lack of development would also not change the overall situation.

Councilmember Segerberg referred to Page 24, Figure 4.B.5 and explained it did not indicate a signal at Hercules and San Pablo Avenues, to which Mr. Buxbaum indicated the figure showed the intersections they were most concerned about. Because an analysis for it was potentially available, he stated he would include it. **AA-9**

Mayor Pro Tem Tucker referred to Page B-1 and recommended the statement in the third sentence of the second paragraph be corrected to indicate that all sales taxes were not returned to the City, as implied, to read *a portion of these revenues, approximately 18 percent, are then returned to participating cities.* **AA-10**

Councilmember Wagstaff referred to the figure on Page 24 and asked if the intent was to hook San Pablo Avenue into Linus Pauling or into John Muir Parkway, to which Mr. Hembree stated it was envisioned there would be a linkage between Alfred Nobel and the extension of Sycamore Avenue. AA-11

In terms of the context of the circulation analysis, Mr. Hembree added the most important thing was the signalization access along San Pablo Avenue.

Mr. Buxbaum stated there would definitely be a connection envisioned to insure traffic from one part of the business park to the other to insure traffic would not have to get back onto San Pablo Avenue. He agreed a connection should be shown.

Mayor Pro Tem Tucker requested that the cost of the bridge over the creek considered in the impacts. AA-12

In response to comments with respect to tax increment money, City Manager Leuck explained the issue of redevelopment and the tax increment funds would be discussed in the fiscal impact section of the document. She added the decision would have to be made whether it made sense for tax increment to be used for that kind of an improvement and whether the payoff was significant to the community to justify tax increment funds, or whether it was something a developer should bear through an assessment district or a combination of both, and Mr. Hembree explained he could develop some aggregate numbers to provide an idea of overall feasibility in terms of what might be funded.

In response to Councilmember Wagstaff with respect to traffic on Hercules Avenue, KARL HEISLER of ESA, INC. referred to the mitigation measure with respect to noise which limited truck traffic from 7:00 A.M. to 6:00 P.M., and which prohibited heavy duty diesel trucks. AA-13

GEORGIA KELLY, representing the Gelsar property, advised that Gelsar had been working with HPI and Hercules Inc. to extend Sycamore Avenue along the property line of Hercules, Inc. and then into the historic commercial area of HPI to keep traffic from the residential areas.

It was explained by Mr. Heisler that could be something stipulated in the EIR as a traffic impact, and he referred to Page I-14 regarding truck traffic and the prohibition of heavy diesel trucks on Hercules Avenue.

Depending on how the roads were structured, Commissioner Desmond stated that issue could effect the development on Parcel 1, to which Mr. Buxbaum explained his understanding that the new access roads would be the main access for any new development west of San Pablo Avenue. He added although there might be some connections to Hercules Avenue, the majority would connect off of the new facilities. AA-14

City Manager Leuck emphasized the intent was definitely not to direct significant traffic flows through residential neighborhoods. She assured Councilmember Wagstaff that issue could be dealt with in either the EIR or through the specific plan process.

Councilmember Wagstaff requested the traffic flow calculations of the proposed new intersections, particularly the new junction road off of San Pablo Avenue and the Claeys Road intersection with Lupine, to which Mr. Buxbaum explained the numbers were available. It was simply a matter of posting them on the map. AA-15

In response to an unidentified member of the audience, Mr. Hembree emphasized that new development would be served by new roadways to be created for the development, as opposed to a circuitous route through Hercules Avenue onto San Pablo Avenue.

City Manager Leuck explained in order to address that issue of concern, the matter should be clearly laid out in the document and returned in the future to identify how much further the language should be strengthened to insure that control. AA-16

Georgia Kelly emphasized the extension of Sycamore Avenue be clearly shown in the document to identify the alignment going back into that area and designating the extension to Sycamore Avenue as the access. She noted the agreement with Hercules, Inc. to configure it along the property line of Hercules, Inc. and Gelsar to serve those particular uses in the future.

Mayor Pro Tem Tucker explained there had been maps to identify that route but it had always become a point of controversy.

Mr. Buxbaum stated a footnote could be added to the illustration that *New roads are shown conceptually. The specific alignment has not been determined.* He explained this could be addressed as part of the Circulation Element.

Mayor Pro Tem Tucker agreed with a statement in the document to insure the intent that there be a route to provide access to that area that would not be Hercules Avenue.

For the benefit of the discussion, Mr. Hembree explained the extension of Sycamore Avenue and the new intersection at San Pablo and Sycamore Avenues had been included on Figure 4.B-5, on Page 24 of the document and that it would only need some minor refinement.

In response to a member of the audience who sought clarification of the intent to restrict traffic, Hercules Avenue was described as being open but not encouraged as a friendly route for major traffic. It was to be kept open for neighborhood traffic only. AA-17

Ms. Purcell identified the focus of Section C as the jobs/housing balance. She referred to the tables provided in the document and identified the population of households, employment and the jobs/housing balance ratio of jobs to employee residents. She explained in 1994, there were 9,700 employee/residents in the City while the employment in Hercules was only 3,025, which meant a lot of people were commuting out of Hercules to go to work. As a result, the 24 parcels were evaluated and the number of jobs and residences were determined, which identified a potential in-commute of people to Hercules to work.

Describing that as a potential impact, Ms. Purcell stated it was a positive impact which would help with the jobs/housing balance in the future.

One of the many factors which determined whether the people who got the jobs would be living in Hercules would be determined by the amount of affordable housing available and Ms. Purcell verified with Mr. Hembree the Housing Element dated to 1990 would be updated after this process and that HCD certification of the current Housing Element was anticipated. The importance of having all the elements be consistent was emphasized.

Community and Business Development Director Hembree noted the assumption in the revised housing element that there would be a certain number of designated densities to accommodate affordable housing in the future. The number of units the City was required to provide was identified in the range of 532 units. He added the redevelopment side concerned him the most in terms of the 1290 Implementation Plan which had placed strict requirements on the production and the use of housing set aside monies. If the requirements were not met, set aside funds could be lost.

Councilmember Wagstaff commented the issue of municipal finance and the use of redevelopment proceeds might have to be discussed in a focused meeting to maximize City revenues and to maximize the quality of life in the City.

Chairman Balico supported a redevelopment workshop between the City Council and the Planning Commission.

City Attorney Labadie pointed out that the EIR included draft proposed amendments to the Redevelopment Plan to conform with the planning aspects of redevelopment to the ultimate plan.

Georgia Kelly referred to a report before the City Council two years ago to address, among other things, impacts of high density residential development in some projects and the advantages and disadvantages of allowing bonuses and other incentives for lower costs and affordability. She explained she did not see that included in the EIR, to which Ms. Purcell explained the general issue with respect to an analysis of higher density development had been filtered through the entire EIR because they had assumed the parcels would be developed. AA-18

In further response to the question with respect to density, particularly medium density, where commercial residential supported a building height of three stories when it was supposed to be an average density of 30 units/acre, Ms. Kelly commented it was out of sync with a medium density multi-family designation which had a 60 foot height limit. AA-19

On the discussion of the height limit included in the medium density multi-family residential designation, Mayor Pro Tem Tucker suggested it be investigated because viewscapes were based on the three-story limit currently identified in the EIR. AA-20

With respect to FAR's, the definition was clarified and the basis for the analysis was identified. It was also noted by City Manager Leuck that a specialist had evaluated the FAR's to make sure they were marketable and they had been found to be within acceptable ranges.

In response to an unidentified member of the audience as to the reason for the change in some residential densities on multi-family from the 1993 document and what had been included in the EIR, Ms. Purcell stated they would check into that to determine the reason for the difference. AA-21

Karl Heisler described Section D relating to plant and vegetative natural communities and animal habitats. He added that state and federal information had been reviewed to prepare the section with the assessment of biological impacts. He noted the assemblage of plants as they occurred formed a distinct community and were an indicator of the importance of a biological area as opposed to just a specific species. He stated the natural communities identified were the salt marsh along Hercules Point, the riparian area along Refugio Creek, non-native grasslands, annual grasses, wetlands, and seasonal potential wetlands in numerous locations. The areas were summarized and the specific habitats which affected development were identified. Potential wetlands were identified on Parcels 1, 3, 4, 11, 12, 13 and C.

Among the plant communities identified were non-native trees, primarily eucalyptus trees. Mr. Heisler explained while they supported numerous plant species, they did not support others, such as the eucalyptus trees which had problems of their own. He referred to Page 17 of the document which identified the plants and animals believed to be in the area and he stated that of several impacts identified, all could be mitigated to avoid the most sensitive plant and animal habitats.

Georgia Kelly asked how wetlands could be protected when there were land use designation restrictions which made it difficult or impossible to do, to which Mr. Heisler noted there were different things which could be done such as an amendment to the plan or allowances for greater than the typical FAR for a particular site. He emphasized the height limit was a zoning issue and not a General Plan issue. AA-22

With respect to items which had been excluded from the document, Commissioner Desmond referred to Table D-1 for Parcel 4 and the notation for wetlands which was not included in the figure, Councilmember Segerberg also referred to additional eucalyptus trees on Parcel 1 which were not reflected in the document at the parking lot at the clubhouse, and Mayor Pro Tem Tucker advised there was a freshwater marsh on Parcel 8. AA-23

Community and Business Development Director Hembree stated in his discussions with the property owner, the wetlands had already been delineated on Parcel 4 and there was a deed restriction associated with that as well. He stated he would verify that determination and report back at the next meeting.

With respect to the visual quality section, Ms. Purcell referred to Pages E-1 an E-2, and although a subjective topic, explained they had tried to make it as objective as possible to discuss the various features. Surface waters, vegetation, cultural built features on the site and views of the site were outlined. Explaining that a number of pictures had been taken to help in the analysis, the key to the photographs were identified on Page 2. The study parcels were also categorized into three different regions as upper drainage riparian valley, lower drainage flood plain and lower drainage flood plateau.

The first category responded to parcels located east of San Pablo Avenue starting with Parcel 9 and up. Those parcels were in the upper drainage of Refugio Creek or on the ridges nearby, with generally low visual quality. The second group of sites composing the lower drainage flood plain included most of Parcel 1, most of Parcel 4, all of Parcels 2 and 3, and Parcel C. and were all part of the flood plan where the drainage of Refugio Creek opened up. The area was generally flat. Views were dominated by industrial structures, residences and roadways.

The third set of sites composed the lower drainage and low plateau category and included parts of Parcels 1 and 4 on the ridges and Parcels 5, 6, 7 and Parcel B. Those sites were characterized as the walls of the bowl or the ridges that surrounded the flood plain. There were panoramic views of the Bay and some sites provided short range views of high visual quality.

The impacts associated with the section were described as self-explanatory, and included light, glare, view obstructions, view impairment and degradation of aesthetics. The mitigation proposed were briefly described with the statement that all impacts could be mitigated to a less than significant level.

With respect to View 3, Mayor Pro Tem Tucker stated the WCCTAC parking and the wastewater treatment plant references should be removed from the text on Page 22. He stated the description of the WCCTAC parking was incorrect. **AA-24**

Councilmember Wagstaff referred to Page 23 of the Land Use Element and Program 7.A.1. with respect to providing landscaping. He supported the preservation of landscaping to maintain visual buffers and to avoid a break in views, to which Ms. Purcell referred to the mitigation measure on Page 23 that plantings that served to screen views of residential development and to maintain a natural line of landscaping should be retained. **AA-25**

Councilmember Wagstaff emphasized the function that trees served should be recognized and a standard should be developed for trees, particularly those on San Pablo Avenue.

An unidentified member of the audience referred to Page 4 and E-23 with respect to Visual 1-A, and to the text with respect to developing proposals to insure the features were retained for minimal view impairment. He emphasized while the City wanted a document to represent the beliefs of the City, at the same time the document should afford some flexibility for reviewing a development proposal when presented by a property owner. **AA-26**

Ms. Purcell stated the general focus of the mitigation measures had been geared to evaluation of specific development proposals. At this point not knowing what a specific proposal would include, the document could not be more descriptive. It was again emphasized that the document was general in nature.

In response to Toni Cattigan's question relating to a tree ordinance to potentially be created in line with the current process, City Manager Leuck explained that although the ordinance had been discussed in the past, it had only developed into a rough draft. She suggested if the Council was interested in reviving a tree ordinance, Council would have to be sensitive to that in this process but consider it after the current review process had been completed. She also identified the internal administrative process that required the City Council and the Planning Commission to be made aware of any trees to be approved based on development, and no tree on any public or private property could be removed except on an emergency basis. She added with respect to private property already developed or not in the stage of being developed, that there was currently no regulations. **AA-27**

V. ADJOURNMENT

There being no further business, Mayor Bartke adjourned the meeting at 9:58 P.M. to the next special meeting set for Wednesday, March 1, 1995, at 7:00 P.M. at Hercules City Hall, 111 Civic Drive, Hercules, CA.

Beth Bartke, Mayor
Hercules City Council

Adelfo (Ed) Balico, Chairman
Planning Commission, 1995

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Workshop AA - City Council/Planning Commission Workshop - February 27, 1995

AA-1) Comment noted. Pages IV.A-8 - 9 of the FEIR have been revised based on the information received in regard to Parcels 8 and 9. Regarding Parcel C, p. IV.A-10 has been revised to correct the existing zoning. In addition, existing zoning and *General Plan* designations have been corrected for Parcels 6, 11, B, I, and J.

AA-2) As described in Chapter VI, Alternatives, under the No-Project Alternative (A.2, Existing Land Use and Circulation Elements), only one of the 24 Study Area parcels, Parcel B, would have residential uses. (One Parcel, Parcel I, is currently designated Medium-Density Residential, but it is partly developed as the Willow Shopping Center, and residential uses would not be anticipated.) Except for about 55 homes that could be built on Parcel B under the existing *General Plan* and zoning designations, all residential development under the proposed Land Use Element Update would be newly designated, compared to what could be built under current designations. Therefore, population under the existing Land Use Element would be substantially less in 2010: about 23,600, compared to about 29,900 with the proposed project. Because the existing Land Use Element includes large areas of land designated for industrial use and substantially less commercial development than would be included the draft Land Use Element Update, employment under the existing Land Use Element in 2010 would be about 7,000, compared to about 18,350 with the proposed project.

AA-3) The comment addresses the project, and not the adequacy of the Draft EIR, and no response is required. Please see also the response to Comment R-18.

AA-4) Regarding the Multi-Family Medium Density residential designation, please see the response to Comment R-18. Please see also the response to Comment S-7 regarding a change in the proposed Land Use map, Figure IV.A.3 of the Draft EIR.

AA-5) Regarding the Bay access trail, the commenter may be referring to the proposed Shoreline Trail along the San Pablo Bay waterfront. Regarding that trail, please see the response to Comment P-3. There is also an existing "Bay Access Pathway" that connects San Pablo Avenue with Santa Fe Avenue, essentially along the boundary of Parcels 3 and 4, along the northern edge of the Olympian Hills neighborhood, and across the northern edge of Parcel C. This pathway is shown in Figure IV.A.3, p. IV.A-22 of the Draft EIR. No change in this pathway is proposed as part of the project.

AA-6) Please see the response to Comment S-7.

AA-7) In regard to the question of different residential densities adjacent to one and other, please see the response to Comment R-18.

AA-8) The on- and off-ramps to and from SR 4 at Willow Avenue would be constructed as part of the first phase of SR 4 improvements, which would include grade separation of SR 4 and Willow Avenue (through a Willow undercrossing) and extension of Willow Avenue to Bayberry Avenue. With construction of an SR 4 freeway, the Willow ramps could continue to serve local traffic on John Muir Parkway, which could become a frontage road adjacent to the freeway.

AA-9) Please see the response to Comment I-3.

AA-10) Comment noted. Page IV.B-1 has been revised based on the information received.

AA-11) As stated in response to Comment G-20, the figures in the DEIR and draft Circulation Element depicting the future roadway network show a conceptual alignment for new roadways west of San Pablo Avenue. Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue, including a potential John Muir Parkway extension that could be included in the adopted Circulation Element. The EIR does not examine local circulation west of San Pablo Avenue because the future roadway network is speculative. Regarding Linus Pauling Drive, some conceptual development schemes have shown a linkage between this roadway and a potential extension of John Muir Parkway.

AA-12) No design for a proposed bridge across Refugio Creek is available, and therefore no cost estimate is available.

AA-13) Please see the response to Comment R-22.

AA-14) Please see the response to Comment P-2 regarding the anticipated roadway network serving Parcel 1.

AA-15) Based on the 2010 traffic modeling performed for the draft Circulation Element, the new roadway off of San Pablo Avenue between Sycamore and Hercules Avenues would carry about 1,200 vehicles in the p.m. peak hour, while the proposed Claeys Road extension would carry about 180 vehicles near its intersection with Lupine Road in the p.m. peak hour. The intersection of San Pablo Avenue with the new road would operate at LOS F, while the Claeys/Lupine intersection would operate at LOS B or better.

AA-16) Please see the responses to Comments P-2 and AA-11.

AA-17) Please see the response to Comment AA-16.

AA-18) Please see the response to Comment G-34.

AA-19) Please see the response to Comment G-13.

AA-20) Please see the response to Comment M-5.

AA-21) Please see the response to Comment R-7.

AA-22) The Draft EIR identifies mitigation measures to reduce potential effects on wetlands under Impact Biology-2, p. IV.D-29 (FEIR p. IV.D-30). The comment concerns the potential economic effects that could ensue to property owners if protection of wetlands were to impose constraints on development; the comment does not address the adequacy of the Draft EIR, and no further response is required. It should be noted that the draft Land Use Element does contain height limits for the following land use designations: Industrial-Residential (40 feet), Single-Family Estate and Single-Family Medium-Density (35 feet), Multi-Family Medium-Density (60 feet), and Multi-Family High-Density (90 feet). In addition, structures in the Planned Commercial-Residential designation would be limited to three stories. The Land Use Element height restrictions would be incorporated into a revision of the City's Zoning Ordinance.

AA-23) Please see the revised Figure IV.D.1, p. IV.D-5 of the Final EIR. Note that the comment in regard to a freshwater marsh was made in reference to Parcel A, not Parcel 8. Parcel A, which has been added to Figure IV.D.1, is identified as having riparian

vegetation along the bank of Refugio Creek. (This riparian corridor could be bordered by freshwater wetlands if the slope of the creek bank is gentle enough.)

AA-24) Comment noted. Page IV.E-22 has been revised, as has the legend for Figure IV.E.3, p. IV.E-7, based on the information received.

AA-25) Please see the response to Comment G-7.

AA-26) Please see the response to Comment G-7.

AA-27) As noted in the minutes, the City of Hercules has not adopted a tree ordinance.

Special Meeting
Hercules City Council/Planning Commission
March 1, 1995
7:07 P.M.

Council Chambers
City Hall
111 Civic Drive
Hercules, CA 94547

I. CALL TO ORDER - ROLL CALL

City Council:

Present: Councilmembers Manuel, Segerberg, Tucker, Wagstaff, Mayor Bartke

Absent: None

Planning Commission:

Present: Commissioners Desmond, Leong, Lewallyn, Pandya

Absent: Chairman Balico

Staff: Marilyn Leuck, City Manager
Craig Labadie, City Attorney
Gary Hembree, Director, Community and Business Development Department
Dennis Tagashira, Associate Planner
Ron Richardson, City Engineer/Public Works Director

Consultants: Arlyn Purcell, ESA, Inc.
Karl Heisler, ESA, Inc.

II. PLEDGE OF ALLEGIANCE

Mayor Bartke led the Pledge of Allegiance.

III. PUBLIC COMMUNICATION

There was no public communication.

IV. CITY MANAGER REPORTS

Continued Review of Draft Environmental Impact Report (EIR) Related to the Update of the Land Use and Circulation Elements of the General Plan for the City of Hercules (with Related Amendments to the Dynamite Redevelopment Project Plan)

City Manager Marilyn Leuck noted that a limited number of topics would be discussed at this time and that the next special meeting scheduled for March 8 would discuss the fiscal analysis. Other documents which were interconnected including the 1290 Implementation Plan, the Housing Element and the Zoning Ordinance revisions would also be identified.

Community and Business Development Director Gary Hembree described the Land Use Element as the basic document, the foundation that everything else was built upon. He explained that the information requested at the last meeting, particularly the aggregate impact of the designation changes and the traffic flow counts for Claey's Road and the new San Pablo Avenue, along with guidelines for the linkage roads between Sycamore Avenue and John Muir Parkway and a policy relative to circulation for Railroad Avenue and the backside of the historic area of the City of Hercules, to be provided by DKS Associates, would be available at the meeting scheduled for March 8.

With respect to through traffic on Hercules Avenue, Councilmember Wagstaff also supported a spectrum of alternatives to be provided by Mr. Buxbaum. The other key issues were highlighted and their status provided.

City Attorney Craig Labadie emphasized the importance of the project description in the EIR to remain consistent.

KARL HEISLER, ESA, INC. noted while social and economic effects were not typically addressed in CEQA documents for public services analyses as to whether such things as adequate wastewater treatment or police officers could be provided, in many cases the impact would determine whether adequate funding was available. Because of the linkage with the financial aspects of the projects, the Draft Environmental Impact Report (EIR) had concluded there would be significant unavoidable effects which could not be mitigated on public schools and on City park facilities. He added the Draft Land Use Element included objective three, *That the City should achieve a rate of growth that is consistent with the provision of public facilities and services, balanced jobs, commercial and housing opportunities and that protects the quality of life in the community.*

Mr. Heisler stated in theory that Land Use objective implied that growth should not occur if it could not be adequately served, but in actuality it was problematic whether that would actually occur, which was why the issues of schools and parks had been addressed. With respect to schools, Mr. Heisler explained that service was provided by a district outside the control of the City. When evaluating the public service facilities, the State Department of Education used a measure of *adequate school facilities* in which students could be housed. He explained that adequate facilities did not include modular classrooms. He referred to the Table on Page F-5 and noted the limited funding capabilities for building new school facilities. Based on the assumptions used in the EIR for population growth, he explained the implementation of the Land Use Element would result in about 1,260 new students by the year 2010, the assumed build-out year.

In spite of the fact a new school had opened up at Hanna Ranch and a new high school was to be opened in 1997, Mr. Heisler stated there would still be a capacity problem, particularly in terms of elementary school students, with no relief in sight in terms of funding to accommodate adequate school facilities.

Commissioner Wagstaff disagreed with the conclusion and he expressed his concern again that the Bay side of town would have significant impacts while the resources were not available to provide for them. He wanted to insure there were adequate funding for resources or a provision requiring every effort to get the resources, along with a policy decision to reduce the impact to a less than significant level. **BB-1**

Mr. Heisler explained the situation was not unique to Hercules in that they had found school enrollment was a significant unavoidable impact with increasing regularity because the schools in California had no money. He stated there were things the school could do itself in cooperation with City and County governments. There were also other funding mechanisms, such as Mello-Roos districts, which could be used.

City Manager Leuck stated that everything they were hearing from the school district was that the schools would be able to take care of the expected population.

Mr. Heisler further explained there was currently no State funding for schools even though there had been $3 billion approved. There was no money to distribute. New requests for funding would be positioned behind the amount already approved and not available unless some matching funding was available.

City Attorney Labadie explained that State law had capped the amount of an impact fee which could be charged to developers and because the cap did not provide adequate funding for schools, other methods were required. He explained court decisions had essentially created loopholes by allowing cities and counties to require additional mitigation in connection with legislative approvals, such as zone changes or general plan amendments. There was also greater latitude if there was a development agreement. As to the alternatives available, Mr. Labadie stated that the EIR proposed essentially a case-by-case consideration of whether the impacts could be mitigated. He commented the City could adopt a mitigation fee in excess of the State cap but there was legal uncertainty as to whether or not that would be possible because there was no clear authority to do that. **BB-1 cont'd**

Community and Business Development Director Hembree suggested contact with the school district for some feedback on the draft document and the consideration of mitigation measures relative to the provision for schools.

Councilmember Wagstaff recommended a policy to address the augmentation of funding source through the process sufficient enough for the author of the EIR to reduce or eliminate the level of impact. The City Attorney, the consultants and staff advised against implementing a policy as suggested.

In response to Georgia Kelly's inquiry of why Parcel C, which was designated as an elementary school site, would be designated for another use if schools were so badly needed, Mayor Pro Tem Tucker commented that Citation Homes had never committed to donating the land.

City Manager Leuck explained the land had been held in abeyance for a number of years for a school site. Two years ago, however, the school district had indicated to the City and to Citation Homes that they had no need for the site.

Mr. Heisler stated in response to Councilmember Wagstaff that using the State's measure of adequate capacity, the City was currently overcapacity in the schools, even with the new Hanna Ranch Elementary School.

The discrepancy in the information provided to the consultants as opposed to that provided to City staff was noted and clarification was sought. The inclusion of the number of students the portables would house was also requested.

Commissioner Desmond referred to the $8 million to be generated by builders fees. He asked if those funds could enhance the current school's capacity as opposed to building another school, as a mitigation measure, to which Arlyn Purcell, ESA, INC. stated she would check into that possibility.

BB-1 cont'd

Councilmember Wagstaff supported the retention of a school site on the west side of San Pablo Avenue to be included in the text of the Land Use Element and to be included as a comment in the EIR, that the consultants consider as a mitigation measure a change in designation for a site on the west side.

The City Attorney stated ideally a specific site would be identified, the text in the Land Use Element would be changed to be consistent and the issue would be analyzed in the EIR to tie it all together.

Mr. Heisler explained the Growth Management Element of the General Plan had standards for the amount of parks and open space required. Currently the City had adequate space devoted to neighborhood parks and open space but not enough space devoted to community parks. It was also noted that most of the parklands were located east of I-80 while most of the current residential development was located west of I-80. Noting a proposal for an expanded version of the existing waterfront park, the Land Use Element had also included the open space corridor along Refugio Creek. Since this was private land, there would have to be some agreement with the property owners to develop it as open space. In spite of the new Hanna Ranch park and a potential new park located west of I-80 in the Forest Run area, Mr. Heisler explained that an additional multi-purpose ballfield would be needed to accommodate the growth expected from the development of the Land Use update to meet required standards.

Mayor Pro Tem Tucker asked for clarification that a park would not be considered a neighborhood park if it had no ballfield. He felt there needed to be more latitude in the definition of a park and he requested a definition for a community park versus a neighborhood park.

Referring to the document and its reference to Refugio Creek, Councilmember Wagstaff asked the difference between a community park and a flood control project.

BB-2

City Manager Leuck felt the distinction could be made with Refugio Park that there was enough of a land mass involved which had been dedicated and was sufficient to provide for active and passive recreation.

On the discussion of service access, public access, pedestrian trails or walking trails into native habitat areas, Ms. Purcell explained that such access was required by public agencies to be up on the edge of such sites to maintain the visual open space.

With respect to a neighborhood park, Councilmember Wagstaff preferred to designate a site in the area of Refugio Creek as part of the planning process. He supported looking at community resources of facilities as part of the process.

BB-3

Mr. Heisler explained that all fire, police and water would be able to be mitigated through revenue to be raised through the development. With respect to water, he explained the entire area was within the East Bay Municipal Utility District (EBMUD) service area. Referring to the ongoing effort to increase wastewater treatment capacity in the City, Mr. Heisler explained there was currently no methodology to determine how adequate capacity could be reached to accommodate development. Mitigation measures were identified for a study and Capital Improvement Program and an assessment district to assist in developing adequate wastewater treatment, among other things, to mitigate wastewater to a less than significant level.

Mr. Heisler further explained that no other public services such as storm drainage, solid waste collection, public works and community development and general government, as well as the service-fee driven utilities such as gas, electric and communications, had been identified as significant impacts which required mitigation.

Mayor Pro Tem Tucker referred to Page 24, Wastewater 1-B, with respect to the initiation of a Wastewater Treatment Study which placement was indicated but which he could not find referenced in the document, to which Mr. Heisler explained that the document would be clarified. **BB-4**

Councilmember Wagstaff referred to the reference on Page 33 second to the bottom line which should have referred to Appendix E and not Appendix F, as shown. **BB-5**

A break was taken at 8:25 P.M. The joint session reconvened at 8:35 P.M. with all members present who were earlier present.

Noting that much of the study area had formerly been occupied by the old powder works, Mr. Heisler explained there had been a lot of clean-up completed already, although Parcels 1 and 2 were continuing to undergo clean-up. He explained Parcel 2 could be restricted to industrial or commercial uses because that was all the post clean-up would allow. He added Parcel 3 was remediated in 1985 to allow industrial use but further clean-up would allow unrestricted use of the parcel. Remediation had also been done to Parcels 4 and 6 prior to their development as the North Shore Business Park. Most of the impacts which were hazardous materials related would be mitigated by State law subject to State guidelines.

Mr. Heisler reported the only thing not able to be mitigated was the limited amount of space available for the dumping of hazardous waste of any incremental increase in hazardous waste by any subsequent uses which would add to the region-wide, countywide cumulative impact. He added that if industrial uses were to be developed as currently designated, the impact would have been greater.

Mayor Pro Tem Tucker asked that the statement that the impact would be greater with an industrial designation be included in the text. **BB-6**

From the audience, an unidentified gentleman referred to Page G-24 and noted if the EIR was accepted as is, the City would be bound to remove restrictions regarding some rights-of-way with respect to Hazardous 2-E and Hazardous 2-F, relative to pipelines. **BB-7**

Community and Business Development Director Hembree explained that certain use types would be allowed over certain types of easements and that section would need to be investigated.

On the continued discussion Mayor Pro Tem Tucker explained more latitude was needed because pavement and landscaping was often placed over piping. The section, deemed too restrictive, would be modified. **BB-7 cont'd**

With respect to cultural resources, Ms. Purcell explained that three impacts had been identified and the same statement applied to all three, that the development as proposed to be allowed could disturb cultural resources. She added there were different types of cultural resources in the section and the planning area had some sensitivity to both prehistoric and historic resources.

It was also noted there were a number of mitigation measures involved, including a program in the Land Use Element Update to prepare a detailed study of the historic town center and adjoining areas in order to define the appropriate mix of public and private land uses, design guidelines, the preservation of key buildings and vegetation and trails to insure the appropriate development of that area. Three of the impacts were found to be mitigable to a less than significant level.

Mayor Pro Tem Tucker expressed his concern for the fact the program was stating the opposite of what he believed had been determined to be done, which was not to save the old plant buildings. He asked that that section be reconsidered and if it could be found to be less than significant, he would like to be advised. **BB-8**

Georgia Kelly of Gelsar also noted the requirements for properties which had wetlands, and which required a cultural resources survey, to which Ms. Purcell stated that would also be clarified in the document. **BB-9**

Mr. Heisler explained that the Growth Management Element contained a policy which stated that those areas within a Federal Emergency Management Agency (FEMA) flood zone affected by a hundred year flood would require buildings to be built above the flood elevation. Included in the existing General Plan were seismic safety and safety element provisions designed to avoid impacts which could occur relative to flooding.

In terms of water quality, the increased potential for increased runoff from grading and roadway runoff, along with any commercial activity which might generate water runoff would have to be mitigated, with the requirement for the development of a Water Quality Control Plan. Mitigation measures were included in the document to mitigate impacts to a less than significant level.

Referring to the map provided, Mayor Pro Tem Tucker referenced Section I-7 and noted that Parcel 11 had been shown in the flood plain, which he felt more appropriately should have referred to Parcel 10. In addition, he commented Parcel A should have been included in the flood plain. Further, that the first paragraph on Page I-9 be amended to clarify the reference to the wastewater system. **BB-10**

Councilmember Wagstaff referred to I-9 and Hydrology 1-A, the reference to the City's Master Drainage Plans, which were described in part by City Engineer/Public Works Director Ron Richardson. **BB-11**

With respect to Page 19, Geology 5-A with respect to the placement of buildings on pile supports sunken and anchored to the bedrock beneath fill or mud, Mayor Pro Tem Tucker commented that statement was too restrictive and needed to be reconsidered. **BB-12**

Speaking to Geology 1-A, Page 15, an unidentified member of the audience clarified that the section which prohibited schools, malls, shopping centers, hospitals, fire stations and police stations not in the entire planning area but in those areas where there was the most ground shaking, which were identified as primarily those undermined by Bay mud and potential slope instability. The subsequent discussion involved the desire to find ways to mitigate those eventualities.

Commissioner Pandya stated as an engineer, he believed it made every sense to retain the text for Geology 1-A as written because the uses specified should not be constructed in Bay mud or areas of potential slope instability. He verified a map to identify the location of Bay mud along the Bay had been included in the document. He also suggested the height of the buildings allowed in the planning area be tied to the geology of the property as a further safeguard. **BB-13**

Mayor Pro Tem Tucker expressed his understanding, however, that once a mitigation measure was certified, it would have to be monitored and it could not be broken. Those options would not then be available to the City for consideration.

City Attorney Labadie agreed that if a mitigation measure was too absolute or too inflexible, now was the time to make adjustments. He explained it would be a policy question of whether as a general matter those types of uses should be prohibited with areas of high risk.

Commissioner Desmond suggested an addition to the text *that unless engineering measures mitigate the seismic impact below the level of significance required.*

Councilmember Manuel suggested a statement in the introduction regarding the intent of the Council to be flexible with the process, to which Ms. Purcell stated there might be other places where that intent should be stipulated but the EIR was not the appropriate vehicle to do so.

City Manager Leuck explained that such a statement was often included in the mission statement in revised land use elements after the adoption of the EIR.

Mr. Heisler stated the important effects related to air quality were mainly a function of traffic. Referring to the Table on Page 19, he identified the project emissions which would be created by mobile sources. Given the amount of vehicular traffic to be generated by the development which would occur with the implementation of the project in spite of the mitigation measures, he stated it was not likely that the expected emissions identified would be able to be decreased and it would remain a significant impact.

Mr. Heisler stated there were no unavoidable effects identified in relation to noise although there would be increased traffic and therefore increased noise levels on the City's roadways, particularly on Hercules Avenue. Although it was the consultant's understanding that truck traffic would utilize Hercules Avenue, it was the Council's understanding that truck traffic would not utilize Hercules Avenue. Clarification was requested prior to the next meeting. **BB-14**

Referring to San Pablo Avenue, Councilmember Wagstaff noted the general concept of noise and sound berms and expressed his concern for San Pablo Avenue development, particularly the area east of San Pablo Avenue and east of the Santa Fe Railroad tracks which would be impacted with substantial traffic and noise which deserved further study. BB-15

With reference to L-7 which fell within the range of normally unacceptable levels, Councilmember Segerberg stated the concern should apply to Parcel B. BB-16

Because of its location, Commissioner Desmond commented the A&R site should be tagged for potential noise mitigation. BB-17

Chair Bartke thanked the consultants and the audience for their participation.

V. ADJOURNMENT

There being no further business, Mayor Bartke adjourned the meeting at 9:55 P.M. to the next special meeting set for Wednesday, March 8, 1995, at 7:00 P.M. at Hercules City Hall, 111 Civic Drive, Hercules, CA.

Beth Bartke, Mayor
Hercules City Council

Adelfo (Ed) Balico, Chairman
Planning Commission, 1995

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Workshop BB - City Council/Planning Commission Workshop - March 1, 1995

BB-1) Regarding school impacts, please see the response to Comment A-1.

BB-2) The Final EIR analysis of park impacts has been revised (pp. IV.F-29 - 30) to classify the Refugio Creek corridor west of San Pablo Avenue as "open space," rather than as "community park" land, in keeping with the anticipated nature of the creek corridor as clarified during the EIR comment process. (See, for example, Comment G-12, from a representative of the owner of Parcel 3, which indicates that the creek corridor would include a pedestrian pathway but, to minimize disturbance of sensitive habitat, would not include provisions for active recreational use.) In addition, the acreage of the proposed Refugio Creek corridor counted as open space has been reduced, from approximately 58 acres to about 33 acres, to reflect information received during the comment period (see Comments G-14 and S-9, and the responses to those comments). The resulting analysis indicates that, in 2010 with the project, the City of Hercules would have a deficit of approximately 6 acres each of community parks and neighborhood parks, and would have adequate open space, based on the Growth Management Standards identified on p. IV.F.-10 of the DEIR. In 2010 with the project and cumulative development (including an anticipated 10-acre community park and 220 acres of open space as part of the proposed Franklin Canyon site), the deficit in community parks would remain about 6 acres, while the deficit in neighborhood parks would be about 10 acres. The open space standard would continue to be met. As stated on DEIR p. IV.F-32, this impact could be fully mitigated if the City were to obtain additional recreational facilities as part of the approval process for future development. (The Growth Management Element standard could be met with the provision of one additional community park of about 6 acres and one or two additional neighborhood parks totaling about 10 acres.) However, in the absence of an assurance that adequate facilities could be provided, the impact would remain significant.

BB-3) As noted in response to Comment BB-2, above, and in the Draft EIR on p. IV.F-32, the impacts on demand for park lands could be mitigated if the City obtained park lands as part of the approval process for future development. Because the City does not own adequate land west of San Pablo Avenue suitable for use as a park, it likely would require agreement with a property owner before a park site could be selected.

BB-4) The wastewater treatment study referenced in Mitigation Measure Wastewater-1b is that contained in Program III.A.1 of the Economic Development Element, described on DEIR p. IV.F-23. Page IV.F-24 has been clarified to indicate this reference.

BB-5) Comment noted. Page IV.F-33 has been clarified to indicate this reference.

BB-6) The Final EIR has been revised to indicate that, because the proposed Land Use Element update would eliminate much of the land designated for industrial use in Hercules, the use of hazardous materials and generation of hazardous waste with the project would be at a lesser volume than would be expected with buildout according to the existing Land Use Element, although the volume of household hazardous waste would be greater. Because CEQA requires analysis of project impacts against the existing setting, however, the potential future impacts of buildout under the proposed Land Use Element update would be significant. Please see the additions to the text on FEIR pp. IV.G-26, IV.G-29, IV.G-31, and IV.G-35.

BB-7) Please see the responses to Comments M-3 and M-4.

BB-8) According to Appendix G of the CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would disrupt or adversely affect a historic site or property. Because it is unknown whether many of the older plant buildings would be considered "historic" under CEQA, an assessment must be conducted prior to demolition or reuse. Mitigation Measure Cultural-3a on DEIR p. IV.H-6 provides a program to determine if each building is historically significant. Additionally, Program 8A.1 of the draft Land Use Element update (p. 24 of Appendix F) calls for preserving key historic buildings, but not plant or industrial equipment.

BB-9) The comment apparently refers to the requirement, noted in Comment G-30, that the U.S. Army Corps of Engineers (as are all federal agencies) is subject to Section 106 of the National Historic Preservation Act. Section 106 requires a federal agency head with jurisdiction over a federal, federally assisted, or federally licensed undertaking to take into account the effect of the agency's undertakings on properties included in or eligible for the National Register of Historic Places. Under the Section 106 process, the Corps must make a determination about effects of its action on historic properties and must

seek concurrence from the State Historic Preservation Officer. Please see the response to Comment G-30.

BB-10) As indicated on Figure IV.I.1 (as revised), p. IV.I-2, both Parcels 10 and 11, as well as Parcel A (the location of which has been corrected in Figure IV.I.1) are partially within the 100-year flood plain. Page IV.I-7 has been revised to so indicate.

BB-11) Mitigation Measure Hydrology-1a, p. IV.I-9, has been revised to clarify that although stormwater pollution prevention and control would be required, other options may be pursued besides linking storm drains to the City's wastewater treatment system. The same revision has been made to Mitigation Measure Storm Drainage-1b on FEIR p. IV.F-27.

BB-12) Please see the response to Comment G-10.

BB-13) Please see the response to Comment M-9.

BB-14) Please refer to the response to Comment R-22.

BB-15) Comment noted. As noted in the *General Plan* Noise Element Noise/Land Use Compatibility Guidelines, the City requires a detailed analysis of the noise reduction requirements and noise insulation features for development proposed in noisy areas. A detailed study would be required for development proposals on San Pablo Avenue if they are within the "Conditionally Acceptable" land use category. Potentially affected parcels include 4, 5, 7, and B.

BB-16) Please see the response to Comment BB-15.

BB-17) Please see the response to Comment BB-15.

Special Meeting
Hercules City Council/Planning Commission
March 8, 1995
7:05 P.M.

Council Chambers
City Hall
111 Civic Drive
Hercules, CA 94547

I. CALL TO ORDER - ROLL CALL

City Council:

Present: Councilmembers Manuel, Segerberg, Tucker, Wagstaff, Mayor Bartke

Absent: None

Planning Commission:

Present: Commissioners Desmond, Leong, Lewallyn, Pandya, Balico
(Commissioner Pandya arrived at 7:07 P.M.)

Absent: None

Staff: Marilyn Leuck, City Manager
Craig Labadie, City Attorney
Gary Hembree, Director, Community and Business Development Department
Dennis Tagashira, Associate Planner
Ron Richardson, City Engineer/Public Works Director

Consultants: Arlyn Purcell, ESA, Inc.
Karl Heisler, ESA, Inc.
Amy Herman, Sedway Associates

II. PLEDGE OF ALLEGIANCE

Mayor Bartke led the Pledge of Allegiance.

III. PUBLIC COMMUNICATION

There was no public communication.

IV. CITY MANAGER REPORTS

Continued Review of Draft Environmental Impact Report (EIR) Related to the Update of the Land Use and Circulation Elements of the General Plan for the City of Hercules (with Related Amendments to the Dynamite Redevelopment Project Plan)

City Manager Marilyn Leuck noted this was the last of the workshops. The key discussion expected at this time involved the other documents which were interconnected including the 1290 Implementation Plan, the Housing Element, the Zoning Ordinance and all other related issues.

To briefly describe the process, Community and Business Development Director Gary Hembree explained that the Environmental Impact Report (EIR) sessions had been taped and that comments made would be included as comments to the EIR. He introduced Amy Herman of Sedway Associates, a well-respected economic analysis firm, which had prepared the fiscal analysis relative to the project.

AMY HERMAN, Sedway Associates, identified a few of the basic underlying assumptions and considerations involved in the fiscal analysis to evaluate the net fiscal impact of the project. She noted the focus of their work was to project the impact of the project on the City's General Fund and special revenue funds with ongoing costs. She added their work was focused on fees that were not assessed on a "cost recovery basis" in that planning and building fees were not included, although traffic mitigation, community development and property transfer tax fees were assessed on a macro level scale.

Stating that both the marginal cost approach and the average cost approach had been used in the study to identify the true impacts of the project on its own merits, Ms. Herman provided examples of each approach. Explaining the analysis had looked at the fiscal impact at build-out, to the year 2010, she stated the analysis had been done on 1994 and 1995 dollars. Other assumptions developed included property valuations, retail expenditure patterns, population and home sizes, among others.

The assumptions were based on the review of some market and financial data relative to the City, trends in the City, the consultant's professional expertise and judgement in looking at other growing communities and various other resources and research. Sources for the information included the City budget, discussions with City department heads and other representatives, spokespersons for the schools, the fire district and utilities, and data from other project consultants.

Ms. Herman stated no market analysis had been done to ascertain the reasonableness of assuming the magnitude of development or that it would occur by the year 2010. To the extent the level of development projected did not occur would impact the results of the analysis. She further advised of the 24 parcels, 11 were in a redevelopment project area which impacted the amount of revenue to be generated from the parcels. She identified tables included in the document to identify the revenues expected to be generated by the parcels, representing $6.5 million. In comparison, that amount was about equal to the City's current 1994/95 budget. Retail sales tax composed 70 percent of the estimated revenues and was high because a large amount of commercial space was projected in the planning area. She added the totals might be an understatement because no personal property taxes generated by any of the commercial or industrial properties had been included.

One-time revenue impacts considered included property transfer tax, community development tax and traffic mitigation fees, estimated to total $18.8 million generated over time. Expenditures to be dispensed to service the project were identified by community development impacts, general government, parks and recreation, public safety and public works, with a total impact on expenditures totaling $1.6 million, for a net fiscal impact of a positive $4.8, as well as the one-time impact of $18.8 million. Other service providers included the school district at $1.6 million annual revenues, with a one-time impact of $6.4 million, which was the cost for providing elementary school space.

The fire district annual impact was estimated at $188,000 with a one-time impact of $1.5 million.

In addition to the report provided, Ms. Herman provided a summary table to identify the annual and one-time impacts for the project versus the other three project alternatives, which she described at this time. The three alternatives were identified as the commercial alternative projected to generate greater net revenues to $6.1 million and one-time cost revenues of $17.8 million. The greater benefit of the commercial alternative included a 30 percent increase in commercial space which impacted sales tax. The residential alternative was nearly identical to the project with no significant change. The reduced density alternative with a lesser impact with respect to ongoing revenues and one-time costs included a 24 percent decrease overall in office/industrial/commercial and a 59 percent decrease in residential.

Commissioner Desmond asked how with all the alternatives the annual impact on the schools remained the same, to which Ms. Herman stated it should not be because property values should vary. She believed that was an error and stated that section of the report would be modified. CC-1

Councilmember Wagstaff referred to the section on public safety and inquired about the one-time impact to be determined, which was later identified on Page 23 of the Report. He asked if the capital project impact costs for the City upon build-out had been summarized, to which Ms. Herman responded that had not been done. CC-2

City Manager Leuck explained that while the consultant had been doing the work, some of the decisions had not been made and all the capital projects had not yet been identified. She stated as soon as the figures were available, they would be provided. She added as good as the numbers were, consultants studies were always estimates and the reality was oftentimes different.

Councilmember Wagstaff commented that some of the capital costs should be able to be estimated for the benefit of the document, to which City Manager Leuck stated that would be difficult to do because the type of treatment to be used would vary which would vary the cost.

Ms. Herman explained oftentimes it was unknown what the cost of the mitigation measures would be because the information would not be available until after the EIR had been completed.

Chairman Balico asked about the high school referenced on Page 30 and the statement that an elementary school was needed although a high school or a junior high school was not. He was advised by KARL HEISLER, ESA, INC. that the subject had been discussed at length at the last meeting with the determination that the information provided would have to be clarified with the school district. The schools discussion was briefly outlined. Mr. Heisler explained the final data would be included in the Response to Comments to the EIR. CC-3

Commissioner Desmond requested a clarification of the calculations identifying the net one-time impact for schools of $6.4 million referenced on Page 29, to which Ms. Herman explained the cost estimate had been generated from a letter received by the school district, but later data from the district had also been used which appeared to create a discrepancy, and which would be confirmed. CC-4

In response to Councilmember Wagstaff as to expectation of the estimates presented, Ms. Herman commented that the project assumed a total change in the City's retail climate and it was, in her opinion, an optimistic level of build-out. As to ways a typical city would get a tax base, Ms. Herman stated there was no normal approach and many cities were using redevelopment monies to help entice retailers. The problems associated with that issue were delineated by both Ms. Herman and City Manager Leuck.

CC-5

Councilmember Manuel also requested an identification of the development of neighboring cities and how that would impact the projections for the City of Hercules, to which Ms. Herman explained that the analysis had assumed that the space was available and that no retailer would occupy that space unless they believed they would be able to achieve a certain level of sales, or they would locate somewhere else. She stated their charge was not to do a market analysis but merely to assume the space was available. She emphasized that retail was changing all the time. The current trend was identified as entertainment retail.

ARLYN PURCELL, ESA, INC., reviewed Chapter 5, the Impact Overview, to summarize the significant unavoidable environmental impacts and other topics required by CEQA. She noted at the time of certification of the EIR the City would have to make findings of overriding considerations for the identified impacts. In terms of cumulative impact, the EIR had addressed the cumulative of all the development on the 24 parcels and considered cumulatively as part of the analysis with region-wide considerations, particularly with respect to transportation.

In terms of impacts found not to be significant, she referred to the impacts which had been removed from further study in the EIR. They were all listed in the Initial Study with an explanation of why they were identified as insignificant impacts.

With respect to Chapter 6, Alternatives, Mr. Heisler identified the alternatives considered to be significant and unavoidable impacts, noting that in the ideal situation, there would be no significant and unavoidable impacts.

Project alternatives and the no project alternative and no development alternative, were identified by Mr. Heisler. He compared the impacts with the various alternatives and explained that if nothing was built, the traffic impacts would still apply on I-80 as well as on San Pablo Avenue which would carry through to all the development alternatives. They would remain as significant and unavoidable impacts. The shifting of the balances of residential versus commercial was also noted along with the impacts associated with the shift. Other unavoidable impacts were associated with the commercial alternative which might involve the generation of more hazardous waste material and air pollution which was largely a function of traffic. The reduced density alternative would eliminate some of the unavoidable significant effects of the project.

With respect to the ABAG housing projections mentioned, City Manager Leuck explained the City had to accept the ABAG projections because they were considered to be an acceptable data source. In further response to comments from the audience, the connection between the ABAG housing data and the Regional Air Quality requirements on the alternatives and impacts were described.

CC-6

A break was taken at 8:30 P.M. The session reconvened at 8:42 P.M. with all members present.

Community and Business Development Director Hembree presented an overview of the process and described the interrelationships of all applicable documents involved. He presented a handout to describe the documents and characterized the General Plan as the baseline document in planning the City. The General Plan document included the revision of the Land Use, Circulation and Housing Elements. In his pyramid format, the Redevelopment Plan was the next process layer, upon which lay the Redevelopment Implementation Plan 1290 and the Zoning Ordinance upon which real estate was developed.

Using an overhead to identify the planning documents involved, Mr.Hembree used examples of housing density, commercial Floor Area Ratios (FAR's) and open space which could affect the Land Use, Housing and Circulation elements, as well as the Zoning Ordinance, the Redevelopment Plan and the 1290 Implementation Plan and how those changes would be handled in the interconnecting documents, including whether the changes would require a recirculation of the EIR.

Mayor Pro Tem Tucker suggested a description of the 1290 Implementation Plan and how it affected the Redevelopment Plan for the public's understanding.

In response to City Manager Leuck's inquiry of whether the specific parcels needed to be discussed further, Mayor Pro Tem Tucker requested a comprehensive map to identify all the parcels with their current zoning, use and density level along with their underlying zoning to relate to the proposed change, submitted prior to the public hearing for the Council, Commission and public's reference. **CC-7**

From the audience, an unidentified gentleman supported the use of graphic aids to more clearly identify the parcels involved to include the property ownership boundaries and how the property was proposed to be developed compared with the interest of development from the property owner for a level of consistency and integrity prior to the adoption of the plan. He also supported comprehensive public input in the approval of the document and added his belief that the General Plan document could be an invitation and a sales tool to encourage development. With respect to business with a regional market, he envisioned an extension of John Muir Parkway toward the Bay to stop at the future train station. He also felt it important to have a concept of good business addresses to link the Downtown Civic/Park area to the historic origins of the City and stated that some flexibility should be allowed in the area previously identified as seismically unstable. **CC-8**

GEORGIA KELLY of Gelsar reminded the City that a combination of housing and commercial and some higher density would be needed to create a larger population to create additional revenues for the City, which should be seen as a positive impact. **CC-9**

Commissioner Pandya referred to the section identifying the impacts, specifically the impact on the Sycamore and San Pablo Avenues intersection entrance into the City with an unacceptable Level of Service (LOS) F. He stated that reference did not provide a realistic idea of what that impact would mean. He commented that some way should be found to fully identify what the increase in population would mean to that intersection in particular. **CC-10**

Ms. Purcell stated that the impacts had been delineated in more detail elsewhere in the document and Mr. Heisler explained that early on in the traffic section a description of LOS F had been included to identify exactly what that level of traffic would mean.

Referring to the lack of freeway access, Commissioner Pandya asked if that was one of the prime reasons for the traffic impact, to which Mr. Heisler explained that the traffic consultant had discussed the proposal to rebuild the entire Bayberry intersection. On the continued discussion, it was noted that no matter how much money was spent, the level of traffic would only be superficially improved. CC-11

City Manager Leuck agreed there was no easy answer and she stated working with developers, off-peak hours were encouraged to help alleviate the traffic concerns, as well as encouraging other ways of getting automobiles off the roads, such as telecommuting.

Commissioner Pandya suggested the options available should be evaluated to determine which would contribute the least to the traffic impacts.

Councilmember Segerberg stated that alternative modes of transportation and mass transit should be pursued and be addressed in the document.

Chairman Balico asked if there was any other consideration given to another off-ramp from I-80 to Hercules, to which Mr. Heisler stated he did not believe the traffic analysis looked at any freeway or ramp additions beyond what had been identified and incorporated into the West County Action Plan. CC-12

In further response to Chairman Balico's comments, City Engineer/Public Works Director Richardson explained the opportunity to utilize vacant property which currently existed between the Sycamore Shopping Center and I-80 for an additional off-ramp was doubtful because the federal government required one-mile minimum spacing between interchanges and ramps and the area would not conform. He added putting signals too close together also created other problems.

Chairman Balico supported a study of the traffic possibilities to help alleviate future traffic concerns, particularly as they related to the planning area covered by the EIR. He specifically requested an analysis of the ability to create an on-ramp in the area discussed.

An unidentified member of the audience emphasized the importance of rail or other means of traffic to help alleviate traffic congestion. CC-13

Community and Business Development Director Hembree explained the mitigation measures would be evaluated in terms of Hercules, Inc. traffic impacts which would be discussed at a later date.

City Manager Leuck described some of the recent discussions having to do with the development of the Carquinez Straits as a destination place for bicyclists and hikers and the connection to the train stations current and proposed. She agreed every possibility should be explored.

Commissioner Desmond referred to the Economic Development Task Force with respect to the fuels modification project which could not be considered in the financial analysis and asked to what extent the fiscal impact could now be considered in the City's ability to build infrastructure, to which City Attorney Labadie explained it was not part of the environmental analysis being more a budgetary consideration which the Council could choose to allocate for general improvements.

City Manager Leuck reported the City Council in 1989 had developed a program to construct over time a series of road improvements to make local travel as easy as possible and to keep local residents off of I-80 and Highway 4 as much as possible. They included the Sycamore Avenue improvements, the Bayberry Avenue improvements, the John Muir intersection, the Willow I-80 improvements and the Willow Avenue improvements to provide a loop around the community to carry local traffic to make the area more livable for residents.

Councilmember Segerberg commented with respect to the land use designations that she had a concern with research and development uses abutting the historic homes which she felt was a resource which was very important to recognize, preserve and protect as a unique resource in the City. CC-14

Community and Business Development Director explained that the public hearing was tentatively scheduled before the Planning Commission on April 3, at which time additional comments would be solicited from the public. Substantive comments concerning the adequacy of the EIR relative to the project at hand would be one level of comments, along with the assumptions of the project and what had been used to analyze the project, such as the density on the various parcels.

Councilmember Wagstaff agreed with the preservation of the historic district. He otherwise expressed his concern for some of the parcels involved. He added the analysis was well done but the issues he wanted to address had to do with the goals expressed and he preferred to include the language proposed by the Economic Development Committee which had already been incorporated into the General Plan. He supported the development of priorities and procedures to recognize the potentials between the revenue to be maximized versus the quality of life to be preserved. He also wanted a clarification of the park at Refugio Creek as something beyond a flood control project, a clarification of the expenses for mitigations, and a clarification of the fiscal impacts of the Redevelopment Plan with the project descriptions, the funds expected, and the prioritizations involved to get a concept of the usefulness of the Redevelopment Agency. CC-15 CC-16 CC-17

City Manager Leuck advised that a redevelopment workshop would be held in April which would respond to many of Councilmember Wagstaff's questions.

Councilmember Wagstaff also wanted to develop the nexus between affordable housing and residential density levels and sales taxes. He encouraged the development of a shoreline trail with the historic area as the spine of Hercules and critical to the quality of life of the City. In addition, he supported a recognition, augmentation and preservation of the trail by the historic homes and alternative wording to clarify the traffic on Railroad Avenue, consistent with the General Plan, to maintain neighborhoods. He stated other specifics with respect to sections would be made in writing. CC-18 CC-19 CC-20

Councilmember Wagstaff supported a policy statement that the needs of the City determine the development to be permitted.

City Manager Leuck referred to current discussions with developers and the fact that language was included in the document with respect to the appropriateness and desirability of development with respect to the production of sales taxes, jobs or affordable housing.

Georgia Kelly complimented Mr. Heisler and ESA, Inc. for a job well done.

City Manager Leuck stated she had been advised by Bill Gray, the Highway 4 consultant, that he had been notified by Congressman Miller's office that Congress was again entertaining applications for funding. She stated that efforts which had been commenced last year for potential funding of $19 million for Highway 4 improvements would be renewed. The deadline was reported to be March 10. While the City's options remained open, the continuing services of the consultant would be scheduled for consideration at the March 14 Council meeting.

Mayor Pro Tem Tucker supported a letter to WCCTAC and CCTA to identify that City funds had been expended in the past for this effort and it might be time for the Authority and the county to participate in that regard.

With respect to the consideration of the San Pablo Road Widening Project Phase III and the new information which had been received with respect to trees, the City Manager reported the Planning Commission had scheduled a walking tour of the area on Wednesday, March 15, at 5:30 P.M., meeting place at the ORB site. A potential tour of the Capital Improvement Project sites prior to the commencement of the budget process had tentatively been set for mid-April.

The City Manager also reported that the Carquinez Straits Committee had developed an historical document of the area which was described as a well-done piece of work which was enjoyable to read.

Mayor Pro Tem Tucker advised that the Solid Waste JPA was moving in the direction of considering the last request for reimbursement of the closure funds for the West County Landfill. He encouraged Councilmembers to read some of the background material prior to the next meeting set for April 13.

Mayor Bartke thanked the consultants and audience members for their participation.

V. ADJOURNMENT

There being no further business, Mayor Bartke adjourned the meeting at 10:17 P.M.

Beth Bartke, Mayor
Hercules City Council

Adelfo (Ed) Balico, Chairman
Planning Commission, 1995

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Workshop CC - City Council/Planning Commission Workshop - March 8, 1995

CC-1) Assuming a proportionate reduction in annual costs, based on enrollment, compared to those of the proposed project, the annual impact on the West Contra Costa County Unified School District would be a surplus of about $800,000 with Alternative B (Commercial Emphasis), about $1.8 million with Alternative C (Residential Emphasis), and about $700,000 with Alternative D (Reduced Density), compared to an annual surplus of about $1.6 million with the proposed project. As with the analysis of the proposed project, these estimates assume that continued state and federal funding would continue to make up the shortfall in revenue between property taxes collected and the District's funding per student of $3,114. Property tax collection by the District would be about $1.1 million with Alternative B (Commercial Emphasis), about $900,000 with Alternative C (Residential Emphasis), and about $600,000 with Alternative D (Reduced Density), compared to about $900,000 with the proposed project. The fiscal analysis has been revised to account for these changes.

CC-2) As noted in the discussion at the March 8, 1995, workshop, no cost estimate for expansion of the Hercules Police Department facilities was, or is at this time, available for inclusion in the EIR. While the City is considering expanding the existing police station, located within City Hall, no determination has been made as to whether to proceed with this project. Further analysis in the EIR would be speculative.

CC-3) As stated in DEIR Table IV.F.3, p. IV.F-18, elementary school enrollment is projected to remain well above capacity in the future (2010), while middle school and high school enrollment should be accommodated in existing and planned schools. Please see the responses to Comment A-1 for further information regarding schools impacts.

CC-4) Regarding the discrepancy in the figures for school construction costs between the EIR public services analysis (p. IV.F-19) and the fiscal analysis (Appendix E, p. 29), the figure provided in the public services section for school construction is $12.5 million, which is the cost for a typical 600-student elementary school. The fiscal analysis used a more precise figure of $14.4 million, which would accommodate the projected approximately 690 elementary school students that would be generated by development consistent with the draft Land Use Element. Both analyses reported an estimated $8 million in development fees would be generated; the differences in the anticipated

construction costs result in an approximately $1.9 million difference in the project's projected net one-time impact on public schools ($4.5 million in fiscal analysis and $6.4 million in fiscal analysis). The EIR has been revised (p. IV.F-19) to incorporate the figure provided in the fiscal analysis.

CC-5) As noted in the discussion at the March 8, 1995, workshop, a market survey was not performed as part of the fiscal analysis. Rather, the projections assume that commercial space would be built out as designated in the Land Use Element.

CC-6) As noted in the discussion at the March 8, 1995, workshop, projections prepared by the Association of Bay Area Governments are a widely used reference for analysis of future conditions in the Bay Area, including EIR projections of traffic and resulting air quality effects.

CC-7) Copies of maps comparing the proposed land use designations to existing land use designations and existing zoning (essentially a combination of DEIR Figures IV.A.2 and IV.A.3, along with the existing Hercules zoning map) were made available to the public at the April 3, 1995, public hearing on the Draft EIR.

CC-8) The comment does not address the adequacy of the Draft EIR and no response is required. For information, public comment on the project (proposed Land Use Element update) will be solicited during a public hearing on the project itself and City Planning Commission and City Council debate on the project, following certification of the EIR.

Regarding the proposed extension of John Muir Parkway, the Draft EIR depicts conceptual alignments for the proposed roadway network west of San Pablo Avenue, as stated in response to Comment G-20. See also the response to Comment P-2.

CC-9) The comment does not address the adequacy of the Draft EIR and no response is required. For information, the DEIR notes the emphasis on economic development in the proposed Land Use Element update on pp. III-3 - 5.

CC-10) Please refer to the EIR transportation analysis, in particular, pp. IV.B-25 - 35, where impacts on local intersections, including the San Pablo Avenue/Sycamore Avenue intersection, are discussed. The Draft EIR includes Table IV.B.1, p. IV.B-9, which

provides a qualitative explanation of level of service standards A through F for intersections with traffic signals, such as San Pablo/Sycamore.

CC-11) As described on DEIR pp. IV.B-32 - 34, physical improvements could be made to San Pablo Avenue and to intersections on that roadway that could improve traffic flow under future (2010) conditions as forecast in the Draft EIR. However, because travel demand on Interstate 80 is also forecast to be well above capacity, improvements to San Pablo Avenue would likely result in additional I-80 traffic diverting to San Pablo Avenue as an alternate route, which could lead to increased congestion on San Pablo Avenue. As noted on p. IV.B-34, Hercules and other West Contra Costa County communities have agreed to focus on trip reduction strategies (*e.g.,* increasing transit service use, ridesharing, telecommuting) rather than increasing capacity in the I-80 corridor.

CC-12) As noted in the discussion at the March 8, 1995, workshop, the Federal Highway Administration typically requires a one-mile separation between freeway ramps, which would not be maintained if additional ramps were constructed in Hercules. Further, as noted on DEIR pp. IV.B-4 and IV.B-27, much of the traffic congestion on both Interstate 80 and San Pablo Avenue is the result of traffic traveling through Hercules to and from other destinations. Capacity of the existing freeway ramps to and from Hercules and I-80 was not identified a substantial constraint in the EIR. Rather, it is traffic on I-80 and San Pablo Avenue that are forecast to be problematic by 2010. (It should be noted that the location mentioned at the workshop for a new freeway off-ramp is devoted to a utility easement and could not accommodate a ramp.)

CC-13) Comment noted. The Draft EIR identifies improvements in both BART and commuter rail service as mitigation for traffic impacts in the I-80 corridor, including San Pablo Avenue. See, for example, draft Land Use Element Policy 3A and Programs 3A.1 and 3A.2 (development of rail transit, Hercules train station, BART service) and draft Circulation Element Policy 2e (promotion of commuter rail with station in Hercules), under mitigation for Impact Transportation-1, DEIR pp. IV.B-28 - 29, and Traffic Service Objectives and Actions contained in the *West Contra Costa County Action Plan* (commuter rail between Fairfield/Brentwood and West Oakland) under Mitigation Measure Transportation-3a, DEIR p. IV.B-38.

CC-14) Please see the response to Comment S-7.

CC-15) The comment addresses the wording of the goals contained in the Land Use Element, and not the adequacy of the Draft EIR. No response is required.

CC-16) Please see the response to Comment BB-2, where it is noted that the Final EIR analysis classifies the Refugio Creek corridor as open space, rather than park land, based on proposed improvements.

CC-17) Regarding Redevelopment Agency involvement in the proposed project, as stated on DEIR p. III-16, the project would include an update of the Redevelopment Plan for the Dynamite Redevelopment Project, which encompasses a large part of the Study Area (as shown in Figure III.2, p. III-7). The comment regarding the function of the Redevelopment Agency does not address the adequacy of the Draft EIR, and no further response is required.

CC-18) The comment addresses the assumptions used in developing the draft Land Use Element update and not the adequacy of the EIR. No response is required. For information regarding affordable housing, please see the response to Comment R-7

CC-19) Regarding the proposed shoreline trail, please see the response to Comment P-3. Regarding the trail near the Historic Homes, please see the response to Comment AA-5.

CC-20) Regarding traffic on Railroad Avenue, please see the responses to Comments P-2 and R-23.

C. PUBLIC HEARING COMMENTS AND RESPONSES

Hercules Planning Commission
Regular Meeting of April 3, 1995
7:30 P.M.

Hercules City Hall
111 Civic Drive
Hercules, CA 94547

I. CALL TO ORDER - ROLL CALL

Present: Commissioners Desmond, Leong, Lewallyn, Pandya, Balico

Absent: None

Excused: None

Staff: Gary Hembree, Director, Community and Business Development Department
Dennis Tagashira, Associate Planner

II. PLEDGE OF ALLEGIANCE

Chairman Balico led the Pledge of Allegiance.

III. PUBLIC COMMUNICATION

There was no public communication.

IV. STAFF ANNOUNCEMENTS

There were no announcements other than those which had been included in the Commission packets.

V. CONSENT CALENDAR

Minutes of Joint Planning Commission/City Council Meetings of February 27, March 1, and March 8, 1995.

February 27, 1995

On motion by Commissioner Desmond, second by Commissioner Lewallyn and carried unanimously, the minutes of the Joint Planning Commission/City Council Meeting of February 27, 1995, were approved as submitted, with Commissioner Leong abstaining.

March 1, 1995

On motion by Commissioner Lewallyn, second by Commissioner Desmond and carried unanimously, the minutes of the Joint Planning Commission/City Council Meeting of March 1, 1995, were approved as submitted, with Chairman Balico abstaining.

March 8, 1995

On motion by Commissioner Desmond, second by Commissioner Lewallyn and carried unanimously, the minutes of the Joint Planning Commission/City Council Meeting of March 8, 1995, were approved as submitted.

Minutes of Planning Commission Meeting of March 20, 1995.

On motion by Commissioner Lewallyn, second by Commissioner Leong and carried unanimously, the minutes of the March 20, 1995 meeting were approved, as submitted, with Commissioner Desmond abstaining.

VI. UNFINISHED BUSINESS

There was no unfinished business.

VII. PUBLIC HEARINGS

Draft Environmental Impact Report (EIR No. 93-1) for Land Use and Circulation Elements of the General Plan with Related Amendments to the Dynamite Redevelopment Project Plan.

Community and Business Development Director Hembree described the process involved with the update of the General Plan which had commenced in 1987 where the City was rapidly building out its residential and was looking at prospects for commercial development, particularly in the area west of the I-80 Corridor. He explained that was the impetus of the Economic Development Strategy Task Force, which had been formed around 1988, to consider the vision of what the City would be from an economic development perspective in terms of housing and business and what the City wanted to look like in terms of development within the next ten to twenty years. He explained that strategy had been adopted by the Planning Commission and the City Council and had then became a policy document for the City. That document then precipitated a review of the land uses within the City and had considered the probability for achieving that land use.

Stating that issue had been evaluated by the economic development community panel which had reviewed the current Land Use Element adopted in 1990, updating it sufficient with the economic development strategy, Mr. Hembree explained a series of recommendations for a total of 14 properties had been developed. Beyond that, staff had considered ten additional parcels, particularly in-fill parcels, with suggested designations.

Director Hembree introduced Karl Heisler of ESA, Inc. which had reviewed the recommended land use element updates in conformance with the California Environmental Quality Act (CEQA) requirements. He added that fifteen comment letters had been received, letters which would be made part of the public record. Mark Spencer with DKS Associates, who had reviewed the transportation elements of the General Plan, was also present to participate in the process.

As presented at an earlier hearing, Community and Business Development Director Hembree delineated the 24 parcels involved. Each of the fourteen primary parcels and ten in-fill parcels were identified by size, location and specific site irregularities, and included:

- HPI property, currently undergoing remediation. (106 acres)
- Hercules Point, the topic of a detailed analysis as to the types of land uses to include on the site, the only area not able to be remediated to insignificant levels. (15 acres)

- Gelsar site, which included a number of environmental concerns regarding wetlands remediation and mitigation. Characterized as very challenging, but also a very beautiful property with many development potentials and natural resources which could benefit the community. (104 acres)

- Hercules, Inc. property, currently under contract to a development group, with commercial seen as optimal on the I-80 side which had excellent visibility, with residential on the backside. (42 acres)

- MRB site, at the intersection of Hercules and San Pablo Avenues, with residential on the backside utilizing the access to San Pablo and to Hercules, and with possible commercial at that corner, given high traffic volumes and local commercial needs. (6.6 acres)

- North Shore Business Park, with the CC&R's in place, the designations would be modified to reflect office and research/development uses. (Planned Office - Research & Development)

- ANR site, a site of much interest by the development community with good visibility onto I-80 going westbound, with the potential for regional serving uses, particularly for commercial uses. The MEA did not delineate anything unusual or peculiar about the site and there were no specific development constraints. Characterized as one of the more prime sites in the City with good access onto I-80 and San Pablo Avenue, considered for planned commercial and industrial, building onto regional commercial as well as office development, with good location, visibility and proximity to the North Shore Business site. (63 acres)

- Hercules Square site, a small difficult parcel with a proposed designation of community commercial to complement adjacent uses, such as McDonald's and the Creekside and Raley's Shopping Centers. Constraints included terrain and circulation difficulties which were reportedly not insurmountable. (3 acres)

- ORB site, with construction on the first portion of the community/commercial site imminent, although there had been some utility issues which needed to be resolved.

- BART site and Transit Transfer Center, a public/semi-public use, consistent with the use envisioned for that site.

- Loop site, controlled by the Carone Family, with great visibility, although with terrain and access problems, envisioned for general commercial use. (6 acres)

- Williamson property (formally known as the TABCO property), an excellent site for commercial development in a general commercial designation, although property unusually configured due to a PG&E substation in the area creating an irregularly shaped piece of property, with excellent Highway 4 and I-80 visibility. (9 acres)

- Sycamore site, seen as a planned commercial residential site with development potential.

- Five Giant Site, seen as a general commercial site.

- In-fill Parcel A, Church of the Nazarene site off of Sycamore, low-density multi-family residential 10 units/acre.

- Parcel B, McLeod parcel with a multi-family low density designation. (7 acres)

- Parcel C, Citation Homes, considering low-density multi-family, 10 units/acre, to mirror adjacent development. (5.6 acres)

- Parcels D and E, Carone Family small in-fill sites, might need to be reconfigured and combined with other properties to assemble a developable site. (1 and 2 acres)

- Parcel F, a Carone Sycamore small parcel which would need to be packaged with other parcels, particularly between the railroad right-of-way and Highway 4, with a commercial designation.

- Parcel G, Old ATSF sliver of parcel, for Highway 4 visibility and access to I-80 and Highway 4, in a commercial designation. (1.7 acres)

- Parcel H, Creekside vacant parcel, to be designated for general commercial use. (25.3 acres)

- Parcel I, Willow Center, designated for general commercial use. (3.4 acres)

- Parcel J, controlled by the Church of Christ, also designated for general commercial use.

Having gone through the context of the reason for the upgrade of the Land Use and Circulation elements and how that fit in with the environmental review, and after review of the 24 parcels and their site considerations and designations, Mr. Hembree referred the discussion to Karl Heisler of ESA, Inc. to identify the major issues involved from an environmental perspective.

KARL HEISLER, ESA, Inc. summarized the programmed EIR which had evaluated the area without the specificity as to a particular development project. He explained a number of issues would require site specific analysis at a later date and the possibility of some environmental review at a later date when projects had been more precisely defined. He added that based on the population forecast for the area over the build-out of the life of the Plan to the year 2010, the traffic and increased effects on the environment had been evaluated. He identified the major effects identified by the EIR in the draft stage which would not be able to be fully mitigated, but which would be reduced to below threshold level of significance, having to do with traffic at the intersection of San Pablo Avenue, and the increased emissions which would occur with or without development.

In addition, the impact to City services including schools and the City park system were noted along with the issues relating to the wetlands and the hazardous materials relating to the former dynamite and fertilizer plants, which were State and Federally regulated.

Mr. Heisler also identified the project alternatives involved, including the low density alternative, and identified some of the key issues and impacts included.

MARK SPENCER, DKS Associates described how the EIR and the Circulation Element were intertwined. He noted the existing Circulation Element, which had been adopted in 1988, had been taken as a basis with the City panel recommendations for the land use on the

properties involved to see what that would mean in the context of growth in other areas of Contra Costa County, Alameda County and the rest of the Bay Area in terms of circulation for the City of Hercules.

He identified the areas of traffic concern relating to traffic and signalization at Highway 4 at Sycamore and Highway 4 where it was difficult for traffic turning out of the side streets onto the main highway. In terms of I-80 congestion from the Carquinez Bridge to the Bay Bridge, he explained while there were improvement plans proposed over time, that was not an area which would be able to be mitigated. He identified the transit services in the City, the BART express line, the two AC transit lines and the four WCCTAC buses providing for local circulation. Traffic models prepared by the Contra Costa Transportation Authority (CCTA) were noted with a variety of transportation improvements committed to the City identified.

It was reported the traffic generation due to the new growth on the 24 parcels from a combined two million square feet of retail or commercial development, 2.8 million square feet of office, R&D or light industrial, and over 3,800 dwelling units, would generate 166,000 daily trips, an amount 2.6 times the amount of traffic generated by the City in 1990. Proposed transportation improvements were summarized and included improvements to Highway 4, grade separated interchanges at Willow at Sycamore Avenue, and ramp improvements at Bayberry Avenue. An anticipated widening of Willow Avenue to four lanes with a Willow Avenue interchange in the westbound off and westbound on directions, and the widening of Refugio Valley Road to four lanes, was also described.

Community and Business Development Director Hembree identified the environmental process and notification procedure for CEQA compliance. He explained responses to the mass mailing of the document had become a part of the Draft EIR. He further explained that three joint public hearings on the document had been held preceding this hearing.

PUBLIC HEARING OPENED

PROPONENTS:

NANCY CANTWELL, representing East Bay Reality Services, Inc., with Hercules, Inc., and relating to Parcel 4, thanked staff, Mr. Hembree in particular, as well as the Commission, for a commendable job on the Draft EIR which she characterized as comprehensive and well-organized with extensive review, input and research. She stated she was also appreciative in having been able to participate in the fine tuning of the document. She explained they had entered into a contract with Penterra Company for the purchase of their 41 acre site along San Pablo Avenue. She added that Hercules, Inc. fully supported the project and looked forward to its development. **DD-1**

MICHAEL GARTON, P.O. Box 2397, Granite Bay, CA, representing MRB and ORB, Parcels 5 and 9 respectively, thanked the Commission for the opportunity to participate in the review of the EIR. He stated both MRB and ORB ownership groups had submitted written responses to the Draft EIR and had submitted the letters to the City to be included as part of the formal record. Mr. Garton congratulated the community panel, Planning Commission, Council and staff on a job well done in that the Draft Land Use Element had found the middle ground where future development goals could be reached while environmental effects could be mitigated. He commented that the reported unavoidable impacts would occur with or without any further development in the City. **DD-2**

Citing some areas of concern, Mr. Garton referred to other impacts "by definition" relating specifically to Hazard-7, an impact he stated had been created by definition. He commented that significant problems are unavoidable and the community should recognize there were certain impacts not subject to mitigation and to avoid the pitfall of delaying or stopping desirable development in the name of mitigation. **DD-3**

Mr. Garton identified the unique situation in that ORB currently had an owner participation and a development agreement with an approved site plan. The ownership group of the ORB had asked the City to insure there were no inconsistencies between the development agreement, the Draft EIR and the Draft Land Use Plan. He commented that the letter submitted to the City had tried to identify inconsistencies which had been noted. He also requested some assurance that the site not be unfairly limited through an assumption of the development agreement in the EIR or the Draft Land Use Plan. He requested that the ORB site be treated as if no development agreement existed at this time. **DD-4**

Mr. Garton then referred to the MRB property. He noted references in the Draft EIR to net acreage and stated the word *net* needed to be deleted because its use was inconsistent with the Draft Land Use Element itself, which stated that *All intensity, density and population measures are calculated on gross acreage.* He therefore asked that wherever the term net acreage was used, the word net be deleted. In addition, the Draft Land Use Element definition for Planned Commercial Residential needed to be changed to accurately reflect the community panel's intent for a designation to allow development of either commercial or residential uses or a combination of both commercial and residential uses in a mixed-use development. Further, that the Draft Mitigation Measures identified as Hazard 2-E and Hazard 2-F should both be deleted because they placed use prohibitions upon and adjacent to utility easements which he commented exceeded common sense. Mr. Garton emphasized the only special development mitigation within a utility easement should be those imposed by the utility. **DD-5** **DD-6** **DD-7**

Stating it was apparent from the City's efforts that the City intended to adopt a pro-active and aggressive development promotional effort, Mr. Garton applauded the approach and encouraged the attitude. With that in mind, he commented they believed the City's reputation for development and its position on development was tarnished and needed to be improved. That the City, the City Council and the planning staff needed to recognize and beware of the *innocent little extras* to be found in the Draft EIR. He specifically referenced the special design requirements, in particular that projects be ten percent better than Title 24 requirements. He also noted that the Draft EIR called for special noise walls on all projects and made no identification of a particular sound level. He emphasized those innocent little extras might involve extra costs to a developer and cause the developer to avoid building in the City. **DD-8** **DD-9**

Mr. Garton also advised the City needed to anticipate developer needs and have answers ready and needed to expedite the development process wherever possible to avoid costly delays. He explained the City needed to make every effort to assess reasonable development fees. He also suggested the consideration of the acceleration of building inspections and conflict resolutions. Further, that the City Council and Planning Commission needed to consider the establishment of monitoring and getting involved in the system, the progress and the promotional effort in a user friendly, developer friendly environment of the City.

Commissioner Desmond explained he did not understand the comment of the problem created by, for instance, Hazard-7, by definition, to which Mr. Garton explained there were certain impacts identified in the EIR which were considered to be significant and unavoidable, virtually by definition in that it was simply assumed and defined that the industries located in the City would create hazardous waste, likewise with schools and parks. He stated in the end he believed the impacts would be mitigated.

Chairman Balico clarified with staff that a height limit of 60 feet was proposed for multi-family medium density designations.

GEORGIA KELLEY, 214 Windsor Drive, Petaluma, representing Gelsar, referred to her letter of submittal dated March 28, 1995 which delineated 40 specific comments on the General Plan, which she identified at this time.

Highlighting some comments included in the letter, she thanked the ESA staff for the comprehensive document. She referred to the fact the EIR was based on the projected build-out of Hercules in the year 2010 and she inquired how that year had been determined and whether there was any market research to back the assumptions. She inquired about the 100 foot buffer zone to be placed around any wetlands, which, she stated would not allow any creativity with respect to the development of the property. She stated Gelsar had worked with the different environmental agencies and had incorporated the 100 foot buffers into the actual design of the 100-year flood flow channel to allow vegetation within the channel to offer a natural environmental to preserve, create and enhance the habitat for the wildlife. She did not feel that an additional 100 foot buffer should be placed on the property and stated this was also true with respect to the placement of buildings. In the Gelsar case, she noted that buildings would be able to be placed along the edge of the creek corridor of the wetlands preserve because they had incorporated that into the design. **DD-10** **DD-11**

Citing other references from her letter, Ms. Kelley urged the Commission to reserve mandates for soil contaminants and clean-up to the State without the City's involvement, agreed that no buildings should be installed within any pipeline right-of-way but otherwise supported allowing pavement and landscaping in the right-of-ways, and requested the deletion of the requirement to place buildings and other structures on pile supports sunk and anchored beneath fill, alluvium or mud for structures to be built on fill placed on Bay mud. **DD-12** **DD-13** **DD-14**

Ms. Kelley stated the updated Land Use categories did not include a description of the Open Space Free Corridor and she referred to a description provided to the City with respect to that expected to occur on the Gelsar property based on Gelsar's application with the Army Corps of Engineers. **DD-15** **DD-16**

With respect to Planned Commercial Residential which would include multi-family residences, Ms. Kelley noted the range of 15 to 30 units/acre equivalent to the Land Use designation of multi-family medium density of 12 to 30 units per acre. The maximum building height for the residential was 30 feet while the multi-family medium density was 60 feet. She felt the two should be the same. She also explained that the acreage listed for the Gelsar property was incorrect. She added the official acreage had been identified in her letter. **DD-17** **DD-18**

Noting that the Draft EIR had stated that the Land Use Element update was in response to the findings of the Economic Development Strategy Planning Task Force in 1990, of which she was a member, Ms. Kelley stated that the economy and the real estate market had changed since that time. She felt it important that the update consider current and projected market conditions. DD-19

Ms. Kelley also recommended the update of the Open Space Element, and the correction of the Circulation Element Update to accurately reflect the extension of John Muir Parkway and Sycamore Avenue through the Gelsar property, among others. She further requested the figure representing the wetlands on the Gelsar property be corrected, questioned the redesignation of Parcel C from an elementary school site, explained the PG&E and EBMUD easements on Parcel 4 did not extend into the Gelsar property, and emphasized that landowners should have the ability to apply for a General Plan Amendment to make a project economically feasible. To that end, she requested that *and only allow* be deleted from Policy IA on Page 15 of the Land Use document. DD-20 DD-21 DD-22 DD-23 DD-24

Ms. Kelley referred to the last statement in her letter with respect to the formal Gelsar request for a redesignation of a portion of the Gelsar site from General Commercial to Planned Commercial Residential in response to the market relating to commercial uses. DD-25

In response to Commissioner Leong to Comment 6 in her letter, Ms. Kelley explained she had taken representatives from the Army Corps of Engineers, the California Department of Fish and Game, U.S. Fish and Wildlife Services, and Marine Fisheries on a tour of the site. They had all recommended the removal of the eucalyptus trees along Refugio Creek, with trees a maximum height of 50 feet to be planted instead. When asked, she stated she would provide the agencies' documentation of their comments.

Ms. Kelley also explained in response to Chairman Balico and Commissioner Pandya the fact that it was not economically feasible for Gelsar to proceed with the development of the property with a commercial designation although a residential designation would be more viable.

Commissioner Pandya expressed his concern for whether the City had reconciled Gelsar's preference for developing the property to what was most beneficial for the City and Ms. Kelley referred to the City's two new struggling neighborhood centers and explained by adding more residents, more tax revenue would be generated for the City along with the ability to have viable community centers. She also emphasized that Gelsar would not be asking for more units beyond the 1,500 units involved. In response to comments, she explained that their market study had been conducted in early 1995 and they would consider single family homes and duet units for the property.

In response to Commissioner Pandya, Director Hembree explained the 30 units/acre would be the maximum density allowed unless there were special stipulations for density bonus allowances. He further explained that the maximum density represented an average density and special site considerations would be analyzed on a case-by-case basis.

ROBERT TAYLOR, 1276 Hercules Avenue, explained that many of his friends, colleagues and neighbors were concerned about the medium to high density housing development proposed for the City as outlined in the Draft EIR, which he characterized as excessive and unacceptable. He supported the low density alternative of 15 units/acre as a much more palatable and acceptable solution of developing vacant land within the City. He urged the Commission and the City Council to act responsibly to approve a level of density and development which would allow for and provide low density housing only, or at least if medium density housing was approved, that the density not be allowed to achieve the maximum of 30 units/acre. While he recognized the requirement for the City to provide affordable housing units, Mr. Taylor otherwise urged the City to work out a planning scheme whereby the requirement to provide affordable housing units could be accommodated while limiting the development of low density scope. **DD-26**

JACOB NG, 346 O'Neil Circle, a member of the Board of Directors of Chelsea-By-the-Bay, expressed his concern for the loss of character of the City because of the over 3,000 homes and offices proposed for Parcels, 1, 2, 3, 4 and Parcel C, which were located close to his home. He expressed his concern that no adequate circulation system had been proposed to accommodate those units. Further, that because much of the area had underlying Bay mud, that soils stability issues had not been properly addressed and serious problems could result. Referring to Parcel C, Mr. Ng objected to the fact that the school designation would be removed and replaced with residential development. **DD-27** **DD-28** **DD-29**

With respect to wildlife and habitat, Mr. Ng urged the Commission to insure the retention and preservation of the wetlands on Parcel 1, 2, 4 and Parcel C for birds and mammal species. Speaking to parks and open space, Mr. Ng decried the elimination of parks and open space, particularly on the west side of San Pablo Avenue and the negative effect it would have on the community. He also disagreed that the eucalyptus trees should be eliminated. **DD-30** **DD-31** **DD-32**

Commissioner Desmond verified with Mr. Ng that his comments were in addition to the letter from Carol Arnold of the Chelsea-By-the-Bay Homeowners Association and he inquired whether the Association was supporting the retention of Parcel C for a school, to which Mr. Ng explained that they supported a school site over medium density residential uses.

On the density discussion, Director Hembree explained that on every given site, the overall average maximum for medium density would be 30. Although site constraints could involve a higher density for a portion of a site, he emphasized the average would remain at a maximum of 30 units/acre.

LORRAINE PETERS, 124 Bay, located in the Hercules Historical Homes district, inquired whether there was any development of 30 units/acre in the City, to which Director Hembree explained that the Historic Homes, for instance, were at 17 to 18 units/acre, and others had net density approaching the 30 units/acre maximum. Ms. Peters objected to a density of 30 units/acre and noted that density was not conducive to the area and not appropriate to the natural beauty of the Historic district. **DD-33**

Ms. Peters stated she had written a number of letters to the Commission and City Council to express her strong feeling that the Historical District was a unique area and an area behind it with older building was unique to the area which she felt the City Council could expand and develop. She added the City should be generated under a theme to make it unique along the I-80 Corridor. DD-34

Community and Business Director Hembree explained a future reference to be included in the Response to Comments would be to conduct a detailed analysis of the density in existing developments for Commission information. When asked, he explained he would also include the density of Chelsea-By-the-Bay.

A break was taken at 9:35 P.M. The meeting resumed with all Commissioners present at 9:45 P.M.

PETE WARD, 112 Buckley, expressed his concern for Parcels C and D. He stated he had purchased his Citation home based on the fact that a school had been designated for Parcel C. He stated a high density area was not in keeping with the area in that it was currently all single family development. He strongly opposed a medium density designation with a potential for 30 units/acre. Mr. Ward commented that gangs were now roaming along Hercules Avenue and he stated if the area were developed in medium density, it would only get worse. DD-35 DD-36

DENNIS BARRY, 1230 Santa Fe, speaking to the EIR, referred to Page III-10 and the reference to a *typical density level* and he explained that the EIR needed to address the potential impacts at the highest level and approach projects less than that, but certainly address the density at the highest level in a worst-case impact analysis which he felt was not done. Referring to Page III-12 and Table III-1, the multi-family medium density range and net acreage, he explained he could not find a definition of *net acreage*. With respect to the table for Parcel 1, he noted that the units/acre calculation was above the multi-density medium density allowed for in the definition and he inquired whether that was a typographical error. Referring to III.1 on Page III-14 and Parcels A, B and C, he noted C was calculated at the high end of the density range of 12 units/net acre and that B and A were calculated at 10 units/acre. He asked for a clarification of the resultant unit count with respect to what the net density meant in the EIR and the actual number of units involved. DD-37 DD-38 DD-39 DD-40

Referring to the demographic projections on Page III-18, he questioned the numbers and requested clarification because the calculations did not add up where the population changed with an increase of 59 with 1,037 units as opposed to a 1994 comparison of conditions with a projected proposed plan number with a 1,700 increase in households for a 4,000 unit increase. He emphasized the need to retain the policy that new commercial or industrial development should not impact existing residential areas. With that in mind, he referred to Hercules Avenue and the fact that noise levels would be increased by the year 2010 with the mitigation that heavy duty diesel trucks would be prohibited. He inquired where the diesel trucks would be traveling instead and why the noise levels would be increased on Hercules Avenue. DD-41 DD-42

Mr. Barry referred to Page IV.C-7, Table IV.C-4, Existing and Projected Households, Population and Employment, and noted the balancing over time of the jobs/housing balance with an expected change of 2,000 people over 1,000 households and a more striking increase in the new General Plan calculations with an increase of 9,100 increase in population for 3,000 households and an employment change of 600 jobs to 16,000 jobs. **DD-43**

Mr. Barry stated those numbers did not make sense and he requested they be verified and analyzed. He emphasized his comments were not intended to discredit the commendable work which had been done on the documents.

FRED KILBY, 121 Pinole Street, clarified for the record that Parcels A through J which had been attributed to the community panel, had not been recommended by the panel and were recommended instead by staff. With respect to Parcel C, he stated the map was incorrect because it had included property owned by Hercules-By-the-Bay and Hercules Properties. He referred to maps which he had submitted to the Commission with written comments and disagreed with the density referenced for the Historic Homes district. **DD-44**

Mr. Kilby explained with respect to Parcel C that Historic Homes were part of the Hercules-By-the-Bay Homeowners Association and anything which impacted Parcel C would be in the middle of the Association property. Parcel D would also be surrounded by the Association property. He emphasized that the Association represented single family residential development only and he clarified that Parcel C had been represented to the homeowners at the time of purchase as an elementary school site. He also commented the designation for multi-family low density seemed to have changed from the community panel report which had been 7 to 10 units/acre as opposed to 7 to 12 units/acre, with the primary change on Parcel C. **DD-45** **DD-46**

Chairman Balico thanked the audience for their participation and their comments which would be included in the EIR.

Director Hembree recommended the continuance of the discussion to a date certain to incorporate all the comments in the document and to take further deliberation on the land use issues and the Draft EIR. He explained upon action by the Commission, the matter would be referred to the City Council for consideration. He emphasized in response to Commissioner Lewallyn that all the comments on specific issues relating to the Land Use element would be included in subsequent discussions.

Commissioner Desmond asked about the comments from the March 1 Joint meeting with the City Council. He referenced the $8 million to be generated by builders fees and asked if that could be used to enhance current school capacity as opposed to building another school. He referred to the letter from the West Contra Costa Unified School District which had not responded to that question. He requested that his comment be addressed. **DD-47**

Commissioner Lewallyn referred to Appendix E and inquired why a market study had not been prepared and when it might be done. He saw that as a major impact in the fiscal analysis. He also inquired about the estimated sales per square foot of the new commercial development, referenced at $210. He requested that the sales per square foot from surrounding communities be included for comparison purposes and be used in a sensitivity **DD-48**

analysis. He also requested that the $2.58 per square foot traffic mitigation fee be included in the sensitivity analysis. Referring to Table 14 on Page 21 with respect to expenditures and the Public Works Department increase estimated at six percent, he felt that was not realistic and he requested it be reevaluated. He characterized the comment on Page 28 that no additional expenditures of the Fire District were anticipated as very optimistic, and requested the need for additional firefighters be reevaluated in the sensitivity analysis. **DD-48 cont'd**

Commissioner Desmond referred to the second page of the letter from the West Contra Costa Unified School District and noted the limited number of fees which could be charged developers. With that in mind, he requested an analysis of the District's statement on the second page. **DD-49**

PUBLIC HEARING CLOSED

The discussion was continued to the May 15, 1995 meeting of the Commission.

VIII. COMMISSION ANNOUNCEMENTS

There were no Commission announcements.

IX. ADJOURNMENT

There being no further business, on motion by Commissioner Desmond, second by Commissioner Lewallyn, the meeting was adjourned at 10:20 P.M. to the next regular Planning Commission meeting set for April 17, 1995, at 7:30 P.M. at Hercules City Hall, 111 Civic Drive, Hercules, CA.

Adelfo (Ed) Balico, Chair
Hercules Planning Commission

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Note: Many of the comments made at the public hearing were also made in writing. As a result, many of the responses in this chapter refer the reader to the response to the applicable comment in Section VIII.A, Written Comments and Responses.

Nancy Cantwell

DD-1) Comment noted.

Michael Garton

DD-2) Please see the response to Comment M-7.

DD-3) Please see the response to Comment M-7.

DD-4) Please see the response to Comment N-2.

DD-5) Please see the response to Comment M-1.

DD-6) Please see the response to Comment M-2.

DD-7) Please see the responses to Comments M-3 and M-4.

DD-8) Please see the response to Comment M-23.

DD-9) The commenter may be referring to Mitigation Measure Noise-1d, which would required the construction of temporary noise barriers at construction sites, or to the second item under Mitigation Measure Noise-2, which is Implementation Measure 2.d from the City's adopted *General Plan* Noise Element. This measure, which states that noise barriers are commonly used to reduce noise levels from ground transportation and industrial noise sources, is included in the Noise Element under the directive that "Where noise levels exceed community noise standards for a proposed land use, one or more of the following noise attenuation techniques may be required to reduce the noise to acceptable levels." Other noise attenuation techniques included in the Noise Element are Traffic Planning, Site Planning, Architectural Layout, Construction Modifications, and State Noise Attenuation Standards. Temporary construction noise walls and the noise attenuation techniques included in the adopted Noise Element are commonly employed in development throughout California. Regarding construction noise, the Draft EIR states, on p. IV.L-8, that noise-sensitive land uses within 400 feet of a construction site could be

subject to noise in excess of the applicable standard and, therefore, require mitigation, such as construction of temporary noise walls. For operational noise, the DEIR includes Table IV.L.2, p. IV.L-7, which provides guidelines by which to judge whether traffic and other operational noise would be significant and, therefore, require mitigation, such as in the form of the Noise Element implementation measures.

Georgia Kelley

DD-10) Please see the response to Comment G-1.

DD-11) Please see the responses to Comments G-3 and G-5.

DD-12) Please see the response to Comment G-8.

DD-13) Please see the response to Comment G-9.

DD-14) Please see the response to Comment G-10.

DD-15) Please see the response to Comment G-12.

DD-16) Please see the response to Comment G-12.

DD-17) Please see the response to Comment G-13.

DD-18) Please see the response to Comment G-14.

DD-19) Please see the response to Comment G-16.

DD-20) Please see the response to Comment G-20.

DD-21) Please see the response to Comment G-22.

DD-22) Please see the response to Comment G-26. Please see also the response to Comment A-1 for additional information on school impacts.

DD-23) Please see the response to Comment G-28.

DD-24) Please see the response to Comment G-36.

DD-25) Please see the response to Comment G-40.

Robert Taylor

DD-26) Comment noted. The comment does not address the adequacy of the Draft EIR and no response is required.

Jacob Ng

DD-27) The precise locations of roadways that would serve new development west of San Pablo Avenue is not yet determined. As indicated in the DEIR on p. III-15, the figures in the DEIR and draft Circulation Element depict a conceptual alignment for a new roadway west of San Pablo Avenue and for the Sycamore Avenue extension west of San Pablo Avenue. Subsequent development would be required to provide on-site roadways, as stated in Implementation Action 4 of the proposed Circulation Element, "Designation of rights-of-way in advance of development and encouragement and requirement of dedication of streets, paths and trails as part of the land development process." Figures IV.B.4 and IV.B.5, EIR pp. IV.B-22 and IV.B-24, have been revised to indicate portions of the currently anticipated roadway network west of San Pablo Avenue, including a potential John Muir Parkway extension that could be included in the adopted Circulation Element. The EIR does not examine local circulation west of San Pablo Avenue because the future roadway network is speculative.

DD-28) Potential impacts related to construction and soil stability are addressed in Impact Geology-5, DEIR pp. IV.J-18 - 19, as revised in the Final EIR (p. IV.J-20).

DD-29) Please see the response to Comment G-26. Please see the response to Comment A-1 for additional information on school impacts.

DD-30) The Draft EIR addresses potential effects on wetlands in Impact Biology-2, p. IV.D-29, and potential effects on special status plant and animal species on p. IV.D-35. The DEIR identifies mitigation measures, as revised in the Final EIR, to reduce both impacts to a less-than-significant level. As noted on DEIR p. IV.D-13, wetlands are regulated by the U.S. Army Corps of Engineers, which must issue a permit for any project that proposes filling of more than 10 acres of wetlands and must review projects that would fill one or more acres of wetlands. As stated on p. IV.D-13, the California Department of Fish and

Game has authority to oversee work in streams and may impose reasonable conditions on a required Streambed Alteration Agreement. Finally, the Regional Water Quality Control Board also must review projects involving filling of wetlands.

DD-31) Implementation of the proposed Land Use Element update would not eliminate any park land in Hercules. While it would result in the development of undeveloped and underdeveloped areas, in particular west of San Pablo Avenue, none of the Study Area parcels is currently designated Open Space; that is, all 24 Study Area parcels are currently designated for development, and most of the land west of San Pablo Avenue is currently designated for Industrial use, as stated on DEIR p. IV.A-21.

DD-32) Please see the response to Comment P-4.

Lorraine Peters

DD-33) Comment noted. The comment does not address the adequacy of the Draft EIR and no response is required.

DD-34) Comment noted. The comment does not address the adequacy of the Draft EIR and no response is required. For information, the Draft EIR describes potential impacts of development on historic resources of the former Hercules company town in Impact Cultural-1, where it is noted that development on Parcels 1 or C could result in damage to these structures.

Pete Ward

DD-35) Please see the response to Comment R-18.

DD-36) According to the Hercules Police Department, gang activity in Hercules is relatively minor compared to neighboring smaller jurisdictions, such as San Pablo. The Police Department reports that there is no "concentration" of gang activity on Hercules Avenue. The Department reports an incident in 1994 in which teenagers were stopping vehicles and harassing motorists in the Hercules-by-the-Bay neighborhood; that incident was abated (Eaves, 1995).

Dennis Barry

DD-37) CEQA does note require a "worst case" analysis of potential environmental effects. Rather, the analysis must be based on those effects that are likely to occur. In general,

the Draft EIR analysis relied on the "typical" floor-area ratio (FAR) and residential densities in anticipation that development constructed subsequent to approval of the draft Land Use Element generally would be built at that typical FAR or density. As stated on DEIR p. III-10, additional environmental review may be required for specific commercial, industrial, or residential projects that proposed development above the densities described in this EIR and typical densities in the Land Use Element Update.

DD-38) Please see the response to Comment M-1.

DD-39) The designation of 36 units per acre should refer to 30 units per acre, the maximum density for Multi-Family, Medium-Density residential use. Please see the response to Comment S-9 regarding changes to assumptions for Parcel 1.

DD-40) As stated in response to Comment M-1, the Draft EIR incorrectly stated that the residential density for certain land use categories was expressed in units per net acre. As revised in the Final EIR, all densities are expressed in units per gross acre. Parcel C was analyzed at the high end of the Multi-Family Medium-Density range (12 units/acre) because that parcel has fewer constraints to development than Parcel A (much of which is occupied by the Refugio Creek riparian corridor) or Parcel B (which is relatively steeply sloped).

DD-41) The 1994 population figure on p. III-18 is the result of a typographical error. As shown on p. IV.C-7, the correct 1994 population is 18,898 (not 16,898), and the correction has been made in the Final EIR.

DD-42) Please see the response to Comment R-23.

DD-43) As stated on pp. IV.C-6 - 7, development consistent with the proposed Land Use Element would increase both population and employment in Hercules. However, because the draft Land Use Element update would provide for more than 5 million square feet of commercial activity, employment is projected to increase much more dramatically than residential growth (about 507 percent increase in employment, compared to about 58 percent increase in population, compared to 1994 conditions). As stated in response to Comment F-2, the employment projections in the EIR are optimistic

and are not based on a market analysis. Rather, the projections assume that commercial space would be built out as designated in the Land Use Element.

Fred Kilby

DD-44) Please see the response to Comment R-13.

DD-45) Regarding the compatibility of multi-family and single-family residential designations, please see the response to Comment R-18. Regarding the existing *General Plan* designation of Parcel C as a school site, please see the response to Comment G-26. It should be noted that Parcels A and D (not Parcel B, as reported in the minutes) would be in the Hercules-by-the-Bay neighborhoods.

DD-46) Please see the response to Comment R-7.

Commissioner Desmond

DD-47) Please see the response to Comment A-1.

Commissioner Lewallyn

DD-48) Regarding the marginal increase of 6 percent projected for Public Works expenditures in Table 12 of the Fiscal Analysis, Appendix E, p. 21, includes street and sidewalk maintenance for new streets to be constructed as part of the project, and is based on the conceptual street improvements as identified in the draft Transportation Element (see Table 14, p. 25). (Cost per mile was provided by the Hercules Public Works Director.) Should the street and sidewalk mileage to be constructed exceed the 5.5 miles and 2.7 miles projected, respectively, the incremental cost could be higher. However, the figures in Tables 12 and 14 provide a reasonable estimate of the increased cost associated with increased street maintenance associated with the project. A market study and sensitivity analysis are outside the scope of the EIR analysis.

Commissioner Desmond

DD-49) Please see the response to Comment A-1 regarding school impacts.

REFERENCE - Public Hearing Comments

Eaves, John, sergeant, Hercules Police Department, telephone conversation, May 22, 1995